Region 10 Cascadia Subduction Zone (CSZ) Earthquake and Tsunami Plan

Federal Emergency Management Agency

January 2022

This page intentionally left blank

Message from Regional Administrator

The FEMA Region 10 Cascadia Subduction Zone (CSZ) Earthquake and Tsunami Response Plan is a scenario-based, stand-alone plan within the context of the FEMA Region 10 All-Hazards Plan. This plan focuses on a no-notice catastrophic earthquake (9.0 or greater) resulting in the full rupture of the Cascadia Subduction Zone (CSZ) fault along the Pacific Northwest coast. Impacts from this event would spread throughout Washington, Oregon, Alaska, Idaho, Northern California, and British Columbia. This would subject hundreds of miles of the U.S. coastline to massive devastation due to ground subduction and a tsunami and has the potential to affect millions of people's lives, property, and infrastructure. The social and economic impacts would have national consequences for years to come.

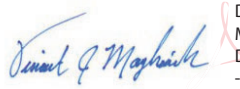
The FEMA Region 10 CSZ Response Plan describes how Region 10 will conduct a scalable response and short-term recovery activities in response to a CSZ earthquake and tsunami requiring a federal response in Region 10. This plan focuses on the timely delivery of lifesaving and life sustaining capabilities to stabilize the community lifelines and provide support to survivors within the impacted communities. The objectives and tasks outlined in this plan describe how FEMA and our response partners will conduct a coordinated whole-community response, in support of each of our impacted states. The result is a more effective operation that will save lives, restore basic services and community functionality.

This response plan is the result of a collaborative process between FEMA Region 10, Washington and Oregon Emergency Management Agencies, and our federal partners at both the regional and national levels. More than 700 emergency-management professionals from state, tribal, local, public sector, and voluntary agencies, plus private sector owner/operators, provided subject matter expertise to support this massive planning effort. When executed, engagement of whole community will be critical to accomplishment of the response and recovery missions. FEMA is committed to employing the principles of equity, diversity, and inclusion across all mission areas.

FEMA Region 10 CSZ Response Plan is considered a "living" document and will be continually refined and improved to meet the changing needs of emergency management stakeholders. We welcome your recommendations for corrections and improvements. Please send any recommendations to the Operational Planning Branch at:

FEMA Region 10
Attn: Operational Planning Branch Chief
130 228th St SW
Bothell, WA 98021

I appreciate and applaud the combined efforts of our federal, state, local, tribal, and territorial, non-governmental and private sector partners who participated in the development of this plan.



Vincent Maykovich
Acting Regional Administrator, FEMA Region 10

This page intentionally left blank

Record of Changes

Version	Date	Summary of Changes	Name

This page intentionally left blank

Table of Contents

1 Situation

1.1 Purpose

This is a stand-alone, multistate federal response plan to a Cascadia Subduction Zone (CSZ) earthquake and tsunami. It specifically outlines how the federal government; state, local, tribal, and territorial (SLTT) governments; and private sector resources unify efforts to save and sustain life, protect property and the environment by stabilizing Community Lifelines, which are the most fundamental services and capabilities that are required day to day to support the recurring needs of the community.

1.2 Scope

The CSZ plan addresses a catastrophic disaster with expected direct and indirect impacts to the entirety of FEMA Region 10 as well as portions of Region 9 and Canada. The focus of the plan will be the first 14 days after a CSZ event, when every level of government and private sector immediately deploy resources to enable a rapid and effective response and fulfill the needs of survivors and support responders.

1.3 Overview

The Cascadia Subduction Zone (CSZ) is considered one of the greatest earthquakes and tsunami threats in the United States. It is located roughly 50 to 80 miles off the Pacific Coast and stretches 800 miles from British Columbia to Northern California. The CSZ megathrust fault is part of the Pacific seismic belt known as the Ring of Fire, which generates about 90% of all earthquakes and 81% of the world's largest magnitude earthquakes.

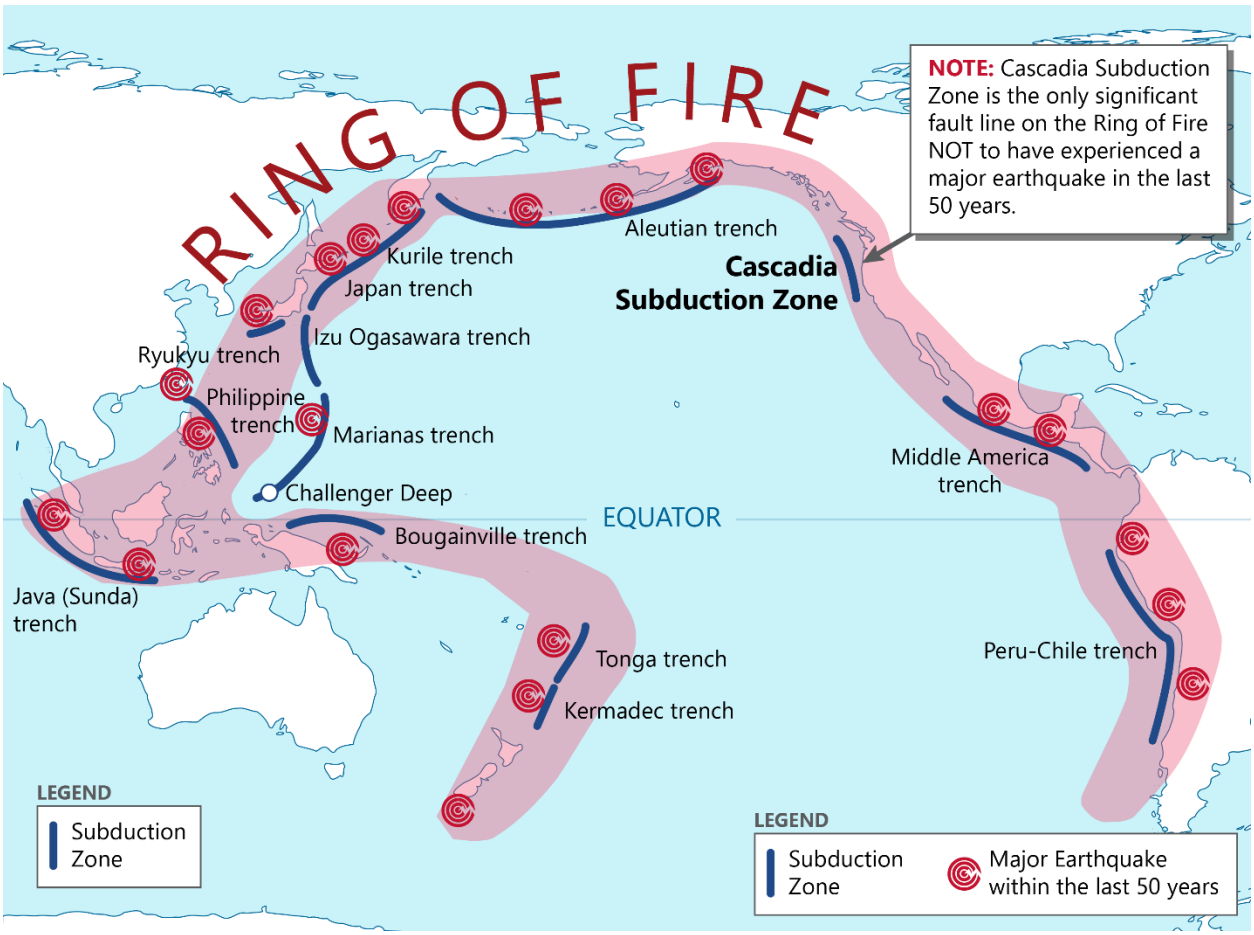


Figure 1: Cascadia Subduction Zone in the Ring of Fire

Subduction zone earthquakes occur along the interface between tectonic plates and are some of the world's longest and strongest earthquakes. The CSZ is formed by the convergence of the Juan de Fuca plate (the sea floor), as it slides under the lighter North American plate and is pushed to the north by the Pacific plate. Plate movement leads to intense tectonic strain over time and the abrupt release of such strain causes earthquakes and potentially tsunamis.

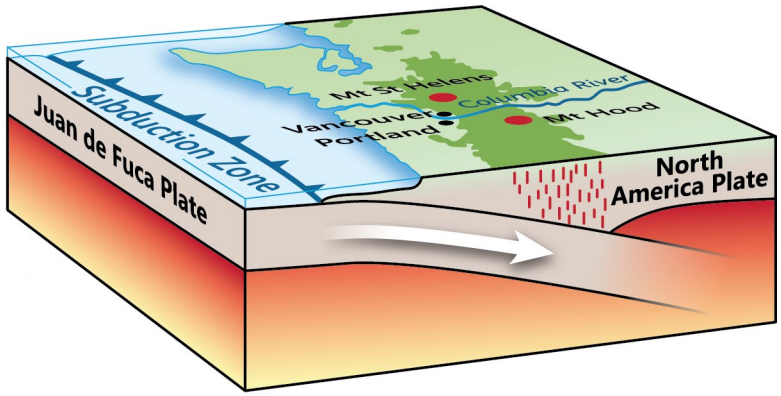


Figure 2: Cross-Section of Cascadia Subduction Zone

Devastating subduction zone earthquakes (a type of megathrust rupture) include the magnitude (M) 9.1 Sumatra-Andaman earthquake in 2004, the M9.2 Alaska earthquake in 1964, and the M9.5 Chile earthquake in 1960. Both the fault structure and the coastal geography of the CSZ fault bear strong similarities to the Sumatran fault zone that ruptured in a massive magnitude 9.1 earthquake in 2004, resulting in the death of 280,000 people.

Scientific evidence reveals that several earthquakes with magnitudes of 8.0 or greater have occurred along the CSZ throughout history, and scientists have estimated that a M9.0 CSZ earthquake occurs every 350 to 500 years. The last CSZ earthquake occurred on January 26, 1700, estimated at magnitude 9.1. A study published by the U.S. Geological Survey (USGS) in 2012 found that there is a 7% to 12% chance of an M9.0 CSZ earthquake within the next 50 years. Given that Region 10 is due for a megathrust earthquake, the likelihood of a CSZ event poses a significant threat to the Pacific Northwest.

1.4 Threat and Hazard Overview

1.4.1 Background

The CSZ plan is scenario-based, incorporating the estimated impacts from a catastrophic M9.0 earthquake and its resulting tsunami. The overall planning effort involved the whole community, with more than 1,800 participants from federal agencies, state organizations, local organizations, the private sector, tribal nations, non-governmental organizations (NGOs), and the scientific community.

For the initial plan, FEMA Region 10 formed a planning team with federal and SLTT partners to develop the planning scenario and analyze impacts of the earthquake and tsunami. The chosen scenario is based on the 2005 Cascadia Region Earthquake Workgroup (CREW) report from the University of Washington. Region 10, in coordination with the planning team and Region 9, also requested that the Department of Homeland Security's (DHS's) Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) develop an impact study using this scenario. The planning team reviewed the study findings and conducted a series of workshops and meetings. Requirements for additional analysis were identified and conducted by Region 10 staff in coordination with regional subject matter experts. The plan was originally completed and signed in 2013 and incorporated into the Cascadia Rising exercise of 2016. An update to address power outages was completed and signed in 2017.

For the 2021 update, Region 10 established Community Lifeline work groups to address the update to the CSZ Response Plan. Region 10 engaged 700 federal, SLTT, NGO, and private sector partners to review, validate, and update impact information from the original plan. The 2021 CSZ update was the first time in the Region 10 deliberate planning process history that input regarding impacts and response priorities was received from tribal and private sector partners. Work groups were established for both tribal and private sector stakeholders to promote discussion, and questionnaires were shared with work group members to collect vital information for the plan. Additionally, Region 10 updated the plan to incorporate current research and documentation, including but not limited to updated Hazards-United States (HAZUS) models, Regional Resiliency Assessment Program (RRAP) reports for each state, updated FEMA doctrine, and updated U.S. Census data.

Understanding the threat posed by the CSZ earthquake and tsunami, and their primary and secondary impacts, is critical to creating a coordinated federal response. In an effort to ensure the

safety of survivors and responders and accomplish the response and recovery missions, responders must be aware, equipped, and trained for the event.

1.4.2 Scenario

On Wednesday, February 6, at 9:41 a.m. PST (winter conditions, non-tourist season, school/business hours), an M9.0 earthquake occurs along the full length (800 miles) of the CSZ fault. Ground shaking lasts for up to 5 minutes and generates an initial tsunami wave of between 3 feet and 80 feet that, depending on coastal location, reaches the coast 10 to 30 minutes post-earthquake. The event directly affects more than 140,000 square miles in three states, two FEMA Regions, and parts of British Columbia, Canada. Indirect impacts are also likely in Alaska. The tsunami affects 27 counties and 17 tribes, including those along the Puget Sound and Columbia River. Additional tsunamis resulting from the initial shake continue for a minimum of 12 to 24 hours, causing inundation and strong currents along the outer coast and to coastline communities.

The earthquake and subsequent tsunamis cause significant damage to buildings, roads, bridges, and other structures due to amplified shaking, ground displacement, liquefaction, and landslides. In addition, large segments of the coastal and I-5/Inland transportation and utility corridors are without electricity and communications capabilities. Thousands of water, gas, and sewer lines are also ruptured, making many critical infrastructure services unavailable. The event causes many localized fires and hazardous materials (HAZMAT) spills and generates significant debris.

The earthquake, tsunamis, and aftershocks cause many fatalities in the states of Washington and Oregon. A large number of people are also trapped and/or injured. The earthquake alone results in roughly 5,800 fatalities and 87,535 injuries, while the tsunamis result in roughly 8,000 fatalities and 20,000 injuries. In addition to the direct physical impacts of the event, the population also suffers psychosocial impacts that may impact behavior in ways that could affect the response.

Response planning for aftershocks is not a part of this plan, but aftershocks of M7.0 or more will continue for months and will generate additional tsunami waves that affect over 453 miles of coastline in both Oregon and Washington. These aftershocks will cause additional liquefaction and sinkholes, impacting facilities and infrastructure and further hindering response and recovery operations.

Terrain and Population Centers

Oregon and Washington are the two states most affected by the planning scenario. The diverse geography exacerbates isolation and limited access problems during disasters, posing challenges to planning and response efforts. The area's two mountain ranges act as natural barriers to ingress and egress from impacted areas. The most densely populated areas are found between the Cascade Mountains and the Coastal Ranges. The Columbia River, the Pacific Ocean, and Puget Sound create additional geographic obstacles, especially when bridges are affected by the earthquake.

Portland and Seattle are Oregon's and Washington's most populated cities, respectively. Portland's estimated population of 654,741 accounts for approximately 16% of Oregon's total population while Seattle's estimated population of 753,675 accounts for approximately 10% of Washington's total population.

Within Region 10, Washington, and Oregon share borders with Idaho. Washington shares an international border with Canada. Oregon shares borders with Region 9 states California and Nevada. These borders could present coordination challenges among international, regional, and state jurisdictions.

The impacted areas in Washington and Oregon are divided into three Geographic Reference Areas (GRA): Coastal, I-5/Inland, and East of the Cascades. Additionally, isolated communities that experience significantly disproportionate impacts due to location, population, and/or lack of existing support infrastructure are located throughout the entire impacted area. GRAs are meant to serve as a reference tool but are not official operational jurisdictions.

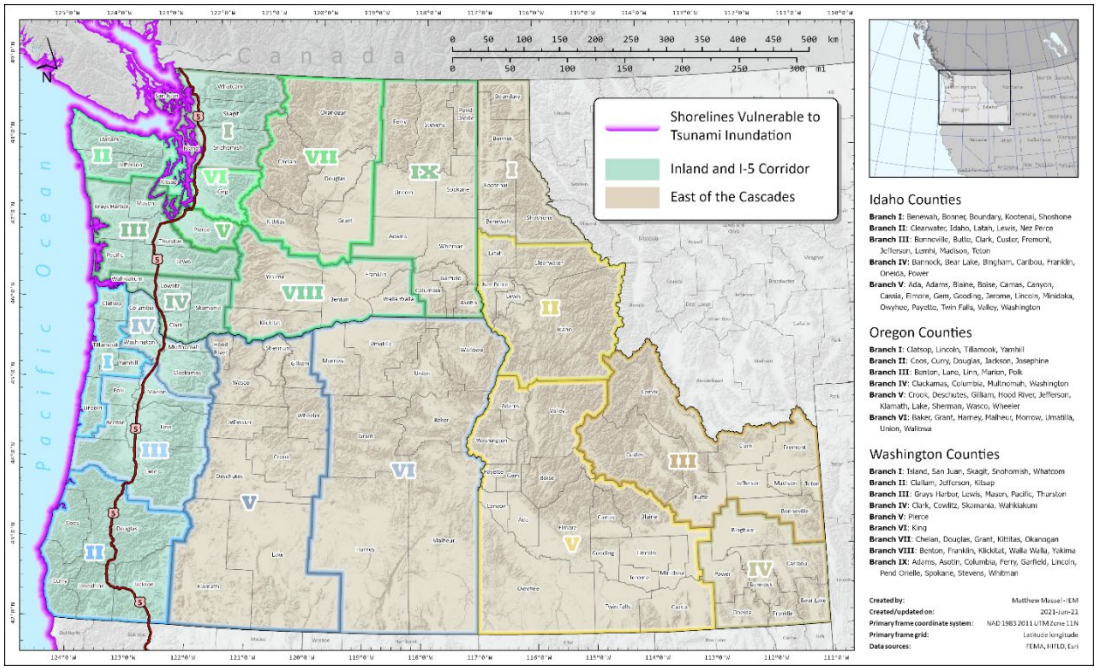


Figure 3: GRA Map for Washington, Oregon, and Idaho

Coastal GRA

The Coastal GRA includes coastal cities, communities, tribes, and populations that border the Pacific Ocean and Puget Sound. This area is generally considered rural, with limited access and infrastructure even before the event. This area will be cut off, resulting in pockets of isolated communities, and all Community Lifelines would be impacted.

I-5/Inland GRA

The I-5/Inland GRA includes cities, communities, tribes, and populations that are located along the major I-5 north-south arterial that runs the entire length of the states of Washington and Oregon. Communities along this route range from metropolitan and urban areas to suburban, tribal, and rural communities.

East of the Cascades GRA

The East of the Cascades GRA includes any cities, tribes, and communities that are located east of the Cascade Mountain Range. This GRA is characterized by the following:

- Direct impacts from the earthquake are minimal, and there are no direct impacts from tsunami.
- Impacts to Coastal and I-5/Inland GRAs may cause indirect supply chain issues.
- Transportation routes may be cut off due to landslide issues in Coastal and I-5/Inland GRAs.

Isolated Communities

The isolated communities include any communities or pockets of populations for which there are no open roads or transportation infrastructure nor are there public services that can provide long-term lifesaving or life-sustaining support. The supply chain for Community Lifelines is cut off and will take weeks to months to re-establish.

Weather

The time of year and time of day in the planning scenario are significant. February in the Pacific Northwest is typically cold, rainy, foggy, and sometimes snowy. Seasonal ground saturation is typically high, increasing the risk of subsidence, liquefaction, and landslides, which increases the potential structural damage. Survivors face exposure to harsh February winter weather conditions. During a morning event, adults are commuting or working, and children are in school; family reunification becomes more difficult. Mobility of survivors and responders will be greatly affected by weather patterns.

Almost two-thirds of the region's precipitation occurs between October and March, when atmospheric conditions from the Pacific Ocean create storm systems containing significant rainfall. The average annual rainfall is 30 inches. Some locations on the western slopes of the Coastal Ranges typically receive 118 inches, and the Olympic Peninsula can receive over 200 inches per year. Frequent cloud cover and fog inhibits air navigation.

During winter months, the east-west highways that pass through the Cascade Mountains and the Coastal Ranges receive heavy snow, rain, sleet, and fog. February weather conditions make it more difficult to provide ground and air transportation for responders, survivors, and resources.

Table 1 lists the average February weather for several cities in Region 10. Table 2 gives general weather conditions for western Oregon and western Washington.

Table 1: Region 10 February Average Weather

Location	High Temp (°F)	Low Temp (°F)	Precipitation in Inches	Snowfall (inches)	# of Heavy Fog Days	Avg. Wind Speed (mph)	Max Wind Speed (mph)
Seattle, WA	49.9	36.9	3.50	1.7	4	8.6	60
Quillayute, WA	49.1	35.2	10.35	2.6	3	6.2	62
Portland, OR	51.3	36.3	3.66	2.1	4	8.6	68
Eugene, OR	51.1	34.8	5.43	2.4	7	7.1	70
Medford, OR	54.3	34.1	2.01	0.6	6	3.8	54
Boise, ID	44.7	28.3	0.99	2.8	3	7.6	64
Anchorage, AK	26.6	13.8	0.72	10.9	4	6.4	74

Sources: National Weather Service (NWS), National Centers for Environmental Information (NCEI), and Western Regional Climate Center (WRCC)

Table 2: General Weather Conditions for Western Oregon and Western Washington

Data Type	Winter	Summer
Average High Temperature (°F)	45–55	60–80
Average Low Temperature (°F)	35–45	45–55
Daylight Hours	8–10	14–16
Average Monthly Precipitation (inches)	5–10	1–3

Source: NWS, based on Quillayute, WA; Seattle, WA; and Portland, OR

1.4.3 Estimated Impacts

A detailed analysis of the threats from a CSZ earthquake is provided in Annex B, using two methods of measuring the effects of an earthquake: the Richter scale, and the Modified Mercalli Scale (MM or MMI). Richter measures the intensity (magnitude) of an earthquake at its epicenter, expressed as a decimal (e.g., 9.1). Mercalli quantifies the effects of an earthquake on the Earth's surface, humans, nature, and man-made structures on a scale from I (not felt) to XII (total destruction). The Mercalli scale provides information from locations away from the epicenter.

The threats associated with the CSZ planning scenario include the following:

- Ground motion: A sudden slip of the Cascadia fault would produce waves of movement along Earth's surface. In the CSZ planning scenario, a magnitude 9.0 earthquake will result in ground motion lasting for 5 minutes. This is because subduction quakes typically produce more long-period waves in comparison to shallow quakes. Deep, soft soils can amplify waves, causing increased damage. These waves are particularly dangerous for tall buildings, long bridges, and long aboveground pipes.
- Liquefaction: Liquefaction is a process where water-saturated sediment temporarily loses strength and acts as a fluid during ground shaking. Liquefaction commonly occurs in the soil along rivers, streams, and lakes. Heavy rainfall characteristic of winters in the Pacific Northwest increases the risk of liquefaction in areas prone to soil saturation.
- Tsunami: In a subduction zone earthquake, the movement of the seafloor rising and falling generates a tsunami. The range of the CSZ tsunami wave height is between 3 to 80 feet. The initial wave may not be the highest; subsequent waves follow for 10 to 12 hours. The coastal communities impacted by a tsunami would have only 10 to 30 minutes of warning (dependent on location) to evacuate. Damage to evacuation routes and other transportation infrastructure due to the earthquake will severely limit evacuation of coastal areas.
- Subsidence: Subsidence (downward movement of the ground) can take place during subduction zone earthquakes due to tectonic plate movement. Following a CSZ rupture, the coastline could drop from 1 foot to 5 feet. Liquefaction has the potential to increase subsidence in some areas by 4 to 20 inches. Subsidence could increase tsunami inundation areas, substantially affecting the environment and populated areas.

- Aftershocks: In the weeks and months following a large subduction quake, aftershocks as large as magnitude 7.0 or greater are likely. Some of these aftershocks will additionally damage an already fragile infrastructure and might trigger additional tsunamis.
- Fire/conflagration: Damage to electrical, petroleum, chemical, and natural gas infrastructure will cause fires throughout the impacted area. Response personnel may be unable to respond due to impassable roads and broken water lines.
- Hazardous materials: HAZMAT spills resulting from the earthquake and tsunami from commercial, industrial, and household sources will require special consideration during response, and could present health risks to both responders and survivors.
- Building vulnerabilities: A CSZ rupture could result in up to 5 minutes of ground motion, which means even modern buildings constructed using earthquake-resistant materials and techniques may not survive. Other types of residential and commercial buildings face an even greater risk from ground motion, particularly unreinforced masonry (URM) buildings. These buildings typically have brick walls and wood or concrete floors. URMs are generally only one to five stories but may be unable to survive the anticipated duration of ground motion.
- Landslides: Liquefaction can damage the foundations and supports of buildings, bridges, pipelines, and roads. A CSZ earthquake would cause landslides throughout the impact area, affecting transportation due to debris and damaged roads.
- Avalanches: Avalanches send a mass of snow, rock, ice, soil, and other materials swiftly down a mountainside, and create issues in Region10 outside of earthquake incidents by falling on roadways and closing off routes through mountain passes. These issues will be exacerbated by a CSZ earthquake.

Estimated impacts include the following:

- Earthquake
    - Building damage – 618,599 buildings with moderate to complete damage
    - Schools – 2,026 schools with moderate to complete damage
    - Hospitals – 100 hospitals with moderate to complete damage
    - Critical facilities – 2,777 critical facilities with moderate to complete damage
    - Total economic losses – $134 billion
    - Utility system economic losses – $15.9 billion
    - Transportation system economic losses – $3 billion
    - Job/wage losses – $6.2 billion
- Tsunami
    - 27 counties, including areas impacted along the Pacific Coast, Puget Sound, and Columbia River
    - At least 17 tribal nations impacted
    - 453 miles of impacted Pacific Ocean coastline (296 miles in Oregon, 157 miles in Washington)

- 1,810 miles of impacted Puget Sound coastline, including the San Juan Islands
- 10- to 30-minute warning for coastal areas
- 90- to 120- minute warning for Puget Sound areas
- All seaports on the Pacific coast at risk of sustaining complete damage; seaports along Puget Sound and the Columbia River (west of the I-205 bridge) at risk for major damage
- Multiple tsunamis 10 to 12 hours after initial earthquake; first wave may not be the largest
- Wave heights that vary from 3 to 80 feet
- Aftershocks of M7.0 or greater that could generate additional tsunamis

1.4.4 Cascading Effects

Alaska

During a CSZ event, the primary concern for Alaska is the cascading impacts from the disruption to Alaska's supply chain due to the direct impacts sustained by Washington and Oregon:

- More than 80% of Alaska's maritime trade and over 90% of consumer goods pass through the Port of Alaska, a large portion of which comes from Washington and Oregon.
- There is limited in-state production of food and other basic commodities. There will likely be a disruption to food and commodity shipments due to damage to ports in Washington and Oregon.
- Fuel storage and distribution within southeast Alaska will be impacted by a CSZ event, as fuel is supplied by barge from the U.S. West Coast and Canada.
- Level One medical trauma support for Alaska will be limited due to the loss of capability in Washington and Oregon.
- Communications between the State of Alaska and continental United States (CONUS) will more than likely be disrupted because submarine cable landing points are located within the CSZ impact zone along the coasts of both Washington and Oregon.

Idaho

During a CSZ incident, Idaho may experience cascading impacts:

- Food distribution requirements may increase due to the number of internally displaced persons (IDPs) and responders arriving in Idaho.
- Shelter requirements may increase due to the number of IDPs and responders arriving in Idaho.
- Support functions that come from Washington and Oregon are disrupted.
- While rail and barge deliveries of fuel provide some modal redundancy for Idaho, disruption of the Northwest Products pipeline, primarily, and the Yellowstone pipeline, secondarily, would cause significant statewide and regional economic impacts. Trucking may need to be implemented to support the loss of pipeline transportation.

- Highway infrastructure may be damaged due to heavy use during response and recovery operations in Washington and Oregon.

1.5 Planning Facts and Assumptions

To conduct operational planning, planning facts and assumptions must be described. Outlined below are the facts and assumptions that shape the execution of actions included in this plan. Facts are statements of known data concerning a situation that can be substantiated. Assumptions consist of information accepted as true in the absence of facts; they are not predictions and are only used when facts are unavailable.

The facts and assumptions listed below are first categorized by Operational Coordination and Situational Awareness and then by the seven Community Lifelines (more information about the Lifeline structure can be found in Section 2.4: Community Lifelines). Operational Coordination and Situational Awareness are listed separately as they impact all Lifelines.

1.5.1 Operational Coordination

Facts

- Federal, state, local, and tribal governments, agencies, and resources will be overwhelmed and require support from outside the impact area; local jurisdictions will have limited functionality.
- FEMA and all Region 10 states operate under the Incident Command System (ICS) with a consistent Command Staff/General Staff organizational structure. The ICS command structure will initially be limited due to the scale of the incident
- There will be limited to no capability for supporting out-of-region resources and staff; temporary billeting will be required immediately post-event for survivors and responders.
- There will be multi-state and multi-regional demands for the same national resources.

Assumptions

- All impacted counties/tribal nations will receive Presidential disaster declarations post-event.
- Coordination between government and the private sector will be severely limited.
- FEMA Headquarters (HQ) and National Response Coordination Center (NRCC) support will be available for large-scale resource movement and allocation of specialized federal capabilities. The NRCC will execute actions for staffing and national resource allocation to execute this plan.
- Most Region 10 Regional Response Coordination Center (RRCC) mission essential functions will devolve to Region 6 in accordance with the Region 10 Regional Continuity Plan.
- The Department of Defense (DOD) will not be involved in a major conflict. (If the DOD were involved in a major conflict, the support, and resources ordinarily available to FEMA would be severely degraded.)

- Initial situational awareness will be limited; severe winter weather including rain, snow, wind, and fog will further hamper air operations for reconnaissance, satellite imagery, impact determinations, and other situational assessment activities.

1.5.2 Safety and Security

Facts

- Communications will be fragmented and, at the beginning, probably reduced to line-of-sight radios.
- Damage to water infrastructure (i.e., treatment facilities, storage facilities, and delivery systems) results in shortages of water for firefighting, drinking, personal hygiene, etc.
- Law enforcement personnel on duty will need to have their families supported.
- Local law enforcement personnel will be initially required to operate in place due to the inability to move and disrupted communications networks.
- Security teams are required for at least two joint field offices (JFOs), two initial support bases (ISBs), two forward staging areas (FSAs), and atypical federal staging areas on the coast. Security for any FEMA facility/location is provided through FEMA contract security and not typically an Emergency Support Function (ESF) #13 mission. ISBs and co-located staging area security would typically be provided by base military personnel. ESF #13 could be mission assigned to these tasks if necessary.
- There will be significant populations that will have no law enforcement presence.

Search and Rescue

- A full Incident Support Team (IST) is co-deployed and immediately embeds with the Incident Management Assistance Team (IMAT).
- IST (Red, White, and Blue) Standing Rostered Teams of 25 (core) personnel can be quickly augmented to support additional ICS positions.
- Access to the most severely impacted areas is limited for ground assets and primarily available through air assets (likely by helicopter) due to damaged surface transportation infrastructure. Responders will access affected communities by whatever means available, so multi-modal transportation must be considered. Urban Search and Rescue (US&R) task forces and other mass Search and Rescue (SAR) resources may require air or marine movement to reach the affected areas are damaged or blocked and will require local transportation to the incident site once they've arrived via air/water. Mass SAR resources require route clearance in order to gain access to their assignments and to enable the medical evacuation of casualties and the movement of uninjured population.
- Animal rescue is a key component of SAR operations. Many survivors do not want to leave their animals behind.
- Bulk fuel resources will be needed to support air operations and ground mass SAR operations.
- Debris and sediment in waterways from the event significantly challenge marine SAR operations conducted via vessel.

- Designated locations will be established for rescued survivor evacuation.
- Evacuation responsibility falls to the local level (law enforcement agencies), with subsequent state and federal support.
- External SAR teams coming into the area need to be completely self-supporting for as long as they are on site; little to no local resources are available (e.g., fuel, communications, billeting).
- Ground transportation will provide support in accessible areas for US&R teams when possible.
- In coordination with ESF #1, viable routes will be established for US&R into and in the Coastal GRA.
- Maritime SAR resources (air/sea) needed for up to 46 communities, 11 counties, and 453 miles of coastline (157miles in Washington, 296 miles in Oregon).
- Mass SAR teams are needed as follows:
    - For a total area covering more than 60,000 square miles
    - For up to 200,000 damaged homes in the Coastal GRA
    - For up to 250,000 damaged homes in the I-5/Inland GRA
    - To conduct wide-area search for up to 17,200 square miles in the Coastal GRAs of Oregon and Washington
- Medical support for survivors will be needed.
- Region 9's US&R teams and Task Forces are needed in California and are not available to support Region 10.
- SAR focuses on rescuing the living rather than recovering remains; however, finding and marking the location of remains is an important function. Once remains are located, ESF #8 is responsible for recovering them.
- SAR operations will be impacted by environmental challenges, including limited daylight, winter weather, environmental hazards (e.g., downed wires, chemical contamination, flooding), aftershocks, and additional tsunamis and seiches.
- SAR personnel typically communicate with very high frequency (VHF) simplex, ham radio, and ultra-high frequency (UHF) radio. Due to communications infrastructure damage, some of these methods of communication are not available. This will limit SAR personnel to local intra-scene communications isolating them from communicating to command-and-control elements located in the I-5/Inland GRA and on the east side of the Cascades. This limitation, in turn, will greatly impact SAR personnel's ability to request additional resources and supplies as well as re-assignment to new incidents.
- SAR resources provided through Emergency Management Assistance Compacts (EMACs) are insufficient to meet demands, leading to competing EMAC requests.
- State, federal, tribal, and local authorities share responsibility for search and rescue operations.

- Teams, including ESF #13 support, are deployed to a federal staging area and coordinate with incident command.
- The scale of the event limits regional capability to conduct SAR operations.
- The federal government and FEMA can activate federal resources utilizing surge funding in preparation of a Presidential Disaster Declaration and stage them on Federal Operational Status (FOS). This can occur at the FEMA Region or HQ level. This staging is in anticipation of a state employing the resources on Direct Federal Assistance (DFA).
- There is limited availability of airports, reception areas, and staging areas for coastal communities impacted by the tsunami.
- Urban fires and conflagrations would severely impact Safety and Security operations (i.e., firefighting, SAR, law enforcement, etc.) because of resource demand challenges and because fires moving through impacted areas would create additional critical urgency to Safety and Security operations such as rescuing survivors trapped by fire.
- US&R task forces are trained and capable of searching and rescuing from all types of structures, not just multistory buildings, and can conduct wide-area searches.
- Working dogs will require veterinary support during extended missions.

Assumptions

- Because communications are down, situational awareness is largely line-of-sight in affected areas.
- Competing priorities exist for looting protection, traffic control, search and rescue, crowd control, assessments, commodity escorts (Washington State Patrol has agreement in place for this), etc.
- Correctional facilities in the shake zone sustain significant damage and may require evacuation.
- Demand for state, tribal, and local government law enforcement services exceed current capabilities.
- Deployment of security personnel and equipment is delayed due to damaged transportation, communications, power systems, and the lack of comprehensive situational awareness.
- Effects of price gauging and competition for fuel might generate security requirements.
- Emergency operations centers (EOCs) in some jurisdictions might not function with ESF structure. ICS is designed for incident management, not necessarily for incident support.
- Federal response security requirements will exceed available resources.
- Law enforcement and corrections facilities execute existing disaster plans for security.
- Law enforcement and public safety personnel are present in impacted communities, but that presence is fragmented by failures in transportation and communications systems.
- Limited staffing exists on a day-to-day basis, so insufficient staff and reserves can be expected after a CSZ event for the local area and the surrounding jurisdictions.

- Local jurisdictions or organizations exhaust their law enforcement and mutual aid resources before seeking assistance from the Washington or Oregon State Patrols.
- Memorandums of understanding (MOUs) for support from surrounding agencies may be significantly impacted by an increase in demand and impacts to capacity by the incident.
- National Guard can support communications for inoperable dispatch systems within the impact area.
- Nearly all coastal police stations will experience complete damage.
- Public service announcements communicate infrastructure picture, security requirements, and status of facilities.
- Responding officers are affected by extreme fatigue, damage to their own homes, and their own family needs.
- The demand for law enforcement services will be higher after the incident than before and will continue to rise as panic and frustration increase in the population.
- There will be increased criminal activity in the impact area.
- Volunteer ham radio operators are not necessarily integrated across the counties or the state.
- Weather, especially in winter or across mountain passes, affects the transportation of staffing.

Search and Rescue

- Additional tsunami waves, debris, and collapsed bridges across entrances of ports and rivers will present navigation challenges to marine SAR responders trying to reach impacted coastal populations.
- Animal SAR teams may be deployed to assist US&R teams.
- Avalanches could block SAR access and possibly trap additional populations.
- Counties and cities unable to communicate requests for SAR may have the greatest need for resources.
- Damage to transportation systems, communications, and critical infrastructure critically impacts lifesaving efforts.
- Emergency responders in the impacted area are overwhelmed and have limited ability to perform SAR.
- FEMA Region 10 US&R resources would likely not be available due to impacts to personnel so responding teams would come from outside the region.
- Fire and hazardous material incidents affect SAR activities.
- HAZMAT contamination impacts SAR operations.
- Inclement weather and limited visibility hinder SAR operations.
- Local Community Emergency Response Teams (CERT) have a limited ability to provide immediate search and rescue functions.

- Local first responders in Coastal and I-5/Inland GRAs will be overwhelmed and have limited SAR capacity available. Responders east of the Cascades may incur fewer impacts and may be available to provide support.
- Local resources such as CERT and locally trained SAR personnel will rescue significant portions of the population in the first days after the incident but will still need support services such as medevac missions for rescued individuals who require advanced medical care.
- Survivors in tsunami inundation zones may assemble at designated rally points or spontaneous locations with family or other survivors.
- Safety hazards will exist and will affect SAR responders and survivors alike, including structural collapse, fires, HAZMAT incidents, and rioting and looting.
- SAR teams will not arrive in impacted communities with enough time or resources to save lives in all collapsed structures.
- SAR teams will require security support to effectively conduct SAR operations.
- The earthquake and tsunami will degrade the response capabilities of U.S. Coast Guard (USCG) assets on the Oregon and Washington coasts.

1.5.3 Food, Water, Shelter Lifeline

Facts

- Thirty-six percent of Oregon and 42% of Washington coastal county populations live in the inundation zone.
- Forty-six percent of shelters will have moderate damage or less (22% in Oregon, 63% in Washington).
- Fifty-four percent of shelters will receive complete or severe damage (78% in Oregon, 37% in Washington).
- Almost all coastal shelters in both Oregon and Washington experience complete damage.
- Animal damage assessments, animal feeding missions, loose animal capturing, and carcass disposal for pets and other animals will need to be considered.
- Evacuation of displaced survivors from impacted communities will be required.
- Feeding and hydration support for up to 2.5 million survivors, 1.5 million pets, 3,750 service animals, and 32,000 livestock in the Coastal and I-5/Inland GRAs.
- In Oregon and Washington, 3,297 schools and shelters listed in the National Shelter System (NSS) database receive moderate to complete damage and are unavailable for sheltering
- Livestock and other large animals will be displaced and may need food and water. Displaced survivors may bring livestock if they evacuate and may not leave homes if they cannot bring livestock, pets, or other animals.
- No single agency or organization will be able to satisfy all emergency resource requests.

- Non-traditional types of shelter units (i.e., convention centers, fair grounds, camp sites, etc.) should be considered in heavily impacted and isolated areas.
- Shelter will be needed for up to 1 million displaced survivors, 600,000 displaced pets, 1,500 service animals, and 13,000 heads of livestock.
- There will be a requirement for pet sheltering (stand-alone, collocated, and cohabitated) for all small and large animals that will include not just pets or assistance animals but also livestock and exotic animals.
- There will be a shortage of approved shelters and qualified staffing.

Assumptions

- A significant percentage of the displaced population will choose to stay on or close to their properties by camping in parks, RVs, or trucks in parking lots and other open spaces; they will require sanitation, feeding, and medical support.
- A small percentage of the rural population is self-sufficient for a short period of time, but the larger, more metropolitan populations are not.
- Aftershocks further damage structures with minimal initial damage.
- Coordination with SAR will be necessary to ensure rescued survivors are provided food, water, and shelter.
- Damage to transportation systems will disrupt the flow of food and basic needs commodities to the affected region.
- Displaced residents will bring their household pets and service animals to shelters.
- Disruption or catastrophic destruction to drinking water infrastructure will require establishing drinking water supply stations and a massive construction effort to restore drinking water systems.
- Disruptions to water and electrical power systems, combined with damage to the sewage treatment infrastructure, require establishing an extensive network of temporary sanitation stations to manage human and pet wastes.
- Emergency routes are established, enabling a significant outmigration of people who require emergency housing and support at their destinations.
- Emergency shelter sites will also serve as fixed feeding and bulk distribution locations for people sheltering in place in neighborhoods or staying in nearby open spaces.
- Emergency shelters must be equipped and capable of providing a broad range of services to meet the needs of the affected populations including the following:
    - People of diverse cultures, races, and nations of origin
    - People who don’t read, have limited English proficiency, or are non-English speaking
    - People living in institutionalized settings—this includes individuals who live in the community and individuals who live in institutions or facilities
    - Older adults with or without disabilities

  - People with pharmacological dependency
  - People with developmental, intellectual, or physical disabilities
  - People with chronic health conditions
  - People with injuries caused during the disaster
  - Children
  - People who are experiencing late-stage pregnancy
  - People who have low income
  - People who are experiencing homeless and/or transportation disadvantage
- Emergency shelters require substantial mental health staff to minimize stress induced by the disaster and abnormal living conditions.
- Fires or aftershocks may require the relocation of shelters that become threatened
- Government, private, general public, and volunteer organizations need to be self-sufficient for a minimum of 3 days, and probably at least 2 or 3 weeks.
- Impacts to transportation systems and geography isolate neighborhood communities.
- Local sheltering effort varies in capability; most may not be sustainable for more than 3 days without outside resupply.
- Local sheltering will be limited due to facility damage and lack of available personnel.
- Many pre-designated facilities suffer significant non-structural damage and must be cleaned and repaired before being utilized as evacuation centers or emergency shelters.
- Mobile kitchens need access to working utilities or portable systems for power, potable water, wastewater, and trash.
- Potential for disease increases due to dead bodies and animal carcasses.
- People experiencing homelessness pre-disaster will lose access to support services and require shelter, feeding, and other mass care support.
- Private sector, voluntary organizations, and state and federal support are needed to augment limited local sheltering requirement.
- Public messaging directing survivors to support areas requires creativity due to damage to communications infrastructure and to accommodate languages other than English.
- Some disaster survivors arrive at evacuation centers with minor injuries, pre-existing chronic or contagious diseases, or other medical conditions that require evaluation and treatment, isolation or quarantine, or referral.
- Some individuals who require assistance with their daily living tasks arrive at emergency shelters without their caregivers, creating an additional burden for the shelter staff.
- State resources are mission-tasked to respond to meet field needs as identified and requested by the affected jurisdictions.
- Survivors from coastal communities may not be able to self-evacuate.
- The affected areas, the Coastal and I-5/Inland GRAs, will compete for scarce resources.

- The damage and threat to population greatly exceeds local capabilities necessitating emergency re-supply for lifesaving and life-threatening conditions.
- The support provided to shelter operations by roads, shelter safety and security, power, and lines of communication are essential to continue shelter operations; without them, there will be additional evacuation requirements.
- The surviving population is scattered in isolated pockets along the coast of Washington and Oregon, most without emergency kits or supplies.
- There is a shortage of building inspectors to initially examine potential shelter sites. Those sites might require multiple re-inspections due to aftershocks.
- There is be a shortage of emergency response personnel, sheltering management and support staff, auxiliary fire, police, SAR, emergency medical, transit, public works, utilities, and health support personnel.
- Tourists and visitors staying in hotels or other accommodations that become uninhabitable utilize evacuation centers until transportation systems can support their evacuations.
- Transitional sheltering augmentation assistance will be required.
- Transportation is greatly diminished, forcing many to evacuate on foot.
- Transportation issues will result in significant delays in the arrival of food and drinking water resources.
- USDA Food and Nutrition Service (FNS) is the lead agency in support of ESF #6 to provide emergency food.
- USDA FNS: In exceptional circumstances, states can request approval from FNS to operate a disaster household distribution. Upon FNS approval, emergency feeding organizations can distribute USDA Foods in smaller sizes to individual households for preparation and consumption at home. Households cannot receive both Disaster Supplemental Nutrition Assistance Program (D-SNAP) benefits and disaster USDA Food household food packages at the same time.
- USDA FNS: To support congregate feeding, FNS supplies USDA Foods to disaster relief organizations such as the American Red Cross and The Salvation Army. Emergency feeding organizations request this food through state agencies; states, in turn, notify USDA of the types and quantities of food needed. USDA Foods intended for the National School Lunch Program (NSLP) are most often used for mass feeding.
- USDA Foods include a variety of non-perishable fruits, vegetables, meat, poultry, and whole grain products. In disasters, states may use existing inventories of USDA Foods stored at state, local, and school warehouses intended for the NSLP, The Emergency Food Assistance Program (TEFAP), and other USDA nutrition assistance programs. USDA does not set aside or pre-position food specifically for disasters.
- Urban and rural homeless populations require sheltering.
- Urban populations do not have sufficient food supplies to sustain them until mass feeding locations are established.

- Very limited communications are available. Using the Operational Area Satellite Information System (OASIS) may be required.

1.5.4 Health and Medical Lifeline

Facts

- Nineteen hospitals in the Coastal GRA and 104 hospitals in the I-5/Inland GRA will require augmentation.
- A population of approximately 19,000 hospital patients and 77,000 nursing home residents will require evacuation or support.
- All mutual aid teams coming into the area require self-sustainment. Local systems are unable to provide adequate support.
- Between 15 and 27 hospitals will be damaged, resulting in the loss of between 524 and 1,708 regular beds and between 60 and 228 critical beds. The majority of these losses will be on or near the coast. There will be additional losses due to aftershocks and the loss of critical infrastructure needed to support hospital operations.
- Captive and wild, dangerous, and domestic animals can present public health issues due to destroyed or damaged facilities/operations, stressed and expired animals.
- Considerations will need to be made for electricity-dependent and durable medical and assistive equipment and devices, such as ventilators, which are essential for many users to maintain independent living.
- Damage to hospitals, fire stations, and other emergency services, combined with bridge and road outages, will substantially limit the abilities of first responders to assist in rescue and medical aid for victims.
- Damage to water infrastructure (i.e., treatment facilities, storage facilities, and delivery systems) causes shortages and contamination that lead to immediate health risks to the public and first responders.
- Excess capacity of other hospitals within a 250-mile range of impacted communities will be saturated.
- Hospitals will be the primary providers of acute care, but limited transportation capability will require that people are triaged/treated in place. Movement to surviving care centers will require outside assistance.
- If left unmitigated, deaths from disease, exposure, and contaminated water will exceed deaths from the event and tsunami.
- A minimum of two medical staging areas are required for response operations.
- One or more U.S. Navy hospital ships, such as the USS Mercy, is activated to support response efforts prior to a request for assistance.
- Oregon and Washington will implement EMAC and any intra-state agreements for health and medical treatment assistance.

- Patients located in care facilities before the event will be displaced and need alternative care sites, including hospitals, assisted living facilities, nursing homes, rehabilitation centers, etc.
- Up to 100 hospitals and 3,000 nursing homes may require evacuation.
- Up to 27,500 injured survivors require medical care after the initial event.

Fatality Management

- Federal support is required for remains collection, identification, storage, and reunification or interment.
- Initially, fatality management services are required for at least 12,666 human remains.
- Normal means of fatality management are not available.
- Priorities for fatality management are health and safety for the living, identification and eventual documentation of the deceased, dignified treatment of remains, return of remains to surviving relatives, and interment for those not claimed.
- Stabilization and emergency medical treatment of survivors take precedence over fatality management.
- The management of remains overwhelms local capabilities. Local communities do not have the plans or resources in place to deal with mass fatalities on this scale.
- There is a need to provide public information for fatality management, such as how to handle human remains.
- There is little capacity to store bodies locally.

Assumptions

- A Public Health Emergency Declaration occurs within hours of the event occurring.
- Additional medical support is necessary to care for casualties due to their high numbers and impacts to the medical infrastructure, particularly in coastal communities.
- Aftershocks compound health and medical consequence management and delay response activities.
- All healthcare centers will need access to potable water, fuel, and backup power supplies.
- Ambulance and emergency medical support will require additional support to meet the need of survivors.
- Animals (including service animals and SAR dogs, mounted police horses, etc.) may need veterinary attention.
- Assisted living centers will not have sufficient staff or equipment to provide for evacuation of survivors.
- Care and sheltering of medical needs survivors exceed local and state capabilities.
- Cascading effects of the disaster hamper medical response efforts.

- Casualties and critically injured persons in coastal communities must be transported by air or sea due to damage to road networks.
- Damage to utilities and transportation infrastructure isolates hospitals; assistance is unavailable for at least 24 to 72 hours.
- Delays in the provision of medical care could potentially worsen health and medical conditions, necessitating additional acute care resources.
- Due to infrastructure damage, water and food delivery and wastewater management are significantly impacted and lead to spread of communicable diseases.
- HAZMAT incidents occur due to physical damage caused by the earthquake. People exposed to hazardous materials need special medical treatment.
- High number of casualties plus reduced hospital capacity combine to overwhelm existing capabilities.
- Hospitals will require additional resources to provide medical evacuation services.
- If hospitals evacuate, people are not allowed back into the building until it is inspected.
- In order to continue operations, hospital need to be resupplied, utilities and support services maintained or restored, and logistical support provided.
- Insufficient transportation resources used to deliver medical supplies, personnel, and inadequate patient transport lead to limited medical care delivery.
- Local resources cannot meet demand for acute care teams, support personnel, pharmaceutical supplies, dialysis treatment capabilities, psychotropic medications, oxygen, fuel, water, and laundry services.
- Medical care for pets is required and exceeds local capabilities. People will not leave without their pets.
- Medical facilities must provide support services for their staff.
- Medical support of survivors in mass care shelters is necessary.
- Medical systems are required to have backup power redundancy. Hospitals have their own generators; however, during a catastrophic event, generators become the primary power source and require additional backup power supplies.
- Patient capacity exceeds local/state capabilities, requiring movement to care facilities or hospitals outside the impacted area.
- Patient movement from the coastal areas needs to be provided by rotary aircraft due to damage to costal community airfields and area roads. This capability is very limited in the first 24 to 72 hours due to high demand and limited rotary aircraft availability.
- People evacuate without their prescription medications or their durable medical equipment.
- Public health messaging needs are significant but difficult due to loss of communication infrastructure.

- Responders initially treating survivors do not have the skills needed to treat those with chronic medical conditions.
- Secretary of U.S. Department of Health and Human Services (HHS) will activate the National Disaster Medical System (NDMS).
- Security services are needed for acute care facilities.
- Some hospitals, though still functional, must be evacuated due to the inability to resupply and provide needed support services.
- State, local, and tribal medical and public health resources will be overwhelmed.
- States will activate their patient decompression plans.
- States will implement rule and legal requirements for disaster standards of care.
- Surviving patients in damaged hospitals, nursing homes, and assisted living centers need to be relocated.
- Survivors in impacted communities do not have regular access to shelter, potable water, food, or medicine. They experience high levels of stress.
- The majority of local staff does not report to care facilities due to a variety of factors: death, lack of transportation capacity, inability to proceed past checkpoints, family emergencies, etc.
- The numbers of causalities and the expected loss of beds due to hospital damage result in a saturation of hospital capacity within 250 miles of the impacted areas.
- Transportation of casualties is difficult due to damaged highways, airports, and limited or no Emergency Medical Services (EMS) transport.
- Waivers are successfully issued, allowing the available out-of-state medical personnel to provide emergency care.
- Water purification systems are needed for quality care and prevention of disease transmission.

Fatality Management

- Aftershocks compound fatality consequence management and delay response activities.
- Demands for guidance and support from local and state medical examiners exceed capabilities.
- Disinterment will occur in liquefaction and inundation zones.
- Due to the scale of the disaster and its impact on the mortuary industry, temporary mass interment of bodies may be required.
- Exposed human and animal remains pose threats for the spread of disease and biohazards.
- Fatality management activities are needed for a significant period of time.
- If human remains are not processed promptly, health hazards will increase.

- In the event of a catastrophic mass fatality incident, critical human remains care management issues will overburden the capability and capacity of local government.
- Local jurisdictions execute existing fatality management plans
- Power is off for a significant amount of time on the coast, which will impact the capability to store remains.
- Retrieving bodies from rural areas might take weeks. Forces of nature and wild animals might damage human remains.
- There is a limited ability to provide death certificates and/or other legal documentation for the missing and the deceased.

1.5.5 Energy (Fuel & Power) Lifeline

Facts

General

- Aftershocks will continue for months after the main event, perhaps degrading any repair work done.
- Critical infrastructure sectors including, but not limited to, water treatment, wastewater treatment, communications, natural gas, hospitals, fire, emergency medical services, gas stations, grocery stores, financial institutions, etc. are dependent on power to fully function.
- Infrastructure restoration in coastal areas and along I-5/Inland GRA is expected to take from months to years.
- Local personnel who assess and repair damage are equally affected as the public by destruction.
- Repair to both electric and natural gas infrastructure will take months to years in the most heavily impacted earthquake zone due to severely damaged impassible roads, debris, and aftershocks.
- The first priority of utility companies outside the affected regions will be to their customers.
- The public is expected to be without outside support for the first 72 hours after the event.
- The repair time west of the Cascades depends on the damage pattern and what equipment can safely be used.

Electric

- Along the I-5/Inland GRA, the large food distribution centers will need adequate electricity for full operations.
- Considerations will need to be made for electricity-dependent and durable medical and assistive equipment and devices, such as ventilators, which is essential for many users to maintain independent living.

- Electric infrastructure east of the Cascades and outside of the earthquake impact zones will likely experience service disruption due to potential damage, infrastructure interdependencies, and balancing of the grid. These disruptions will extend to the entire west coast. Local resources from east of the Cascades will be unable to support the earthquake impact zones to the west until service has been restored within their service areas. This will be critical to supporting the response efforts to the heavily damaged areas to the west (i.e., staging areas).
- Rebuilding electrical functionality east of the Cascades will begin immediately and should establish islands of supply quickly.
- The majority of infrastructure sectors depend on electric power to function fully.

Natural Gas

- Multiple natural gas storage facilities are located within the earthquake impact zones. Damage to the pipeline infrastructure (transmission and distribution), compressor stations, loss of power, etc. will affect the likely impact and the use of this resource until repairs can be made.
- The damage to natural gas pipelines (both transmission and distribution) will interrupt service to all users of natural gas in the earthquake impact zones and beyond. This will include residential end users as well as power plants that use natural gas to generate electricity. Drops in pressure will likely affect natural gas service outside of the impacted areas, initially.
- Without transmission system, natural gas has 7 to 10 days of supply, assuming the system stays intact.

Petroleum

- The 139-mile pipeline from the Portland fuel hub running south to Eugene could experience 115 breaks and 34 leaks along the length of the system.
- The 400-mile Olympic Pipeline running from the refineries in northern Washington into Oregon's fuel hub in Portland could experience as many as 135 breaks and 48 leaks along the length of the system.
- The 62-mile crude pipeline from Canada to the refineries in northern Washington could experience as many as 15 breaks and 6 leaks along the length of the system.
- The nine pump stations critical to maintaining refined product flow from Washington to Oregon will be completely damaged. Based on pump station operability alone, it is reasonable to assume the Pacific Northwest petroleum pipeline system will be inoperable for months.
- The Petroleum pipelines feeding SeaTac, Washington, and Oregon will be damaged with major repairs required.

Assumptions

General

- Coastal areas will experience a long recovery time due to limited access for restoration and the extent of structural damage.
- Damage to natural gas, petroleum pipelines, and fuel delivery systems contributes to fuel shortages in the entire region.
- Damage to potable water systems in coastal communities is severe to complete. Along the I-5/Inland GRA, the damage is moderate to complete, and in Portland, the damage is moderate to severe.
- Damage to transportation systems, communications, and critical infrastructure critically impacts lifesaving efforts.
- Essential facilities have limited capacity to support coordination among local, state, tribal, and federal agencies.
- Fuel requirements for damage assessment, life safety missions, and critical infrastructure restoration exceed local capabilities; fuel must come via barge to the Pacific Coast to support coastal communities, via truck from eastern/central Oregon and Washington to support I-5/Inland GRA communities, and by air to isolated communities experiencing islanding and by truck; power and communications are critical for fuel distribution.
- Impacts to utilities may affect organizations from sufficiently executing their emergency operations and business continuity plans.
- Repair time for the overall water and wastewater infrastructure could be weeks or months for facilities sustaining complete damage.
- The role of FEMA and state emergency management agencies is to coordinate with ESF #12 federal and state primary agencies to facilitate private and public sector utility and fuel restoration efforts as a part of overall response and recovery operations.
- Utility crews from across North America will be deployed in numbers sufficient for restoration purposes; the ability to get to the places requiring repairs will serve as a limiting factor. Sheltering and feeding the mutual assistance crews will also be a limiting factor for the restoration efforts.

Electric

- Areas serviced by a 69-kilovolt (kV) transmission system—typically remote regions with a lower population density—will be the last to be restored or replaced.
- Government and emergency service functions may degrade due to loss of electric power and communications. EOCs at all levels within the earthquake impact zones will be limited in their response capabilities, initially, as a result of power and communication outages, injuries, and road damage.
- Ground shaking will impact the structural integrity of electric power transmission through deformation, liquefaction, lateral spreading, or vertical displacement.

- In a catastrophic disaster, electrical power may not be stabilized for several weeks in some areas and restoration may take months or years to complete.
- Infrastructure interdependencies (power, fuel, transportation, and communications) demand a synchronized approach to restoring capacity.
- The damage to electric infrastructure in the earthquake impact zones will takes months to years to rebuild. Damage to roads along with widespread debris will limit access for rebuilding efforts. Availability of mutual aid crews, and acquisition of needed equipment (poles, line, transformers, etc.) will contribute to feasible restoration timelines.
- The initial earthquake causes an immediate Region-wide power outage that lasts for months in affected areas along the I-5/Inland GRA of Oregon and Washington and longer in the coastal areas of both states.
- The longer an area is without electrical power, the more difficult response and recovery operations will become.
- Where not damaged, the electric system will automatically activate safety measures within minutes of the earthquake.

Natural Gas

- Damaged gas-fired power plants, which normally provide valuable reserve capacity, could pose a threat to the reliable operation of the power grid in the Pacific Northwest.
- Damages to natural gas transmission pipelines and distribution networks limit service to the majority of western Oregon and Washington customers.
- The main north-south natural gas transmission pipeline along the I-5/Inland GRA experiences multiple breaks. The largest impact on other sectors is in the electrical power sector.

1.5.6 Communications Lifeline

Facts

- Bringing in telecommunications crews and resources, such as transportation, housing, and fuel, from unaffected areas requires coordination.
- Communications capabilities are limited within each state.
- Communications capabilities are limited within each state.
- Critical infrastructure interdependencies among the communications, electricity, fuel, and transportation sectors significantly impact the ability to deploy temporary emergency solutions within the affected area for the initial life-safety response; coordination is required between strike teams from these sectors within the first 2 weeks of the disaster.
- Damage to interdependent communications systems (landline, cell tower, radio tower, and microwave) affects restoration of all critical infrastructure (CI) sectors and hampers situational awareness.
- FEMA's Mobile Emergency Response Support (MERS) operational concepts are not integrated into all possible federal command and control structures.

- Lack of communications and impaired accessibility to affected areas limits situational assessment efforts.
- Local public safety personnel operate in place due to the inability to travel as a result of damaged transportation infrastructure and disrupted communications networks.
- MERS Operations Center (MOC) staff at the Federal Regional Center (FRC) perform initial coordination with impacted state EOCs.
- Multiple redundant communications systems among the NRCC, Region 10 RRCC, and state EOCs survive and provide initial communications and limited coordination capabilities.
- Remote communications nodes and lines (wire and optical) are inaccessible and therefore non-repairable for 30 to 90 days.
- Satellite and radio frequencies (RFs), including amateur radio networks, are the primary communications modes in the affected areas.
- SAR personnel typically communicate with very high frequency (VHF) simplex, ham radio, and ultra-high frequency (UHF) radio systems. Due to communications infrastructure damage, some of these methods of communication may not be available.
- The majority of communications facilities in the I-5/Inland GRA and westward suffers moderate to severe damage from the earthquake. Any facilities that escape damage may be inoperable due to power losses.
- The Region 10 Regional Administrator (RA), Deputy RA, Division Directors, Federal Coordinating Officers (FCOs), IMAT personnel, and Disaster Emergency Communications (DEC) Unit Leader have satellite phones. These phones support initial communications until their charges run out. There is a degraded ability to communicate and coordinate operational priorities and requirements.
- There are competing demands for limited communications assets.

Assumptions

- Communications capabilities are cut off completely in isolated areas; affected communities require direct contact.
- Communications restoration equipment (generators, fuel tanks, cabling) and existing infrastructure are at risk of theft and vandalism.
- Communications with coastal communities are limited to RF, satellite, and courier services.
- Damage to long-haul fiber optic cables causes Regional and nationwide delays in internet access and telephone service availability, as networks attempt to reroute around affected areas.
- Debris and road damage prevent access to communications towers, central offices, remote switches, cable head-ends, and other critical communications infrastructure for assessing damage, conducting repair operations, and refueling generators.

- Infrastructure damage in the western regions of impacted states affects communications in eastern regions.
- Loss of communications facilities due to a CSZ incident will likely affect areas outside of the impact zone. For instance, undersea cables from Washington and Oregon that are severed would affect communications with Alaska, other Pacific Rim areas, and east Asian countries (Alaska has a terrestrial fiber link through Canada as of 2020); restoration of undersea cable systems is likely to take 2 to 3 months depending on the number of breaks and the availability of cable ships to conduct repairs.
- Many tower-based systems fail or otherwise are unavailable post-incident due to misalignment, tower collapse (full or partial), interconnectivity failure, loss of redundant systems, power failures, loss of fuel supplies, or overutilization.
- Operational communications hub relay damage reduces Regional communications capabilities.
- Overuse of communications networks may cause congestion, resulting in latency, call failures, or other communications issues. Communications priority systems, such as the Government Emergency Telecommunications Service (GETS) and the Wireless Priority Service (WPS), help alleviate issues for responders and other officials.
- Remote communications nodes and lines (wire and optical) are inaccessible and non-repairable for a period of up to 90 days.
- Responders and survivors in heavily impacted areas do not have access to internet, cell phone, landline, television, or two-way radio services.
- Restoration of communications capabilities is a central component of the incident response, along with the restoration of transportation and power facilities and situational assessment, SAR, and mass care capabilities.
- Satellite communications are severely limited due to congestion during a CSZ response; users may need to use satellite devices outdoors for best reception, affecting how easily they can be used during response operations.
- Single points of failure, particularly in remote areas and connecting “last mile” routes, cause localized outages.
- The communications infrastructure is significantly degraded immediately post-event and continues to deteriorate due to the nature of backup power systems at communications towers and wire centers and inability to replenish limited fuel supplies.
- The earthquake causes landslides and uncontrolled fires that damage wire and fiber along roads, railroads, and bridges and affect connections between repeaters.
- The majority of fixed radio systems are degraded or inoperable due to failures with copper, fiber, and line-of-site (LOS) links, including microwave, and due to losses of power and/or damage.
- The response is impacted by changing environmental conditions, additional seismic-related events, and degraded emergency response organizations.

- The widespread damage may cause failure to multiple redundant network facilities, resulting in communications network outages beyond the immediate impact area.
- There is a lack of access to facilities to conduct assessment and repair operations.
- There is limited availability of crews who can assess communications facilities.
- Trunked radio systems are degraded or inoperable due to failures with copper, fiber, and microwave transmission modes. Cellular towers may not be able to link customers to switching centers, leaving customers with no access to emergency and telecommunications services.
- Wireline (copper and fiber) systems continue to be damaged by debris removal, cleanup, and repair operations; active communications links—both overhead and underground—get damaged or are severed.

1.5.7 Transportation Lifeline

Facts

General

- Aftershocks continue for months, causing further damage and impeding recovery.
- Assessments are required for all transportation infrastructure.
- Clearance and storage capacity for 32 million cubic yards of debris is required as a result of the initial earthquake. Additional debris results from bridge collapses and tsunami inundation. Debris removal is required for numerous functional areas beyond transportation (e.g., infrastructure, emergency services, communications, SAR).
- Facilities and infrastructure in Oregon and Washington estimated to be affected by the CSZ incident include 15,858 miles of highway; 6,826 highway bridges (different estimation methodologies were used for Oregon and Washington); 5,828 miles of rail; 93 rail bridges; 98 airports; and 716 port facilities (including 72 ports). (For the purposes of this plan, ports are maritime transportation hubs while port facilities are the facilities that support those hubs by providing fuel, access to waterways, navigation, etc.)
- Fuel requirements for assessment and repair crews exceed local supplies.
- Any railcars carrying chemicals damaged during the event could pose HAZMAT issues. (In 2009, 439 railcar loads per day of chemicals traveled through Region 10.)
- Local capabilities are inadequate to repair transportation infrastructure; self-sufficient personnel and equipment are required from outside the impact area.
- Pipeline and Hazardous Materials Safety Administration (PHMSA) waivers and special permits ease regulations for handling or removing hazardous materials.
- Repairs take may take weeks, months, or years.
- The extent of damage and debris limits access for the conduct of assessments and repairs.

- The number of significantly damaged and blocked roads, railways, airports, and seaports overwhelms the limited number of engineers, inspectors, and crews to conduct assessments and inspections.
- Transportation capabilities are essential to response efforts, including assessment, repair, and people/supply movement.

Ground

- Coastal communities are isolated in terms of ground transportation, limiting resupply and evacuation capabilities.
- Damage to overpass structures results in debris on roadways; debris cleanup is necessary in order to use roadways as aircraft landing areas.
- Damage to transportation infrastructure is most severe along the coast and in the coastal mountains. Serious damage also occurs along the I-5/Inland GRA and major damage occurs throughout the Cascades due to ground shaking, avalanches, and landslides.
- ESF #1 can facilitate size and weight waivers for response vehicles traveling on roadways. The Federal Highway Administration (FHWA) has the authority to grant size and weight waivers for state roads only. A vehicle traveling through multiple states needs waivers from each state. Congress has the authority to grant size and weight waivers for federal roads/interstates and does not delegate this authority.
- Of the five major bridges that cross the Columbia River in the affected area, four are severely damaged: the Astoria Bridge and the WA 433, I-5, and I-205 bridges. The Stevenson Bridge is expected to have no damage.
- There is major damage to coastal roads and bridges as well as to nearly all primary and secondary roads between the Coastal and I-5/Inland GRAs.

Air

- Although over two-thirds of the airports in the affected area receive moderate to greater damage, 45 (62.5%) of the 72 airport runways in the affected areas of Oregon and Washington that are long enough to accommodate C-130s, including 33 in the I-5/Inland GRA and potentially 3 in the Coastal GRA, are projected to sustain no damage. All have ground access issues and lack wraparound services (power, water, sanitation, fuel, and communications).
- C-130 aircraft are used for response operations. Runways capable of landing a fully loaded C-130 require approximately 3,500 feet of runway to accommodate the maximum landing weight.
- Helicopters are needed to meet the transportation needs of isolated communities, where landing areas are typically too small for fixed-wing aircraft. Compared to fixed-wing aircraft, helicopters carry fewer supplies, are slower, and have a shorter flight range.
- There may be competing demands for airports to support disaster response efforts while continuing to conduct their normal functions of passenger, cargo, and commercial traffic.

Maritime

- All seaports along the Pacific coast are at risk of sustaining complete damage; seaports along Puget Sound and the Columbia River (west of I-205 bridge) are at risk for major damage.
- Due to damage at various ports, crane ships may be necessary to facilitate movement of port assets. Due to the large power requirements of crane ships, no port operations are likely to occur if ports are without power.
- Major seaports are susceptible to liquefaction, including the Port of Seattle, Port of Tacoma, Port of Vancouver, and Port of Portland. The Port of Pt. Angeles is very susceptible to liquefaction, and plans are underway to move much of its operations to the airport location, which is on solid ground and 300 feet above the harbor. The ports in Pacific County are also subject to liquefaction and most of the Long Beach peninsula in Washington State is less than 20 feet above sea level.
- Navigation is extremely difficult from the mouth of the Columbia River to the Portland/Vancouver area. The tsunami damages many of the river's navigation aids and debris and sediment compromise the channel. Navigation could also be extremely difficult in the area of Longview, Kelso, and Castle Rock if debris from Mount St. Helens is shaken loose and causes a breach in the sediment debris blockage and a subsequent draining of Spirit Lake into the Toutle and Cowlitz rivers that feed into the Columbia River.

Rail

- Key rail bridges in Seattle, Olympia, Vancouver, and Portland sustain complete damage.
- Rail transportation is not possible along the I-5/Inland GRA or along any railroad spurs to the west; there are no rail services available for the transport of people or supplies.
- Seattle and Portland are both served by rail lines from the east that may be significantly impacted by landslides.
- The majority of rail facilities in the Cascadia region (train stations, dispatch facilities, and fuel facilities) are along the I-5/Inland GRA; most of these facilities suffer extensive to complete damage.

Assumptions

General

- Airports, marine port facilities, railways, and ground routes are the focus of assessments, repairs, debris clearance, and traffic management immediately post-earthquake.
- Fuel requirements for assessment and repair crews exceed local capabilities; fuel and highway infrastructure must come via barge or air; power is critical for fuel distribution.
- Fuel supply and storage capacity is limited or compromised.
- Impacts to transportation systems and geography isolate neighborhood communities.
- Initial debris management involves clearing paths; recovery will address actual removal.

- It will take months or years to restore highway segments affected by bridge damage, fault offsets, landslides, and liquefaction.
- Mutual aid agreements (MAAs) may not be workable due to the catastrophic nature of the incident, as requests quickly surpass capacity.
- Security services for transportation resources are required.
- State, local, and tribal transportation resources are overwhelmed.
- There are a limited number of qualified inspectors to support assessments of both public and private transportation infrastructure.
- There are competing demands for transportation resources and services; priority is given to support lifesaving and life-sustaining activities.

Ground

- Ground transportation to and from airports is a limiting factor for aerial delivery of resources.
- I-5 is unusable due to damage to key bridges.
- I-90 from Moses Lake to I-5 in Bellevue is the most likely route to survive impact and is a priority for reopening.
- Initial road-clearing efforts focus on moving debris out of the way; debris removal occurs later in the response.
- The initial earthquake and tsunami destroy most of Highway 101 and other roads that provide access to the coast.

Air

- Access and potential damage to supporting infrastructure leading to and from airports are limiting factors for aerial the delivery of resources.
- Air transportation is the only viable means of delivering supplies and evacuating people in many areas in the initial days post-disaster due to the event's impacts on roads, bridges, ports, and rail systems.
- Air travelers and airport employees are stranded at airports and require support.
- Airports within the impacted GRAs will suffer slight to extensive damage.
- Commodities may pile up at airport landing zones if shortages in supply movement capabilities occur.
- For rotary-wing aircraft, creating landing zones will likely be easier than restoring airfields.
- Multiple air assets operate simultaneously and require coordination; local air traffic control infrastructure will be limited, if usable.
- Smaller airports along the coast may suffer severe or complete runway damage resulting in limited fixed-wing aircraft operations for emergency response.

- Support assets, such as visual flight rules (VFR), night VFR, and GPS precision approach landings, will be used until navigational aids are restored.

Maritime

- The tsunami threat from aftershocks and floating debris limits access and impairs maritime navigation for coastal communities.

1.5.8 Hazardous Materials Lifeline

Facts

- In Oregon and Washington combined:
  - Eighty-six chemical facilities experience moderate to complete damage from the initial earthquake, and 6 are inundated by the tsunami.
  - Eighty petroleum facilities and more than 440 miles of petroleum pipeline experience moderate to complete damage from the initial earthquake.
  - Ninety-two potable water facilities and 249 wastewater facilities experience moderate to complete damage from the initial earthquake.
- Eighty-six chemical facilities experience complete to moderate damage as a result of the earthquake. Failure at any of these facilities may result in significant fire, explosion, inhalation, or skin contact hazards.
- Damage to communications infrastructure limits the ability to identify and prioritize HAZMAT releases.
- Damage to sewer pipelines and equipment at wastewater treatment plants results in spillage of untreated sewage.
- Damage to transportation infrastructure and related route obstructions limits the ability to assess and contain HAZMAT releases.
- Damage to water pipelines, in conjunction with spills of hazardous materials and raw sewage, results in shortages of fresh water for firefighting, drinking, personal hygiene, cooking, etc. and contamination that causes immediate health risks to the public and first responders.
- Fuel valves are designed to fail in a closed position (magnetic), but some spillage occurs. Pipelines and safety valves are damaged and cannot be expected to perform at 100%.
- Ingestible and inhalable chemicals such as chlorine and ammonia pose the greatest immediate health threat.
- Pipelines frequently follow roads and use bridges to cross water barriers. When the roads and bridges are destroyed, significant spills will occur.
- Some information needed for effective response is classified (e.g., HAZMAT releases at DOD facilities, and information about any radiological materials being shipped through Region 10).
- The sole petroleum pipeline in western Washington and Oregon runs along the I-5/Inland GRA from the Canadian border to Eugene, Oregon. The pipeline and its pump stations

and product terminals incur substantial damage, resulting in leaks that pose fire, explosive, or inhalation hazards.

- There are 1,438 facilities with reportable quantities of extremely hazardous substances (EHS) in impacted areas in Washington. Many more have reportable quantities of less-dangerous hazardous materials: 3,032 according to the state's reporting threshold.
- There are at least four fuel tank farms in the impact area of Oregon and Washington.

Assumptions

- Due to the catastrophic scope of the incident, survivors without adequate health and safety training and equipment may be asked to become impromptu responders.
- Due to the scale of the event, the cumulative release of large quantities of less hazardous materials poses health risks to responders and survivors. Examples include flammables, natural gas, propane, and farm chemicals.
- Exposure to disease vectors and chemicals in debris poses health risks to survivors and responders.
- Fire, US&R, HAZMAT, and EMS compete for resources
- Fires result from oil and HAZMAT releases and damage to electrical and gas infrastructure.
- Fuel tank farms located in liquefaction zones in Shoreline, Anacortes, and Long Beach (Washington) as well as in Portland receive damage; leak containment systems fail.
- In areas of strong shaking, vulnerable buildings collapse, producing dust and debris with a variety of potentially toxic materials (asbestos, concrete dust, lead, and other heavy metals), and organic contaminants, such as polychlorinated biphenyls and polybrominated diphenyl ethers. The safety of first responders and the long-term safety of the public is a concern.
- Infectious disease is a significant environmental hazard within days due to raw sewage from ruptured wastewater lines, feral animals, unburied animal carcasses and human remains, lack of public facilities, spoiled food supplies, and overcrowded improvised shelters.
- Life-threatening HAZMAT releases occur in Washington and Oregon due to damage to chemical/industrial facilities.
- Methamphetamine labs are damaged and pose immediate health threats.
- Responders and the public are not always aware of HAZMAT conditions; damage to communications infrastructure limits the ability for health and safety guidance to be provided.
- Standard reporting mechanisms for hazardous spills are unavailable due to the impacts to communication systems.
- There will be insufficient local personnel and equipment resources to respond to HAZMAT releases.

- Tsunami inundation causes widespread, low-level contamination from a variety of hazardous materials, which poses health risks to responders and survivors.
- Typical mechanisms for reporting hazardous material issues are not available.
- When FEMA Region 10 devolves, operational control of hazardous materials response operations will be managed by a combination of FEMA HQ and Region 6 staff, who may be unfamiliar with local resource sets.

1.6 Critical Considerations

Critical considerations are data points, such as circumstances or distinct Regional conditions, that must be considered before and during operations. They describe considerations that may cause the Region to deviate from typical operations as described in the Response, Recovery, and Mitigation Federal Interagency Operational Plans (FIOPs). Critical considerations should involve information of high consequence or be operationally significant.

Emergencies can vary in scope and intensity, ranging from a small local incident with minimal damage to a multi-county disaster with extensive devastation and loss of life.

- All Region 10 state emergency management organizations are divided into varying regions, districts, zones, or conglomerates.
- Damage to transportation infrastructure and debris clearance issues will hinder access to isolated communities and key infrastructure.
- The DOD does not expect any major degradation to response capacity beyond some possible impacts to naval resources.
- Harsh seasonal weather, combined with higher likelihood of impacts due to ground saturation, will narrow the window to provide lifesaving support within the impacted GRAs.
- If a CSZ incident takes place during a pandemic, safety protocols will need to be implemented through all aspects of the operation to protect survivors and responders.
- In Region 10, emergencies and disasters are handled locally by first responders, emergency managers, and elected officials. The local emergency manager has the responsibility for coordinating emergency management programs and activities.
- Personnel deployed by federal departments and agencies will require temporary housing, food, fuel, sanitation, and water during the response, but extensive impacts and scarcity of resources will require responders to be self-sustaining in terms of supplies and lodging.
- Private sector infrastructure (e.g., material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation systems) will be significantly impacted.
- Public and private sector resources activated through contracts, MOUs, and the EMAC from adjacent states and FEMA Regions that may also be impacted could quickly diminish.
- Region 10 currently has offices in the cities of Bothell and Lynnwood, Washington, as well as an Alaska Area Office in Anchorage. A no-notice event will impact the ability for

staff to access or travel to facilities due to infrastructure damage and increased commute times. Response coordination may therefore require support from another Region or FEMA HQ.

- Region 10 follows the National Response Framework (NRF), which specifies that emergencies be managed at the local level, with state and federal support provided as requested. National response protocols, including the National Incident Management System (NIMS), will be followed when federal resources are activated.
- Seattle and Portland are within the I-5/Inland GRA, which will likely receive heavy damage during a CSZ incident. They are surrounded by natural features that isolate them from other urban centers.
- Resource/supply chain support provided to Alaska will require extended response times due to possible impacts to its transportation infrastructure, the massive size of the state, and the state's severe weather conditions. Response resources in the affected area may have limited capability and many impacted areas will be isolated.
- Whole community resources will be required in response operations. The private sector, NGOs, and neighboring jurisdictions may support and be a part of the unified response. Region 10 works actively to maintain relationships with its states, tribes, and other partners to best support response operations.

1.6.1 Authorities

The plan is consistent with U.S. laws, policies, and other related requirements. The plan neither alters existing authorities, nor creates new authorities. The plan does not alter or impede the ability of state, local, tribal, and federal departments and agencies to carry out their specific authorities. The plan is based upon appropriate legal authorities, executive orders, and Homeland Security Presidential Directives, which are listed below.

- Robert T. Stafford Disaster Relief and Emergency Assistance Act; 42 U.S.C. 5121-5207: This act authorizes the President (assisted by DHS/FEMA) to declare major disasters and emergencies in the United States and provide assistance to state and local governments.
- Homeland Security Act of 2002 (as amended); 6 U.S.C. 722
- 14 U.S.C. 2: This section requires the U.S. Coast Guard to develop, establish, maintain, and operate rescue facilities for the promotion of safety on, under, and over the high seas and waters subject to the jurisdiction of the United States.
- 16 U.S.C. 1b (1): This section gives DOI/NPS authority to provide emergency rescue, firefighting, and cooperative assistance to public safety agencies for related purposes outside of the National Park System.
- Economy Act; 31 U.S.C. 1535-1536 (2007): This act authorizes federal departments and agencies to provide goods or services, on a reimbursable basis, to other federal departments and agencies.
- 32 U.S.C.: This title authorizes the National Guard to perform DOD-funded activities while remaining under the control of the Governor.

- Post-Katrina Emergency Management Reform Act; P.L. 109-295 (2006): This act expands the scope of ESF #9 from only urban SAR to include all types of SAR activities.
- Defense support of Civil Authorities (DODD 3025.18): Provides guidance for the execution and oversight of Defense Support of Civil Authorities (DSCA) when requested by civil authorities or by qualifying entities and approved by the appropriate DOD official, or as directed by the President.
- Code of Federal Regulations – CFR, Title 44: Emergency Management and Assistance, revised 1 October 2010
- Public Health Service Act, 42 U.S.C. 201 et seq., 1999
- Public Law 109-417, Pandemic and All-Hazards Preparedness Act (PAHPA), December 2006
- Homeland Security Presidential Directive 5, "Management of Domestic Incidents," February 28, 2003
- Presidential Policy Directive 8, "National Preparedness," March 30, 2011.
- National Disaster Housing Strategy (NDHS)
- The Americans with Disabilities Act (ADA) of 1990.
- Pets Evacuation and Transportation Standards (PETS) Act of 2006; H.R. 3858 (109th). To amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act to ensure that state and local emergency preparedness operational plans address the needs of individuals with household pets and service animals following a major disaster or emergency.
- Fair Housing Act 42 U.S.C. 3601
- National Contingency Plan for Oil and HAZMAT Response; 40 CFR 300.
- Oregon:
    - Oregon Cascadia Subduction Zone Earthquake and Tsunami Operations Plan (June 2012)
    - State of Oregon, Emergency Operations Plan (EOP) (2019)
- Washington:
    - State of Washington, Cascadia Subduction Zone – Earthquake and Tsunami, Appendix 1 to the State Catastrophic Incident Annex (March 19, 2012)
    - Washington State, Comprehensive Emergency Management Plan (CEMP), (March 2019)

2 Mission

2.1 Mission Statement

FEMA Region 10 will alert, deploy, and employ federal resources, staff the joint federal/state Unified Coordination Group(s) UCG(s), and direct the federal response in support of state

priorities/requests in order to protect lives, property, and the environment and set the conditions for long-term recovery.

2.2 Senior Leaders' Intent

Provide prioritized, rapid, and sustained support to the Region 10 states impacted by a CSZ earthquake and tsunami.

2.3 End State

Complete all lifesaving operations and stabilize Community Lifelines to facilitate restoration of essential infrastructure and a transition to long-term recovery.

2.4 Community Lifelines

A Community Lifeline represents a set of indispensable services that enable the continuous operation of critical business and government functions considered essential for maintaining human health and safety and economic security. During steady-state operations, lifeline activities are provided by public, private, and non-profit entities within a community. In a response, stabilizing lifelines is the highest priority, as their disruption may result in immediate threats to life and property. Decision makers must rapidly determine the incident's scope, complexity, and interdependent impacts. The Community Lifeline construct is used to help focus response actions on incident stabilization. The continuous monitoring of the status of these lifelines helps establish the highest priorities and most complex issues requiring resolution.

FEMA has identified seven Community Lifelines, each comprising multiple components that represent the general scope of services provided within that lifeline and the areas of potential community impact/restoration need. Figure 4 lists Community Lifelines and their components.

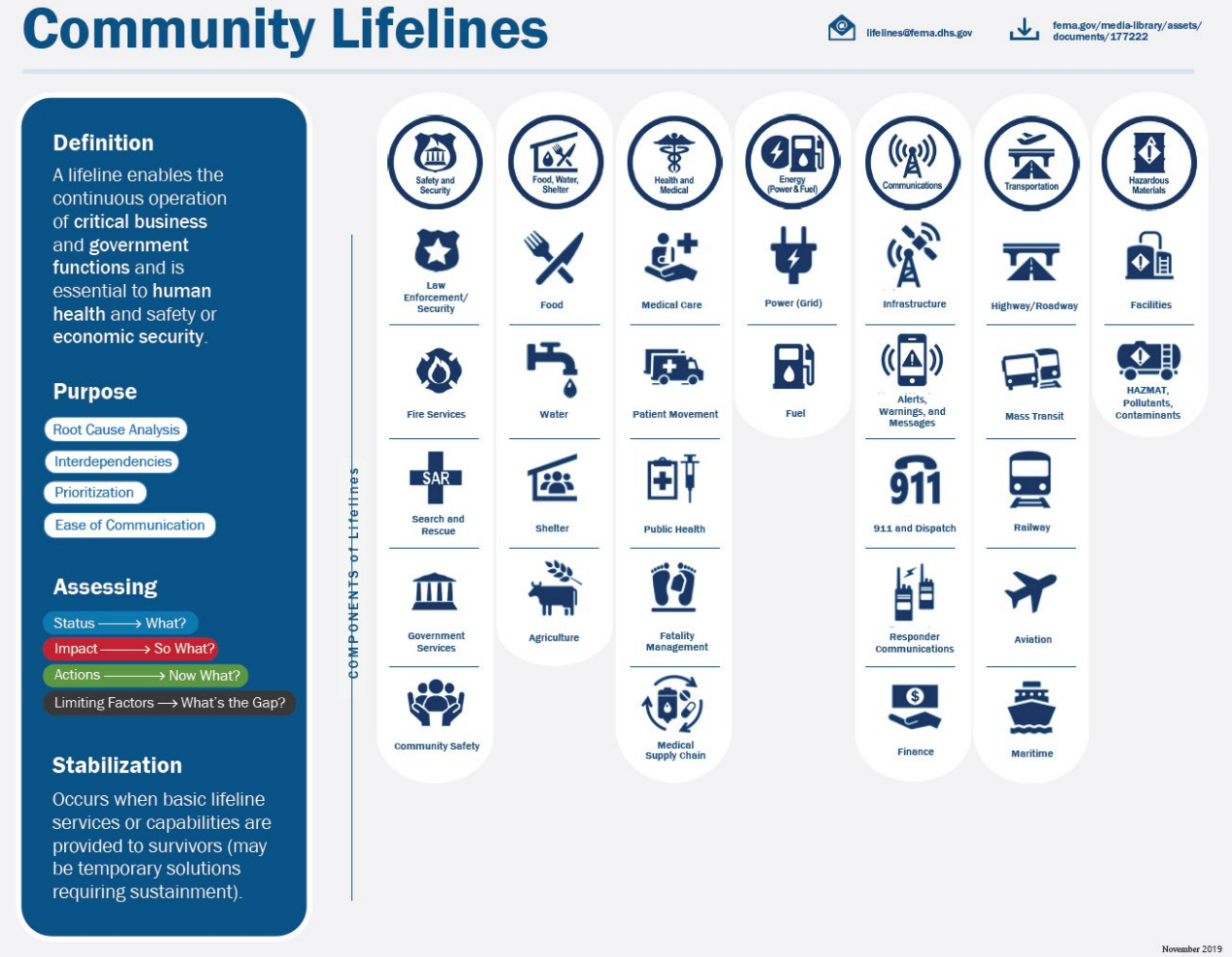


Figure 4: FEMA Community Lifelines and Their Components

2.4.1 Community Lifeline End States

A dynamic stabilization target—desired end state—is created for each lifeline during the deliberate planning process (see Table 3) and then modified on a per-incident basis to match incident circumstances.

The target should be created collaboratively with key stakeholders, including the following:

- Local response personnel
- Executive officials of affected jurisdictions and affected tribes
- FEMA Region and/or national personnel
- Other federal response personnel

Table 3: Community Lifelines and End States

Lifeline	Federal End State
Safety and Security	Threats to life safety are diminished for all response personnel and impacted communities. Federal assets are no longer required to conduct search and rescue (SAR) operations. Government buildings are accessible and open, with enough staffing.
Food, Water, Shelter	Re-entry to affected areas is allowed. Commercial grocery distribution and food banks are accessible and open. Congregate shelters are closed. Public water and wastewater utilities are providing services to the community (does not include private water or sewer systems such as wells or septic). Temporary home repair programs are initiated.
Health and Medical	Hospitals and healthcare facilities have sustainable power and potable water systems. Emergency medical services (EMS) are capable of responding to emergencies organically. Veterinary triage is complete. Fatality collection is complete. Health and social services facilities and public health services are accessible. Health assessments are complete.
Energy (Power & Fuel)	Critical facilities are operational for lifesaving and life-sustaining activities. Fuel distribution is available for responder vehicles and for spot generation at critical facilities. Commercial fuel stations are operational. Stable power is being provided through distribution sites and substations.
Communications	Commercial communications services are re-established with sustainable power. 911 services are available. The emergency response community is able to communicate over interoperable voice and data communications systems.
Transportation	Multi-modal routes (air, rail, road, port) are clear of debris and are accessible by normal or alternate routes. Pipelines are providing supplies for both electrical generation and home heating. Mass transit has been restored in metropolitan areas.
Hazardous Materials	Health and safety hazard assessments are complete. Wastewater and solid waste issues are identified and contained. Oil and hazardous substance spills and releases are identified, responsible parties are engaged, and a command structure is established, taking into account other federal agency (OFA) statutory authorities.

2.4.2 Determining Lifeline Status

Once situational awareness is attained post-disaster, response leaders at all levels determine the condition of the lifelines and their components. The status of each lifeline is informed by

situational awareness reports, impact assessments, and information from partners across the public, private, and non-profit sectors. Lifeline conditions represent a snapshot in time for an operational period.

Lifeline conditions are assessed from the perspective of the impacted community and individual disaster survivors in terms of how services are received and the vulnerability of maintaining and sustaining service delivery.

Applying the following questions regarding the incident is critical in determining the status of a lifeline and its components:

- Did the incident disrupt services to survivors provided by component capabilities?
- What is the extent of the disruption and impact on the response and survivors?
- Has a solution to the disruption been identified?
- Has that solution been converted into a plan of action?
- Has that plan of action been resourced?
- Are there limiting factors that are preventing stabilization? To what extent are they degrading services?
- Have services for survivors been stabilized? If not, how long to reach stabilization?
- Are there contingency solutions that are enabling stabilization? How long will these solutions be used to sustain stabilization?
- Have circumstances changed since the lifeline/component was last assessed?

Understanding the incident situation relative to desired outcomes is foundational to successful response operations. Understanding projected or actual impacts to lifeline services at the beginning of an operation is the first step towards developing effective solutions and scoping operational requirements.

Lifeline Component Analysis

Lifelines must be assessed at the component level to understand what services are impacted by a disaster. Lifeline components can be analyzed using six assessment categories (see Table 4), which capture Essential Elements of Information (EEI) for response decision makers.

Table 4: Lifeline Component Analysis

Category	Description
Component	Identify the impacted component(s) of the specific Community Lifeline and any key elements and Essential Elements of Information (EEI) within the component(s).
Status ***(What?)***	Summarize the root cause(s) of disruption to services provided through the Community Lifeline. (Status information should clarify why each applicable component is not stable.)

Category	Description
Impacts *(So What?)*	Explain the disaster's impacts on specific communities, disaster survivors, and response operations. Detail how the survivor experience and response operations will improve if components are stabilized. Summarize the impacted areas and total populations affected.
Actions *(Now What?)*	Describe the actions being taken to stabilize and re-establish the disrupted services. Summarize the most critical actions being taken across the whole community.
Limiting Factors *(What's the Gap?)*	Outline issues that are preventing services from being stabilized or re-established (issues can stem from another lifeline/component, resource shortfall, management, policy, etc.).
Estimated Time to Status Change or to Re-Establishment Requirements Being Met *(When?)*	Provide current condition of component(s) or an estimated timeframe for when a change in condition is expected.

The following component status categories reflect the condition of services within a particular Community Lifeline:

Category 1 – Disrupted with no solution identified

Category 2 – Disrupted but a known time to resolution is identified

Category 3 – Stabilized by contingency response solutions

Category 4 – Re-established by temporary repairs to organic lifeline service providers

Category 5 – Re-established by permanent restoration to organic lifeline service providers or was not impacted by the disaster

Community Lifeline Reporting

FEMA uses the Community Lifeline construct to facilitate reporting on the status of the response and the condition of services within affected communities.

Currently, FEMA's Community Lifeline reporting products use three different colors to indicate status level: red, yellow, and green. Green indicates stabilization of the lifeline. As such, any assessment that falls into categories 3 through 5 above should appear as green in operational reporting. The flowchart in Figure 5 provides an example of how responders might think through assigning a category/color to the status of a lifeline/component.

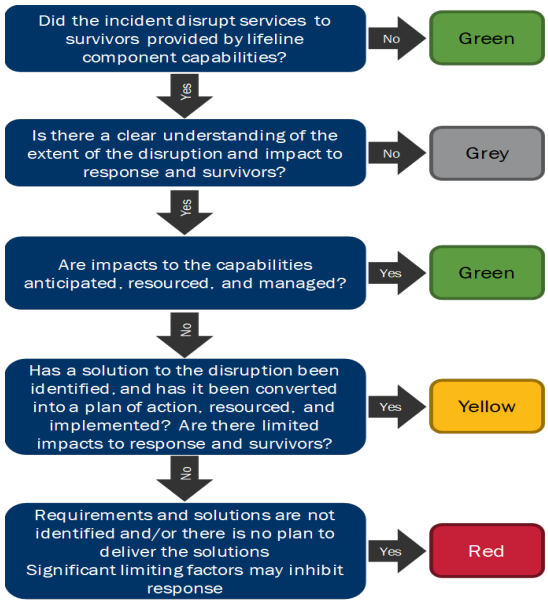


Figure 5: Lifeline Status Flowchart

2.4.3 Lifeline Stabilization

Lifeline stabilization occurs when immediate threats to life and property are anticipated, resourced, and managed and basic lifeline services are available to survivors. The stabilization process is dynamic and may require sustained resources and continuous evaluation. (Restoration, on the other hand, implies a permanent re-establishment of critical infrastructure.)

Lifelines do not cover all aspects of a community affected by an incident, such as impacts to the local economy. However, since lifelines enable all other activity within a community to occur, stabilizing the seven lifelines will enable the resumption of other critical life-sustaining community activity, such as social programs and economic and commercial activity.

Efforts to restore critical infrastructure and services within a community will occur concurrently with disaster response operations, but it is likely that lifeline response solutions must remain in place until a community's organic mechanisms for providing lifeline services are re-established.

2.5 Lines of Effort (LOEs)

A Line of Effort (LOE) is a focused area of critical action that is required for stabilizing or restoring a specific Community Lifeline. Lifelines therefore identify the source of service instability while LOEs address the specific solutions required to resolve lifeline instability.

LOEs are activities that a state, tribe, or territory can ask FEMA and the federal interagency to support to fill their capability gaps in managing the consequences of an incident. (The LOE tabs in Annex C describe each LOE's mission set—critical milestones (Intermediate Objectives), concepts, and resources—for providing federal support for the stabilization of the Community Lifelines.)

LOEs are predicated on initiating conditions that prompt a request for federal assistance. Federal support for an LOE concludes when the federal LOE end state is achieved. (The purpose and end state for the LOEs contained in this plan are listed in Table 5.)

Table 5: LOE Purposes and End States

Line of Effort	Purpose	End State
Airfield Opening	Provide federal assistance to open major and secondary airfields impacted by the event.	All major airfields are open; majority of secondary airfields are operational, and tertiary airfields are supported, as identified.
Commodities Distribution	Coordinate support for the distribution of resources at appropriate sites (State Staging Areas [SSAs], points of distribution [PODs], etc.)	Commodity distribution is no longer required; private sector distribution systems are re-established.
Damage Assessment	State or tribal governments request joint Preliminary Damage Assessments (PDAs).	Decision is made as to whether to request a disaster declaration.
Debris Removal	Provide federal assistance to support clearance, removal, and disposal of debris that impacts the emergency response and community functionality.	Debris no longer poses an immediate threat to lives, public health, or safety; the immediate threat of significant damage to public or private property has been eliminated; debris does not impact the economic recovery of affected areas.
Emergency Repairs or Augmentation to Infrastructure	Provide federal assistance for the temporary support of eligible critical facilities that are degraded and where alternative sites are insufficient.	Temporary repairs or alternate approaches are in place, stabilizing critical infrastructure and providing minimum required functionality; a plan for permanent repairs is in place.
Emergency Route Clearance	Provide federal assistance for immediate clearance of routes and access points to prioritized logistical nodes supporting ground routes and impacted communities.	Primary routes and access points for logistics nodes and impacted communities are opened to allow for lifesaving and life-sustaining support.
Evacuation, Reception, Re-Entry, and Return	Assist individuals in need of general evacuation support in departing the disaster area through whole-of-government coordination.	Safe evacuation and subsequent re-entry of survivors are complete, and federal resources are no longer required.
Fatality Management	Provide decedent remains recovery, processing, and temporary storage as well as victim identification and counseling to the bereaved.	All disaster-related fatalities are recovered, identified, and provided temporary mortuary solutions; information to reunify family members and caregivers with decedents is shared; counseling is provided to the bereaved.

Line of Effort	Purpose	End State
Hazardous Waste	Provide federal assistance to oil or HAZMAT discharges or releases that pose a threat to human health, safety, or the environment.	Oil and HAZMAT cleanup operations are complete; debris is segregated and disposed of properly.
Healthcare Systems Support	Provide federal assistance to support healthcare systems that are unable to provide patient services.	Healthcare delivery systems are able to meet community patient care needs without the support of federal resources.
Housing Solutions	Provide temporary housing solutions to eligible survivors.	All eligible survivors are provided relocation assistance and/or interim housing solutions.
Mass Care – Food and Water	Support food and water operations for the impacted populations.	Federal assistance is no longer required to support food and water distribution.
Medical Transportation	Provide federal assistance for the support of Emergency Medical Services (EMS) transport.	Medical system can meet patient transportation requirements without federal support.
Natural and Cultural Resource Protection and Restoration	Ensure compliance with pertinent laws, regulations, and executive orders.	Natural and cultural resources and historic properties are evaluated, protected, and/or restored.
Operational Communications	Establish interoperable communications among federal, SLTT, and private sector partners while re-establishing public information and warning infrastructure.	Responders have capacity to communicate within the impact area, and survivors are receiving updates about the incident.
Port Opening	Provide federal assistance to support the repair and restoration of critical ports.	Critical ports are capable of sustained operations.
Private Sector Coordination	Provide federal assistance in support of private sector operations; help infrastructure owners and operators, businesses, and their government partners coordinate cross-sector operations.	Private sector is supporting survivor-centric requirements without federal intervention; collaboration and information-sharing is established with the private sector, allowing for business-led restoration and long-term recovery efforts.
Public Information and Warning	Share coordinated, timely, precise, and actionable information with survivors and partners.	Federal assistance is no longer required to support states and/or tribes in informing the public.
Resource Staging	Coordinate support for the sourcing and staging of federal resources at Federal Staging Areas (FSAs) and Incident Support Bases (ISBs).	Resources are sourced and positioned in staging areas; commodities are ready for distribution.

Line of Effort	Purpose	End State
Responder Security and Protection	Provide temporary federal support to ensure the safety and security of federal responders.	Federal capabilities are no longer required to provide a safe and secure environment for responders.
Restoration of Public Infrastructure	Provide federal assistance to support the repair and restoration of critical infrastructure.	Permanent repairs to critical infrastructure have begun and estimated completion dates are established.
Search and Rescue	Provide federal assistance to support search and rescue (SAR) operations.	Survivors in impacted areas are located, rescued, and transported to medical facilities, shelters, or safe areas.
Sheltering Operations	Support sheltering operations for impacted populations.	Federal assistance is no longer required to support sheltering.
Temporary Emergency Power	Implement temporary emergency power generation to support mission-essential operations and critical facilities.	Utility power and/or facility generation has been restored to critical infrastructure; systems and services are available to the community; emergency spot power generation is no longer needed.

Between the initiating conditions and end state for each LOE are the key tasks (Intermediate Objectives) that must be undertaken to achieve the LOE end state. (Intermediate Objectives for each LOE are listed in the applicable tab of Appendix C-2.)

2.6 Relationships Between Community Lifelines, LOEs, Core Capabilities, and Emergency Support Functions / Recovery Support Functions

Community Lifelines provide a means for framing incident information to provide decision makers with a high-level overview of incident impacts and root causes. This construct maximizes the effectiveness of federally supported, state managed, and locally executed response operations.

LOEs represent the targeted areas of action, along with their mission sets, that must be completed in order to achieve stabilization within each Community Lifeline.

Core Capabilities are a means of grouping the capabilities of ESFs/ Recovery Support Functions (RSFs) and other response and recovery stakeholders to achieve the missions of the LOEs and thereby stabilize the lifelines and accelerate recovery. Core Capabilities are not exclusive to any single government or organization, but rather require the combined efforts of whole community stakeholders.

ESFs and RSFs are the response and recovery stakeholders that deliver the services, resources, and assets of the Core Capabilities to achieve the outcomes required for stabilizing lifelines and accelerating recovery.

Table 6 provides a crosswalk of the Community Lifelines and their associated Core Capabilities, while Table 7 provides a crosswalk between the Lines of Effort and ESFs.

Table 6: Community Lifelines and Their Related Response Core Capabilities

Community Lifeline	Related Response Core Capabilities	Infrastructure Systems	Situational Assessment	Operational Coordination	Public Information and Warning	Planning
Safety and Security	• On-scene Security, Protection, and Law Enforcement • Fire Management and Suppression • Mass Search and Rescue Operations • Public Health, Healthcare, and Emergency Medical Services • Environmental Response/Health and Safety					
Food, Water, Shelter	• Mass Care Services • Logistics and Supply Chain Management					
Health and Medical	• Public Health, Healthcare, and Emergency Medical Services • Fatality Management Services • Environmental Response/Health and Safety • Logistics and Supply Chain Management • Mass Care Services					
Energy (Power & Fuel)	• Logistics and Supply Chain Management					
Communications	• Operational Communications • Public Information and Warning					
Transportation	• Critical Transportation					
Hazardous Materials	• Environmental Response/Health and Safety					

This page intentionally left blank

Table 7: Lines of Effort and Emergency Support Functions[1]

Lines of Effort	ESF #1	ESF #2	ESF #3	ESF #4	ESF #5	ESF #6	ESF #7	ESF #8	ESF #9	ESF #10	ESF #11	ESF #12	ESF #13	ESF #14	ESF #15
Airfield Opening	**P**		S		S		S				S	S	S		
Commodities Distribution	S				S	S	**P**	S			S		S		S
Damage Assessment	**P**	**P**		S	**P**	**P**						S			
Debris Removal	**P**		**P**	S	S					S					
Emergency Debris Clearance	**P**		**P**							S				S	
Emergency Repairs or Augmentation to Infrastructure	**P**	**P**	**P**	S	S	S	S	S		S	S	**P**	S	S	
Evacuation, Reception, Re-Entry, and Return	S		S		**P**	**P**	S	S	**P**		S		S		**P**
Fatality Management	S						S	**P**		S			S		
Hazardous Waste	S	S	S	S	S	S	S	S		**P**	**P**	S	S	S	S
Healthcare Systems Support		S	S			S		**P**		S	S	S	S		
Housing Solutions			**P**		S	**P**	S				S				
Mass Care -- Food and Water			S			**P**	S	S		S	S			S	
Medical Transportation	S				S	S	S	**P**							
Natural and Cultural Resource Protection and Restoration			S		S					S	**P**		S		S
Operational Communications	S	**P**	S	S	S		S		S			S			
Port Opening	S		**P**		S					S			S	S	

[1] Key: Primary Responsibility (P); Supporting Agency (S)

Lines of Effort	ESF #1	ESF #2	ESF #3	ESF #4	ESF #5	ESF #6	ESF #7	ESF #8	ESF #9	ESF #10	ESF #11	ESF #12	ESF #13	ESF #14	ESF #15
Private Sector Coordination	S	S	S	S	S	S	S					S		**P**	S
Public Information and Warning	S	**P**	S		S	S	S	S	S	S		S	S	S	**P**
Resource Staging	S	S	S	S	S	S	**P**	S				S	S	S	
Responder Security and Protection	S							S					**P**		
Restoration of Public Infrastructure	S	S	**P**	S	S		S	S		S		S	S	S	
Search and Rescue	S	S	S	S	S	S	S	S	**P**	S	S	S	S		S
Sheltering Operations		S	S	S	S	**P**	**P**	S			S	S	S	S	S
Temporary Emergency Power			**P**		S		S					**P**			

3 Execution

3.1 Operational Coordination Strategy

3.1.1 Response

Due to the anticipated impacts of a CSZ event, FEMA Region 10 plans for the immediate devolvement of RRCC functions to Region 6 until such time that 1) Region 10 RRCC confirms it can maintain some or all mission essential function(s), or 2) Region 10 RRCC reconstitutes in accordance with the Region 10 Regional Continuity Plan. Additionally, Region 10 anticipates relying on the NRCC to conduct the initial alert, deployment, and employment of federal resources.

3.2 Phased Approach

Phases provide a sequencing structure for organizing response and recovery operations. Phases are not distinguished by date or time but rather by the character of the activity performed (see Table 8). Due to the scope of this plan update, which covers the first 14 days after a CSZ incident, the content below will include information on Phases 1 and 2 with particular focus on Phase 2.

Table 8: Response and Recovery Operational Phases

Response and Recovery Operational Phases								
Phase 1			**Phase 2**			**Phase 3**		
Pre-Incident Operations			**Incident Operations**			**Recovery and Restoration Operations**		
1a	**1b**	**1c**	**2a**	**2b**	**2c**	**3a**	**3b**	**3c**
Monitor Threat	**Elevated Threat**	**Credible Threat**	**Activation and Immediate Response**	**Community Stabilization**	**Sustained Operations**	**JFO Program Delivery Continues**	**Joint Recovery Operations**	**Disaster Closeout**
PRE-INCIDENT OPERATIONS			**STABILIZATION**		**TEMPORARY REPAIRS**	**RESTORATION**		

Planners use phases to describe how operations evolve over time and to promote unity of effort between local, Regional, and national incident operations. Phases are assigned conditions (i.e., phase transitions) that must be met for a phase to be considered complete.

Table 9 provides a description of each phase and its associated activities. The typical activities included are representative and not comprehensive. They are provided as examples to illustrate the phase transition conditions. Activities are focused on situational awareness, operational coordination, logistics, and program delivery and are written broadly to allow for consideration of the unique geography, operational practices, and requirements pertaining to a specific incident.

Table 9: Phase Transitions

Operational Phase	Phase Transitions	Typical Activities
1a – Monitor Threat	• **Phase Begins**: Steady state. • **Phase Ends**: Potential incident identified.	• Identify capabilities and conduct deliberate planning. • Conduct preparedness activities. • Monitor situational awareness of potential threats or hazards.
1b – Elevated Threat	• **Phase Begins**: Potential incident identified. • **Phase Ends**: Threat diminishes or is recognized as credible.	• Develop situational awareness products. • Confirm availability of federal staff and capabilities; consider alert or possible activation. • Begin to coordinate federal crisis action planning.
1c – Credible Threat	• **Phase Begins**: Threat is recognized as credible. • **Phase Ends**: Initial onset of impacts.	• Develop situational awareness products for a potential incident. • Validate planning assumptions and establish requirements. • Establish Incident Support Bases (ISBs) and Initial Operating Facilities (IOFs). • Stage or deploy federal capabilities. • Support pre-impact protection of life and property (e.g., evacuation operations).
2a – Activation and Immediate Response	• **Phase Begins**: Impact is ongoing or has occurred. • **Phase Ends**: Coordination mechanisms (e.g., Unified Coordination Group [UCG]) and situational awareness are established, and capabilities are deployed to accomplish key priorities and objectives.	• Establish and disseminate situational awareness about the impacts of the incident, including status of Community Lifelines. • Stage or deploy federal capabilities. • Establish or sustain ISBs and IOFs. • Provide lifesaving and life-sustaining assistance. • Initiate actions towards stabilization of Community Lifelines based on situational awareness and Regional stabilization targets. • Establish incident organization and coordination.

Operational Phase	Phase Transitions	Typical Activities
2b – Community Stabilization	• **Phase Begins**: Coordination mechanisms (e.g., UCG) and situational awareness are established, and capabilities are deployed to accomplish key priorities and objectives. • **Phase Ends**: Community Lifelines are stabilized; objectives and organization for recovery are established by the UCG.	• Take actions to stabilize Community Lifelines. • Continue providing life-sustaining assistance; provide and track federal capabilities as requested. • Establish temporary response facilities (e.g., Joint Field Offices [JFOs]). • Support impacted jurisdictions for population re-entry and return.
2c – Sustained Operations	• **Phase Begins**: Community Lifelines are stabilized; objectives and organization for recovery are established by the UCG. • **Phase Ends**: UCG efforts shift from response-focused to recovery-focused objectives.	• Demobilize federal response resources and staff (e.g., Emergency Support Functions [ESFs]) with completed missions. • Organize or re-organize operations to support effective recovery operations. • Prioritize and plan recovery actions (e.g., develop a Recovery Support Strategy [RSS]). • Support survivor transition from congregate sheltering to temporary or permanent housing solutions.

3.2.1 Steady-State Operations

The steady-state phase refers to the time period in which normal operations, as well as planning and training, occur (no new events or incidents are anticipated). During steady-state conditions, public, private, and non-profit entities provide Community Lifeline services that are organic and ongoing within a community. They include the range of basic services that communities rely upon to protect or maintain life and property, including but not limited to law enforcement and fire, public and private housing, food and water, healthcare, electricity and fuel, cellular network and internet services, currency, various modes of transportation, and sanitation. Any day-to-day disruption to these services is directly resolved by the appropriate organic lifeline service provider. Following a catastrophic event, when systems may be destroyed or significantly disrupted, response operations will support the stabilization and re-establishment of Community Lifeline services through the most effective means available.

The Region 10 Regional Watch Center (RWC) serves as the focal point for all disaster-related information. The FEMA MERS Operations Center (MOC) in Bothell serves as the Region 10 RWC. As such, its primary duties are to initiate, monitor, alert, notify, and report on all critical and/or routine activities related to natural or man-made disasters. The RWC is responsible for maintaining 24/7 situational awareness and for providing overall analysis of potential or actual incidents that may require federal support. Core RWC duties and responsibilities are to gather information from various sources, analyze the information, and properly disseminate the information to prescribed recipients.

On a day-to-day basis, the RWC serves as the Regional focal point of coordination for the RRCS, state emergency operations centers (SEOCs), DHS components, ESFs, state and local fusion centers, the Federal Bureau of Investigation (FBI), Joint Terrorism Task Forces (JTTFs), and other key state, tribal, local, and private sector operations centers. FEMA has identified a fusion center in each Region 10 state.

FEMA Region 10 also employs a Law Enforcement Liaison (LNO) through the National Preparedness Division (NPD), who coordinates with ESF #13, the FBI, local law enforcement, and the state fusion centers. The Homeland Security Information Network (HSIN) is commonly used for information sharing. This centralized coordination can be utilized in support of RRCC activations and for general incident support and situational awareness.

3.2.2 Phase 1

This phase is characterized by pre-incident awareness, preparedness, protection, and mitigation activities. The federal government funds and conducts research and provides mitigation guidelines. It is dependent upon state, local, and tribal governments, however, to adopt laws and ordinances to mitigate potential damage from incidents. State and local governments develop and maintain mitigation plans, approved by FEMA, that enable them to apply for federal grant funding. Pre-incident activities also involve the development of response plans as well as the conduct of training and exercises for incident response.

The Base Plan and Annex C (Operations) of this plan exclude the preparatory activities undertaken within Phase 1 since this plan addresses a “no-notice” catastrophic earthquake and tsunami.

3.2.3 Phase 2

Phase 2 begins when the earthquake occurs. Phase 2 focuses on an immediate, coordinated, and effective federal response to save lives and reduce casualties following the earthquake by supporting survivors, communities, and state, local, and tribal governments. The response phase includes three sub-phases—Phase 2a, Phase 2b, and Phase 2c—all of which support the synchronization of activities, priorities, resources, and decisions. Phase 2 also includes recovery activities and the deployment of some critical recovery resources. As Phase 2 progresses, the scope of recovery activities increases as the scope of response activities decreases. Phase 2 ends when the bulk of critical lifesaving response resources are demobilized, and recovery operations begin.

3.3 Alert and Notification

FEMA Region 10 utilizes its 24-Hour Alert and Notification Standard Operating Procedure (SOP) to notify, alert, and activate FEMA staff, ESF partners, and NGOs. (See Annex A for more detail.)

3.4 Deployment of Regional Field Teams

See Annex A of this plan.

3.5 Transition of Operational Authority (TOA)

See Annex A of this plan.

3.6 Key Decisions

The table below identifies key federal decisions that must be addressed by senior leaders in the response and recovery phases, along with the associated responsible entity for making the decision. These decision points are critical and can significantly affect the timely implementation of the response/recovery concept of operations (CONOPS) described in this plan.

Table 10: Key Federal Decisions

Key Federal Decision	Phase	Responsible Entity
Adjudicate limited federal resources.	2a/continuous	FEMA National Response Coordination Center (NRCC)
Activate Region 10 Regional Response Coordination Center (RRCC).	2a	FEMA Region 10 Regional Administrator (RA)
Stand up Unified Area Command (UAC).	2a	FEMA Region 10 RA
Deploy Incident Management Assistance Teams (IMATs).	2a	FEMA Region 10 RA
Deploy Region 10 coordination staff.	2a	FEMA Region 10 RA
Activate appropriate Emergency Support Functions (ESFs).	2a	FEMA Region 10 RA
Appoint Federal Coordinating Officer (FCO).	2a	FEMA Region 10 RA
Establish an Interim Operating Facility (IOF).	2a	FEMA Region 10 RA
Request additional national and Regional IMATs.	2b	FEMA Region 10 RA
Request/allocate international assistance.	2c	FEMA NRCC/U.S. Department of State (DOS)
Transition operational control from RRCC to Unified Coordination Group (UCG) / Joint Field Office (JFO) field staff.	2c	FEMA Region 10 RA/FCO
Transition field recovery functions back to FEMA Region 10 office for closeout.	3	FEMA Region 10 RA/FCO

Table 11: Key Safety and Security Decisions

Key Safety and Security Decision	Phase	Responsible Entity
Prioritize security needs and requirements (lifesaving, life-sustaining, critical infrastructure, law enforcement).	2a	U.S. Department of Justice (DOJ) Emergency Support Function (ESF) #13
Determine Use of Force for all law enforcement/security augmentation.	2a	DOJ ESF #13
Establish federal safety and security priorities in support of state operations.	2a	DOJ ESF #13
Allocate available federal ESF #4 assets within Region 10.	2b	ESF #4

Table 12: Key Search and Rescue Decisions

Key Search and Rescue Decision	Phase	Responsible Entity
Establish federal SAR priorities in support of ESF, SLTT, and private sector operations.	2a	FEMA
Allocate available federal SAR assets.	2a	FEMA
Determine location of survivor collection points.	2a	FEMA
Determine if international SAR resources will be requested to support identified shortfalls.	2a	FEMA

Table 13: Key Food, Water, Shelter Decisions

Key Food, Water, Shelter Decision	Phase	Responsible Entity
Prioritize evacuation routes and transportation for out-of-area evacuation.	2a	U.S. Department of Transportation
Approve evacuation support criteria/priorities for in state and out-of-state evacuations.	2a	ESF #6
Identify/prioritize available federal and American Red Cross (Red Cross) sheltering and feeding assets within Region 10.	2a	FEMA/Red Cross
Establish priorities of Emergency Support Function (ESF) #6 and partners in support of state operations.	2a	FEMA/Red Cross

Key Food, Water, Shelter Decision	Phase	Responsible Entity
Identify shelter locations, traditional and nontraditional sheltering options, establish standards of care limitations and exceptions, and determine international support and requirements.	2a	FEMA/American Red Cross (Red Cross)
Prioritize inspection process for shelters and coordinate inspections with responsible entities.	2a	FEMA/Red Cross

Table 14: Key Health and Medical Decisions

Key Health and Medical Decision	Phase	Responsible Entity
Allocate scarce federal medical assets within Region 10 to support patient collection points, field hospitals, Aerial Ports of Embarkation (APOEs), patient reception areas, and other locations within impacted geographic reference areas (GRAs).	2a	U.S. Department of Health and Human Services (HHS)
Execute medical evacuation missions (National Disaster Medical System [NDMS] vs. ambulance contracts).	2a	HHS
Coordinate with Emergency Support Function (ESF) #10 to assess hazardous material releases and to provide technical and decontamination support within the GRAs.	2a	HHS
Establish federal medical priorities in support of state operations.	2b	HHS
Determine the need to request an HHS Public Health Emergency Declaration or a Section 1135 temporary waiver authorization, or both.	2b	HHS
Prioritize and sequence health public safety messages (food, water, waste disposal, hazardous materials, etc.).	2b	HHS

Table 15: Key Fatality Management Decisions

Key Fatality Management Decision	Phase	Responsible Entity
Determine when to implement a long-term fatality management plan.	2a	U.S. Department of Health and Human Services (HHS)
Establish federal fatality management priorities in support of state operations.	2a	HHS
Allocate available federal fatality management assets within Region 10.	2b	HHS

Table 16: Key Energy Decisions

Key Energy Decision	Phase	Responsible Entity
Prioritize access into the impacted areas.	2a	U.S. Department of Energy (DOE)
Support public and private restoration with situational awareness and assessments.	2a	DOE
Prioritize and target repair and restoration efforts.	2a	DOE
Prioritize resources and assessment/repair teams in impacted areas.	2b	U.S. Army Corps of Engineers

Table 17: Key Communications Decisions

Key Communications Decision	Phase	Responsible Entity
Prioritize employment of Emergency Support Function (ESF) #2 resources.	2a	FEMA
Prioritize tactical and restoration allocations in accordance with the states.	2b	FEMA

Table 18: Key Transportation Decisions

Key Transportation Decision	Phase	Responsible Entity
Prioritize requirements to de-conflict competing transportation resources.	2a	U.S. Department of Transportation (DOT)
Prioritize competing debris clearance/removal requirements.	2a	U.S. Army Corps of Engineers
Determine locations of initial critical assessment and repair of critical transportation nodes.	2a	DOT
Determine initial ground transportation routes between critical logistics nodes.	2a	DOT

Table 19: Key Hazardous Materials Decisions

Key Hazardous Materials Decision	Phase	Responsible Entity
Determine federal environmental priorities in support of state operations.	2a	U.S. Environmental Protection Agency (EPA) and U.S. Coast Guard (USCG)
Establish priorities for air assessment to the impacted area.	2a	EPA and USCG
Identify uncontaminated areas for casualty/survivor assembly.	2a	EPA
Allocate available federal Emergency Support Function (ESF) #10 assets within Region 10.	2b	EPA and USCG

Table 20: Key Operational Coordination Decisions

Key Operational Coordination Decision	Phase	Responsible Entity
Determine employment of Region 10 Staff (continuity of operations [COOP] / Regional Response Coordination Center [RRCC] / state support).	2a	FEMA
Determine activation and deployment of national/regional Incident Management Assistance Teams (IMATs).	2a	All
Determine activation of national/regional Emergency Support Functions (ESFs) and other federal agencies (OFAs).	2a	FEMA
Location of the Unified Coordination Group (UCG) / Federal Staging Area (FSA) for each impacted state.	2a	FEMA
Determine operational priorities based on state objectives/priorities in conjunction with available capabilities and resources.	2a	FEMA

Table 21: Key Situational Awareness Decisions

Key Situational Awareness Decision	Phase	Responsible Entity
Select/confirm locations for remote sensing and aerial assessment.	2a	FEMA
Determine prioritization and allocation of situational awareness resources within Region 10 in support of Emergency Support Function (ESF); state, local, tribal, and territorial (SLTT); and private sector partner operations.	2a	FEMA

4 Administration, Resources, and Funding

4.1 Administration

This plan does not alter or affect the responsibilities of senior financial advisors in other federal departments and agencies. When other federal departments and agencies are operating programs under their own statutory authorities and funding, there is an expectation that coordination among agencies with financial responsibilities will occur. Responsibility for management and oversight of all administrative and logistical requirements supporting operations rests as follows:

- FEMA is the Primary Agency for funding associated with Stafford Act incidents.
- FEMA's Office of the Chief Financial Officer is responsible for supporting disaster funding activities of domestic incident management and provides the core financial management functions in support of RRCC and JFO operations.
- The senior financial advisor of each multi-agency coordination center (MACC), RRCC, and JFO is responsible for the financial management, monitoring, and tracking of all federal costs relating to the incident.
- FEMA will initiate mission assignments to task and coordinate with other federal departments and agencies to provide immediate, short-term emergency response support. Types of mission assignments include Direct Federal Assistance (DFA) and Federal Operations Support (FOS). Although rarely exercised, it is important to note that FEMA retains the authority to mission assign agencies on a non-reimbursable basis.

4.2 Resources

Resource requirements for response and recovery operations, once identified, will be addressed using existing state and/or federal procedures for logistical support. Additional pre-positioned federal resources are identified in Annex D (Logistics) of this plan. Designation of any ISB, FSA, Aerial Port of Debarkation (APOD), or state/local logistics node will depend on the situation.

4.3 Funding

Use of disaster funds will be triggered by an Emergency Declaration or Major Disaster Declaration by the President. Should an Emergency Declaration and/or Major Disaster Declaration be approved and issued, the processes, limitations, and cost-share ratios identified within the Stafford Act and 44 CFR will apply. Authorized federal response and recovery operations will be funded under the Disaster Relief Fund once an Emergency Declaration and/or Major Disaster Declaration has been made.

Prior to a declaration, activation of the RRCC may be funded by the Regional surge account. The decision on whether to activate and use the surge fund is part of the All-Hazards Plan (AHP) Decision Support Matrix. Non-Stafford Act incidents requiring dedicated staff may also be funded through the surge.

4.4 Personnel Augmentation

FEMA Region 10 and its federal partners are responsible for personnel augmentation in support of the operations outlined in this plan. Each federal department and agency possess individual

policies for augmentation that are predicated on the agency's authorities, federal policies, memorandums of understanding, and mutual aid agreements. Federal departments and agencies can perform their duties in accordance with standard resource typing guidelines and operational requirements.

4.5 Training

FEMA Region 10 will ensure all staff members and teams maintain proficiency in response capabilities by conducting applicable individual and collective training. The Region will also ensure all staff members maintain proficiency/qualification in mandatory training.

5 Oversight, Coordinating Instructions, and Communications

5.1 Oversight

FEMA Region 10 will oversee the federal response and recovery activities required in support of a Stafford Act declaration of an emergency or disaster within the Region 10 area of responsibility.

5.2 Coordinating Instructions

If the President invokes the Stafford Act, Region 10 will coordinate federal support for response and recovery through the RRCC and JFO, as appropriate. In the absence of a Stafford Act declaration, the designated lead federal agency will request related support from individual departments and agencies.

The FEMA Region 10 RA, through his/her staff and Regional ESF/RSF leads, coordinates and manages federal interagency partners in support of response, recovery, and mitigation operations. Prior to the designated FCO taking operational control in each state, the RRCC will coordinate federal support for local, state, and tribal jurisdictions. The RA will coordinate these activities by establishing a Unified Area Command (UAC) through the RRCC and JFOs.

5.2.1 Federal Coordination

The Robert T. Stafford Disaster Relief and Emergency Assistance Act provides FEMA with the authority to coordinate the federal government response to a major earthquake and tsunami event. The federal government's response and support efforts must be in accordance with the National Response Framework (NRF) and the National Incident Management System (NIMS).

FEMA collaborates closely with ESFs and other federal agencies (OFAs) to fulfill requests for assistance received from state and tribal governments, coordinating through the Geographic Area Coordination System.

ESFs or OFAs are responsible for setting strategy and tactics when work is performed under their own statutory authorities. They are responsible for coordinating activities with FEMA but do not need to request permission to perform work.

FEMA and ESFs/OFAs collaborate to develop courses of action (COAs) to support requests for assistance when work is performed under the authorities of a mission assignment.

ESFs, RSFs, and OFAs receiving FEMA funding for disaster activities are bound by the mission assignment scope of work or task order and are responsible for ensuring activities are in support of the established incident-level strategy developed by the UCG.

In a highly complex incident, activities requiring prior FEMA approval may be reduced.

Tactics for work performed under the authorities of a mission assignment are also set jointly, with some limited exceptions, as described in Annex C (Operations). For example, FEMA's Urban Search and Rescue (US&R) assets are assigned to the local Incident Commander until released.

5.2.2 Tribal Coordination

Federally recognized tribes within Region 10 may choose to request a Tribal Emergency or Major Disaster Declaration directly from FEMA or may be an applicant or sub-applicant within a state declaration. Tribal decisions about operational status are made on a case-by-case basis in each disaster situation and are not pre-established in Region 10. The *FEMA Region X AHP Tribal Response Annex* outlines five COAs that lay out options for how tribal entity response interests are managed by the federal response organization within the UCG(s).

Prior to a declaration, the RRCS will coordinate with all tribes through a tribal Liaison Officer (LNO). For tribes that request their own Emergency Declaration or Major Disaster Declaration, the region will prepare to deploy an IMAT to support the tribal government, if requested. For tribes that will be included as part of a state declaration, the FCO will prepare to staff a task force (TF) in support of each tribal government, if requested. The TF configuration will be set jointly by the FCO and tribal government and will generally include a team leader, legal counsel, planning support, and representatives from the Individual Assistance (IA), Public Assistance (PA), and hazard mitigation program areas. IMAT and TF members should have prior tribal experience or cultural sensitivity training, which is sometimes recorded as a specialty in the Deployment Tracking System.

5.2.3 State Coordination

The Oregon Office of Emergency Management (OEM) is the agency with primary responsibility for coordinating Oregon's response operations, and the Washington Military Department's Emergency Management Division (EMD) is the agency with primary responsibility for coordinating Washington's response operations.

In multi-state incidents, the RA or the Regional Coordinating Officer (RCO) will conduct a State Director Coordination Call, as requested and approved by the Directors. This call will provide a common understanding of the following:

- State forecast of resource needs, including EMAC support from other states
- Incidents in the state that may impact other states
- National-level critical infrastructure and key resource (CIKR) requirements that may affect Regional response operations

Eventually, coordination will occur between FEMA and states through a UCG in the JFO established after the event in each state.

5.2.4 Non-Governmental Organization/Voluntary Organization Coordination

Non-governmental organizations (NGOs) are non-profit entities with an association that is based on interests of its members, individuals, or institutions and that is not created by government, but may work cooperatively with government. Such organizations serve a public purpose, not a private benefit.

NGOs are integrated into ESFs of the joint state and federal Operations Section within the UCGs. They work with ESF components and/or have a liaison at the JFO, according to the services they provide and the populations they serve. Coordination is accomplished by the UCG and is directed by the respective state EOC when the NGO is working directly with local and county governments.

Voluntary Organizations Active in Disaster (VOAD) are NGOs that mitigate the impact of disasters by delivering services to impacted communities and individuals. Coordination of voluntary organizations will be handled in a similar manner; however, those voluntary organizations that are in the JFO will be coordinated by ESF #6. Many of these voluntary organizations that provide assistance have aligned themselves with the VOAD in each state.

5.2.5 Private Sector Coordination

The plan has identified established relationships within the private sector aid in carrying out response operations and to set conditions for long-term recovery. The private sector owns and operates the majority of critical infrastructure in the region. Coordinated federal, state, local, tribal, and private sector TFs focusing on stabilizing critical systems have been established, and during a disaster the private sector will be integrated into operational coordination to support their priorities, including the following:

- Situational Awareness
- Transportation system access (ground, air, maritime) and waivers
- Fuel (access and distribution)
- Lifesaving Efforts (i.e., employee life safety, facility access/inspection/repair, debris management)
- Community stabilization (i.e., establishment of communications links)

5.3 Communications

Communications include two-way radio capabilities, computer-based information-sharing systems, satellite phones, and cellular and landline telephones as well as other information technology (IT) systems that will be used during the event. Each participating department/agency will maintain and use its existing systems and structures.

During a catastrophic event, Region 10 provides support, as requested, for communications coordination and capabilities for response and recovery operations through guidelines established in the *National Emergency Communications Plan* (NECP), the NRF, and NIMS. Region 10 and its ESF #2 stakeholders support the continuity of emergency and public safety communications capabilities as well as repairs to affected communications infrastructure for the support of local, state, and federal responders. ESF #2 cooperates with federal partners such as the DOD, the

Federal Communications Commission (FCC), and the National Telecommunications and Information Administration (NTIA). ESF #2 also works with FEMA MERS teams.

For additional information regarding the communications concept of support, see Annex K (Operational Communications) of this plan.

Annex A: Task Organization

A.1 Situation

A.1.1 Purpose

This annex describes the pre-identified disaster operations organization and staffing required to provide the command, control, and coordination of federal agencies and departments involved in response operations to a Cascadia Subduction Zone (CSZ) earthquake and tsunami event.

A.1.2 Background

One of FEMA's responsibilities is to establish and maintain a unified and coordinated disaster management process that appropriately integrates all critical stakeholders into response operations. This annex is designed to:

- Facilitate accomplishment of the senior leaders' intent and execution of the concept of operations (CONOPS) of the *FEMA Region 10 Cascadia Subduction Zone Response Plan*;
- Retain flexibility within the CONOPS;
- Adapt to conditions imposed by mission variables;
- Account for the requirements necessary to conduct essential stability tasks for populations within the area of operations (AO);
- Create effective combined teams;
- Provide mutual support among organizations;
- Ensure flexibility to meet unforeseen events and to support future operations;
- Allocate resources with minimum restrictions on their employment;
- Promote unity of command; and
- Minimize limitations and maximize the potential of all available resources.

A.1.3 Authorities

Per Homeland Security Presidential Directive 5 (HSPD-5), the Secretary of Homeland Security is responsible for the coordination of federal incident management activities in support of state, local, and tribal partners. This annex is compliant with the National Response Framework (NRF) and the National Incident Management System (NIMS). It is based on public law, Presidential executive orders, Homeland Security Presidential Directives (HSPDs), national guidance, policies, and strategies.

A.1.4 Critical Considerations

Region 10 is comprised of four states (Alaska, Idaho, Oregon, and Washington) and 271 federally recognized tribes. The region has a land area of 815,727 square miles—larger than any other FEMA Region. This creates unique challenges for disaster staffing and task organization

for response/recovery operations in response to a catastrophic CSZ earthquake and tsunami event.

Region 10 is geographically unique, with three of its states sharing an international border with Canada (Alaska, Washington, and Idaho) and three states bordering the Pacific Ocean (Alaska, Oregon, and Washington), making responder ingress/egress challenging. The mountain ranges that bifurcate the states of Oregon and Washington and other mountain ranges in Alaska and Idaho serve as additional obstacles that may impede resource movement.

A.1.5 Planning Assumptions

See Base Plan.

A.2 Mission

See Base Plan.

A.3 Execution

See Annex C.

A.3.1 Senior Leaders' Intent

See Base Plan.

A.3.2 Concept of Operations

Task organization is determined by regional leadership in coordination with the Incident Workforce Management (IWM) team within the Operations Integration Branch (OIB). A CSZ event will result in the need for federal coordinating structures on the national, regional, tribal, state, and local levels to effectively direct the immediate federal response in support of priorities/requests to protect lives, property, and the environment and set the conditions for long-term recovery.

Due to the anticipated impacts of a CSZ event, FEMA Region 10 plans for the immediate devolution of Regional Response Coordination Center (RRCC) functions to Region 6 until such time that 1) Region 10 RRCC confirms it can maintain some/all mission essential function, or 2) Region 10 RRCC reconstitutes in accordance with the Region 10 Regional Continuity Plan. Additionally, Region 10 anticipates relying on the National Response Coordination Center (NRCC) to conduct the initial alert, deployment, and employment of federal resources. This annex and corresponding appendices serve as an initial framework to support this plan's CONOPs.

A.3.3 Response Coordination

The FEMA administrator acts to coordinate emergency management activities using the federal government's resources to respond to and recover from catastrophic events using an array of multiagency coordinating elements at the national, regional, and local levels, described below. The organizational structure of these coordination elements can be found in Appendix A-1 with staffing needs and processes identified in Appendix A-2.

A.3.3.1 National-Level Response Coordination

As described in the Response Federal Agency Operational Plan, the Secretary of Homeland Security shall coordinate the federal government's resources utilized in response to, or recovery from terrorist attacks, major disasters, or other emergencies. After a CSZ earthquake and tsunami event, the Secretary will coordinate with federal entities to provide for federal unity of effort.

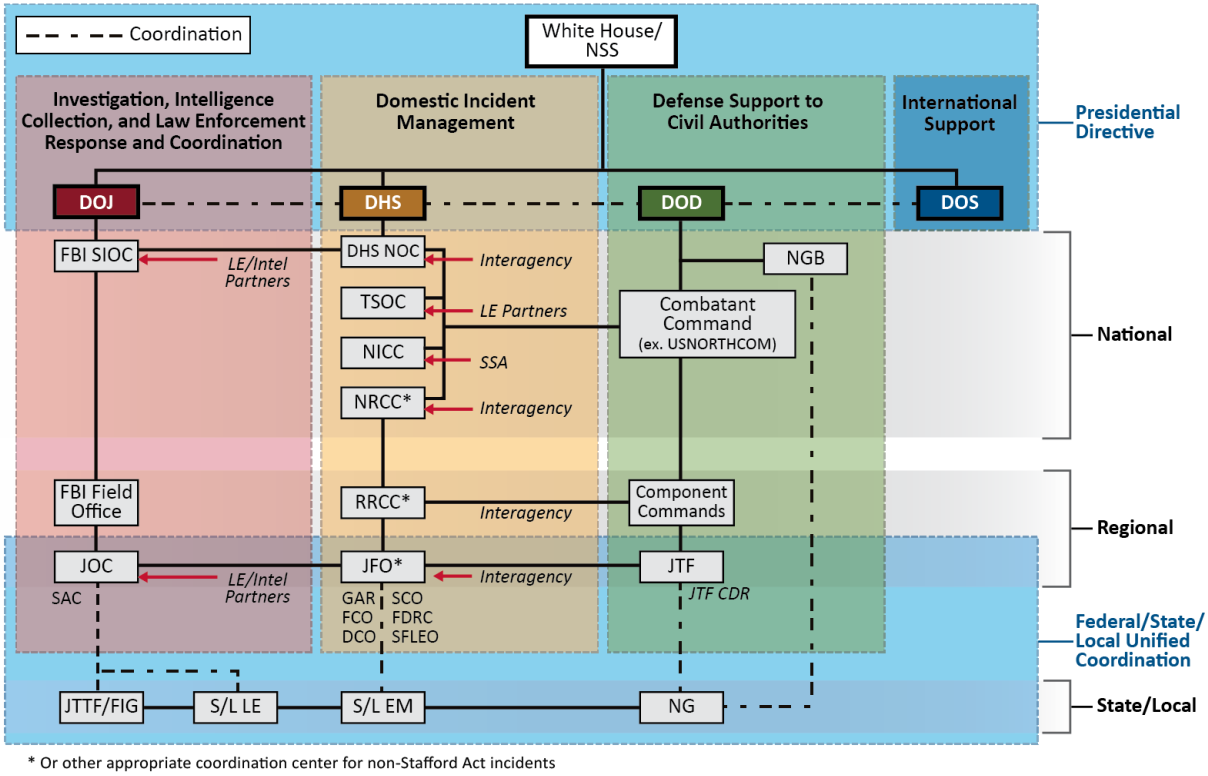


Figure A-1: National-Level Response Coordination

A.3.3.2 Regional Unified Area Coordination Group (RUACG) for a Large Incident

When more than one state is impacted by an incident, as is anticipated for a CSZ event, the Regional Administrator (RA) or the Regional Coordinating Officer (RCO) may establish the Regional Unified Area Coordination Group (RUACG), which is composed of the director of the emergency management agency of each impacted state, the leader of each impacted tribe, and the RA. The RUACG will be moderated by the RA or RCO.

The primary purposes of the RUACG are to (1) allocate resources among the states and tribes, including resources offered by the impacted states to support response operations; (2) identify potential problems; and (3) plan actions to alleviate these problems. Even though the daily teleconference will focus on state/tribal emergency management activities, the leader(s) of the Incident Management Assistance Team (IMAT)/UCG along with the Federal Coordinating Officers (FCOs) and representatives of the National Response Coordination Staff (NRCS) may be invited to attend, as appropriate. At a minimum, the RUACG will have a daily teleconference.

A.3.3.3 Unified Coordination Group (UCG)

The UCG is the local structure that executes a unified command and leads incident activities at the operational level in order to achieve unity of effort. The UCG's purpose is to establish and achieve shared objectives. It comprises senior leaders representing state and federal interests and, in certain circumstances during the execution of this plan, may include local jurisdictions and/or the private sector. The UCG provides a mechanism to enable agencies with different jurisdictional, geographic, and functional responsibilities to coordinate, plan, and interact effectively. The UCG leadership for a CSZ response is depicted in Figure A-2.

Agency officials participating in the UCG represent different legal authorities and functional areas of responsibility and use a collaborative process to determine the Lines of Effort (LOEs) and Intermediate Objectives appropriate to the response and to designate priorities to accomplish those objectives. The FCO is responsible for establishing the UCG.

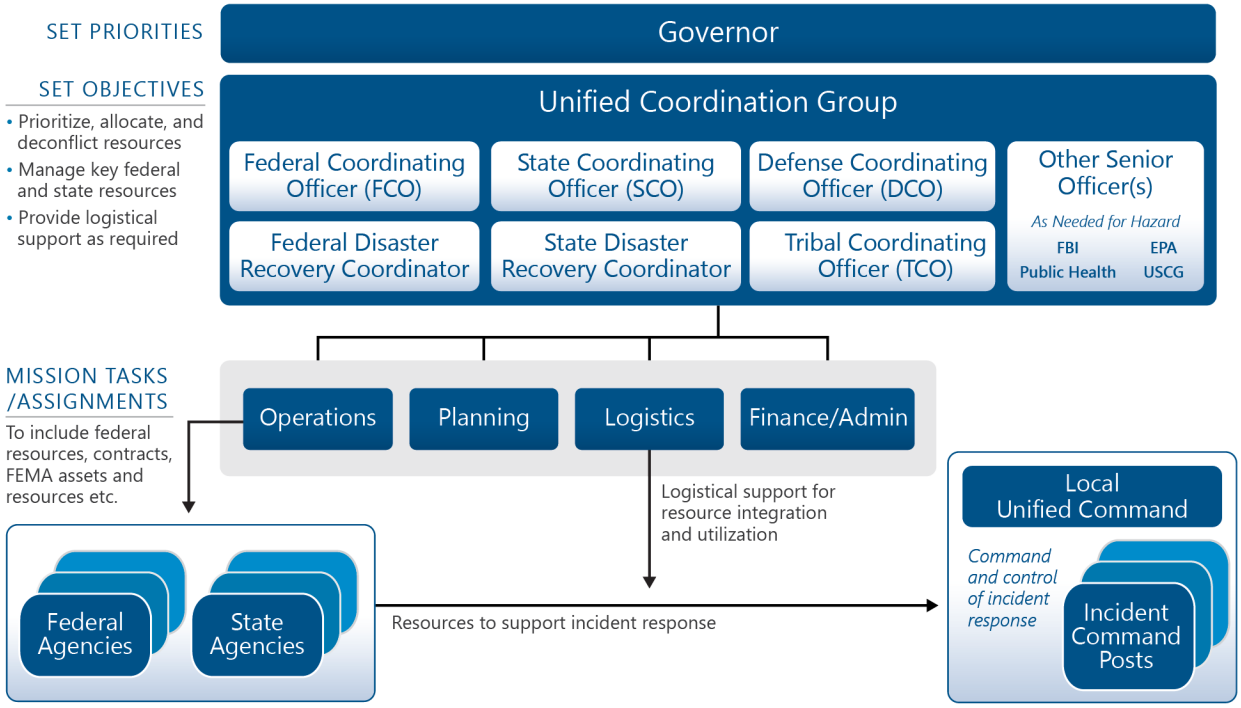


Figure A-2: Unified Coordination Group

A.3.4 Other Federal Agencies (OFAs) and Stakeholders

In response to a catastrophic CSZ event, federal agencies maintain their roles, responsibilities, and core competencies in a disaster response. The key federal agencies and their specific responsibilities as they relate to response operations are as shown in the sections below.

A.3.4.1 Emergency Support Functions (ESFs) and Recovery Support Functions (RSFs)

Roles and responsibilities for each ESF during the response to a disaster and RSF in recovery from a disaster are specified in Annex A of the FEMA *Region 10 All-Hazards Plan* and each of the LOE tabs in Annex C and Annex D of this plan.

A.3.4.2 Federal Agencies

Federal Emergency Management Agency (FEMA)

FEMA is the lead federal agency (LFA) for disaster response in the Nation. FEMA directs incident management and response efforts, lifesaving and search and rescue (SAR) operations, comprehensive national incident logistics planning/management and sustainment capability, mass care, emergency assistance, disaster housing, human services support, issuance of Mission Assignments (MAs), resource and human capital management, incident action planning, financial management, emergency public information, protective action guidance, media and community relations efforts, and congressional and international affairs support.

U.S. Coast Guard (USCG)

The USCG primarily performs maritime SAR, oil and hazardous materials (HAZMAT) spill response, and waterway management, in line with existing statutory responsibilities and capabilities. Following an emergency that affects a port community, the USCG Captain of the Port (COTP) has the lead responsibility for port safety and for determining access to port facilities and the movement of vessels. Using port decision criteria and considerations from the *Area Maritime Security Plan* as a starting point, the COTP works with the private sector and the port community through the Maritime Transportation System Recovery Unit (MTSRU) to refine and apply the *Maritime Emergency Response Guide* to the response effort. While the maritime community will inform and advise the COTP on considerations and priorities, the COTP retains final decision authority for planning and executing port recovery and waterway priorities. Working under the authorities and guidance of the COTP, the MTSRU:

- Recommends priority of actions for facilitating the opening of waterways and facilities in order to meet the highest priority; and
- Re-establishes confidence that components of the Maritime Transportation System (MTS) within the impact area are safe and secure through the application of security and safety measures or other assurances.

The USCG may assist FEMA with LFA-type duties, as personnel and resources permit. Consistent with existing capabilities, they may assist with operational coordination and control, communications needs, mass care, emergency assistance, human services support, issuance of MAs, resource and human capital management, incident action planning, financial management, emergency public information, protective action guidance, media and community relations, and support teams capable of managing logistics planning, management, and sustainment capabilities.

U.S. Department of Defense (DOD)

The DOD provides Defense Support of Civil Authorities (DSCA) capabilities in response to requests for assistance during disasters. With the exception of support provided in the immediate response, the obligation of DOD resources to support requests for assistance from within the U.S. Northern Command (NORTHCOM) AO is subject to the approval of the NORTHCOM Commander, if the capabilities to support the request are available.

The DOD has significant capabilities for assisting with response operations. Under each Base Commander's authority, the DOD can assist local communities with life-safety operations for up

to 72 hours following an incident. This plan recognizes that mission assurance is the first priority of the DOD and that their response to the disaster's impacts on base functionality and infrastructure and the care of DOD personnel and their families are also top priorities.

U.S. Army Corps of Engineers (USACE)

USACE provides infrastructure protection and emergency repair, emergency power (winterized), damage assessment, infrastructure restoration, debris management, engineering service, construction management, and emergency contracting support for lifesaving and life-sustaining operations. As a Primary or Supporting agency in this plan, USACE provides assistance directly to FEMA through ESF #3; requests for assistance are not coordinated or processed through the Defense Coordinating Officer (DCO) and USACE assistance is not under the operational control of a Joint Task Force Commander. Under its own authority, USACE is responsible for the restoration of federal navigational channels and waterways under emergency conditions and the removal of salvageable vessels, marine debris, and other obstructions from federally maintained navigable waterways.

U.S. Department of Transportation (DOT)

The DOT is responsible for transportation safety, restoration and recovery of transportation infrastructure, transportation system damage and impact assessments, and movement restrictions along federal highways, in federal airspace, and along waterways. All requests for transportation support will be coordinated through the Logistics Section of the response organization and/or ESF #7.

Federal Aviation Administration (FAA)

The FAA is responsible for aviation/airspace management and control. The FAA establishes Temporary Flight Restrictions (TFRs), in coordination with ESF #1 (Transportation), to manage air movement in support of response operations, as appropriate.

U.S. Department of Health and Human Services (HHS)

HHS supports public health, medical, and social service needs of the state, tribal, and territorial governments in an incident response.

National Weather Service (NWS)

The NWS supports response operations by providing weather observations, forecasts, reports as requested (to include space weather), and weather subject matter expertise.

U.S. Department of the Interior (DOI)

The DOI provides support for emergency communications, support for rural and urban firefighting operations (including wildland fire operations during the summer), U.S. Geological Survey (USGS) support, and technical assistance to the UCG/UCS. In addition to providing support with an extensive organic fleet and vendor aircraft assets for logistical movement, reconnaissance, mapping, and SAR, the DOI is also a Supporting agency for the following ESFs (listed with examples of the types of support that could be provided):

- ESF #1 – Fixed- and rotary-wing aircraft, pilots, all-terrain vehicles, snow machines, vessels

- ESF #2 – Radio communications systems and technicians
- ESF #3 – Environmental and archeological assessments for debris removal
- ESF #4 – Rural and wildland fire operations
- ESF #5 – Natural hazard assessments
- ESF #6 – Support for temporary camps
- ESF #8 – Camps for medical teams
- ESF #9 – Land-based SAR
- ESF #10 – Identification of at-risk resources and recommendations for countermeasures
- ESF #11 – Natural and cultural resource and historic property protection
- ESF #12 – Energy infrastructure assessments
- ESF #13 – Law enforcement support
- ESF #15 – Tribal assistance

U.S. Department of Justice (DOJ)

The DOJ, when mission assigned, activates the ESF #13 National Coordination Center and deploys an Incident Management Team (IMT) to the affected areas of responsibility to accomplish public safety and security situational assessment/awareness. The DOJ commands and coordinates federal law enforcement personnel and resources to support an ESF #13 response.

U.S. Department of State (DOS)

The DOS is responsible for all communications and coordination between the U.S. government and other nations regarding the response to a disaster. Movement of resources via the ALCAN in a disaster requires close cooperation with the government of Canada. The DOS is also responsible for managing U.S. government relations, policies, and activities related to the international dimension of the response. The DOS supports DHS and other federal department and agency efforts by providing knowledge about and engaging with other nations and leading and facilitating the international aspects of response and recovery from the disaster. Additionally, under Pub. Law 105-381 (November 12, 1998), Pacific Northwest Emergency Management Arrangement, the State of Alaska may coordinate emergency management response activities directly with the governments of the Province of British Columbia and the Yukon Territory.

U.S. Department of Agriculture (USDA)

The USDA organizes and coordinates federal support for the protection of the Nation's agricultural and natural and cultural resources during national emergencies. ESF #11 works during actual and potential incidents to provide nutrition assistance; respond to animal and agricultural health issues; provide technical expertise, coordination, and support of animal and agricultural emergency management; ensure the safety and defense of the Nation's supply of meat, poultry, and processed egg products; and support the protection of natural and cultural resources and historic properties.

U.S. Department of Energy (DOE)

The DOE provides support for energy infrastructure assessment, industry coordination, and energy forecasting.

U.S. Department of Homeland Security (DHS)

DHS is the lead agency for the protection of critical infrastructure and key resources (CIKR). DHS designates an Infrastructure Liaison (IL) to respond and support the Region 10 RRCC and/or the UCS. The IL facilitates, supports, and reviews all assessments and information regarding CIKR in the affected area with state, federal, local, and private sector partners. Through an analysis of identified CIKR and a review of existing infrastructure, the IL makes restoration recommendations to the Operations Section Chief (OSC) within the UCG.

U.S. Environmental Protection Agency (EPA)

The EPA is responsible for any land-based oil and HAZMAT (e.g., chemical, biological) response, environmental short- and long-term cleanup, and the coordination and deconflicting of effort between this plan and the activities of the *National Response Plan*.

U.S. General Services Administration (GSA)

The GSA provides resource support that includes procurement of a Joint Field Office (JFO) facility, vehicles for responder transportation, office equipment and supplies, and contracting services.

A.3.4.3 Tribal, State, and Local Coordination Requirements

Tribal Coordination

FEMA Region 10 coordinates with and responds to all local tribal government requests for support. Nothing in this approach precludes a tribe from coordinating directly with the federal government as a sovereign nation for an emergency or disaster declaration if they so choose. If support is requested in this manner, standard FEMA tribal coordination procedures apply. Alternatively, tribes may forward their requests for resources and assistance either through a local government structure (in conjunction with an incorporated city); through a county, if appropriate; or directly to the state. The state(s) then either fulfills the requests or forwards them to the federal government if the state is unable to meet them.

As with each state, different response challenges exist for each of the tribes. Access for many of the tribal areas is limited due to the sparse ground transportation infrastructure: some tribes can be accessed only via airplane, boat, or snow vehicle, with extremely limited, if any, logistical support from nearby communities. Emergency tribal response capabilities range from robust to nonexistent; some tribes have a comprehensive Emergency Operations Center (EOC) with trained staff, and others have simply a point of contact for tribal emergency affairs.

State Coordination

In accordance with Oregon and Washington state statutes and emergency response protocols, all federal resources and support efforts will be coordinated through the impacted state. The Oregon Office of Emergency Management (OEM) is the agency with primary responsibility for coordinating Oregon's response operations and interacting with federal, state, and local governments. The Washington Military Department's Emergency Management Division (EMD)

is the agency with primary responsibility for coordinating Washington's response operations and interacting with federal, state, local and tribal governments. Oregon and Washington are both Home Rule States.

Local Coordination

Branch Directors may be co-located with county/community EOCs and are responsible for:

- Informing the UCS of all response activities occurring in the branches in order to refine the shared situational picture (SitPic);
- Supervising the staging area in their geographic branch;
- Receiving resource requests from local governments and incident commanders;
- Using resources in the staging area to meet local resource requests;
- Forwarding unmet resource requests to the UCG for additional response materials and capabilities; and
- Forecasting mission and resource requirements for future response activities.

A.3.5 Non-Governmental Organization Coordination Requirements

A.3.5.1 Non-Governmental and Voluntary Organizations Active in Disaster Organizations

Non-Governmental Organizations (NGOs) (e.g., community-based, faith-based, or national organizations) and Voluntary Organizations Active in Disaster (VOAD) organizations are partners in the federal response to an incident, major disaster, or emergency. Many of these organizations are active in the region and have excellent track records for working alongside federal partners during a disaster response. State and federal NGO/VOAD liaisons will be integrated into the UCS as full response partners.

- American Humane Association (AHA)
- American Kennel Club
- American Red Cross (Red Cross) – Provides mass care (shelter management, shelter materials, Safe and Well program, etc.).
- American Society for the Prevention of Cruelty to Animals (ASPCA)
- American Veterinary Medical Association (AVMA) – Provides Veterinary Medical Assistance Teams (VMATs).
- Blood Banks – Provide emergency surge supplies of blood.
- Civil Air Patrol (CAP) – As a non-profit auxiliary to the U.S. Air Force, supports the Air Force Rescue Coordination Center (CONUS) or Joint Rescue Coordination Center (Alaska) with SAR missions and situational awareness.
- Code 3 Associates
- Community churches – Provide mass care (shelter, feeding, hydration, survivor counseling, warming centers, donations management, etc.); churches can also be used as sites for disseminating public information.

- Community Emergency Response Teams (CERTs) – Assist responders in communities with active teams.
- International Fund for Animal Welfare (IFAW)
- Greater Good
- National Animal and Sheltering Coalition (NARSC)
- National Animal Control Directors Association
- National Alliance of State Animal and Agriculture Emergency Programs (NASAAEP)
- National Voluntary Organizations Active in Disasters (NVOAD)
- PETCO Foundation
- Petfinder.com Foundation
- PetSmart Charities
- Radio Amateur Civil Emergency Services (RACES) and Amateur Radio Emergency Services (ARES) – Provide resilient communications support for response operations.
- RedRover
- Rx Response – As a coalition of private sector bio-pharmaceutical supply chain suppliers, helps ensure continued flow of medicine during severe public health emergencies.
- Samaritan's Purse – Provides debris management, temporary facility construction, and medical surge volunteers.
- Society of Animal Welfare Administrators
- The Salvation Army – Provides mass care (feeding, hydration, etc.).
- U.S. Coast Guard Auxiliary – Assists with SAR, mass casualty, and pollution mitigation response operations.
- United Way – Operates 2-1-1 program, a phone referral system for finding community resources such as emergency food and shelter.
- World Health Organization (WHO) – Provides guidelines for alternative standards of medical care and alternate methods for human remains storage.

Many of these organizations also play active roles in recovery operations and should be integrated into the recovery planning team.

A.3.5.2 Private Sector Coordination Requirements

The private sector owns most of the critical infrastructure that we rely on every day. The private sector's ability to respond to the disaster, repair damage, and resume the provision of goods and services is the cornerstone of recovery operations. Government organizations should do everything possible to assist private sector response and recovery efforts. Providing waivers to policies, providing expedited in-state licenses for personnel, prioritizing movement of repair crews and parts, providing housing and sustainment supplies for responders, clearing debris, repairing transportation systems, and supporting communications restoration efforts are

important government functions that support private sector recovery. Key private sector support includes the following:

- FEMA serves as the co-primary agency for ESF #14 with the Cybersecurity and Infrastructure Security Agency (CISA). Together, both agencies ensure that business, industry, infrastructure owners and operators, and other network stakeholders can access the resources they need, enabling efficient response and recovery operations and shaping community economic resilience and restoration.
- Coordinate joint private and public sector emergency operations through the NBEOC in order to stabilize community lifelines and outline overall incident response objectives.
- CISA may collect and disseminate status updates on critical infrastructure operations, impacts and consequences, and analyses and recommendations for restoring critical infrastructure.

A.4 Key Decisions

See Base Plan, Section 3.6.

A.4.1 Critical Information Requirements

See Base Plan.

A.5 Administration, Resources, Funding, and Staffing

A.5.1 Administration

See Base Plan.

A.5.2 Resources

See Annex D.

A.5.3 Funding

See Base Plan.

A.5.4 Staffing

See Appendix A-2.

A.6 Oversight, Coordinating Instructions, and Communications

A.6.1 Oversight

See Base Plan.

A.6.2 Coordinating Instructions

The State Coordinating Officer (SCO) and FEMA's regional IMAT Team Leader will develop coordinated incident objectives to include in a joint Incident Action Plan (IAP). Once the FCO takes over operational command for the incident, they assume responsibility for developing objectives in coordination with the SCO.

The RRCC conducts planning to support incident operations by developing a Regional Support Plan (RSP) that includes the incident objectives. In concept, incident objectives carry over from the RSP to the IAP.

National-level resource support is coordinated through the NRCC, located at FEMA Headquarters (HQ). (See Base Plan for additional information.)

A.6.3 Communications

See Base Plan and Annex K.

Appendices

Appendix A-1: FEMA Disaster Management Organization

Appendix A-2: FEMA Disaster Staffing

Appendix A-1: FEMA Disaster Management Organization

A.1.1 National-Level Support Structure

The National Operations Center (NOC) is the primary national hub for situational awareness, analysis, and operations coordination for incident management. The NOC consists of five elements: the Watch, the National Response Coordination Center (NRCC), the National Infrastructure Coordinating Center (NICC), Intelligence and Analysis, and an interagency planning element. The NRCC and NICC are the two operational components that provide integrated mission support during catastrophicincident-response operations.

The National Response Coordination Center (NRCC) is the primary federal focal point for resource coordination at the national level. The NRCC can immediately increase staffing in anticipation of or in response to a catastrophic incident by activating national Emergency Support Functions (ESFs) and recalling other personnel as required. The NRCC provides emergency-management coordination functions to the affected region and/or Joint Field Office (JFO), conducts operational planning, deploys national-level resources, and collects and disseminates incident information to maintain a common operating picture.

The NRCC can anticipate that a Cascadia Subduction Zone (CSZ) earthquake and tsunami event will require coordination with multiple JFOs established in both Region 10 and Region 9. The figure below depicts the anticipated national response structure that FEMA will establish after a CSZ earthquake and tsunami event.

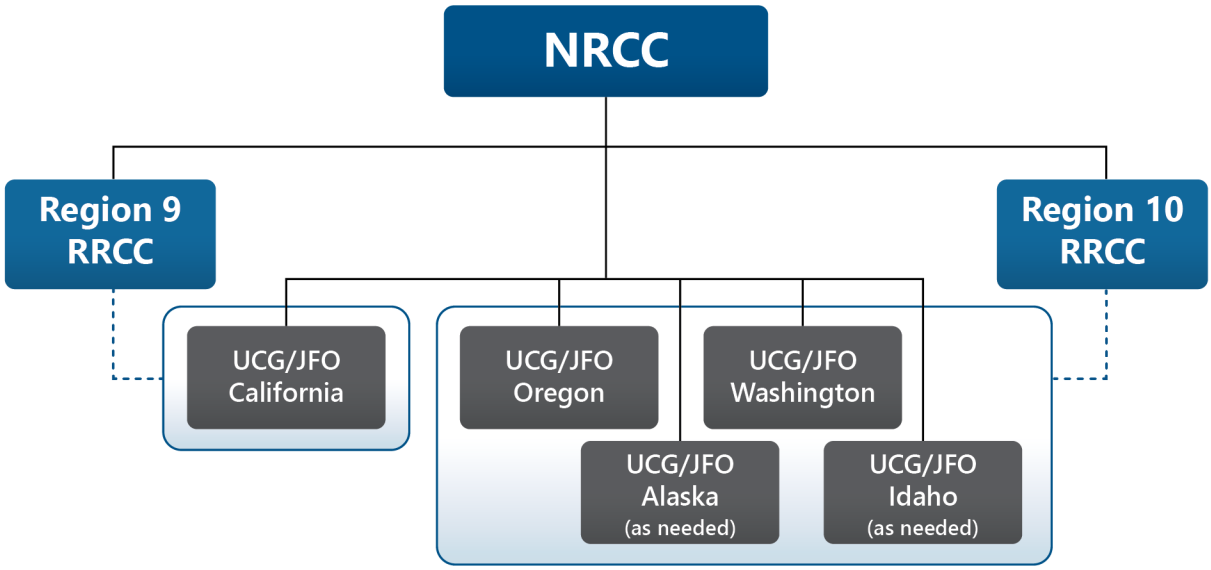


Figure A-1-1: National CSZ Response Structure

A.1.2 Regional-Level Support Structure

The Regional Response Coordination Center (RRCC) is the primary Regional-level organizational structure that provides response support during response operations. After a CSZ event, functions of the Region 10 RRCC will devolve to FEMA Region 6 RRCC in accordance

with the FEMA Region 10 Regional Continuity Plan until the Region 10 RRCC is able to reconstitute.

A.1.2.1 RRCC Organization

The RRCC is organized according to the Incident Command System (ICS) structure, as reflected in the baseline organizational charts shown below. (These charts can be modified based on the level of response required.)

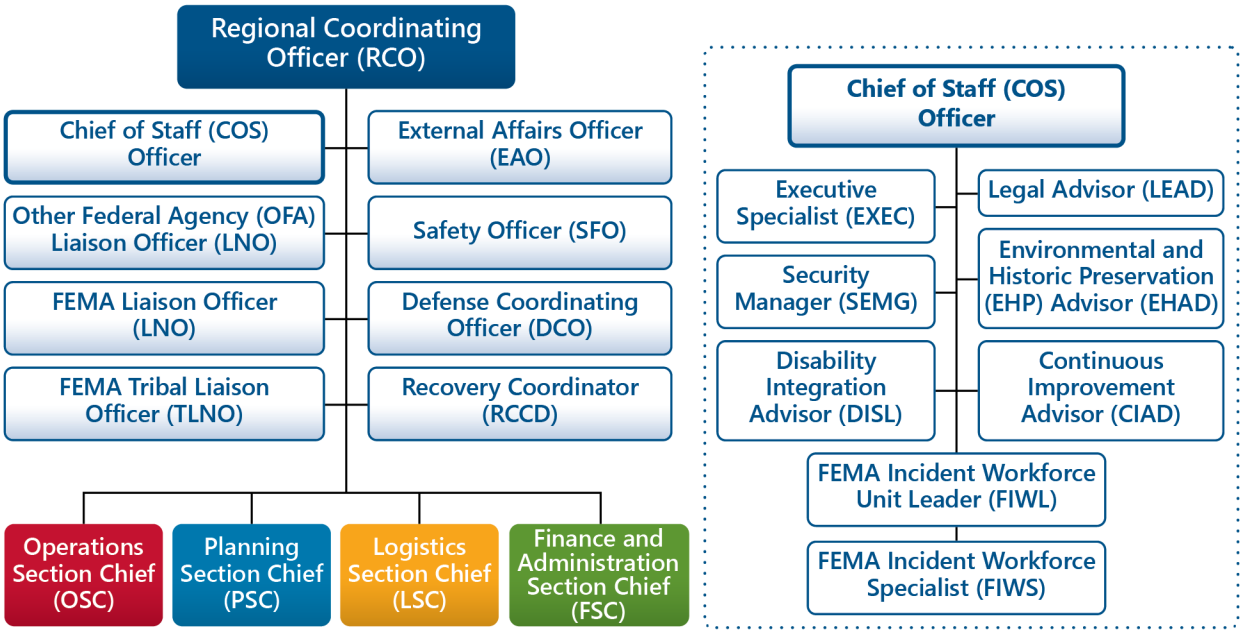


Figure A-1-1: RRCC Command Staff

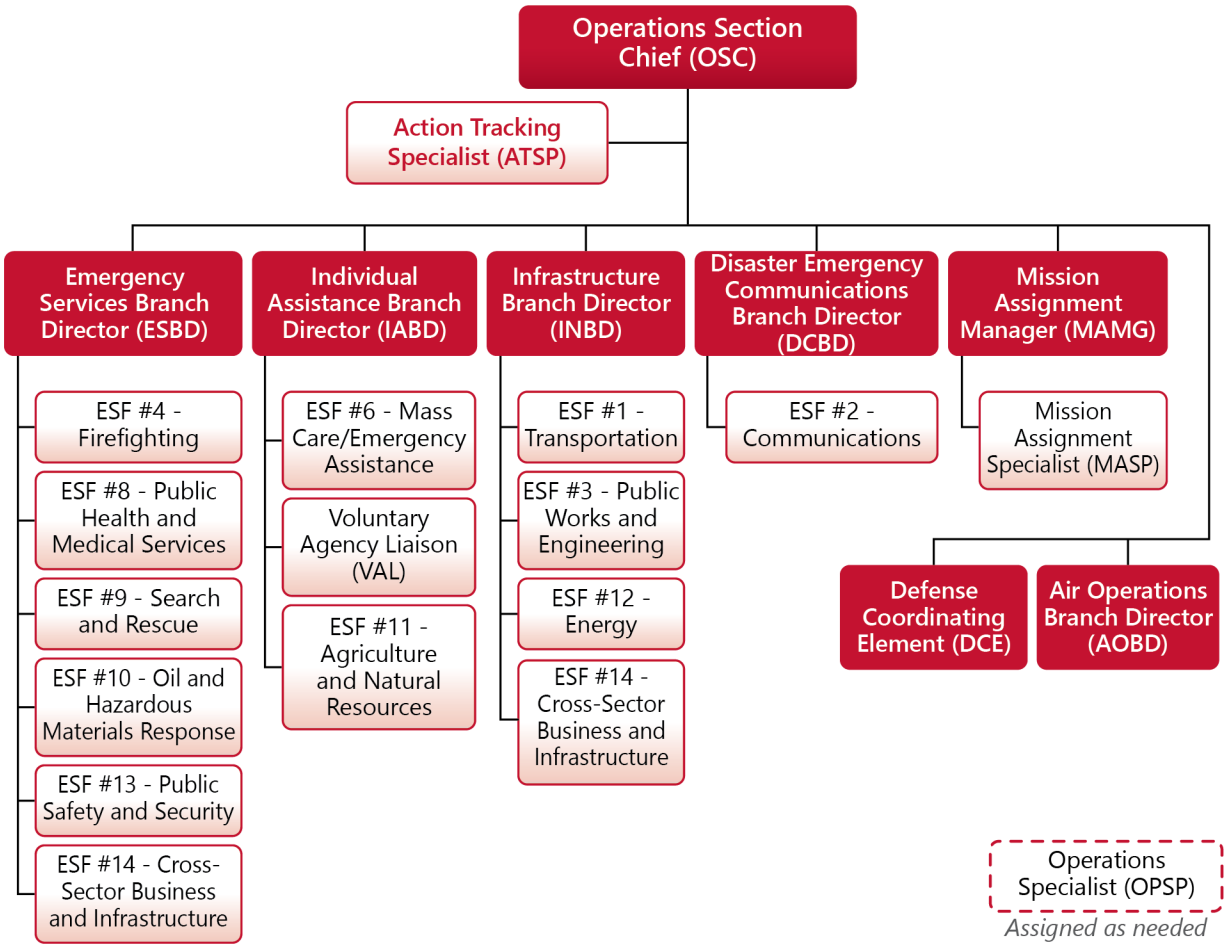


Figure A-1-2: RRCC Operations Section Staff

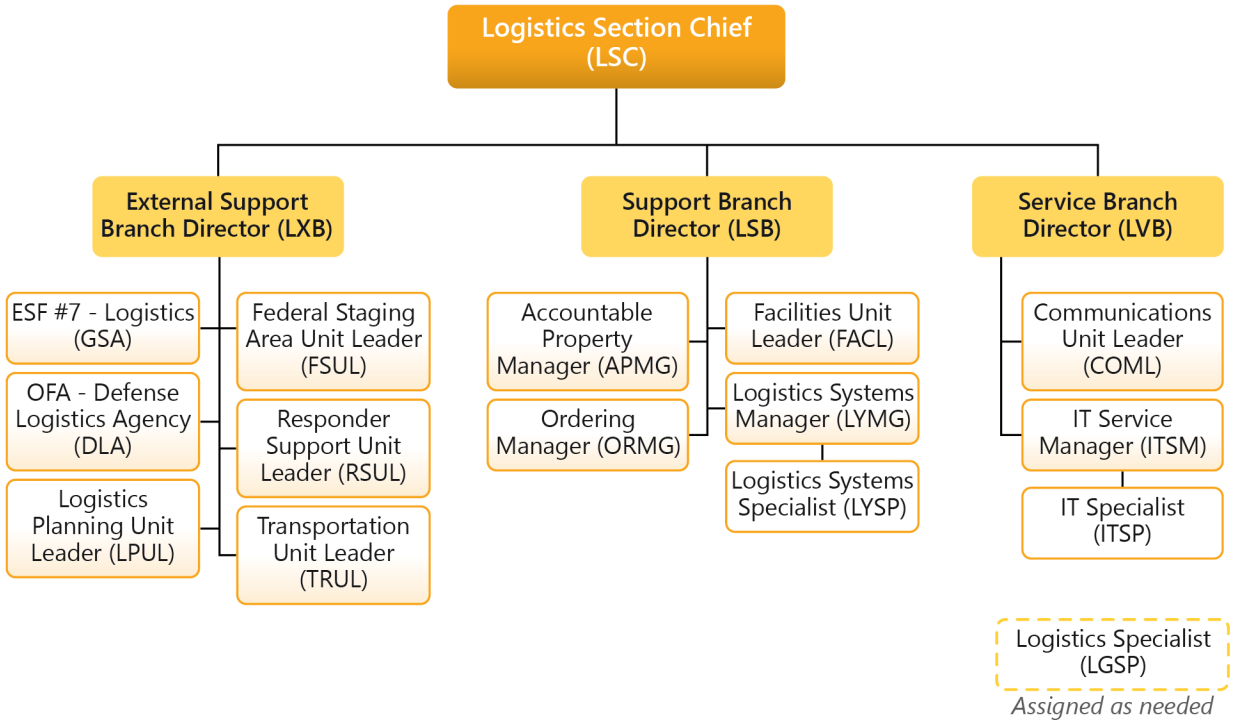


Figure A-1-3: RRCC Logistics Section Staff

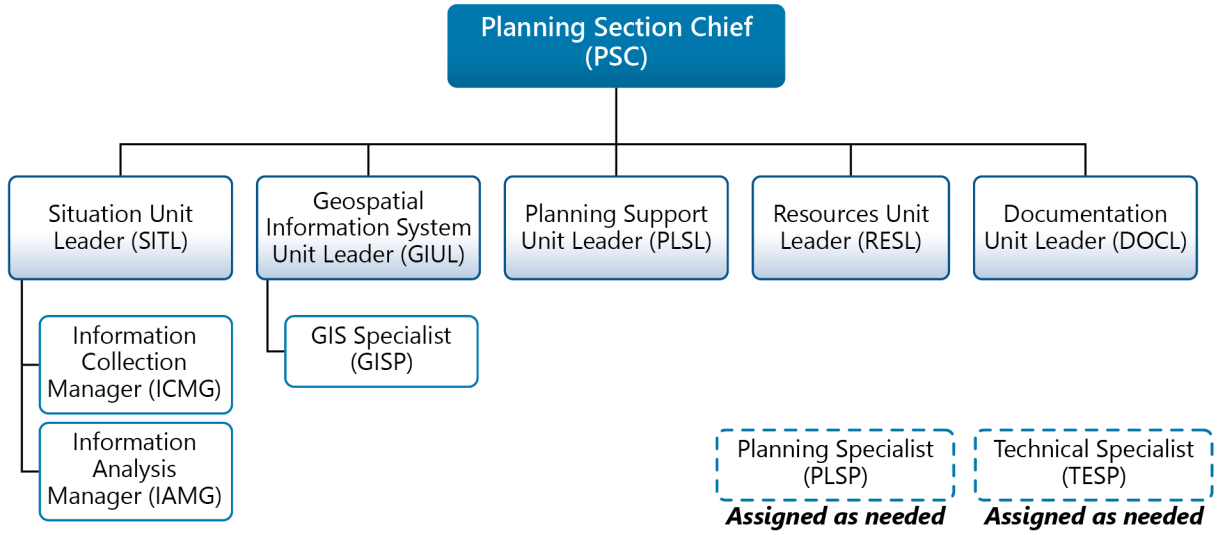


Figure A-1-4: RRCC Planning Section Staff

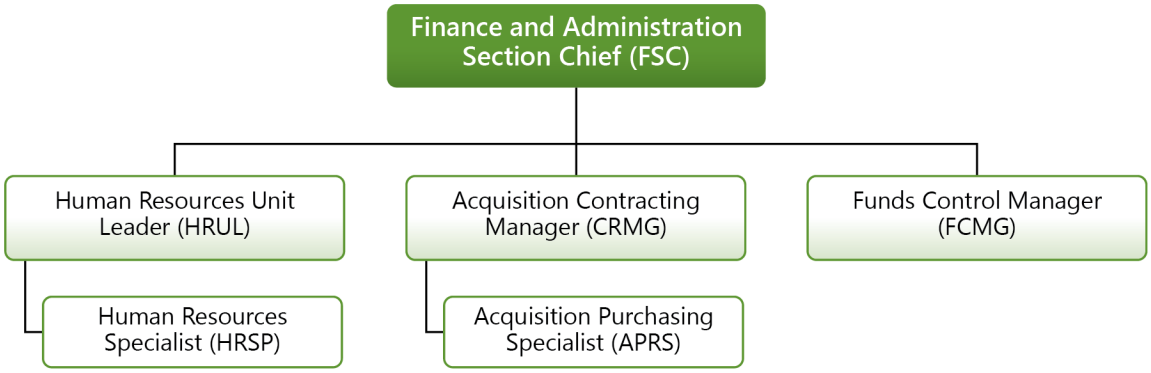
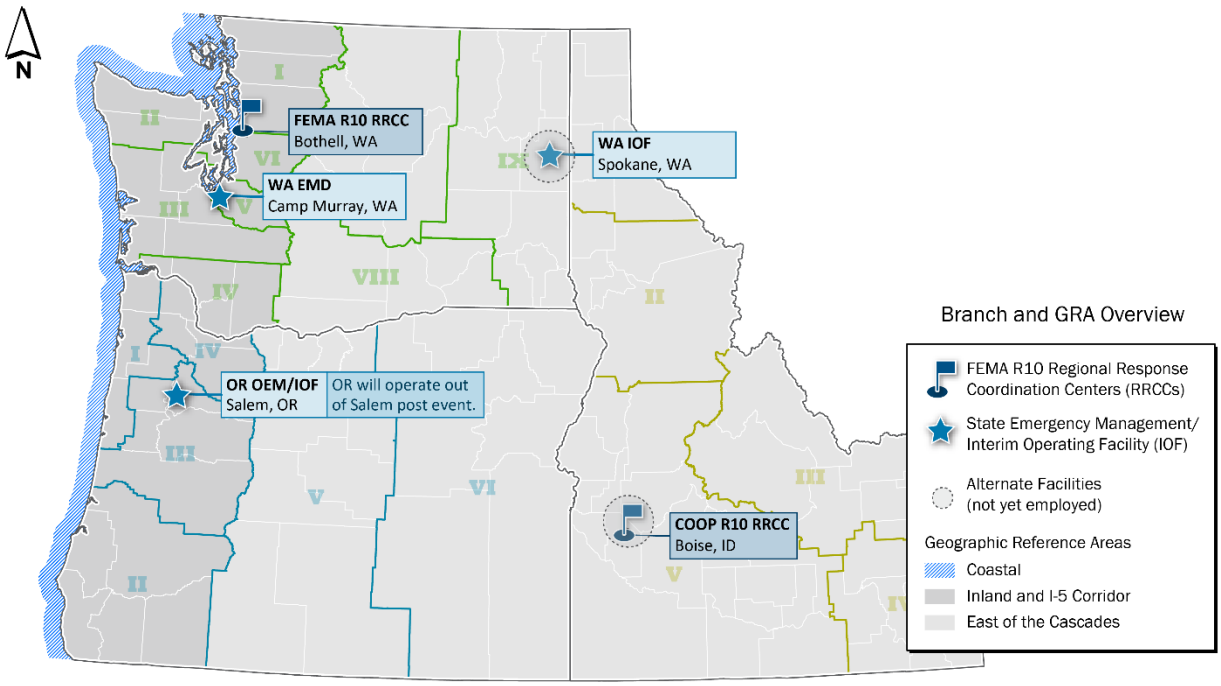


Figure A-1-5: RRCC Finance/Administration Section Staff

A.1.3 State-Level Support Structure

Immediately following the disaster, FEMA deploys and establishes a federal response structure to support the impacted state(s). The Interim Operating Facility (IOF) location for each state following a CSZ event is identified on the following map:



A.1.3.1 National Incident Management Assistance Team (IMAT)

An NIMAT deploys to establish the IOF as a precursor to the establishment of a JFO to house the Unified Coordination Group (UCG) and the Unified Coordination Staff (UCS).

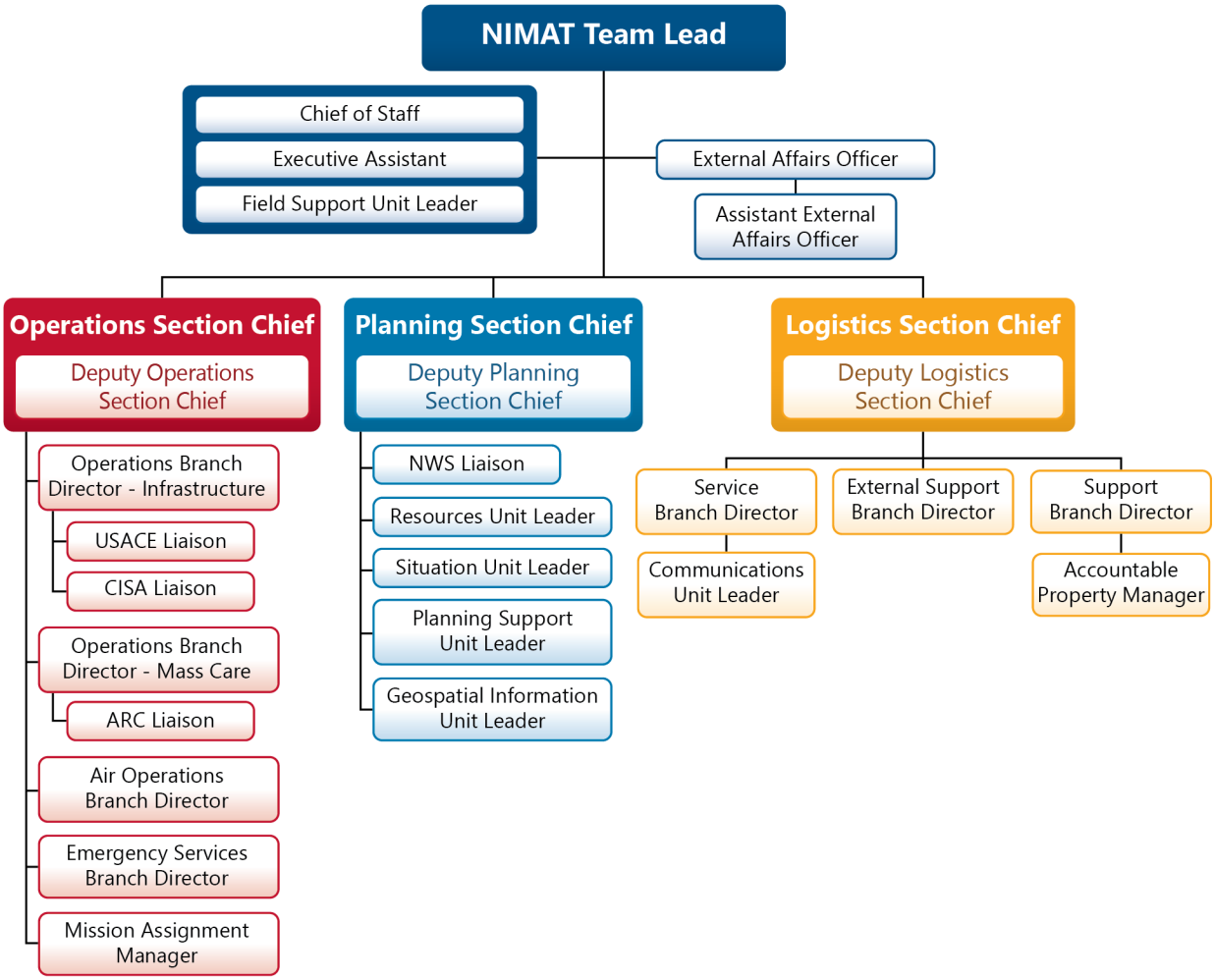


Figure A-1-8: National IMAT Composition

A.1.3.2 Joint Field Office Organization

Once the JFO is operational, the personnel and functions of the IOF may relocate to the JFO to begin unified operations as the UCS. In addition, ESF personnel and additional FEMA support staff deploy to the JFO to accomplish their functions in the UCS and manage the federal response.

Figure A-1-9 depicts a standard JFO organizational structure. As the situation develops and greater responder support becomes available, additional JFO personnel and/or organizations may require further development of the structure to meet the needs of each particular state.

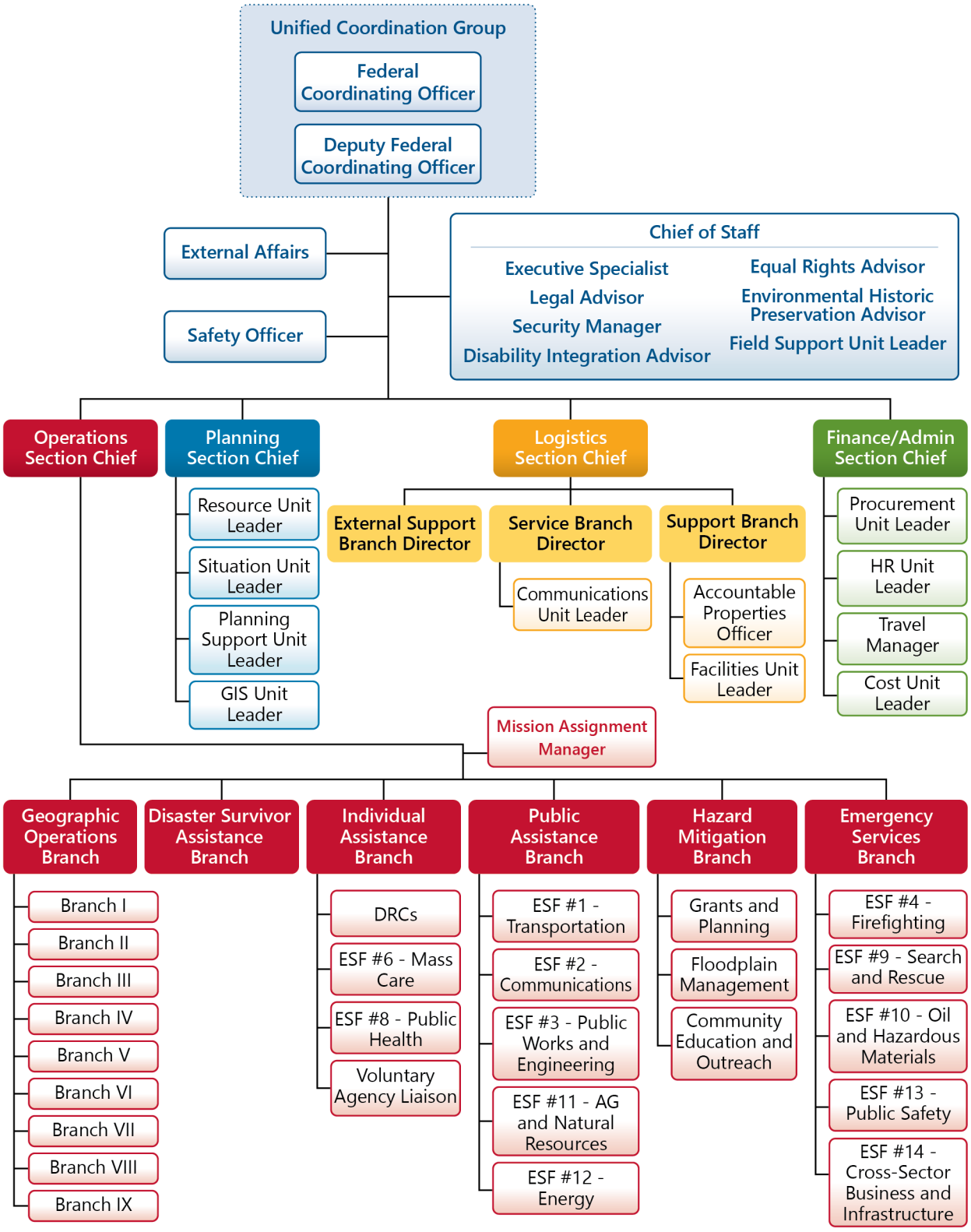


Figure A-1-9: General JFO Organization Chart

A.1.4 Field-Level Support Structure

The large, complex CSZ incident will require additional federal organization beyond the state level to conduct incident operations in support of the local communities. FEMA Region 10 coordinated with its state partners to identify geographic branches within each state that correspond to pre-existing, state-identified regions as depicted below: Idaho (yellow) has five branches that correspond to their Idaho Office of Emergency Management Area Field Office Regions, Oregon (blue) has six branches that correspond to their state emergency management regions, and Washington (green) has 9 branches that correspond to their state homeland security regions. See Figure A-1-10 for additional information.

This structure provides federal, state, tribal, and local officials with a single point of contact for all incident operations in each county (divisions) managed under these geographic branches. Geographic operations coordinate federal response activities in their branch to support response needs and priorities of each division in their respective branch and submit resource requests to UCG via the Geographic Operations Branch if additional resources/capabilities are required.

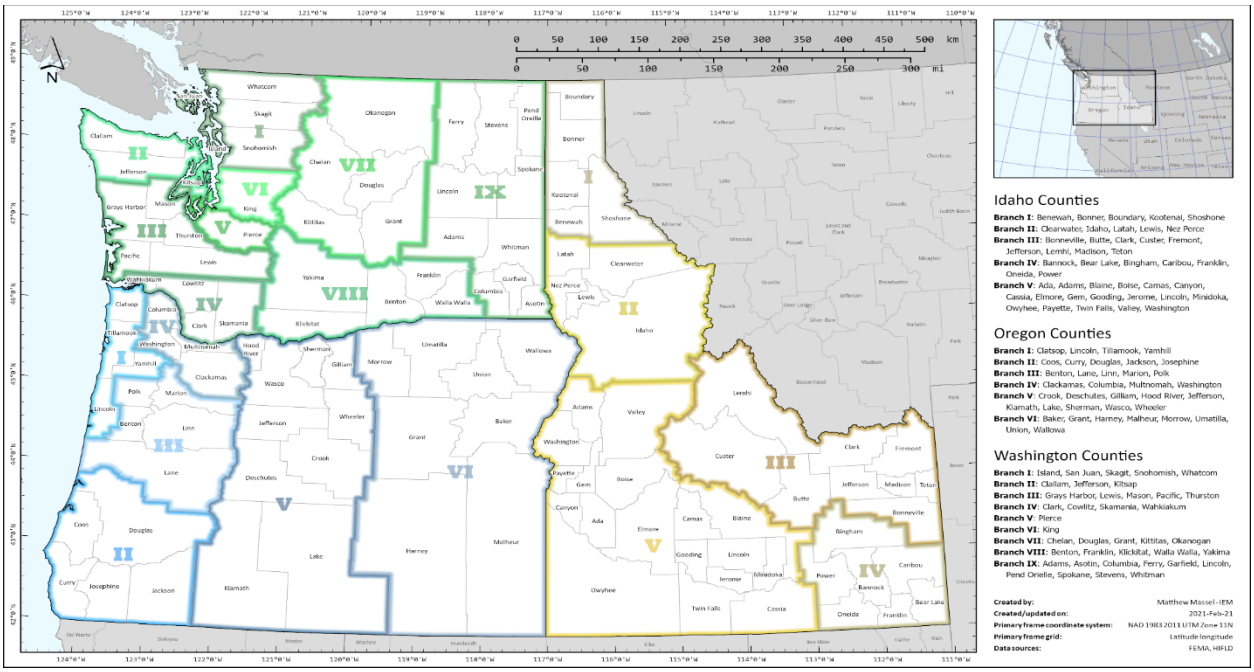


Figure A-1-10: Geographic Branches

A.1.4.1 Tribal Coordination

As outlined in the Region10 Tribal Annex to the *Region 10 All-Hazards Plan*, multiple courses of action (COAs) that outline tribal coordination have been developed to provide maximum flexibility for the structure, timeline, and effectiveness of response operations. During an actual event, a specific course of action will be selected based on direct coordination with the Regional Administrator (RA) and the affected tribal government(s). The primary factors that will be used to select a course of action include but are not limited to tribes' needs, existing capabilities, organizational structures, and operational priorities. This information is used to select a COA that best matches the federal capabilities with those tribal response factors.

Tribes are included in the geographic branch breakouts based solely on the tribe's physical location within a geographic branch and does not represent or suggest a specific COA in response to a CSZ event. Additional details on the existing COAs can be found in the 2018 *Region X: Tribal Annex to the All-Hazards* (sharepoint.com).

A.1.4.2 Washington State

Branch operations for Washington State are managed under the Operations Section of Washington's UCG structure. The geographic branches of Washington State are consistent with the Washington Homeland Security Regions.

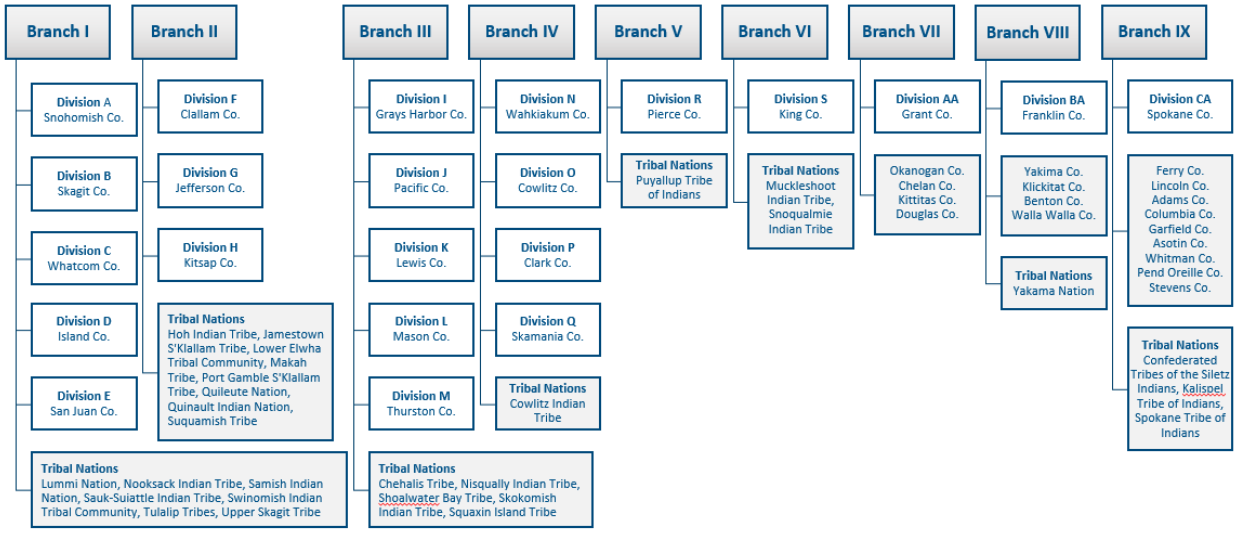


Figure A-1-11: Washington State Geographic Branches and Divisions

A.1.4.3 State of Oregon

Branch operations for the State of Oregon are managed under the Operations Section of Oregon's UCG structure. Geographic branches in the State of Oregon align with the state's emergency management regions.

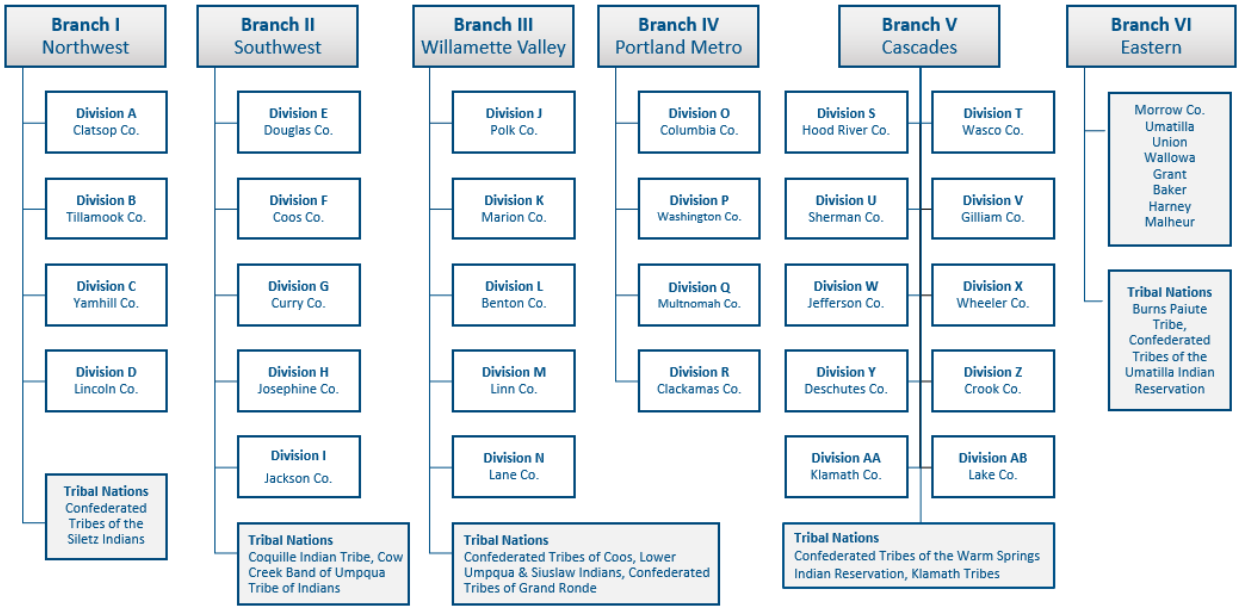


Figure A-1-12: State of Oregon Geographic Branches and Divisions

A.1.5 Transfer of Tasks and Operational Authority (TOA)

A.1.5.1 CSZ Tasks

As described in the *Region 10 All-Hazards Plan*, RRCC operations typically demobilize upon the transition of operational control from the RRCC to the UCG/JFO field staff. In the event of a catastrophic incident such as a CSZ earthquake and tsunami, it is anticipated that select functions of the RRCC may remain activated for an extended period of time in support of state and/or response operations. Likewise, NRCC may retain functions normally assigned to the RRCC. Although response roles and responsibilities may shift between the national, regional, and local coordination elements during the lifecycle of response, it is critical to maintain the delineation of tasks and responsibilities to deliver full support and avert duplicative efforts.

The following are examples of the types of activities that must be maintained throughout the response to a CSZ event:

- Serve as the lead FEMA response team.
- Establish situational awareness and situational understanding.
- Synchronize with the governments of the impacted state(s) and tribe(s).
- Establish staging areas.
- Deploy teams and resources under Federal Operations Support (FOS) MAs.
- Develop incident-level, regional-level, and national-level strategies.

- Anticipate, submit, and fulfil requests for assistance from state and tribal governments or other federal agencies (OFAs), including developing courses of action (COAs), deploying resources, and processing funding and taskers (e.g., MAs).
- Coordinate with OFAs acting under their own statutory authorities.
- Establish coordination and tasking groups such as the Unified Coordination Group (UCG).
- Coordinate with the emergency management agencies of the impacted state(s) and tribe(s) to determine mutually agreed-upon objectives.
- Develop crisis action plans.
- Transition operational authority between teams.
- Set JFO organization, roles, and responsibilities (e.g., geographic construct).
- Establish temporary facilities such as the IOF and JFO.
- Coordinate and deliver recovery and mitigation grant programs as well as National Disaster Recovery Framework (NDRF) programs.
- Sustain, transition, and closeout response logistics facilities and retrograde resources.

A.1.5.2 Transfer of Operational Authority from the RRCC to the Field

Initially, the IMAT supports RRCC operations as reflected in the relationships within the crisis action planning organization. Once the transfer of operational authority from the RRCC to the IMAT has occurred, these relationships change.

The official transfer is from the RRCC to the FCO, and it occurs when the RA (or designee) is confident that the IMAT has the capability to assume responsibility and the following conditions are met:

- Coordination mechanisms (e.g., UCG) are established and communications capabilities are operational.
- Situational awareness about the impacts of the incident, including status of Community Lifelines, is established.
- Stabilization targets have been coordinated within the UCG and initial priorities and objectives are established.
- Federal missions (i.e., Lines of Effort [LOEs]) have been identified and operational plans have been developed, as appropriate.
- Federal capabilities are staged or deployed.
- An IOF is established, and staff are on site to assume responsibility for setting an incident-level strategy.
- Incident organization and coordination are established.

- RRCC staff has transitioned response capabilities to a state-specific Federal Staging Area (FSA), if requested by the IMAT federal On-Scene Coordinator (OSC), to ensure a sustained logistics architecture.
- Federal/state joint incident action planning process has transitioned to the "mature" stage.

A.1.5.3 Transfer of Operational Authority from the Field to the Region

Planning for the transition from field staff back to Region is based on the need for response operations to transition to recovery and mitigation efforts as well as on the need for Regional response staff to resume steady-state operations. Transition and demobilization decisions are made jointly between the FCO and the RA.

The FCO develops a transition plan that, at a minimum, outlines the following:

- Region points of contact (POCs)
- Roles and responsibilities
- Record transfer and retention
- Coordination processes with state, local, tribal, and territorial (SLTT) entities
- Description of critical or unresolved issues
- Best practices and areas for improvement
- Timeline to complete transition

The FCO presents the transition plan at a Region leadership brief. At the conclusion of the briefing, all parties will mutually agree upon transition and demobilization milestones and timelines.

Appendix A-2: FEMA Disaster Staffing

A.2.1 Activation and Organization

A.2.1.1 Staff Activation

After a Cascadia Subduction Zone (CSZ) event, appropriate FEMA staff would be notified through the Emergency Notification System (ENS) administered by the National Response Coordination Center (NRCC) as well as through FEMA's Deployment Tracking System (DTS). For additional staffing needs, Emergency Support Function (ESF) and other federal agency (OFA) support may be notified by Activation Order based on direction from the Regional Response Coordination Center (RRCC) and/or NRCC.

A.2.1.2 CSZ Staffing Plan

The CSZ staffing plan is designed to meet staffing needs for the first operational shift after a CSZ earthquake and tsunami event.

A.2.2 FEMA Disaster Staffing Deployment

The *FEMA Deployment Guide* (August 2019) outlines the administration, implementation, and oversight processes and procedures for FEMA staffing deployment in a response. Key information from that guide is reflected in the sections below.

A.2.2.1 Regional Incident Workforce Management

FEMA uses the term "Staffing Point of Contact" (SPOC) to refer to an individual designated by an organization or incident and recognized by the FEMA Field Operations Directorate (FOD) Deployment Support Section as the local authority on staffing, deployment policies, and procedures who can perform various deployment roles and responsibilities. A SPOC supports FEMA operations at the national, Regional, and incident levels. Distinctly, FOD Regional Liaisons are FOD delegates who oversee Region-wide education efforts and the implementation of policies across the full spectrum of FOD programs.

In Region 10, the responsibilities of both the SPOC and FOD Regional Liaisons are executed by the Incident Workforce Management (IWM) Team to coordinate deployments for the RRCC and field staff and facilitate the transition of deployment responsibilities from the RRCC staff to the field.

A.2.2.2 Deployment Process

The deployment process requires that appropriate responders receive requests to deploy in support of operational needs. To coordinate this process, FOD's Workforce Management Division (WMD) Deployment Support Section, incident leadership, and the SPOC at the regional and incident levels must work together to request, review, and fill staffing requirements. Specific event numbers are used to monitor, track, and record deployments for each incident or other duty travel (ODT). This process is managed by the Region 10 IWM Team or the Deployment Support Section when an incident occurs or upon notification from ENS of a major declaration.

A.2.2.3 Event Identification

There are several types of event numbers in DTS that must be set up and used for specific types of events. When the RRCC is activated, the IWM Team contacts the Deployment Support Section to create a unique RRCC event number in DTS for deploying and tracking responders. In an emergency, where the Deployment Support Section cannot be contacted, the Region may use one of its pre-declaration event numbers for the RRCC and must notify the Deployment Support Section of this action.

Staff may be notified via an Operations Order (OPORD) sent by ENS and/or email to convey a decision by leadership to mobilize, alert, or task a FEMA Regional or national team (e.g., Incident Management Assistance Team [IMAT], National Response Coordination Staff [NRCS], RRCC staff, or Incident Support Base [ISB] team). OPORDs may include incident-specific information, specific team deployments, and additional guidance. The deployment of all FEMA personnel will be managed in DTS.

All ESF staffing requests in Region 10 must be specifically requested using the Resource Request Form (RRF). This enables the RRCC to consistently track all resources, including personnel, in a centralized manner via FEMA's WebEOC.

A.2.2.4 Personnel Mobilization and RSOI

Personnel mobilization is the process of activating and mobilizing responders for their incident assignments. FEMA implements personnel mobilization (PM) procedures, including for Reception, Staging, Onward Movement, and Integration (RSOI), in every federally declared disaster to ensure deployed responders are processed, equipped, and trained, as necessary, prior to being assigned incident roles and responsibilities.

The *FEMA Personnel Mobilization Guide* provides guidance for the administration, implementation, and oversight of the RSOI process for FEMA's deployed incident workforce. FEMA's 2019 *Personnel Mobilization Procedures* document expands on this guide by providing specific details for FEMA RSOI functions and management. The *Annex 10: Region 10 Personnel Mobilization Procedures* and *PMC Region 10 Procedures (Anchorage [Alaska] Specific Appendix)* further expand the procedures for PMC and RSOI for incidents within Region 10.

The documents listed below are available from the Region 10 IWM Team upon request:

- FEMA Personnel Mobilization Guide (2017)
- FEMA Personnel Mobilization Procedures (2019)
    - Annex 10: R10 Personnel Mobilization Procedures
    - PMC R10 Procedures: Anchorage (Alaska) Specific Appendix
- FEMA Incident Workforce Deployment Directive (FD 010-8) (October 16, 2014)
- FEMA Deployment Guide (2019)

For more information, see Annex D, Appendix D-5 (RSOI).

Annex B: Intelligence

B.1 Situation

B.1.1 Scope

This annex addresses information and intelligence gathered to support the operational environment following Cascadia Subduction Zone (CSZ) earthquake and tsunami. The CSZ poses one of the greatest earthquake threats in the United States. Due to its location off the Pacific coast, a rupture would cause impacts throughout the Pacific Northwest and the Pacific Ocean and would overwhelm local, regional, national, and international resources.

This response plan is written for a catastrophic, no-notice CSZ event. It is based on a planning scenario developed using the best-available science to estimate the impacts of such an event. Scenario impact estimates were developed using the most current information and analytical tools available, including Hazards-United States (HAZUS)[1] earthquake modeling, geographic information systems (GIS) analysis of tsunami data, review of historical records, the application of planning factors, and conversations with subject matter experts (SMEs).

(See the Annex B appendices for additional information.)

B.1.2 Threats and Hazards

B.1.2.1 Scenario

See Base Plan, Section 1.4.2 Scenario.

B.1.2.2 Hazard/Impact Information

The Region 10 All-Hazards Plan (AHP) Earthquake Fact Sheet provides general information about the history and types of impacts caused by earthquakes and tsunamis in Region 10.

Additionally, the Region 10 Earthquake Profile provides detailed information about impacts from an earthquake/tsunami in Region 10. The detailed planning factors and impact statements below have been vetted as part of the information analysis during the 2021 update and will be incorporated into the Earthquake Profile as part of future updates.

General Earthquake Impacts

- Building damage – 618,599 buildings with moderate to complete damage
- Schools – 2,026 schools with moderate to complete damage
- Hospitals – 100 hospitals with moderate to complete damage
- Critical facilities – 2,777 critical facilities with moderate to complete damage

[1] The current Cascadia scenario analyses have been conducted for use in regional efforts in planning for a worst-case scenario. Lower damage state thresholds have been used for mapping and communicating results for consistency with previous studies and to represent the potential for much larger ground motions provided by the U.S. Geological Survey (USGS) analysis. While the best nationally available datasets have been utilized, specific structural characteristics of most of the individual facilities are generally not available. Accordingly, the use of individual facility results should be done with caution.

- Total economic losses – $134 billion
- Utility system economic losses – $15.9 billion
- Transportation system economic losses – $3 billion
- Job/wage losses – $6.2 billion

General Tsunami Impacts

- 27 counties, including areas impacted along the Pacific Coast, Puget Sound, and Columbia River
- At least 17 tribal nations impacted
- 453 miles of impacted Pacific Ocean coastline (296 miles in Oregon and 157 miles in Washington)
- 1,810 miles of impacted Puget Sound coastline, including the San Juan Islands
- 10- to 30-minute warning for coastal areas
- 90- to 120-minute warning for Puget Sound areas
- All seaports on the Pacific coast at risk of sustaining complete damage; seaports along Puget Sound and the Columbia River (west of the I-205 bridge) at risk for major damage
- Multiple tsunamis 10–12 hours after initial earthquake; first wave may not be the largest
- Wave heights that vary from 3 feet to 80 feet
- Aftershocks of magnitude (M) 7.0 or greater that could generate additional tsunamis

Impacts by Community Lifeline

- Safety and Security
    - Police lack capability to perform services in heavily damaged areas; minimal capabilities are available in lesser damaged locations due to lack of access and communications.
    - Delay in response operations occurs due to compromised transportation infrastructure.
    - Essential government facility inspection requirements overwhelm all resources.
    - Evacuations difficult due to limited public safety personnel availability.
    - Fire Stations: There are 1,268 fire stations in Washington and 731 fire stations in Oregon. A CSZ event could disrupt the operations and availability of local fire services.
    - State and Local Fusion Centers: There is a 24/7 fusion center in the State of Washington. The Titan Fusion Center, located in the State of Oregon, operates during business hours but maintains callout procedures to support after hours incident/events. A CSZ event has the potential to interrupt the operation of these centers and to impact the availability of intelligence information they usually provide.

- Local emergency operations centers (EOCs): There are 77 local EOCs in Washington and 51 local EOCs in Oregon. A CSZ event could disrupt the operation and availability of local EOCs, thus impacting the provision of emergency alerts and messaging and other emergency-related services to the community.
- State EOCs: There is one state EOC in Washington and one state EOC in Oregon. A CSZ event could disrupt the operation and availability of state EOCs, thus impacting the ability to communicate with federal officials and the provision of emergency-related support to local jurisdictions.
- Local Law Enforcement Locations: There are 332 local law enforcement locations in Washington and 233 local law enforcement locations in Oregon. A CSZ event could disrupt the operation and availability of local police services, thus affecting community safety and security.
- Correctional Facilities: There are 121 correctional facilities in Washington and 85 correctional facilities in Oregon. A CSZ event could disrupt the operation and security of these facilities, thus potentially affecting public safety and security.

- Food, Water, Shelter
  - Food supplies will be disrupted until transportation and power networks are restored. (Frozen and refrigerated foods will be especially vulnerable.)
  - 594,075 households will be without potable water service on Day 1.
  - Sheltering options will be required for approximately 1 million displaced survivors and 600,000 pets.
  - Food and food processing facility inspection requirements will exceed local ESF #11 capabilities.
  - Drinking Water Sources: Areas Inundated by the tsunami will see disruption or catastrophic destruction to drinking water infrastructure and will require the establishment of drinking water supply stations and a massive construction effort to restore drinking water systems.
  - Drinking Water Treatment Plants: Fuel will be needed to support generators for backup energy for wells and water treatment facilities. Disruption of water and electrical systems and damage to sewage treatment infrastructure requires an extensive network of temporary wraparound services to support sheltering operations.
  - Public Refrigeration Warehouses: There are 62 public refrigerated warehouses in Washington and Oregon. If damaged, food stores at these locations may no longer be viable. Information will require alignment with private sector data.
  - National Shelter System (NSS) Facilities: In Oregon and Washington, schools and shelters listed in the NSS database receive moderate to complete damage and are unavailable for sheltering.
  - Parks: A significant percentage of displaced populations will choose to stay on or close to their properties by camping in parks, RVs, or trucks in parking lots and other open spaces. They will require sanitation, feeding, and medical support.

  - Fairgrounds: There are 293 convention centers and fairgrounds in Washington and Oregon that may serve as open air shelters for displaced residents. However, a significant number of these venues, particularly in the Coastal and I-5 Corridor/Inland Geographic Reference Areas (GRAs), may be damaged.
  - Major Sports Venues (e.g., stadiums/arenas): There are 21 major sports venues in Washington and Oregon that may support mega-shelter operations. However, a significant number of these venues, particularly in the Coastal and I-5 Corridor/Inland GRAs, may be damaged.

- Health and Medical
  - 13,800 fatalities are expected.
  - 107,535 injuries are expected.
  - 13,800 hospital beds are expected to be lost.
  - Local pharmaceutical supplies are expected to be insufficient to meet demand.
  - Ability to re-establish supply chain will be severely impeded by damaged transportation infrastructure.
  - Limited refrigeration capability is expected to be available.
  - Hospitals: Approximately 100 hospitals within the Coastal and I-5 Corridor/Inland GRAs will require augmentation and use of up to 1,708 regular beds and 228 critical care beds will be lost. Excess capacity in hospitals within 250 miles of the impact area will become saturated.
  - Assisted Living Facilities: Patients located in facilities before the event will need alternative care sites (ACSs).
  - Nursing Homes: Approximately 3,000 nursing homes in the Coastal and I-5 Corridor/Inland GRAs may require evacuation.
  - Emergency Medical Services (EMS) System Stations: The earthquake and tsunami will result in a disruption to the EMS system, which includes emergency medical technicians (EMTs)/paramedics, ambulances, dispatch services, and emergency departments.

- Energy (Power and Fuel)
  - 3,947 natural gas line leaks/breaks occur.
  - 88,288 households will be without power on Day 1.
  - 9 out of 81 power facilities will sustain damage.
  - Generator support will be insufficient to meet demand.
  - Cascading effects of power outages will affect other lifeline stabilization efforts.
  - Power Plants: There are 147 power plants in Washington and 149 power plants in Oregon. The damage to natural gas pipelines will interrupt service to all users of natural gas in the earthquake impact zone and beyond. This will include power plants that use natural gas to generate electricity. Damaged gas-fired power plants, which normally provide valuable reserve capacity, could pose a threat to the reliable operation of the power grid in the Pacific Northwest.

- Substations: There are 1,947 electrical substations in Washington and 1,289 electrical substations in Oregon. Electrical substations generally transfer electrical voltage from higher to lower voltage sources. They can be used to connect transmission lines to distribution sources for end users. Damage to these facilities as may be experienced in a CSZ event can disrupt the availability of electrical power to businesses, industrial facilities, and residential users.
- Transmission Lines: There are 23,472 kilometers of electrical transmission lines in Washington and 19,899 kilometers of electrical transmission lines in Oregon. Electrical transmission lines are used to move electrical power from power plants to substations. Damage to these lines as may be experienced in a CSZ event can disrupt the availability of electrical power to businesses, industrial facilities, and residential users.
- Distribution Control Facilities: There are 10 electrical power distribution control facilities in Washington and 5 electrical power distribution control facilities in Oregon. These facilities control the distribution of electrical power between locations. Damage to these facilities as may be experienced in a CSZ event can disrupt the availability of electrical power to businesses, industrial facilities, and residential users.
- Natural Facilities: There is 1 natural gas storage facility in Washington and 7 natural gas storage facilities in Oregon. Multiple natural gas storage facilities are located within the earthquake impact zone. Damage to the pipeline infrastructure (transmission and distribution), compressor stations, loss of power, etc., will affect the likely impact and the use of this resource until repairs can be made.
- Natural Gas Pipelines: There are 5,519 miles of natural gas pipelines in Washington and 9,691 miles of natural gas pipelines in Oregon. Damage to natural gas pipelines (both transmission and distribution) will interrupt service to all users of natural gas in the earthquake impact zone and beyond. This will include residential end users as well as power plants that use natural gas to generate electricity. Drops in pressure will likely affect natural gas service outside of the impact area, initially.
- Oil and Natural Gas Wells: There are 751 oil and natural gas wells in Washington and 83 oil and natural gas wells in Oregon. Operation of these facilities can be affected by a CSZ event.

- Communications
  - 682 of 1,032 communications infrastructure facilities receive moderate or greater damage.
  - Lack of communications and impaired accessibility to impacted areas limits situational assessment.
  - Responders and survivors in heavily impacted areas do not have access to internet, cell phone, landline, television, or two-way radio services.
  - Communications with coastal communities is limited to radio frequency (RF), satellite, and runners.

- Communications will be cut off completely in isolated areas; affected communities will require direct contact.
- 3,912 financial institutions are potentially affected.
- Cellular Antennas: There are 906 cellular antennas within the affected area: 703 in Washington and 203 in Oregon. In a CSZ event, cellular antennas may not be able to link customers to mobile switching centers, leaving customers with no access to emergency and telecommunications services. There are 51 Mobile Switching Centers in the Region that would be affected by an M7.0 earthquake or greater.
- Radio and Television Transmissions Towers: There are 505 identified broadcast antenna locations located within the affected shake area. The Emergency Alert System (EAS) operates through designated radio and television stations and is intended to provide federal, state, and local jurisdictions with the means to disseminate prompt alerting information concerning emergencies or disasters. There are 31 EAS broadcast antennas within the affected area. Due to radio and television antenna damage, some methods used for emergency communications with the public may not be available.
- Public Safety Answering Points (PSAPs)/911: There are 78 PSAPs located in the affected area, including 42 Primary PSAPs and 36 Secondary PSAPs. Loss of telecommunications infrastructure within the CSZ region will have significant effects on PSAPs outside of western Washington and Oregon, as many PSAPs are routed through those areas for phone service.
- Undersea Cables: Within the CSZ earthquake impact area, there are 9 landing stations serving 14 different undersea cable systems. There are 2 landing stations in Washington, 6 in Oregon, and 1 in California. Four of these cable systems serve as a primary communications conduit to Alaska, though landline fiber systems along the Alaskan Highway via Canada serve as an alternate path. In addition to the landing stations, undersea cables may be damaged or destroyed due to undersea landslides.
- Fiber Lines: There are 37 carriers that own long-haul fiber throughout the affected area. An extensive and redundant mesh fiber network connects the major cities along the Pacific Coast and into Canada.
- Land-Mobile Radio (LMR): There are 6,160 LMR assets located within the impact region. 732 assets support public safety, 128 support transportation, 175 support utilities, and 2,181 support local government entities.
- Microwave Antennas: Microwave antennas are utilized to wirelessly backhaul voice, data, and video capabilities between multiple locations. They are critical for broadcast, cellular, public switching network, responder radio, and 911/dispatch services. There are 3,727 microwave antenna locations within the impact area.
- Wireline Infrastructure: There are a total of 305 wireline assets within the impact area, including: 137 End Offices (EO), 93 Remote Switch (REM), 37 Incumbent Local Exchange Carrier (ILEC), 8 Access Tandem (AT) switches, 10 Local Tandem (LT) switches, and 6 Internet Exchange Points (IXPs). Damage or loss to

any one or more of these locations will affect cellular, broadband data, and phone services.

- Transportation
    - There are 15,858 miles of highway and 6,826 road bridges in CSZ impact areas of Washington and Oregon.
    - There are 5,828 miles of railroad and 93 railroad bridges in CSZ impact areas of Washington and Oregon.
    - There are 98 airports in CSZ impact areas of Washington and Oregon.
    - 72 ports are affected in Washington and Oregon.
    - 716 maritime port facilities are affected in Washington and Oregon.
    - 156 bus facilities are affected within Washington and Oregon.
    - 99 bus facilities are affected in Oregon, with potential losses of $29.7 million.
    - 52 ferry facilities are affected in Washington and Oregon.
    - Airports: A majority of airports in the impact area will sustain moderate or greater damage. Of those that don't sustain damage, all will have ground access issues and problems with wraparound services (power, water, sanitation, fuel, and communications).
    - Runways: Of the airport runways in the impact area that can accommodate the C-130 aircraft used for response operations, nearly half will sustain significant damage.
    - Major Port Facilities: All major seaports along the Pacific Northwest Coast are at risk of sustaining severe or complete damage, while seaports along Puget Sound and the Columbia River are at risk of significant damage. Crane ships may be necessary to facilitate movement of assets, but if the port is without power, crane ships will not be able to operate.
    - Bridges: Thousands of highway bridges are predicted to be impacted by a CSZ event. Of the five major bridges that cross the Columbia River in the impact area, at least four are predicted to be severely damaged and will need to be inspected and repaired. Repairs could take weeks, months, and years rather than days.
    - Highways and Major Roads: Thousands of miles of road are expected to be impacted by a CSZ event. Coastal communities will be isolated in terms of ground transportation, limiting resupply and evacuation capabilities.
    - Railroad Bridges: Key rail bridges in Seattle, Olympia, Vancouver, and Portland are predicted to sustain complete damage.
    - Road and Railway Tunnels: As with bridges, damage to tunnels may cause roads to become impassable and will need to be inspected and repaired before reopening. In addition, motorists and trains may become trapped in tunnels, requiring search and rescue (SAR) support.
    - Rail Routes and Stations: Rail transportation is not possible along the I-5 corridor or spurs to the west. No rail capabilities for transporting people and supplies exist. The majority of rail facilities in the Region (train stations, dispatch facilities, and

fuel facilities) are along the I-5 corridor. Most of these facilities suffer extensive to complete damage.

- Hazardous Materials
    - 86 chemical facilities in Washington and Oregon experience moderate to complete damage.
    - 2,295 facilities in the affected areas of Washington and Oregon have reportable quantities of Extremely Hazardous Substances.
    - 107 petroleum facilities and 686 miles of petroleum pipeline experience moderate to complete damage in Washington and Oregon.
    - 2,810 miles of natural gas pipeline in the impact areas of Washington and Oregon sustain more than 800 breaks.
    - U.S. Environmental Protection Agency (EPA) Emergency Response Facility Response Plan (FRP) Facilities, EPA Emergency Response Risk Management Plan (RPM) Facilities, EPA Toxic Release Inventory (TRI) Facilities, EPA Emergency Response Toxic Substances Control Act (TSCA) Facilities: There are over 60 FRP facilities, 500 RPM facilities, 1,700 TRI facilities, and 360 TSCA facilities in Washington and Oregon. Failure at any of these facilities may result in significant fire, explosion, inhalation, or skin contact hazards. Damage to communications infrastructure limits the ability to identify and prioritize hazardous materials (HAZMAT) releases, while damage to transportation infrastructure and related route obstructions limit the ability to assess and contain HAZMAT releases.
    - Chemical Pipelines: The sole petroleum pipeline in the western portions of Washington and Oregon runs along the I-5 corridor from the Canadian border to Eugene, Oregon. The pipeline, pump stations, and product terminals may incur substantial damage, resulting in leaks that pose fire, explosion, or inhalation hazards. Pipelines frequently follow road routes and utilize bridges to cross water barriers. When roads and bridges are destroyed, significant spills occur. Damage to water pipelines, in conjunction with spills of hazardous materials and raw sewage, results in shortages of fresh water for firefighting, drinking, personal hygiene, cooking, etc., as well as contamination that causes immediate health risks to the public and first responders.

Figure B-1 through Figure B-8 below provide visual representations of expected impact to populations in Washington and Oregon. Additional map/GIS information can be found at CSZ Map Journal on the Geospatial Information Infrastructure site.

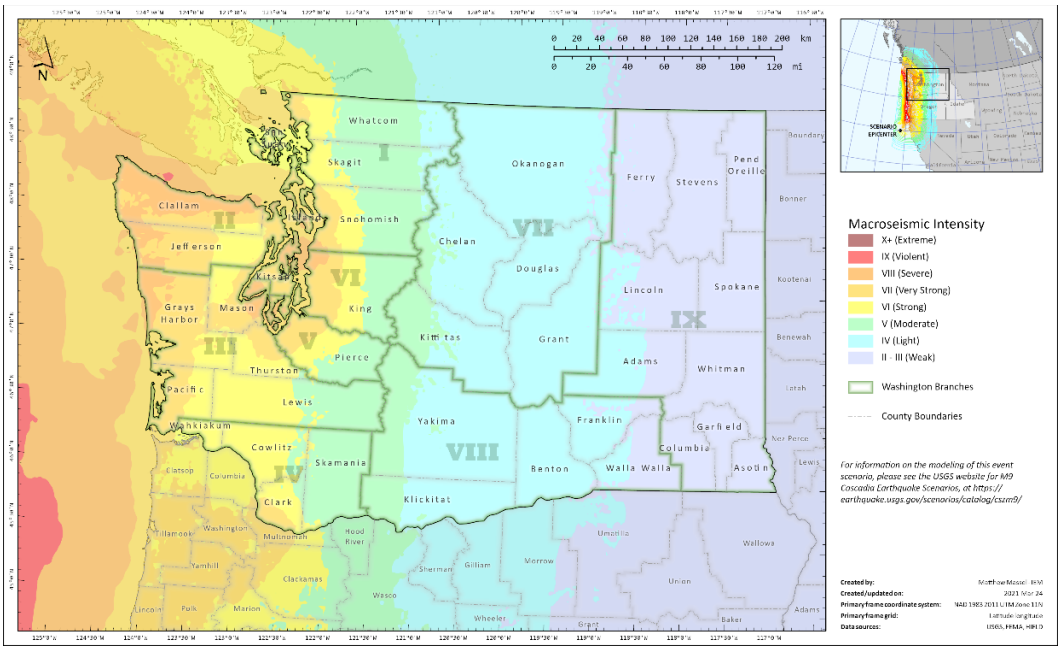


Figure B-1: Washington Shake Intensity Map

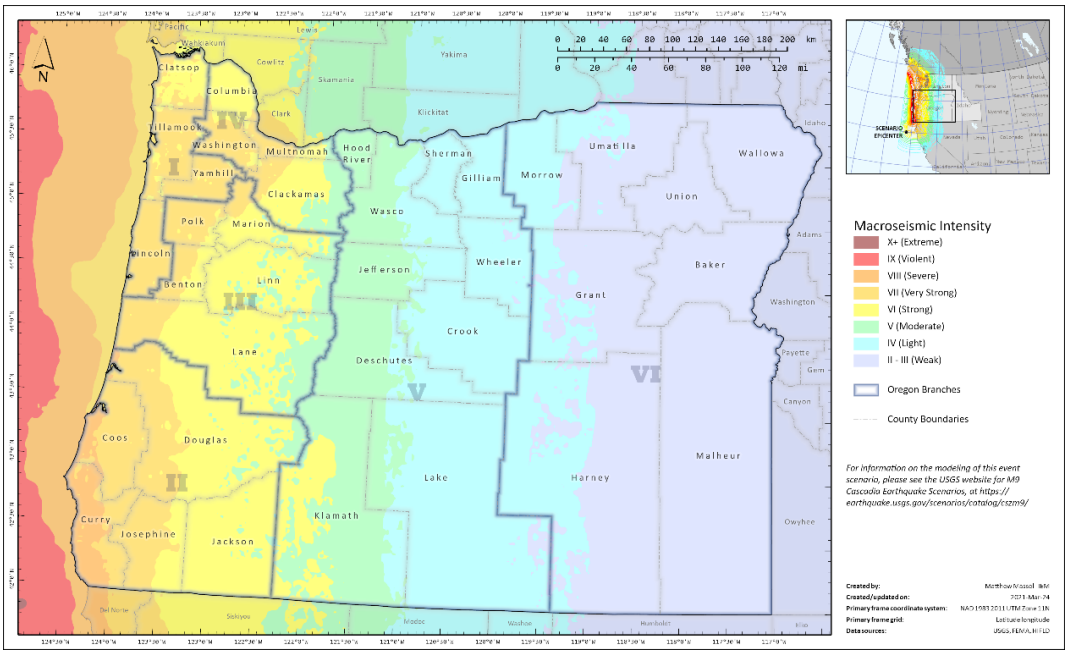


Figure B-2: Oregon Shake Intensity Map

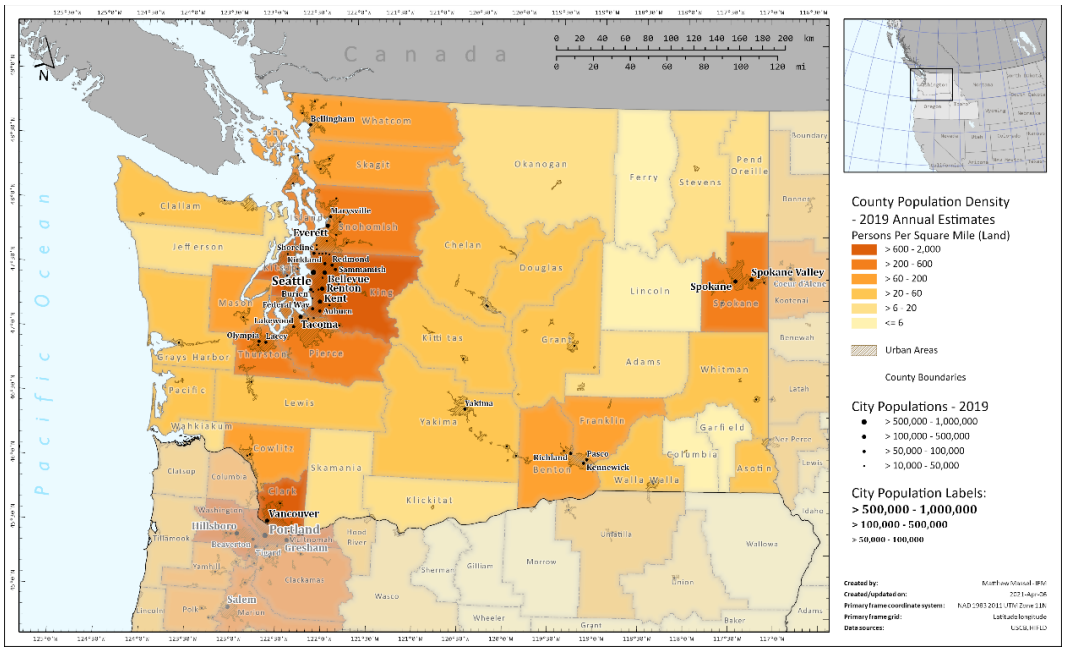


Figure B-3: Washington Population Densities

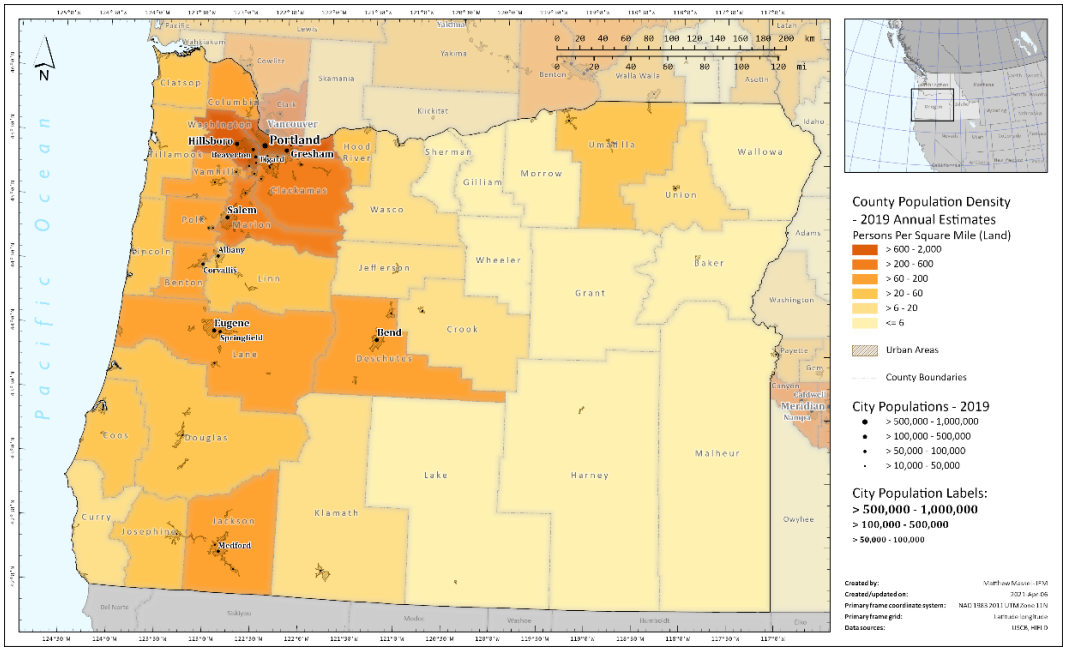


Figure B-4: Oregon Population Densities

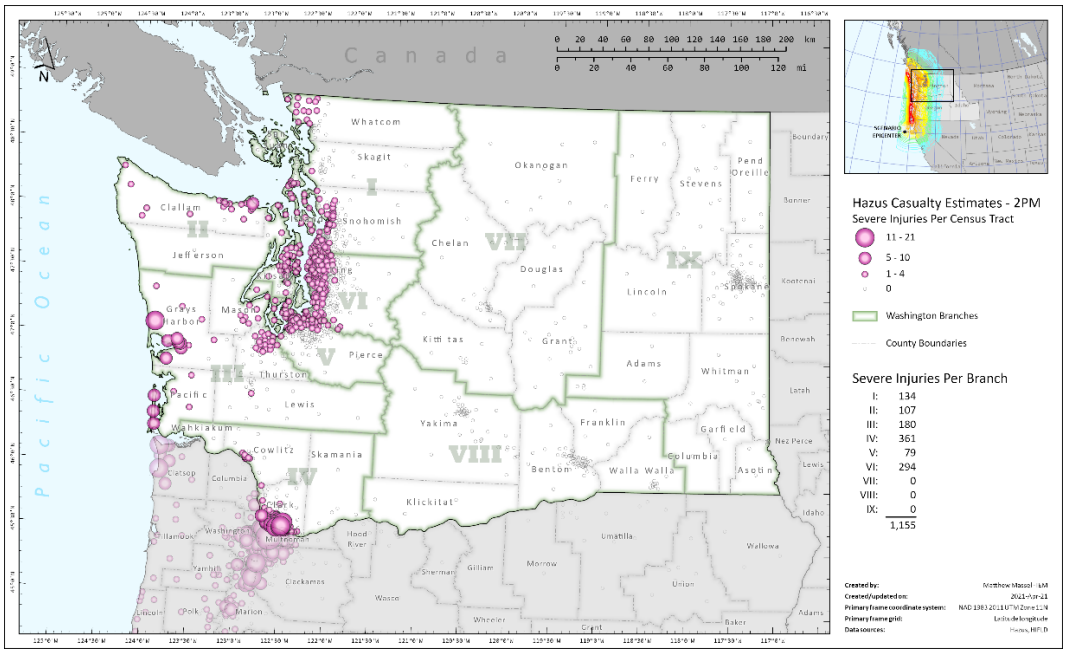


Figure B-5: Incident Injury Map for Washington

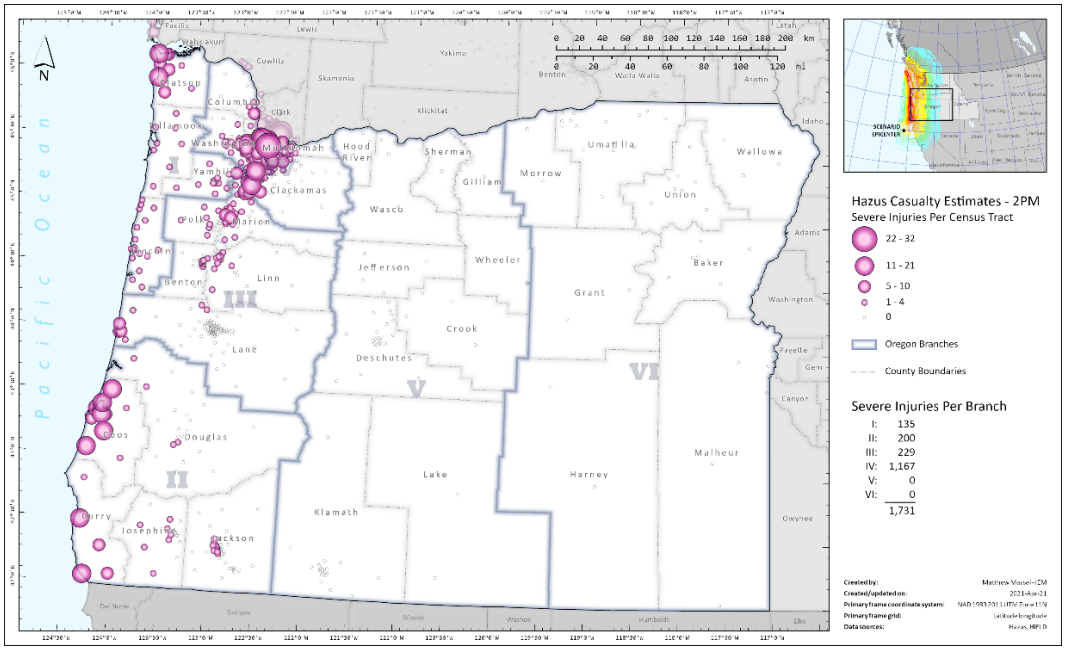


Figure B-6: Incident Injury Map for Oregon

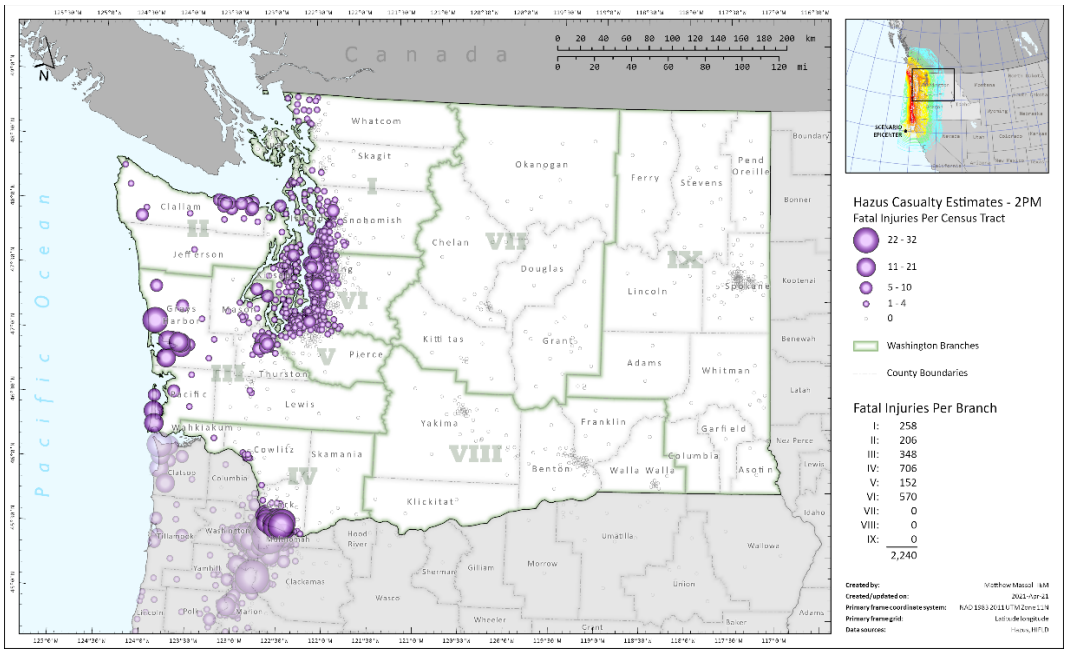


Figure B-7: Incident Fatality Map for Washington

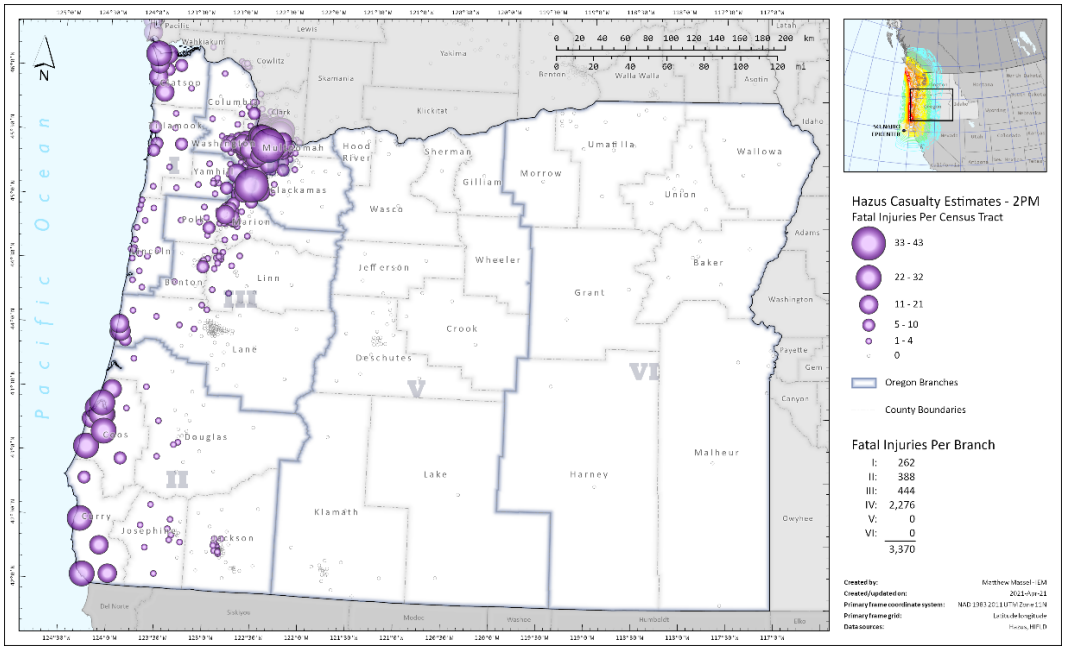


Figure B-8: Incident Fatality Map for Oregon

B.2 Mission

The purpose of this annex is to support and inform decision making through the organized and timely collection, processing, analysis, and dissemination of situational intelligence. Access to accurate and timely information enables decision makers to prioritize actions, resulting in the most effective application of resources.

Situational awareness requires continuous monitoring, data collection, and data analysis from relevant sources regarding impacts and response operations. The scope and type of monitoring required will vary based on response needs and the extent of the disaster.

The objectives of this annex are to:

- Provide relevant information and intelligence that guides key decision makers through the initial response and the transition to recovery; and
- Establish guidelines for intelligence-gathering and information-sharing.

B.3 Execution

B.3.1 Concept of Intelligence Support

B.3.1.1 Community Lifelines as the Organizing Categories for Intelligence

The basic categories for organizing incident intelligence during the response are the seven FEMA Community Lifelines. Community Lifelines are indispensable services that enable the continuous operation of critical business and government functions and are essential to human health and safety and economic security. Analyzing the status of each lifeline is essential for an effective response to an incident. The Community Lifelines are as follows:

- Communications
- Energy
- Food, Water, Shelter
- Hazardous Materials
- Health and Medical
- Safety and Security
- Transportation

B.3.1.2 Stabilizing Community Lifelines

Stabilization of Community Lifelines is a priority for all levels of emergency management. Focusing on stabilization aligns Emergency Support Functions (ESFs), sector-specific agencies (SSAs), and critical private sector partners in planning for, reporting on, responding to, and recovering from disasters. Long-term recovery and a return to normalcy cannot occur until each lifeline is stabilized.

B.3.1.3 Definitions

Below are key terms for elements of intelligence:

- **Key Leader Decision (KLD)**: Decisions made by leaders regarding response and recovery priorities, strategies, and actions regarding federal support to state, local, tribal, and territorial (SLTT) agencies when a disaster occurs.
- **Key Leader Question (KLQ)**: General questions regarding the threat or hazard, operational environment, and resources that require collecting information or producing

intelligence in support of decision criteria for a KLD. KLQs are specifically tied to decision points and drive prioritization for the information collection, analysis, and production process.

- **Essential Element of Information (EEI)**: An item in the comprehensive list of information requirements that is needed to promote informed decision making. EEIs are prioritized to answer the essential questions of incident leaders.
- **Specific Information Required (SIR)**: Specific tasking and responsibility, derived from an EEI, for the collection, modeling, analysis, production, and dissemination of information.
- **Critical Information Requirement (CIR)**: Specific type of high-priority information that requires immediate notification and involvement of response leaders. A CIR is categorized at the level of an SIR and can be a component of an EEI.
- **Request for Information (RFI)**: A specific time-sensitive ad hoc requirement that drives intelligence collection, analysis, and production.

B.3.1.4 Introduction to the Five-Step Cycle

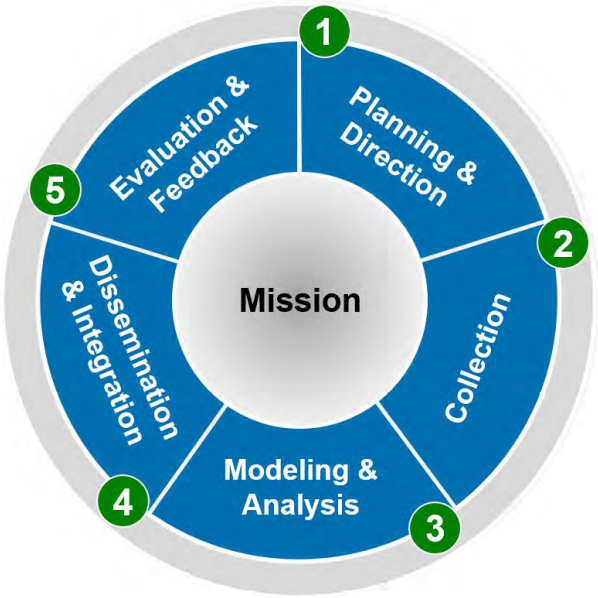


Figure B-9: Intelligence Cycle

Intelligence support follows a five-step cycle (Figure B-9), focused on identifying, developing, and providing timely, accurate, and actionable information. The steps—Planning and Direction, Collection, Modeling and Analysis (production), Dissemination and Integration, and Evaluation and Feedback—result in information that supports decision making.

Table B-1: Five-Step Intelligence Cycle

Step	Regional Activities	Deliverables
1. Planning and Direction	The following are provided at the outset of an incident and are updated as necessary: • Regional Administrator (RA) provides Senior Leaders' Intent. • Federal Coordinating Officer (FCO) and State Coordinating Officer (SCO) or Tribal Coordinating Officer (TCO) provide priorities and objectives for the incident. • Senior leaders provide Key Leader Questions (KLQs).	• Tactics and Objectives Meeting • Command and staff briefs • Information Collection Plan (ICP), including Key Leader Decisions (KLDs)
2. Collection	Information is collected using the ICP to support KLDs.	• Completed ICP • Essential elements of information (EEIs), critical information requirements (CIRs), and requests for Information (RFIs) for each KLD
3. Modeling and Analysis	Planning staff and subject matter experts (SMEs) synthesize information to produce products that drive KLDs, such as an incident map journal, initial Senior Leadership Brief (SLB), Information Analysis Brief (IAB), and other planning products.	• Incident map journal • SLB (Note: SLB is refined throughout the intelligence cycle during response operations.) • Additional planning products
4. Dissemination and Integration	The purpose of this step is to create a shared situational picture (SitPic) regarding the incident and to share with whole community stakeholders and the response community. Identifying a means to deliver information will ensure that decision makers receive properly synthesized information.	• Incident map journal • Information entered in WebEOC • Information posted in Virtual Situation Room (VSR) (Adobe Connect) • Information entered in MAXTRAX (recovery) • Information communicated through additional processes (such as emails, briefings, and teleconferences)
5. Evaluation and Feedback	This step enables senior leaders and information users to evaluate whether KLQs have been answered and whether additional information is needed.	• SLB • Shift change brief • Daily meetings • Memorandums

Step 1: Planning and Direction

This step sets the stage for the intelligence cycle by ensuring that the intent and priorities are established and an information collection strategy is prepared. The response objectives of the Unified Coordination Group (UCG) determine the prioritization of intelligence requirements to support the most urgent decisions (KLDs) and questions (KLQs) that need to be answered. Intelligence collection methods, analysis products, and dissemination routes must be efficient and flexible to meet changing objectives and intelligence priorities.

Based on priorities of the incident, this could include:

- Identifying the intelligence needed to support KLDs and incident requirements;
- Developing the information management structure;
- Preparing an Intelligence Collection Plan (ICP); and
- Issuing orders and requests to information collection agencies with time suspense requirements for each EEI.

Step 2: Collection

Collection is the acquisition of information and the provision of this information to processing elements. Collected data are classified as baseline data, situational awareness information, impact estimates, or mission-specific requirements, as described in the sections below.

Establishing a flow of information from impacted areas to decision makers is essential. Existing reporting channels share critical information according to established protocols. The optimal flow of information—from local, state, tribal, federal, private sector, and media sources to senior leaders and decision makers—requires a disciplined approach to facilitate the effective development of a comprehensive shared situational picture (SitPic). All stakeholders are essential partners in maintaining situational awareness and managing the flow of up-to-date and accurate information.

Situational Awareness Information

Situational awareness information can come from many sources. Generally, situational awareness starts at the incident scene and must be effectively communicated to local, state, tribal, and federal governments as well as the private sector. Situational awareness requires continuous monitoring of relevant information sources regarding current and developing incidents.

During an incident, Region 10 coordinates with states and affected tribes to gather as much information as possible regarding the threat and impacts of the disaster. Staff from the Bothell Mobile Emergency Response Support (MERS) Operations Center (MOC) collect relevant information for analysis and dissemination. The MOC staff generate reports to provide local, tribal, state, and federal decision makers with consistent information about the incident.

Potential sources of information include the following:

- On-scene personnel
- State Emergency Operations Center (SEOC)
- State fusion center

- Federal partners
- National Weather Service (NWS)
- Media reports
- Internet
- Social networking sites
- Non-governmental organizations (NGOs)
- Private sector
- Modeling products
- Hazard information
- Demographic data (metropolitan statistical areas [MSAs], census, etc.)

Information collected and analyzed by the MOC, RRCC, field personnel assigned to develop situational awareness, and state or local operations centers is used to establish a shared SitPic for response as well as short-term recovery operations. The SitPic ensures that information is collected, collated, analyzed, and uniformly distributed to help coordinate federal, state, local, and tribal incident management. It provides the UCG with a snapshot of the current or developing situation and the ability to develop courses of action (COAs). Table B-2 lists some of the potential sources of situational awareness information.

Table B-2: Potential Sources of Situational Awareness

Category	Hazard Type	Type	Source
Threat and Hazard Information	All	Regional threats	MOC – email: FEMA-MOC-BOTHELL@fema.dhs.gov (to be added to reporting distribution list)
Threat and Hazard Information	All	Weather maps	NWS: www.weather.gov www.spc.noaa.gov www.radar.weather.gov
Threat and Hazard Information	All	Weather information (NWS chat)	NWS – www.nwschat.weather.gov (requires account for use)
Threat and Hazard Information	All	Threat and hazard identification	Region 10 Regional Preparedness Analyst – Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR)
Threat and Hazard Information	Specific	Hazard-specific information	Hazard-specific deliberate plans – www.femacms.webeoc.us/eoc7 (select "Plans Library" and sort by Region 10 to find hazard- specific plans)

Category	Hazard Type	Type	Source
Community Systems Information	All	Political jurisdictions	• Appendix B-1: State Profiles and Tribal Annex
Community Systems Information	All	Economic	• Appendix B-1: State Profiles and Tribal Annex
Community Systems Information	All	Social	• Appendix B-1: State Profiles and Tribal Annex
Community Systems Information	All	Emergency management facilities and structure	• Appendix B-1: State Profiles and Tribal Annex
Community Systems Information	All	Lifeline infrastructure	DHS/CISA ESF #14 Liaison Officer (LNO)
Community Systems Information	All	Information environment	• Appendix B-1: State Profiles and Tribal Annex
Operations and Resource Information	All	Boundaries and scope of the incident	Declaration information (www.fema.gov/disasters)
Operations and Resource Information	All	Damage assessment (post incident)	Preliminary Damage Assessments (Regional Recovery Division)
Operations and Resource Information	All	RRCC position contact information	WebEOC – https://femacms.webeoc.us/eoc7/ (select "RRCC")
Operations and Resource Information	All	Force laydown	Geospatial Information Unit Leader: RRCC email: R10-rrcc-giul@fema.dhs.gov R10 Response GIS: fema-r10-gis@fema.dhs.gov
Operations and Resource Information	All	Operations structure	Operations Section Chief (OSC)
Operations and Resource Information	All	Program activity	Program Branch Director (contact OSC)

Impact Estimates

Impact estimates define the consequences of an event and help determine the population and area affected and how significant the damage is. These determinations are developed using various sources (pre-event modeling, post-event modeling, observations, and inspections) and analysis methods.

- **Pre-Event Modeling**

  This type of modeling helps categorize the scope of impact that may be expected from an incident. While it is not exact, it can help identify the types and number of resources that would be required to provide for life safety and property protection and support community stabilization (see Table B-3).

- **Post-Event Modeling**

  This type of modeling helps identify and prioritize areas for response resources and identifies the scope and magnitude of damage (see Table B-3).

- **State/Tribal Reporting**

  The state and affected tribes provide ground truth impact assessments that are gathered through pre-established reporting mechanisms from local jurisdictions. This information helps gauge the scope of impacts and the level of resources needed to stabilize the incident.

- **Observations (Reconnaissance)**

  This is the most reliable method for rapid, wide-area assessment and scoping of damage from an incident. It enables collecting images or ground assessments from the impact area to support decision making on the types, quantities, and prioritization of resources. Sources include the following:

  - Remote-sensing geospatial damage assessments (observed), such as those available through the USGS EarthExplorer (https://earthexplorer.usgs.gov/)
  - Rapid Needs Assessment Teams (RNATs)
  - Regional Preliminary Damage Assessment (PDA) teams

- **Inspections**

  This is the most reliable method for detailed damage assessments. This method involves door-to-door inspections of homes or infrastructure by trained inspectors.

Decision Support Tools and Mission-specific Requirements

The outputs of Decision Support Tools (DSTs) help define the mission-specific requirements (such as quantity and type of resources and personnel) necessary to support each mission. These outputs help inform the processes of developing, analyzing, comparing, and selecting COAs. They are also a key component of pre-incident operational assessments and provide the foundation for ongoing assessments during an incident. Examples of DSTs are identified in Table B-3 and in the Analytic and Modeling Tools section below.

Step 3: Modeling and Analysis

Analytic and Modeling Tools

Analytic and modeling tools are classified into two categories: characterization analysis and consequence modeling. Event-characterization tools are used by SMEs to forecast the location, timing, and severity of an event, while consequence models are used to estimate impacts to human health, the economy, and infrastructure. The outputs of these models, called impact estimates, can serve as inputs for DSTs to guide specific response activities (e.g., determining

evacuation timing, the purchase and allocation of disaster relief supplies, deploying SAR teams, estimating impacts on the supply chain).

The table below provides common tools used to provide event characterization analysis and consequence modeling for an indicated hazard. Also included is the agency or organization responsible for providing the analysis and modeling.

Table B-3: Analytic and Modeling Tools and Responsible Organization/Entity

Hazard Category	Analysis and Modeling Tool Type	Agency/Organization
Dam Failure	Hydrologic Engineering Center River Analysis System (HEC-RAS)	U.S. Army Corps of Engineers (USACE)
Dam Failure	Decision Support System for Water Infrastructure Security (DSS-WISE)	University of Mississippi
Flooding	Hazards-United States (HAZUS)	FEMA
Flooding	National Hydrography Dataset (NHD)	U.S. Geological Survey (USGS)
Flooding	Hydrologic Engineering Center – River Analysis System (HEC-RAS)	USACE
Flooding	HAZUS	FEMA
Power Outage	Environment for Analysis of Geo-Located Energy Information (Eagle-I)	U.S. Department of Energy (DOE)
Power Outage	emPower	U.S. Department of Health & Human Services (HHS) Assistant Secretary for Preparedness and Response (ASPR)
Ice Storm	Advanced Weather Interactive Processing System (AWIPS)	National Oceanic and Atmospheric Administration (NOAA)
Earthquake	HAZUS	FEMA
Earthquake	Prompt Assessment of Global Earthquakes for Response (PAGER) program	USGS
Earthquake	ShakeMap	USGS

Intelligence Products

TIERED SENIOR LEADERSHIP BRIEF

The Senior Leadership Brief (SLB) is a situational awareness presentation that discusses Community Lifelines, root causes of lifeline service impacts, stabilization activities, status of those activities, and lifeline interdependencies. FEMA staff develop the SLB using a tool in FEMA's WebEOC Crisis Management System (CMS). CMS users at all levels (federal and SLTT) interact to share the most current and authoritative information on an incident. The CMS provides a real-time interface to upload, review, and disseminate incident information, including a visual dashboard.

The tiered SLB design complements the Community Lifelines by enabling information to flow between the Incident Management (IM) and Incident Support (IS) levels, fostering transparency

and reducing duplication of effort. Table B-4 describes the information conveyed in each SLB tier.

Table B-4: SLB Tier Information

Tier	Information
Tier I: Disaster Summary	• Executive summary • Significant impacts, limiting factors, and actions to address lifeline services • Reported only at the Community Lifeline level by state, tribe, and/or territory based on Tier II information
Tier II: Community Lifeline Component Status	• Assessment report on Community Lifeline and component conditions • Analysis of component status, impacts, actions, limiting factors, and estimated time required to reach stabilization, with consideration of sustainment requirements
Tier III: Community Lifeline Dashboards	• Dashboards with displays of real-time information with automated, dynamic updates • Charts, graphs, and other supplemental material • Geographic information systems (GIS) products • Links to databases from outside sources
Tier IV: Data Collection (SITREPs)	• WebEOC Board enabling multiple data inputs and interconnectivity to other incident-level boards by Community Lifeline or component • Data collection from all incident levels, including incident management, Regions, state, local, tribal, and territorial entities, and the federal inter-agency

OTHER REPORTS

The following list includes a common set of products created from the modeling and analysis process to provide situational awareness:

- **Situation Report (SITREP) (ICS 209)** – A required document created during the Incident Action Plan (IAP) process. The SITREP is produced at the conclusion of an operational period (O-Period) and reports on activities and progress during the last O-Period.
- **Spot Report (SPOTREP)** – A product used to report any critical change or update in information that is not or cannot be included in the most recent situational awareness products due to time sensitivity. A SPOTREP is submitted as needed.
- **Executive Summary (EXSUM)** – An incident-reporting product to provide leaders with critical information, including a narrative summary and key numeric data. This report is the FCO's update to the RA about incident operations, concerns, limiting factors, and shortfalls.
- **Daily Briefing** – A daily slide deck and report that highlights key updates, changes, and information on threats and hazards that may impact operations. This product highlights weather, traffic, routing, concerns, and limiting factors that may impact operations.

- **Operational Summary (OPSUM)** – An optional incident-reporting product that provides operational statistics, force laydown, personnel statistics, priorities, and objectives for the incident.
- **Trend Analysis** – An optional incident-reporting product that provides analysis on program trends. This document analyzes incident trends and provides leaders with an understanding of program statistics. This product may be required if force laydowns change.
- **Microsoft PowerBI Dashboards** – These are interactive desktop dashboards created using analytical software from Microsoft. The dashboards enable analysis and manipulation of data to provide greater insight into trends and activity and to support decision making. Dashboards are created based on the incident and needs from the end user.
- **GIS Products and Journals** – The GIS team provides a variety of static, application-based, and web-based geospatial products. The most common are static maps, which depict an incident scene and necessary analysis of program or incident progress, and web-based GIS Map Journals, which depict incident information that the end user can manipulate for their individual needs. For more information, see Appendix B-3 (Geospatial Intelligence).

Step 4: Dissemination and Integration

Once intelligence has been collected and analyzed, the information must be disseminated to applicable users. The form of the delivered intelligence must be appropriate to missions, tasks, and functions. Below are the information-sharing platforms used by FEMA Region 10:

- **Homeland Security Information Network (HSIN)** – DHS's official system for trusted sharing of information designated as Sensitive But Unclassified among federal, SLTT, international, and private sector partners.
- **FEMA WebEOC CMS** – Web-based platform for incident management and information sharing. This platform provides a repository of situational awareness information, a web-based IAP process, dashboards for information sharing, and resource tracking.
- **Adobe Connect Virtual Situation Room (VSR)** – Enables planning personnel to post and share documents, images, links, and notes with incident personnel. The online hosted room also allows access from mobile devices.
- **FEMA GeoPlatform** – Online platform that hosts geospatial information, including incident maps, dashboards, map journals, and viewers. Information can include a wide variety of static and live layers, analysis tools, and text.

The information gathered during the intelligence cycle enables External Affairs (EA) staff to provide timely notification and information to the public on threats and hazards. Information produced by EA staff is categorized by the intended audience, external or internal, as shown below.

- **External**
  - **Press Release** – Official statement that provides information on the incident or activities. They provide a complete story or the basis for a story that the media can use.
  - **Media Advisory** – An announcement alerting the media of an event that provides newsworthy information. Generally, this offers basic information on an event (such as an upcoming press conference) and is not meant to be published verbatim. It generally does not provide as much information as a press release.
  - **Fact Sheet** – An at-a-glance tool used to provide an overall view of a subject. These serve as quick references for the media and public.
- **Internal**
  - **Talking Points** – Provide verified information that should be covered in an interview or when a spokesperson for the event talks with the media or another external audience. These are aimed at providing a common message for the public.
  - **Backgrounder** – Document designed to supplement a press event and explain the story or event. Generally, this document is relatively brief.

Step 5: Evaluation and Feedback

As disaster operations conclude, the Region 10 Lessons Learned and Continuous Improvement Program (LL-CIP) Coordinator collects information to ensure lessons are appropriately conveyed, integrated, and applied. For larger disasters, the coordinator looks for input at multiple points during the operation.

The LL-CIP Coordinator collects and documents all event data gathered through multiple sources, including in-person interviews, hot washes, online surveys, feedback forms, and leadership guidance. Continuous assessment of intelligence operations throughout the five-step Intelligence Cycle ensures that the Incident Commander's requirements are being met. The coordinator analyzes observations for relevance, including observations concerning the conduct of operations, staff proficiency, safety, security, efficiency, and exercise design (if appropriate). Findings are then published in an After-Action Report (AAR), and issues identified in the AAR are incorporated into an Improvement Plan (IP) as a means to correct issues for future disasters.

Example intelligence cycle-related questions to ask during evaluation include the following:

- Were analytical products provided in time to inform decisions?
- Did synchronization of analytical efforts support the development of common planning factors in support of a unified operational approach?
- Did data collected provide adequate quality, resolution, and geographic coverage?
- Are modeling, analysis, and production units appropriately staffed and trained to provide the required information?

Appendices and Tabs

Appendix B-1: State Profiles and Tribal Annex

Appendix B-1: State Profiles and Tribal Profiles

This FEMA Region 10 Cascadia Subduction Zone (CSZ) Plan incorporates overall operational environment information for the region with profiles and annexes that contain information such as the following:

- Geography/weather patterns
- Demographics
- Critical infrastructure
- Threats and past disasters
- Emergency management organization
- Response/recovery elements and programs
- Existing response capabilities/resources

Links to the appropriate profiles can be found below:

- Alaska State Profile
- Idaho State Profile
- Oregon State Profile
- Washington State Profile
- Region 10 Tribal Nations Annex

In addition, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a CSZ incident.

Tabs

Tab 1 to Appendix B-1: State of Alaska

Tab 2 to Appendix B-2: State of Idaho

This page is intentionally left blank.

Tab 1 to Appendix B-1: State of Alaska

B.1.Tab.1.1 Purpose

This tab provides specific considerations for Southeast Alaska or possible other effects to Alaska from primary or secondary effects of a Cascadia Subduction Zone (CSZ) event. Additional information about Alaska can be found in the *FEMA Region 10 All-Hazards Plan* and *Alaska Response Plan*.

For full information about Alaska, please see the *Alaska State Profile*.

B.1.Tab.1.2 Background

Alaska is different from other U.S. states in many ways, and these differences drive response requirements. Alaska has the largest land area and the lowest population density of any state. The state also covers two time zones: Alaska Time Zone (covers mainland Alaska) and Hawaii-Aleutian Standard Time Zone (covers the Aleutian Islands). There are five distinct regions in the state, each with extreme variations in climate and terrain and differences in their local economies: Arctic, Interior, Southwest, Southcentral, and Southeast.

Figure B-1-Tab-1-1: Five Distinct Alaska Regions

Alaska's land area covers 656,000 square miles. It is effectively an island in terms of a response, as it is surrounded by ocean on three sides and shares an international border with Canada. Limited ground routes connect Alaska with the contiguous United States (Lower 48).

Alaska has 19 boroughs and 1 unorganized borough. The unorganized borough is divided into 10 census areas and 19 Regional Educational Attendance Areas (REAAs). Alaska's borough/municipality and REAA structure enables the state to better identify government responsibilities and define locational disaster impacts when requesting federal disaster declarations.

As of 2019, Alaska's population totaled approximately 731,000, including over 58,000 persons with disabilities or access and functional needs and more than 86,000 over the age of 65. Alaska

also has 229 federally recognized tribes, more than any other state. Anchorage, the state's largest city, is located in the Southcentral Region of the state. Anchorage is the hub of Alaska in many ways; if a major disaster occurs there, the effects are felt statewide. Over half of the state's population lives and works in the Anchorage Metropolitan Statistical Area. Also, the majority of consumer goods for Alaskans come through the Port of Alaska (POA). The next largest cities in the state are Fairbanks and Juneau, both of which have populations about a tenth of the size of Anchorage.

During a CSZ event, the primary concerns for Alaska are the following:

- Disruption to Alaska's supply chain due to damage to Washington and Oregon port facilities
- Possible physical infrastructure damage from tsunami effects to communities within Southeast Alaska
- Disruption to communications infrastructure due to damage sustained by submarine telecommunications cables, which run from the Pacific Northwest (Washington, Oregon) to Southeast Alaska as well as the remainder of the state

B.1.Tab.1.3 Priorities

The response priorities for the CSZ response effort include but are not limited to the following:

- Provide support to survivors within Alaska impacted by either a CSZ earthquake or tsunami. (See B.Tab.1.9 for list of possible isolated communities by a CSZ tsunami.)
- Establish supply chain networks (commodity and fuel) from Southern California.
- Re-establish communications infrastructure between Alaska and the continental United States (CONUS).

B.1.Tab.1.4 Critical Considerations

See Base Plan, Section 1.6, for a list of Critical Considerations.

B.1.Tab.1.5 Planning Considerations

For the list of Planning Considerations related to Alaska during a CSZ incident, please see Base Plan Section 1.4.4 Cascading Effects.

B.1.Tab.1.6 Assumptions

- Indirect impacts to the state of Alaska may include disruption of communications, supply chain network, infrastructure, and food/water/shelter (mass care).
- Southeast Alaska will incur direct impacts from a CSZ-related tsunami, including to fuel storage and distribution networks.
- Alaska will receive a major disaster declaration.
- Lack of ground and maritime access in Washington and Oregon will disrupt the flow of goods to Alaska.

- Individuals requiring complicated medical treatment or procedures that cannot be addressed in-state will be re-directed to other medical facilities outside of Washington and Oregon.
- Communications between the state of Alaska and CONUS will be disrupted because submarine cable landing points are located within the CSZ impact zone along the coasts of both Washington and Oregon.
- Commodities and fuel shipments will need to be redirected to ports in California (San Francisco/Oakland, LA/Long Beach, San Diego) for onward shipment to Alaska.

B.1.Tab.1.7 Gaps

- It is difficult to determine if there will be damage or the amount of damage incurred in southeast Alaska due to a CSZ-related tsunami.
- There is uncertainty in how quickly the supply chain for Alaska can be-rerouted through southern California port facilities in order to re-establish the transportation of commodities, fuel, and other items to the state.
- It is unknown if there is capability for a single terrestrial communications cable to support the entire state of Alaska.

B.1.Tab.1.8 Alaska End States

- Survivors receive required care and support, as necessary.
- Supply chain from the West Coast to Alaska is re-established.
- Communications infrastructure is repaired and fully operational.

B.1.Tab.1.9 Isolated Communities in Southeast Alaska

Southeast Alaska (the Panhandle) stretches from approximately 500 miles from Ice Bay, northwest of Yakutat, to Dixon Entrance at the U.S.–Canadian border. Most of the communities located within Southeast Alaska are coastal and have limited or no road access. Haines and Skagway are the only communities in Southeast Alaska that are accessible by road. In addition to air transportation, Alaska states ferries, cruise ships, and personal watercraft are the primary means of transportation to and from these communities. Most, if not all, of this region's commodities and fuel supplies are provided via barge traffic from the Pacific Northwest. It is because of this limited access that communities throughout the southeast are subject to becoming isolated communities in the event of a disaster. For more information regarding this area of concern, see "Inside Passage or, Southeast."

Figure B-1-Tab-1-2: The Southeast Region of Alaska, aka the Panhandle

Principal Southeast Alaskan communities that may be at risk of isolation from a CSZ event are listed in the following sections.

B.1.Tab.1.9.1 Haines

Haines is a census-designated place located in Haines Borough, Alaska, United States. It is in the northern part of the Alaska Panhandle, near Glacier Bay National Park and Preserve.

B.1.Tab.1.9.1.1 *Location*

- 59°14′2″N 135°26′49″W

Figure B-1-Tab-1-3: Haines, Alaska

B.1.Tab.1.9.1.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
2,080	22.5% / 55.8% / 21.7%	1,007	6.2%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.1.3 *Transportation Infrastructure*

Air	Haines Airport (HNS) 59-14-37.7850N 135-31-24.7350W Runway 8/26 (4000 x 100 ft. - asphalt) AirNav: PAHN - Haines Airport
Ground	Connected to the North American highway system by the Haines Highway, which passes through British Columbia on its way to the junction with the Alaska Highway at Haines Junction, Yukon Territory, Canada.
Maritime	Small boat harbor and cruise ship dock. Alaska Marine Highway System.

B.1.Tab.1.9.2 Juneau

Juneau is the capital city of the state of Alaska. Located in the Gastineau Channel and the Alaskan panhandle, it is a unified municipality and the second-largest city in the United States by area.

B.1.Tab.1.9.2.1 *Location*

- 58.30°N 134.416°W

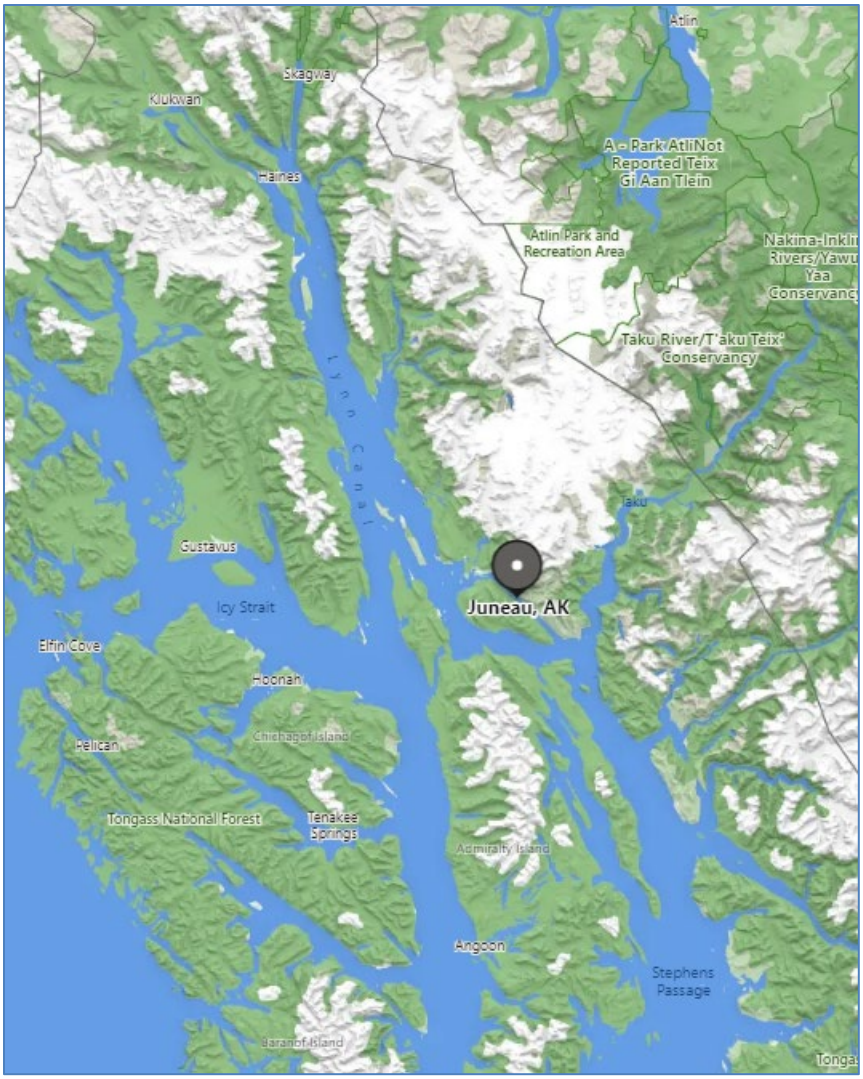


Figure B-1-Tab-1-4: Juneau, Alaska

B.1.Tab.1.9.2.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
32,255	27.3% / 60.2% / 12.5%	12,676	7.9%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.2.3 *Transportation Infrastructure*

Air	Juneau International Airport (JNU) 58-21-16.9625N 134-34-42.4939W Runway 8/26 (8,857 x 150 ft. - asphalt/grooved) AirNav: PAJN - Juneau International Airport
Ground	N/A
Maritime	Several small boat harbor and (2) cruise ship docks. Alaska Marine Highway System.

B.1.Tab.1.9.3 Ketchikan

Ketchikan is a city in and the borough seat of the Ketchikan Gateway Borough of Alaska. It is the state's southeasternmost major settlement.

B.1.Tab.1.9.3.1 *Location*

- 55°21′00″N 131°40′24″W

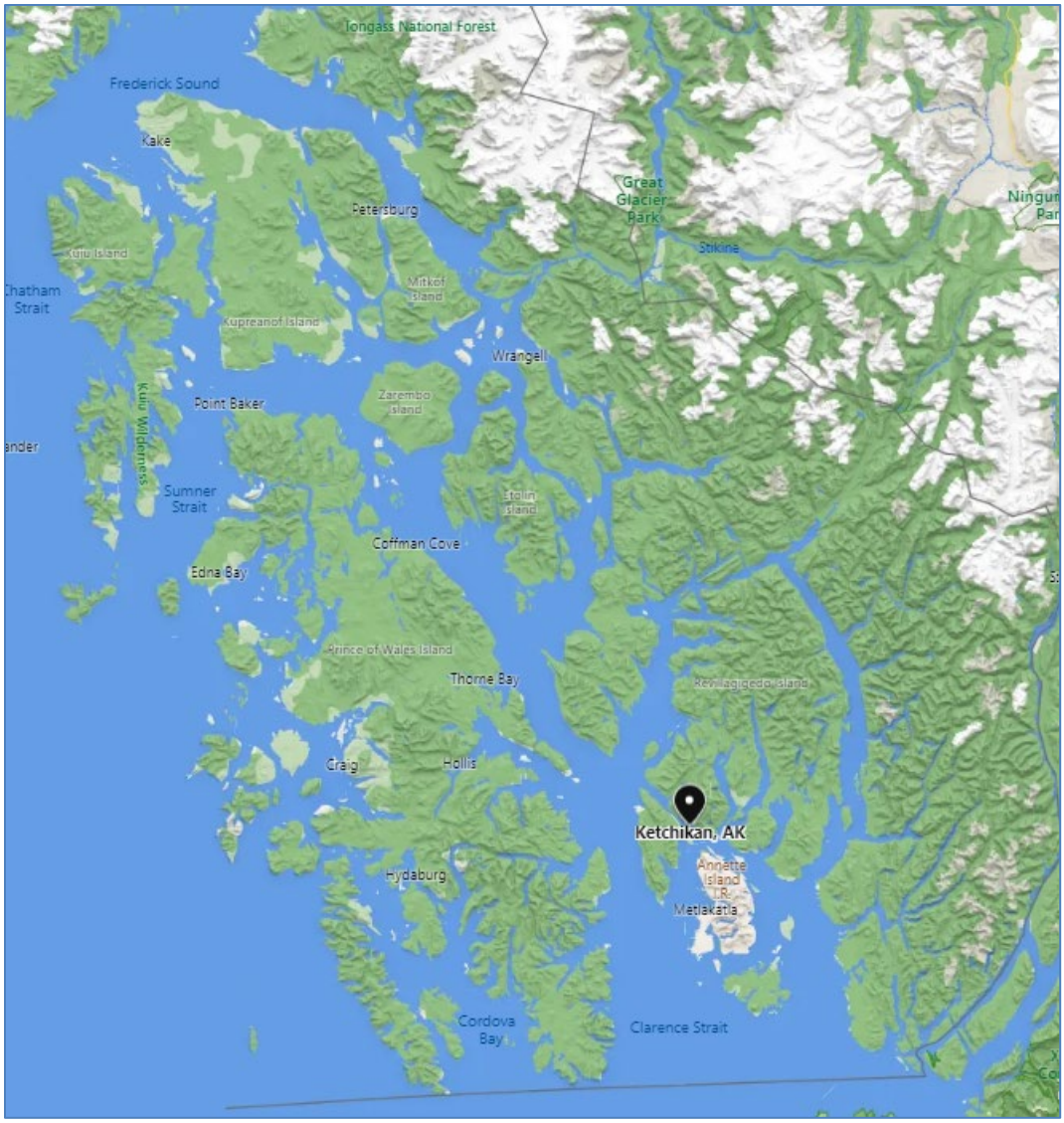


Figure B-1-Tab-1-5: Ketchikan, Alaska

B.1.Tab.1.9.3.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
8,192	27.3% / 58% / 14.7%	3,318	12.2%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.3.3 *Transportation Infrastructure*

Air	Ketchikan International Airport (KTN) 55-21-14.7000N 131-42-40.4000W Runway 11/29 (7500 x 150 ft. - asphalt/grooved) AirNav: PAKT - Ketchikan International Airport
Ground	N/A
Maritime	(5) small boat harbors; (4) berths; (3) launch ramps. Alaska Marine Highway System. Official Website of the City of Ketchikan, Alaska - Port & Harbors (ktn-ak.us)

B.1.Tab.1.9.4 Petersburg

Petersburg is a census-designated place (CDP) in and essentially the borough seat of Petersburg Borough, Alaska, United States.

B.1.Tab.1.9.4.1 *Location*

- 56°48′16″N 132°56′31″W

Figure B-1-Tab-1- 6: Petersburg, Alaska

B.1.Tab.1.9.4.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
3,398	25.7% / 53.8% / 20.5%	1,187	8.5%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.4.3 *Transportation Infrastructure*

Air	Petersburg James A Johnson Airport (PSG) 56-48-05.3000N 132-56-46.4000W Runway 5/23 (6400 x 150 ft. - asphalt/grooved) AirNav: PAPG - Petersburg James A Johnson Airport
Ground	N/A
Maritime	Small boat harbor(s) and (2) cruise ship docks. Alaska Marine Highway System.

B.1.Tab.1.9.5 Sitka

Sitka is a unified city-borough in the southeast portion of Alaska. The city is situated on the west side of Baranof Island and the south half of Chichagof Island in the Alexander Archipelago of the Pacific Ocean (part of the Alaska Panhandle).

B.1.Tab.1.9.5.1 *Location*

- 57°03′12″N 135°20′05″W

Figure B-1-Tab-1 7: Sitka, Alaska

B.1.Tab.1.9.5.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
8,458	26.1% / 58.7% / 15.2%	3,547	8.1%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.5.3 *Transportation Infrastructure*

Air	Sitka Rocky Gutierrez Airport (SIT) 57-02-48.6037N 135-21-39.8473W Runway 11/29 (7200 x 150 ft. - asphalt/grooved) AirNav: PASI - Sitka Rocky Gutierrez Airport
Ground	N/A
Maritime	Alaska Marine Highway System. Maintains a 470-foot-long floating dock for vessels up to 1,100 foot long. Small boat harbor. Cruise ship facility.

B.1.Tab.1.9.6 Skagway

The Municipality and Borough of Skagway is a first-class borough in Alaska on the Alaska Panhandle.

B.1.Tab.1.9.6.1 *Location*

- 59°27′30″N 135°18′50″W

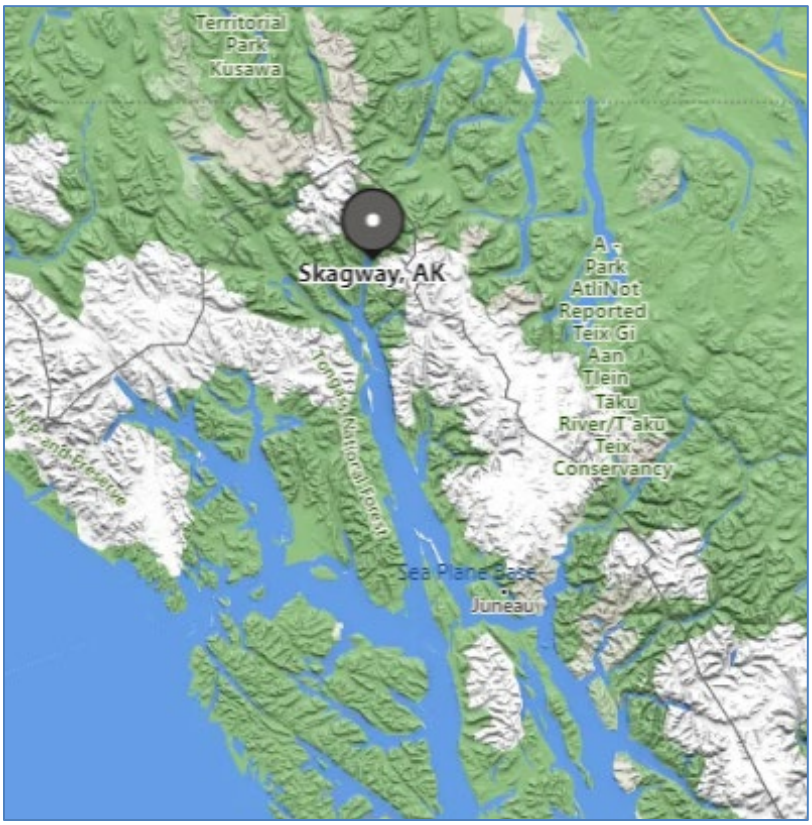


Figure B-1-Tab-1-8: Skagway, Alaska

B.1.Tab.1.9.6.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
1,183	20.1% / 64.1% / 15.8%	375	8.9%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.6.3 *Transportation Infrastructure*

Air	Skagway Airport (SGY) 59-27-36.7200N 135-19-00.6950W Runway 2/20 (3550 x 75 ft. - asphalt) AirNav: PAGY - Skagway Airport
Ground	Connected to the North American highway system by the Klondike Highway, allowing access to the lower 48, Whitehorse, Yukon, northern British Columbia, and the Alaska Highway.
Maritime	Alaska Marine Highway System. Small boat harbor. Cruise ship facility.

B.1.Tab.1.9.7 Wrangell

The City and Borough of Wrangell is a borough located on the northern tip of Wrangell Island, an island in the Alaska Panhandle. It is 155 miles south of the Alaskan capital of Juneau.

B.1.Tab.1.9.7.1 *Location*

- 56°23′06″N 132°05′11″W

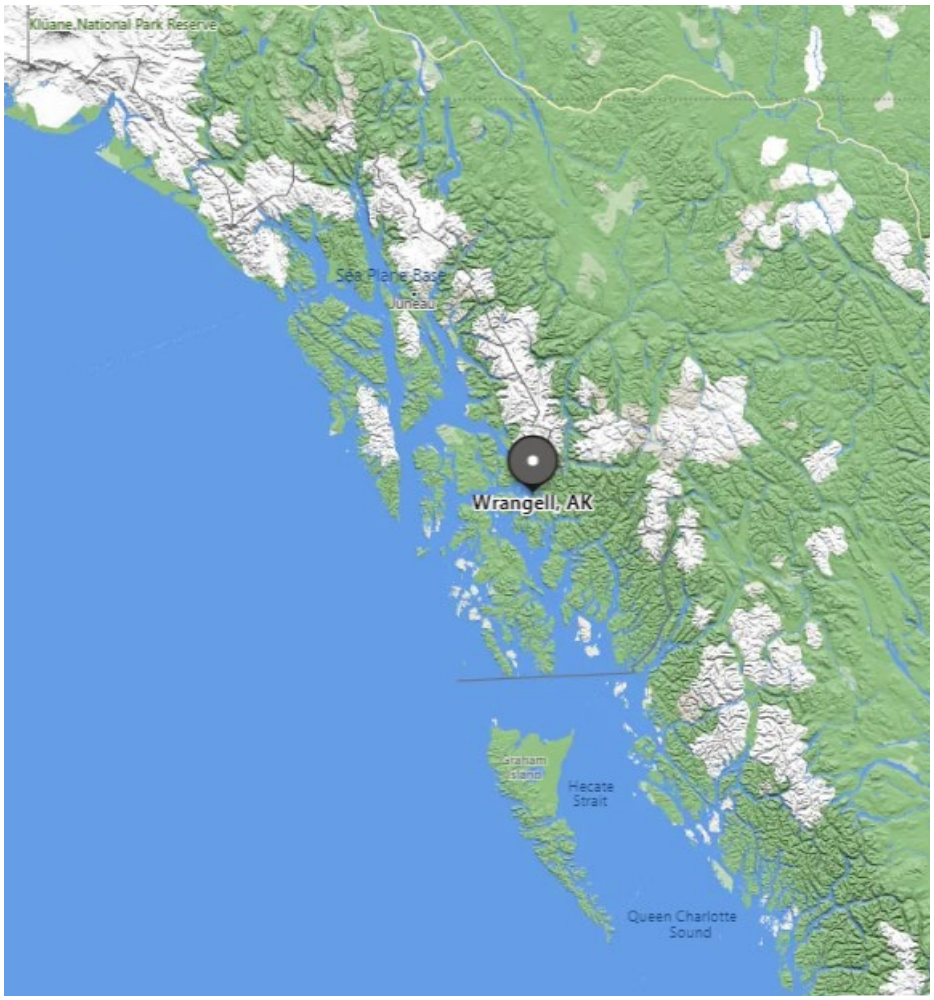


Figure B-1-Tab-1- 9: Wrangell, Alaska

- Wrangell, Alaska - Bing Maps

B.1.Tab.1.9.7.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
2,127	23.9% / 251.6% / 4.5%	1,027	9.9%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.7.3 *Transportation Infrastructure*

Air	Wrangell Airport (WRG) 56-29-03.6000N 132-22-11.4000W 6000 x 150 ft. - asphalt/grooved AirNav: PAWG - Wrangell Airport
Ground	Connected to the North American highway system by the Klondike Highway, allowing access to the lower 48, Whitehorse, Yukon, northern British Columbia, and the Alaska Highway.
Maritime	Alaska Marine Highway System. Small boat harbor. Cruise ship facility.

B.1.Tab.1.9.8 Yakutat

The City and Borough of Yakutat is a borough in Alaska and the name of a former city within it. The borough covers an area about six times the size of the state of Rhode Island, making it one of the largest counties (or county equivalents) in the United States.

B.1.Tab.1.9.8.1 *Location*

- 59°32′49″N 139°43′38″W

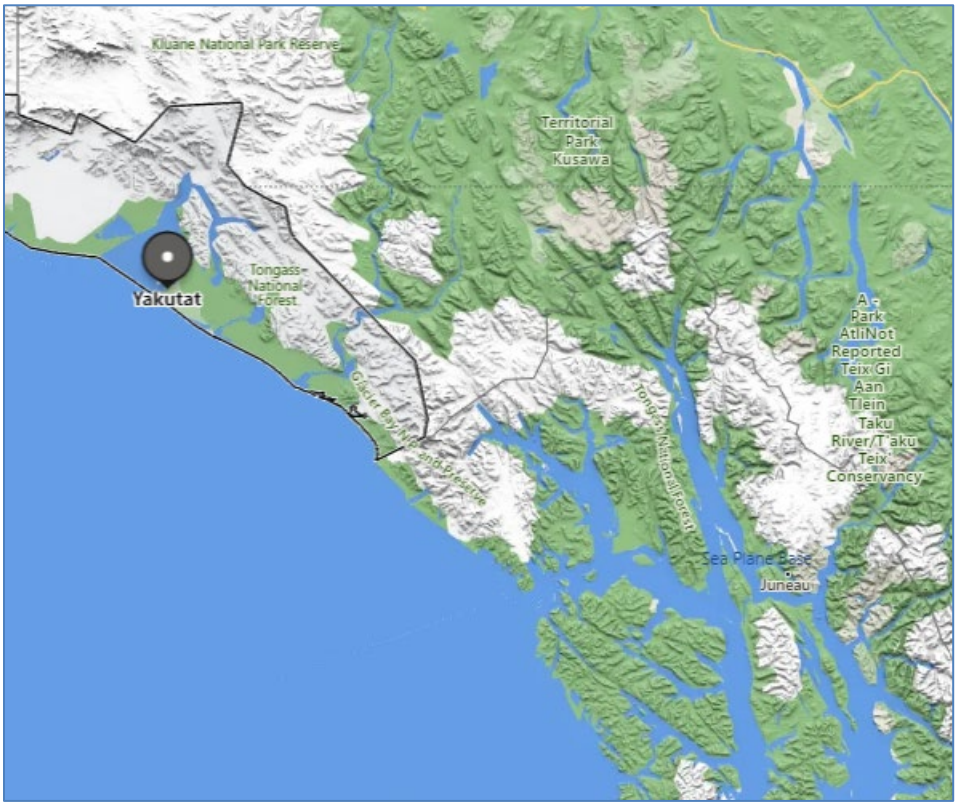


Figure B-1-Tab-1-10: Yakutat, Alaska

B.1.Tab.1.9.8.2 *Demographic Information*

Population (2020)	Age (<18 / 18–65 / >65)	Households (2015–2019)	Persons with Disability <65 Years of Age
662	22.8% / 56.1% / 21.1%	219	5.9%

- U.S. Census Bureau QuickFacts: Alaska

B.1.Tab.1.9.8.3 *Transportation Infrastructure*

Air	Yakutat Airport (YAK) 59-30-11.9640N 139-39-36.9650W Runway 11/29 (7732 x 150 ft. - asphalt/grooved AirNav: PAYA - Yakutat Airport
Ground	N/A
Maritime	Alaska Marine Highway System. Small boat harbor.

B.1.Tab.1.9.9 Lines of Effort by Lifeline Implemented to Respond to an Isolated Community

Given the unique characteristics associated with Southeast Alaska (SEAK) and those related to SEAK isolated communities, the Lines of Effort (LOE) required to support Community Lifeline stabilization may slightly differ from those of other impacted areas. Currently, the LOEs necessary to support Alaskan isolated communities are similar to the LOEs identified for the isolated communities within Washington and Oregon, with some differences in the Transportation Lifeline. These differences may evolve further as additional analysis and lessons learned are applied to Alaska.

B.1.Tab.1.9.9.1 *Safety and Security*

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Safety and Security 	Threats to life safety are diminished for all response personnel and impacted communities. Federal assets are no longer required to conduct search and rescue (SAR) operations. Government buildings are accessible and open with adequate staffing.	• Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Route Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Port Opening (Tab C-16) • Private Sector Coordination (Tab C-17) • Public Information and Warning (Tab C-18) • Responder Security and Protection (Tab C-20) • Restoration of Public Infrastructure (Tab C-21) • Search and Rescue (Tab C-22)

B.1.Tab.1.9.9.2 *Food, Water, Shelter*

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Food, Water, Shelter 	Re-entry to affected areas is allowed. Commercial grocery distribution and food banks are accessible and open. Congregate shelters are closed. Public water and wastewater utilities are providing services to the community (does not include private water or sewer systems such as wells or septic). Temporary home repair programs are initiated.	• Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Evacuation, Reception, Re-entry, and Return (Tab C-7) • Mass Care – Food and Water (Tab C-12) • Private Sector Coordination (Tab C-17) • Public Information and Warning (Tab C-18) • Restoration of Public Infrastructure (Tab C-21)

B.1.Tab.1.9.9.3 *Health and Medical*

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Health and Medical 	Hospitals and healthcare facilities have sustainable power and potable water systems. Emergency medical services are capable of responding to emergencies organically. Veterinary triage is complete. Fatality collection is complete. Health and social services facilities and public health services are accessible. Health assessments are complete.	• Hazardous Waste (Tab C-9) • Healthcare Systems Support (Tab C-10)

B.1.Tab.1.9.9.4 *Energy (Power & Fuel)*

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Energy (Power & Fuel) 	Critical facilities are operational for lifesaving and life-sustaining activities. Fuel distribution operations are available for responder vehicles and spot generation at critical facilities. Commercial fuel stations are operational. Stable power is being provided through distribution sites and substations.	• Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Hazardous Waste (Tab C-9) • Healthcare Systems Support (Tab C-10) • Resource Staging (Tab C-19) • Temporary Emergency Power (Tab C-24)

B.1.Tab.1.9.9.5 *Communications*

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Communications 	Commercial communications services are re-established with sustainable power. 911 services are available. The emergency response community is able to communicate over interoperable voice and data communications systems.	• Damage Assessment (Tab C-3) • Private Sector Coordination (Tab C-17)

B.1.Tab.1.9.9.6 *Transportation*

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Transportation 	Multi-modal routes (air, rail, road, port) are clear of debris and accessible by normal or alternate routes. Pipelines are providing supplies for both electrical generation and home heating. Mass transit has been restored in metropolitan areas.	• Airfield Opening (Tab C-1) • Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Hazardous Waste (Tab C-9) • Healthcare Systems Support (Tab C-10) • Mass Care – Food and Water (Tab C-12) • Port Opening (Tab C-16) • Private Sector Coordination (Tab C-17) • Responder Security and Protection (Tab C-20) • Restoration of Public Infrastructure (Tab C-21) • Search and Rescue (Tab C-22) • Temporary Emergency Power (Tab C-24)

B.1.Tab.1.9.9.7 *Hazardous Materials*

See Annex C Section 3.3.3.1 LOEs in Isolated Communities

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Hazardous Materials 	Health and safety hazard assessments are complete. Wastewater and solid waste issues are identified and contained. Oil and hazardous substance spills or releases are identified, responsible parties are engaged, and a command structure is established, taking into account other federal agency (OFA) statutory authorities.	• Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Hazardous Waste (Tab C-9) • Private Sector Coordination (Tab C-17)

Tab 2 to Appendix B-1: State of Idaho

B.1.Tab.2.1 Purpose

This appendix describes planning factors and operational considerations for the State of Idaho from a Cascadia Subduction Zone (CSZ) event. It does not incorporate overall operational information for the state; this information is available within the Region10 All-Hazards Plan Idaho State Profile.

B.1.Tab.2.2 Background

Idaho is considered part of the East of Cascades Geographic Response Area (GRA) for the FEMA Region 10 CSZ response. During a CSZ event, the primary concern for Idaho would be the indirect impacts to the supply chain due to damage sustained by Washington and Oregon.

B.1.Tab.2.3 Priorities

The response priorities for the CSZ include but are not limited to the following:

- Maintain the supply chain (commodities, fuel) for Idaho citizens.
- Maintain key infrastructure (highways, communications) within the state.
- Provide support to CSZ responders, as required.

B.1.Tab.2.4 Critical Considerations

See Base Plan, Section 1.6, for a list of Critical Considerations.

B.1.Tab.2.5 Planning Considerations

For the list of Planning Considerations related to Idaho during a CSZ incident, please see Base Plan Section 1.4.4 Cascading Effects. Additional information can also be found in the FEMA Region 10 Idaho CSZ Impact Profile.

B.1.Tab.2.6 Assumptions

- Boise Airport/Gowen Field will serve as an Incident Support Base (ISB) for response operations in Washington and Oregon.
- Indirect impacts to Idaho will include disruption of supply chain networks, energy systems, and food/water/shelter (mass care) resources.
- Federal and private sector resources will be overwhelmed because of competing demands from response and recovery efforts in Washington and Oregon.
- State, local, and tribal entities will maintain the ability to respond to indirect impacts from the CSZ event.

- Shelter requirements will increase due to responders and/or internally displaced persons (IDP) arriving in Idaho from the impact area. Coordination may be needed with Idaho regarding emigration opportunities and response resources.
- Food distribution requirements may increase due to the arrival of IDPs/survivors arriving in Idaho following a CSZ event.

B.1.Tab.2.7 Gaps

- The number of IDPs/survivors arriving in Idaho following a CSZ event is unknown.

B.1.Tab.2.8 Idaho End State

- Idaho maintains the ability to provide support to both its citizens and responders during a CSZ event.

B.1.Tab.2.9 Lines of Effort by Lifeline Implemented to Respond to Idaho Priorities

The Lines of Effort (LOEs) listed below support stabilization of Community Lifelines in the State of Idaho based on analysis that predicts there will be no direct physical damage from a CSZ earthquake or tsunami. These LOEs will serve to support the secondary and tertiary impacts to Idaho, including commodities, staging of resources and responder reception, staging, onward movement, and integration (RSOI) in support of the operation, and evacuation, reception, and sheltering of survivors from impacted states.

B.1.Tab.2.9.1 Safety and Security

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Safety and Security	Threats to life safety are diminished for all response personnel and impacted communities. Federal assets are no longer required to conduct search and rescue (SAR) operations. Government buildings are accessible and open with adequate staffing.	• Commodities Distribution (Tab C-2) • Evacuation, Reception, and Re-Entry (Tab C-7) • Port Opening (Tab C-16) • Healthcare Systems Support (C-10) • Resource Staging (Tab C-19) • Sheltering Operations (Tab C-23)

B.1.Tab.2.9.2 Food, Water, Shelter

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Food, Water, Shelter 	Re-entry to affected areas is allowed. Commercial grocery distribution and food banks are accessible and open. Congregate shelters are closed. Public water and wastewater utilities are providing services to the community (does not include private water or sewer systems such as wells or septic). Temporary home repair programs are initiated.	• Commodities Distribution (Tab C-2) • Evacuation, Reception, Re-entry, and Return (Tab C-7) • Housing Solutions (Tab C-11) • Mass Care – Food and Water (Tab C-12) • Private Sector Coordination (Tab C-17) • Resource Staging (Tab C-19) • Sheltering Operations (Tab C-23)

B.1.Tab.2.9.3 Health and Medical

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Health and Medical 	Hospitals and healthcare facilities have sustainable power and potable water systems. Emergency medical services are capable of responding to emergencies organically. Veterinary triage is complete. Fatality collection is complete. Health and social services facilities and public health services are accessible. Health assessments are complete.	• Fatality Management (Tab C-8) • Healthcare Systems Support (Tab C-10) • Mass Care – Food and Water (Tab C-12) • Medical Transport (Tab C-13) • Resource Staging (Tab C-19) • Sheltering Operations (Tab C-23)

B.1.Tab.2.9.4 Energy (Power & Fuel)

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Energy (Power & Fuel) 	Critical facilities are operational for lifesaving and life-sustaining activities. Fuel distribution operations are available for responder vehicles and spot generation at critical facilities. Commercial fuel stations are operational. Stable power is being provided through distribution sites and substations.	• Commodities Distribution (Tab C-2) • Healthcare Systems Support (Tab C-10) • Medical Transport (Tab C-13) • Resource Staging (Tab C-19) • Sheltering Operations (Tab C-23) • Temporary Emergency Power (Tab C-24)

B.1.Tab.2.9.5 Communications

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Communications 	Commercial communications services are re-established with sustainable power. 911 services are available. The emergency response community is able to communicate over interoperable voice and data communications systems.	• Operational Communications (Tab C-15) • Private Sector Coordination (Tab C-17)

B.1.Tab.2.9.6 Transportation

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Transportation 	Multi-modal routes (air, rail, road, port) are clear of debris and accessible by normal or alternate routes. Pipelines are providing supplies for both electrical generation and home heating. Mass transit has been restored in metropolitan areas.	• Commodities Distribution (Tab C-2) • Evacuation, Reception, Re-entry, and Return (Tab C-7) • Healthcare Systems Support (Tab C-10) • Mass Care – Food and Water (Tab C-12) • Medical Transport (Tab C-13) • Operational Communications (Tab C-15) • Resource Staging (Tab C-19) • Sheltering Operations (Tab C-23) Temporary Emergency Power (Tab C-24)

B.1.Tab.2.9.7 Hazardous Materials

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Hazardous Materials 	Health and safety hazard assessments are complete. Wastewater and solid waste issues are identified and contained. Oil and hazardous substance spills or releases are identified, responsible parties are engaged, and a command structure is established, taking into account other federal agency (OFA) statutory authorities.	• None identified at this time

This page is intentionally left blank.

Appendix B-2: Information Collection Plan

Below is the FEMA Region 10 Cascadia Subduction Zone (CSZ) Information Collection Plan (ICP).

Essential Element of Information (EEI)	Specific Information Required	Organization	Responsible Element	Proposed Source(s)	Proposed Format	Submission Instructions	Suspense	Finished Product	EEI Type	Sub-Type	Component	Line of Effort
Safety & Security	• #/% of fire station facilities with at least moderate damage • #/% of police station facilities with at least moderate damage • #/% of government offices with at least moderate damage • # of isolated communities • # of facilities requiring federal security support	Emergency Services	Emergency Support Function (ESF) #13	ESF #13 ESF #14	Report	Email to the Planning Inbox	Daily	Senior Leadership Brief (SLB) Geographic Information Systems (GIS) Products Briefing Products	SLB Tier I	Safety & Security	Lifeline	Preliminary Damage Assessment
Food, Water & Shelter	• # of people seeking short-term public shelter • # of households without potable water • #/% of water systems with at least moderate damage • # of wastewater leaks/breaks • % of grocery stores without power	Individual Assistance	ESF #6	ESF #3 ESF #6 ESF #10 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier I	Food, Water, Shelter	Lifeline	Mass Care - Food and Water
Health and Medical	• # of total injuries/fatalities • #/% of total hospital beds function • # of medical facilities with at least moderate damage	Emergency Services	ESF #8	ESF #8	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier I	Health & Medical	Lifeline	Healthcare Systems Support
Energy (Power & Fuel)	• # of households without power • # of natural gas pipelines leaks/breaks • #/% of gas stations without power or out of fuel • # of critical facilities without power • # of fuel (gallons) needed for generators	Emergency Services	ESF #12	ESF #12 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier I	Energy	Lifeline	Emergency Repairs or Augmentation to Infrastructure
Communications	• # of facilities with at least moderate damage • # of banks/ATMs inoperable	Infrastructure	ESF #2	ESF #2 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier I	Communications	Lifeline	Emergency Repairs or Augmentation to Infrastructure
Transportation	• #/% of highway bridges with at least moderate damage • #/% of railway bridges with at least moderate damage • #/% of airport runways with at least moderate damage • #/% of port facilities with at least moderate damage • # of hazardous materials (HAZMAT) issues on transportation routes (including HAZMAT debris clearance)	Infrastructure	ESF #1	ESF #1 ESF #3 ESF #10 ESF #14 Defense Coordinating Element (DCE) U.S. Coast Guard (USCG)	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier I	Transportation	Lifeline	Emergency Repairs or Augmentation to Infrastructure

Essential Element of Information (EEI)	Specific Information Required	Organization	Responsible Element	Proposed Source(s)	Proposed Format	Submission Instructions	Suspense	Finished Product	EEI Type	Sub-Type	Component	Line of Effort
Hazardous Material	• #/% of oil systems facilities with at least moderate damage • # of total debris (tons) • # of hazardous materials facilities damaged • # of derelict vessels • # of grounded/damaged commercial vessels (carrying HAZMAT)	Emergency Services	ESF #10	ESF #10 ESF #14 ESF #3 (marine debris/ navigable waterways) ESF #1	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier I	Hazardous Materials	Lifeline	Emergency Repairs or Augmentation to Infrastructure
Law Enforcement & Force Protection	• Status of police stations; law enforcement; site security; correctional facilities	Emergency Services	ESF #13	ESF #13 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Safety & Security	Field	Preliminary Damage Assessment
Fire Service	• Status of fire stations; firefighting resources	Emergency Services	ESF #4	ESF #4	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Safety & Security	Field	Preliminary Damage Assessment
Search and Rescue	• # of requests for search and rescue (SAR) assistance • # of survivors received SAR assistance • # Urban Search and Rescue (US&R) teams deployed / # of members • # of task forces deployed • # K9 deployed • Resource shortfalls/unmet needs	Emergency Services	ESF #9	ESF #9	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Safety & Security	Field	Search and Rescue
Government Services	• Status of emergency operations centers (EOCs); essential government functions; government offices; schools; public records; historical/cultural resources	Infrastructure	ESF #5	ESF #5 ESF #7	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Safety & Security	Field	Restoration of Public Infrastructure
Community Safety	• Status of flood control; protective actions	Infrastructure	ESF #3	ESF #3 ESF #5 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Safety & Security	Field	Restoration of Public Infrastructure
Food	• Status of commercial food distribution; commercial food supply chain; food distribution programs	Infrastructure	ESF #11	ESF #11 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Food, Water, Shelter	Field	Mass Care - Food and Water
Water	• Status of drinking water utilities; wastewater systems; commercial water supply	Infrastructure	EPA ESF #3	ESF #5 ESF #8 ESF #10 ESF #11 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Food, Water, Shelter	Field	Mass Care - Food and Water
Shelter	• Status of housing (e.g., homes, shelters); commercial facilities (e.g., hotels)	Individual Assistance	ESF #6	ESF #6	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Food, Water, Shelter	Field	Sheltering Operations

Essential Element of Information (EEI)	Specific Information Required	Organization	Responsible Element	Proposed Source(s)	Proposed Format	Submission Instructions	Suspense	Finished Product	EEI Type	Sub-Type	Component	Line of Effort
Agriculture	• Status of animals and agriculture	Infrastructure	ESF #11	ESF #11	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Food, Water, Shelter	Field	Restoration of Public Infrastructure
Medical Care	• Status of hospitals; dialysis; pharmacies; long-term care; VA Health; veterinary services; home care	Infrastructure	ESF #8	ESF #8 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Health & Medical	Field	Emergency Repairs or Augmentation to Infrastructure
Patient Movement	• Status of Emergency Medical Services	Emergency Services	ESF #8	ESF #8	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Health & Medical	Field	Medical Transportation
Public Health	• Status of epidemiological surveillance; laboratory; clinical guidance; assessment / interventions / treatments; human services; behavioral health	Emergency Services	ESF #8	ESF #8	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Health & Medical	Field	Emergency Repairs or Augmentation to Infrastructure
Fatality Management	• Status of mortuary and post-mortuary services	Emergency Services	ESF #8	ESF #8	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Health & Medical	Field	Fatality Management
Medical Supply Chain	• Blood/blood products; manufacturing; distribution; critical clinical research; sterilization; raw materials	Emergency Services	ESF #8	ESF #8	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Health & Medical	Field	Healthcare Systems Support
Power	• Status of Generation Systems; Transmission systems; Distribution systems	Infrastructure	ESF #12	ESF #3 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Energy	Field	Restoration of Public Infrastructure
Fuel	• Status of refineries and fuel processing; fuel storage; pipelines; fuel distribution (e.g., fuel points, gas stations); off-shore oil platforms, tank vessels (ships/barges/crude/refined product), fuel/bunker barges; on-water fuel stations	Infrastructure	ESF #12	ESF #3 ESF #10 ESF #12 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Energy	Field	Restoration of Public Infrastructure
Infrastructure	• Status of wireless; cable systems and wireline; broadcast (TV/radio); satellite; data centers and internet	Disaster Emergency Communication	ESF #2	ESF #2 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Communications	Field	Restoration of Public Infrastructure
Alerts, Warnings, and Messages	• Status of local alert and warning ability; access to Integrated Public Alert & Warning System (IPAWS) (Wireless Emergency Alert [WEA], Emergency Alert System [EAS], NOAA Weather Radio [NWR]); National Warning System (NAWAS) terminals	Disaster Emergency Communication	ESF #2	ESF #5 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Communications	Field	Public Information and Warning

Essential Element of Information (EEI)	Specific Information Required	Organization	Responsible Element	Proposed Source(s)	Proposed Format	Submission Instructions	Suspense	Finished Product	EEI Type	Sub-Type	Component	Line of Effort
911 and Dispatch	• Status of Public Safety Answering Points; Dispatch	Disaster Emergency Communication	ESF #2	ESF #4 ESF #13	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Communications	Field	Public Information and Warning
Responder Communications	• Status of Land-Mobile Radio (LMR) networks	Disaster Emergency Communication	ESF #2	ESF #4 ESF #13	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Communications	Field	Public Information and Warning
Financial Services	• Status of banking services; electronic payment processing	Disaster Emergency Communication	ESF #2	ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Communications	Field	Private Sector Coordination
Highway / Roadway / Motor Carrier	• Status of primary routes • Status of evacuation routes/contraflow operations (ongoing/proposed) • Available detours • Routing Assistance Hotline status and contact information • Status of Federal Highways Administration (FHWA) Emergency Relief Funding Request Available federal assets to support road/bridge assessment operations resource shortfalls • Status of waivers to 49 CFR Parts 390–399 (hours of service, vehicle marking, etc.) • Status of State or FHWA Approved Oversize/Overweight waivers • Status of state/tolling authority waivers to toll requirements • Status of state placarding requirements	Infrastructure	ESF #1	ESF #3 ESF #5 ESF #7 ESF #10 ESF #11 ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Transportation	Field	Restoration of Public Infrastructure
Mass Transit	• Status of impacted transit systems (bus/rail/ferry facilities/equipment/fuel availability) • Transit assets available to support evacuations and alternate transit routes	Infrastructure	ESF #1	ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Transportation	Field	Restoration of Public Infrastructure
Railway	• Status of impacted railroads and infrastructure (facilities/equipment/fuel availability) • Ensure Federal Railroad Association (FRA) Emergency Relief Dockett is open • # of oil or HAZMAT train incidents	Infrastructure	ESF #1	ESF #14	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Transportation	Field	Restoration of Public Infrastructure

Essential Element of Information (EEI)	Specific Information Required	Organization	Responsible Element	Proposed Source(s)	Proposed Format	Submission Instructions	Suspense	Finished Product	EEI Type	Sub-Type	Component	Line of Effort
Aviation	• Status of impacted airfields (facilities/navigational aids/equipment/fuel availability) • Temporary Flight Restrictions • Resources available/staged/deployed (temporary towers, radar systems, etc.) • Alternate airfields available to support operations • Available federal assets to support airfield damage assessments • Resource shortfalls	Infrastructure	ESF #1	ESF #14 DCE State Aviation Departments	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Transportation	Field	Restoration of Public Infrastructure
Maritime	• Status of waterways, ports, and port facilities • Maritime Administration Ready Reserve Fleet assets available to support response operations (Roll On Roll Off, Training Ships, Crane Ships, etc.) • Maritime Administration (MARAD) Commercial Market Assessments to determine availability of additional maritime assets to support response operations • Status of ferried systems (vessels, facilities, fuel availability, etc.) • Status of transportation routes to/from ports	Infrastructure	ESF #1	ESF #3 USCG ESF #10 ESF #14 Ferry operators (State, County, Private Sector)	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Transportation	Field	Restoration of Public Infrastructure
Facilities	• Status of oil and HAZMAT facilities (e.g., chemical, nuclear) • Oil/HAZMAT/toxic release from facilities	Emergency Services	ESF #10	ESF #10	Report	Email to the Planning Inbox	Daily	SLB GIS Products Briefing Products	SLB Tier II	Hazardous Materials	Field	Hazardous Waste

This page is intentionally left blank.

Appendix B-3: Geospatial Intelligence

B.3.1 Situation

This appendix outlines the geospatial support to be provided for situational assessment activities related to an incident within Region 10. The information provided pertains to the Geospatial Information Systems Unit (GIU) of the response organization and is for the users and creators of geographic information systems (GIS) products and for responders who must effectively use and leverage GIS products.

The Region 10 Response Division Planning Section, in coordination with the Incident Management Assistance Team (IMAT)/Unified Coordination Staff (UCS) and the Situation Unit Leader (SITL) within the Regional Response Coordination Center (RRCC) will receive GIS products developed by the GIU as well as any geospatial support from resources outside Region 10. The Situation Unit provides the GIU with the information that it needs to create GIS products. For additional information on GIS products and the GIU, refer to the following documents:

- *Department of Homeland Security (DHS) Geospatial Concept of Operations*
- *FEMA Geospatial Incident Management and Support Guide*
- *FEMA Region 10 GIS Specialist Guide*

Web applications, including different types of statistical data, are made available for use in preparing for a disaster response as well as for recovery and mitigation efforts within the Region.

If the RRCC is activated, a Geospatial Information System Unit Leader (GIUL) and Geospatial Information System Specialists (GISPs) are assigned to provide technical and mapping expertise to support the RRCC staff.

- Any GIS tasks should be directed to the GIUL. GISPs may be requested to publish maps that display applicable information pertaining to an incident or event. This information is forwarded to appropriate personnel, such as the IMAT, RRCC staff, incident response teams, state liaisons, or Emergency Support Function (ESF) representatives.
- The FEMA Headquarters (HQ) Mapping and Analysis Center can provide maps of information related to predictive modeling, storm tracking, damage predictions, housing inspection numbers, helpline calls, disaster unemployment claims, and other critical data.
- For other GIS support, the GIUL can work with the Planning Section Chief in the RRCC to identify resources potentially available via Mission Assignment (MA), contracting, or other sources and help determine the necessary steps to facilitate the most effective response. The GIUL may contact associated agencies for additional data or GIS capabilities, assist the Mission Assignment Manager in making resource requests, and ensure that products received are useful to the RRCC staff.

B.3.2 Concept of Operations

B.3.2.1 Overall Activities

Requests from external stakeholders should be sent to the GIUL. The GIUL coordinates and prioritizes the provision of data analysis and display products and other related information to the requestor in the most efficient manner.

The GIUL facilitates the following actions during an incident:

- Activate GISPs.
- Publish standardized GIS information about the Region.
- Inquire about non-standard GIS needs.
- Disseminate GIS maps to appropriate personnel and facilities.
- Provide GIS products for display in the RRCC, Interim Operating Facilities (IOFs), and Joint Field Offices (JFOs).
- Forward requests for GIS predictive modeling to the Mapping and Analysis Center.

B.3.2.2 Situational Awareness

Situational awareness is the ability to identify, process, and comprehend the critical elements of information about an incident. During a disaster, FEMA Region 10 maintains awareness by integrating information from partner agencies as well as other national, Regional, and field operations elements. For a "notice" event, the collection, analysis, production, and dissemination of relevant information begins in Phase 1. Activity continues throughout each phase of the incident.

FEMA Region 10 collects and shares information at its RRCC and JFOs and with appropriate local, state, tribal, federal, and private sector entities through standardized reporting and specialized information repositories/systems. These reports and systems are designed to assist decision makers in allocating and deploying scarce resources in support of local, tribal, and state partners.

Critical information needed for decision making is received from field operations and other sources in diverse formats that range from simple lists to computerized spatial modeling. Information such as social and structural vulnerabilities, economic impact projections, sheltering statistics, temporary housing projections, logistics requirements, resource allocation, deployment status of federal resources, and search and rescue (SAR) requests is analyzed and interpreted for use in the development of a variety of products and to inform actions.

B.3.2.3 Operational Phases

B.3.2.3.1 Phase 1: Pre-Incident Operations

Phase 1a: Monitor Threat

- The Regional Geospatial Coordinator works with local, state, tribal, and federal partners to identify local resources and Regional trends.

- The GIUL works with the Mobile Emergency Response Support (MERS) Operations Center (MOC) in the RRCC to develop situational awareness products.
- The GIUL and GISPs use forecasts, previous events, and historic trends to identify geographic areas most likely to be affected during an event and to prioritize those areas based on population/demographic information and/or critical facility locations.

Phase 1b: Elevated Threat

- The Regional GIUL works with the MOC to develop products for situational awareness.
- The GIUL and GISPs use previous events and historic trends to identify areas of interest and refine information.
- Depending on the size of the threat, the GIUL may require predictive modeling to help identify areas of concern.

Phase 1c: Credible Threat

- The Regional GIUL works with the IMAT SITL to develop products for situational awareness.
- The GIUL and GISPs use previous events and historic trends to identify areas of interest and refine information.
- Depending on the size of the threat, the GIUL may require predictive modeling to help identify areas of concern.

B.3.2.3.2 Phase 2: Incident Operations

Phase 2a: Immediate Response

The GIU does the following:

- Monitors and refines information about areas of interest.
- Monitors critical infrastructure and key resource (CIKR) status and develops situational awareness products, as needed.
- Provides situational awareness products on Community Lifeline components.
- Enhances overall situational and damage assessments with geospatial products.
- Monitors commodity distribution and develops situational awareness products as needed.
- Monitors state requirements, requests for assistance, and status of disaster declarations.
- Compiles information, maps, and loss-estimation modeling from previous Hazards-United States (HAZUS) runs.

Phase 2b: Community Stabilization

The GIU does the following:

- Graphically represents resource tracking via a Force Laydown Map.

- Monitors and graphically represents status information of Community Lifeline components.

Phase 2c: Sustained Operations

The GIU does the following:

- Graphically depicts the sheltering system, including number of current/maximum occupants at each shelter.
- Monitors and graphically represents Community Lifeline components.

B.3.2.3.3 Phase 3: Recovery and Restoration Operations

Phase 3a: JFO Program Delivery

- GISPs in the RRCC and/or JFO produce geospatial products for mission-essential functions and services, including for the support of mass care and Individual Assistance (IA) and Public Assistance (PA) efforts.

B.3.2.4 Standard Information and Data

The GIU, or Response Division GIS staff, publishes products for the following standard information and datasets (by affected borough, unless otherwise specified):

- Boroughs for which a federal disaster declaration has been issued
- CIKR information
- Congressional districts
- Census data (such as population, age, race, sex, language, income, housing)

GISPs, or Response Division GIS staff, publish maps that may include the following:

- Borough boundaries and names
- Operating facility locations, such as JFOs, the State Emergency Operations Center (SEOC), Disaster Recovery Centers (DRCs), and the RRCC
- Key locations, such as Forward Operating Bases (FOBs), staging sites, and mobilization centers (if known)
- Disaster shelter locations (if known)

B.3.2.5 FEMA GIS Support

To access the Region 10 CSZ Map Journal, visit the Geospatial Information Infrastructure site.

The FEMA GIS Portal homepage (GeoPlatform) is an enterprise space on ArcGIS Online. FEMA maintains an account for ArcGIS Online, which is a powerful, cloud-based GIS service that can be used to create interactive web maps and applications to share with other organizations and the public. The URL for FEMA's maps and applications home page is http://fema.maps.arcgis.com/home/index.html.

The FEMA internal GeoPortal is hosted by the U.S. Department of the Interior (DOI) and is an unclassified secure space for hosting and sharing maps, data, and apps internal to the FEMA network. Access requires a valid PIV card. Accounts can be created upon first login to the site. Due to the PIV login requirement, Microsoft Edge must be used to access the site. The main page is located at https://geoportal.fema.net/portal/home/.

Requests for GIS products are to be made via email to FEMA Region 10 GIS staff. If the RRCC is activated, the email for the GIUL is R10-RRCC-GIUL@fema.dhs.gov. If the RRCC is not activated, the email address for Response Division GIS staff is FEMA-R10-GIS@fema.dhs.gov.

B.3.3 Sources of Geospatial Data

B.3.3.1 Remote Sensing

Remote sensing provides decision makers with actionable information that ranges from information on the overall geographic scale of the disaster to damage levels in specific areas.

Region 10 may collect remote sensing imagery to support federal operational requirements and share it with states impacted by the disaster. Alternatively, states may request specific remote sensing support from Region 10. In some cases, a state may invoke its own contracts for obtaining remote sensing capabilities and pursue reimbursement through the PA program.

Remote sensing imagery may be collected via satellite, manned aircraft, and unmanned aerial system (UAS) assets. Remote sensing for large areas is best handled by satellite or manned aircraft while imagery for small areas is best handled by UASs. Once a request for remote sensing imagery is received by the GIU, the GIUL will work with the Mission Assignment Manager to craft an MA request for the specific imagery requirements, such as the use of the Civil Air Patrol (CAP) to fly either manned or UAS assets to collect the imagery. If the National Response Coordination Center (NRCC) is activated and the GIU has unmet remote sensing needs, the GIUL can request assistance during the Daily Geospatial Coordination Call or the Daily Remote Sensing Coordination Call if the two calls are not run jointly.

Remote sensing information can also be obtained via the internet through various means (e.g., Waze for traffic data, U.S. Geological Survey [USGS] for stream/river gauge heights, Environment for Analysis of Geo-Located Energy Information [EAGLE-I] modeling for power outages estimates), as well as from other organizations, in coordination and collaboration with the NRCC/Multi-Agency Coordination (MAC) Group. Table B-3-1 lists some of the common remote sensing products used for situational awareness in disaster response.

Table B-3-1: Common Remote Sensing Products

Remote Sensing Product	Request Required	Agency or Organization
Orthogonal aerial imagery (i.e., straight-down view)	Usually	National Geospatial-Intelligence Agency (NGA), U.S. Department of Defense (DOD), and others
Oblique geotagged imagery (i.e., elevated side-angle view)	Usually	CAP

Remote Sensing Product	Request Required	Agency or Organization
Live traffic feeds	No	Waze data; available through the NRCC GIU feed: ArcGIS Online World Traffic Service
Live stream gauge data	No	ArcGIS Online Live Stream Gauges Layer
Power outage estimates	No	EAGLE-I (Oakridge National Lab/U.S. Department of Energy [DOE])

B.3.3.2 Internally Produced Support

During an RRCC activation, products will be posted in the GIS Library of WebEOC for the event. At a minimum, the GIU will produce the following critical geospatial products in-house:

- **Summary of Impacts Map** – This product provides insight into the actual or anticipated impacts of the incident and will have direct consequences on decision making. In some cases, a product will be produced by an external source, such as the USGS (ShakeMaps). As the situation develops, products will be updated with Region-specific information. A map's level of detail may vary, depending on the type of incident. For example, a small road blocked by debris that has alternative access routes may not be included in a Summary of Impacts map while a road blocked by debris that serves as the only access route to a hospital would likely be included.
- **Force Laydown Map** – A Force Laydown Map is a product that gives the SITL information on the latest confirmed location for team locations and facilities. A visual representation of the locations of these assets serves as a tool for tracking the progress of the response to the incident.

B.3.4 Oversight, Coordinating Instructions, and Communications

B.3.4.1 Oversight

B.3.4.1.1 General

The RRCC staff (or the IMAT at the JFO, when established) coordinates overall emergency management, conducts operational planning, deploys Regional assets, and requests national-level resources. It collects and disseminates situational awareness information as it builds and maintains a shared situational picture (SitPic) for disaster operations.

B.3.4.1.2 FEMA Regional Office

FEMA Region 10 has dedicated GIS staff in its Response Division, including a Regional GIS Coordinator (RGC) and GISPs. The GIS team coordinates and resolves day-to-day issues with GIS and remote sensing efforts within the Region. In addition, before the establishment of a GIU at a JFO, a Response Division GIS staff member is designated as a point of contact (POC) for a specific event to receive, process, and manage disaster-related geospatial requests.

The RGC is responsible for:

- Coordinating requests for aerial or commercial satellite data with FEMA HQ GIS (until capability is established at the JFO); and
- Preparing, prioritizing, and forwarding remote sensing requests to the FEMA Remote Sensing Coordinator.

The Response Division GIS POC is responsible for:

- Coordinating or identifying Regional geospatial resources, such as local GIS data.

B.3.4.1.3 Geospatial Information Systems Unit

The GIU of the JFO Planning Section is assigned the responsibility for coordinating geospatial activities and requirements for the JFO. In the absence of a GIU, the Planning Section Chief assumes (or delegates) this responsibility. This can include remote support from Response Division GIS staff at the FEMA Region office. The GIU is responsible for:

- Identifying JFO geospatial requirements, opportunities, and activities by other JFO elements or federal agencies;
- Coordinating required aerial or commercial satellite remote sensing support directly with the Regional GIUL;
- Functioning as the JFO's POC for geospatial requests;
- Producing GIS products for regular reports, as requested by internal staff/partners or on an ad hoc basis, and maintaining products and services on a web platform, such as the internal GeoPortal (may include coordination with the RGC to have some services published to the public GeoPlatform);
- Maintaining a catalog of digital products for recordkeeping; and
- Updating and maintaining all displayed GIS products.

B.3.4.1.4 Local and State Agencies

States are responsible for coordinating and obtaining the remote sensing and geospatial capabilities needed to support their own disaster response operations. To effectively exercise that responsibility, states are encouraged to identify potential local, state, National Guard, and commercial remote sensing providers in their area, determine their capabilities and availability, and establish appropriate contingency support agreements.

A state may request federal assistance when it cannot meet its requirements through its own resources or resource agreements. In such cases, state emergency management authorities should use the Resource Request Form to communicate their remote sensing or geospatial data needs to the Planning Section at the JFO or RRCC. Such requests must include a statement as to why the state cannot perform or contract for the performance of the requested work. MAs resulting from a state-originated request may be subject to the applicable cost-share requirement.

B.3.4.2 Interagency Coordination

B.3.4.2.1 Communications

Close coordination and cooperation with other agencies, especially ESF #2 (Communications), ESF #15 (External Affairs), and the SEOC, is essential to effective communication. The rapid collection and dissemination of special and routine reports is the key to situational awareness. In addition to special and routine reports, conference calls or video-teleconferences may be necessary to gain and maintain situational awareness of rapidly developing events. (See Annex K for details on communications tools.)

B.3.4.2.2 Information Requirements

The GIU at the RRCC (or JFO, once operational) collect pre-determined elements of information, which can be expanded or contracted to meet the needs of an incident response and provide a good starting point for information collection through the incident life cycle. Items may be eliminated or added to the Information Collection Plan (ICP) depending on the phase of the disaster. Table B-3-2 lists examples of information that can be collected to create GIS maps and reports.

Table B-3-2: Examples of GIS Information for ICP

Essential Element of Information	Required Action
Broad identification of the extent of damage	• Graphically indicate the extent of the damage. • Report and identify status of CIKR.

Incident-caused population impacts	• Graphically indicate:
	  ○ Residential districts in the impact area;
	  ○ Industrial districts in the impact area; and
	  ○ Major fires in the impact area.

Government facilities	• Report status of local government facilities and systems.
	• Report and identify:
	  ○ Damaged schools; and
	  ○ Damaged public buildings.

Essential private services	• Report and identify locations and status of gasoline and diesel stations.

Status of public and private utilities	• Report and identify:
	  ○ Status of water treatment plants, water storage tanks, and wastewater treatment systems; and
	  ○ Downed communications towers and power lines.

Essential Element of Information	Required Action

Status of transportation infrastructure	• Report and identify:
	  ○ Any transportation infrastructure damage (impassable bridges, overpasses, underpasses); and
	  ○ Damaged runways or debris on runways.
	• Report the status of:
	  ○ Main roads and highways;
	  ○ Public transit systems;
	  ○ Any rail lines or rail facilities in the area;
	  ○ Port facilities;
	  ○ Marine structures (docks, piers, seawalls, breakwaters, and jetties); and
	  ○ Pipelines.

Hazardous materials and immediate health risks	• Report and identify:
	  ○ Smoke or haze in residential areas;
	  ○ Visible sheen or discoloration on water surfaces;
	  ○ Damaged or ruptured storage containers and tanks; and
	  ○ Oil slicks, chemical spills, and leaking hazardous materials.
	• Report the proximity or vulnerability to hazards of:
	  ○ Emergency response facilities;
	  ○ Government facilities; and
	  ○ Medical facilities.

This page is intentionally left blank.

Appendix B-4: Open Source Intelligence & Lessons Learned

B.4.1 Situation

The prevalence of internet access, mobile devices, advanced analytical tools, and collaborative technology provides greater opportunities for leveraging data at a much broader scale. By tapping into available networks and tools, FEMA can enhance situational awareness in a disaster response, allowing for better internal and external responses to situational needs.

B.4.2 Media Analysis and Social Listening

While traditional media outlets provide vital information to communities, social media platforms enable users to share their own thoughts and information on current news and events. The tenor, tone, and content of what is being shared can provide an understanding of what is important to a community.

"Social listening" refers to the act of searching for open source conversations that discuss certain events or topics to better understand public sentiment, reaction, and needs. Social listening provides a better understanding of what the public is saying and what disaster survivors are thinking, feeling, and doing.

The use of social media thus can help FEMA gain situational awareness. The identification of rumors, misinformation, or emerging hot topics can also enable FEMA and the response community to provide emergency messaging to the media and public that is responsive to the current online dialogue.

B.4.3 Lessons Learned

As disaster operations conclude, the Region 10 Lessons Learned and Continuous Improvement Program (LL-CIP) Coordinator begins collecting information to ensure lessons learned are appropriately documented, integrated, and applied. For larger disasters, this process may begin early in the response, with the coordinator gathering input at multiple points during operations. Regional Administrator (RA) buy-in for this process is essential for ensuring active participation by representatives from all divisions.

The LL-CIP Coordinator collects and documents all event data gathered through multiple sources, including in-person interviews, hot washes, online surveys, feedback forms, and leadership guidance. The coordinator then analyzes those observations for relevance, including but not limited to observations regarding the conduct of operations, staff proficiency, safety, security, efficiency, and exercise design (if appropriate). Findings are then published in an After-Action Report (AAR) and issues identified in the AAR are incorporated into an Improvement Plan (IP) that is used to correct issues in advance of future disasters.

The Continuous Improvement Working Group (CIWG) then reviews, validates, assigns, tracks, evaluates, and reports on corrective actions that require coordination across all divisions/programs and JFOs, based on the findings contained in the AARs and IPs.

The FEMA LL-CIP supports the Region by providing historical AARs that can be used to identify and incorporate best practices for deliberate, crisis action, and incident action planning.

This page is intentionally left blank.

Appendix B-5: Intelligence Resource Inventories

Table B-5-1: Situational Awareness Intelligence Resource Inventory

Resource	Description
Alaska Live Traffic Conditions	Website that provides real-time traffic information, including congestion, construction, lane closures, road conditions, and severe weather information, on all Alaska interstates and other major highways.
Breaking News Network (BNN)	Full-time, dedicated, incident notification system. News gathering capability is based on a professionally staffed, 24-hour news desk as well as member participation. Members include many public safety agencies and personnel, most major media outlets, news reporters and photographers, and commercial insurance professionals. The "Web view" desktop visual news client is used to monitor latest alerts on the incident map, search incidents that have occurred in the past, or send a new incident notification to the network. Region 10 contracts this information-sharing service.
DisasterAWARE	Website that provides integrated information, modeling, and mapping technologies that provide situational awareness by continuously monitoring information feeds from meteorological and geological agencies across the world for potential hazards.
The Disaster Center	Clearinghouse of links to various disaster-relevant situational awareness sites, including FEMA's website, weather sites, health sites, and more.
FEMA WebEOC	Agency's consequence management system used to manage emergency management processes, functions, and coordination. FEMA's WebEOC provides a shared situational picture (SitPic) containing comprehensive situational awareness information from federal, state, local, and tribal strategic partners. FEMA's WebEOC features mission tasking, event reporting, resource tracking, and situational analysis in real time during daily operations, exercises, national responses, and other operations.
Homeland Security Information Network (HSIN)	Trusted network for homeland security mission operations for sharing sensitive information. State, local, tribal, and territorial (SLTT), federal, international, and private sector homeland security partners use HSIN to manage operations, analyze data, send alerts and notices, and, in general, share information that they need to do their jobs.
Homeland Security Digital Library	Repository of documents stored by the U.S. Department of Homeland Security (DHS) regarding a wide array of security/disaster topics.
Idaho Live Traffic Conditions	Website that provides real-time traffic information, including congestion, construction, lane closures, road conditions, and severe weather information, on all Idaho interstates and other major highways.

Resource	Description
Max.gov	Government-wide suite of advanced collaboration, information sharing, data collection, publishing, business intelligence, and authentication tools and services used to facilitate cross-government collaboration and knowledge management.
Model and Data Inventory (MoDI)	Descriptions of datasets and models that help emergency managers understand what information is available from each dataset or model, the requirements for access and operation of the tool, and who to contact for assistance for each.
National Emergency Management Information System (NEMIS)	Database system used to track disaster data for FEMA and grantee emergency management offices. Supports emergency management at disaster sites and enables FEMA to integrate preparedness and planning operations with FEMA programs and disaster assistance. Enables data to be coordinated throughout a disaster, from monitoring an incident to assisting affected communities and individuals.
National Warning System (NAWAS)	Rapid notification radio system for emergency management officials to learn of impending or threatened attacks or accidental missile launches on the United States.
NC4 (Center for Networked Configurable Command, Control and Communications for Rapid Situational Awareness)	Safety and security solution for collecting, managing, sharing, and disseminating information to reduce cyber threats, mitigate risks, manage incidents, and provide secure communication and collaboration capabilities among agencies. FEMA Headquarters (HQ) manages this information-sharing service, which allows Watch Officers to view incidents on a global map. Each incident has a drill-down link that provides additional incident details.
Oregon Live Traffic Conditions	Website that provides real-time traffic information, including congestion, construction, lane closures, road conditions, and severe weather information, on all Oregon interstates and other major highways.
Oregon Regional Resiliency Assessment Program (RRAP) Resiliency Assessment	Results from project to identify priority roadway transportation routes that will be best able to reopen quickly following a Cascadia Subduction Zone (CSZ) earthquake to establish post-disaster emergency supply chains among state and federal staging areas for disaster logistics and between these staging areas and surrounding communities.
Pet Ownership Calculator	Estimation tool for determining the number of pet-owning households and number of pets in a community.
U.S. Government Apps and Tools	Apps and tools shared at the White House Innovation for Disaster Response and Recovery Demo Day to help address the challenges that severe weather and other disasters can pose to our communities.
U.S. Newspaper, Radio, TV Links	Website that provides links to news stories from various sources, broken down by state.
Washington Live Traffic Conditions	Website that provides real-time traffic information, including congestion, construction, lane closures, road conditions, and severe weather information, on all Washington interstates and other major highways.

Resource	Description
Washington State Regional Resiliency Assessment Program (RRAP) Resiliency Assessment	Results from a project to prioritize highway transportation routes that will be best able to reopen quickly following a CSZ earthquake to establish post-disaster emergency supply chains between federally designated Incident Support Bases (ISBs) located in central and eastern Washington and Federal Staging Areas (FSAs) located in western Washington.

Table B-5-2: Geographic Information Systems (GIS) Intelligence Resource Inventory

Resource	Description
FEMA R10 MapRobot	Web-based GIS tool (ArcGIS API) that allows Regional users and situational awareness personnel to make quick map graphics (QRG) showing data from Homeland Infrastructure Foundation-Level Data (HIFLD) Open, such as critical infrastructure that falls within a defined area of interest. Preliminary Damage Assessment (PDA) and disaster declaration requests, operations maps, and current fire boundaries are also products that can be produced based on approved templates.
CDC Social Vulnerability Index	Identification and mapping tool for determining communities most likely in need of support before, during, and after a hazardous event.
EAGLE-I	Situational awareness viewer that maps U.S. energy assets and systems (e.g., electric grid, petroleum and natural gas networks) in near real time. This platform provides the U.S. Department of Energy (DOE), other federal agencies (OFAs), and state and local emergency responders with the number and location of outages and estimated times for when service will be restored on the grid.
Emergency and Disaster Information Service	System operated by the Hungarian National Association of Radio Distress-Signaling and Infocommunications (RSOE) to monitor organizational data to get quick and certified information about international disasters.
emPOWER	Tool that reports and maps, by zip code and other geographic resolutions, the monthly total number of de-identified Medicare beneficiaries with electricity-dependent equipment.
FEMA Flood Maps	Official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). It enables users to find official flood maps, access a range of other flood hazard products, and take advantage of tools for better understanding flood risk.
FEMA GeoPlatform	Geospatial data and analytics in support of emergency management.
GeoHealth	Situational awareness viewer and interactive mapping tool used by the U.S. Department of Health and Human Services (HHS) that incorporates a variety of data, including infrastructure locations, facility data, and hazard imagery.

Resource	Description
HAZUS	Nationally applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. HAZUS uses GIS technologies to estimate the physical, economic, and social impacts of disasters.
Homeland Infrastructure Foundation-Level Data (HIFLD)	Data that can be added as layers to GIS maps to provide visualization about various infrastructure in the country (e.g., emergency operations center (EOC) locations, American Red Cross regional boundaries, and 911 service boundaries).
InciWeb	Website that serves as a single source of incident-related information and provides a standardized reporting tool for the public affairs community.
National Flood Hazard Layer Viewer	This site contains flood data and maps. Map availability is based on whether maps have been updated. Should be considered the best online resource to use for official National Flood Insurance Program (NFIP) purposes when determining locations in relation to regulatory flood hazard information.
U.S. Census Data	Demographic information in tabular and GIS form. Recent American Community Survey (ACS) can be configured and exported as tables and joined to geographic features.
Alaska Department of Geological & Geophysical Surveys	Data and map products of geological/geophysical hazards, such as tsunami, earthquake, volcano, and energy and mineral resources, in the state of Alaska.
Idaho Geological Survey	GIS data, web services, PDF products, and an interactive viewer for topographic features, energy and mining resources, and geologic hazards in the state of Idaho.
State of Oregon Department of Geology and Mineral Industries (DOGAMI)	Interactive maps, GIS data, and map services for natural hazards, Lidar data, and geologic and mineral resources in the state of Oregon.
Washington Geological Survey (Department of Natural Resources)	Data, interactive maps, products, and data catalog for seismic scenarios, natural hazards, evacuation routes, and natural resources in Washington State.
National Aeronautics Space Administration (NASA) Earth Observation Data– Active Fire Data	Downloadable active fire products for the last 24 hours, 48 hours, and 7 days from the Moderate Resolution Spectroradiometer (MODIS) and Visible Infrared Imaging Radiometer Suite (VIIRS) in multiple formats.

Table B-5-3: Weather Intelligence Resource Inventory

Resource	Description
FEMA Hurricane/Typhoon Mapping	Map layers of GIS information that focus on data related to hurricanes and typhoons.
FEMA Public Hurricane/Typhoon Analysis and Mapping	Public-facing grouping of FEMA-created/-managed data relating to hurricanes and typhoons. This grouping of data is curated by FEMA's Mapping and Analysis Center.

Resource	Description
National Water and Climate Center Charting Tool	Website that provides users with the ability to create regional water supply forecast exceedance probability charts using the new Water Supply Forecast Charting Tool. This tool provides a visual representation of the streamflow forecast range showing the five exceedance probabilities compared to the 30-year average.
National Weather Service (NWS) Aviation Weather Center	Website that delivers consistent, timely, and accurate weather information for the world airspace system.
NWS Dashboard Display	Interactive national map that displays various weather products, including radar and satellite data, hazard alerts, and more.
NWS National Hurricane Center	Website that provides tropical weather updates for the Atlantic, Eastern Pacific, and Central Pacific areas.
NWS Northwest River Forecast Center (NWRFC)	Website that provides current and forecasted river/creek levels for much of the Pacific Northwest region of Washington, Idaho, and Oregon.
NWS Colorado Basin River Forecast Center (CBRFC)	Website that provides current and forecasted river/creek levels for far southeast Idaho, primarily in the Bear River region.
NWS California Nevada River Forecast Center (CNRFC)	Website that provides current and forecasted river/creek levels for portions of south-central Oregon, primarily in the Klamath Falls region.
NWS RIDGE Image and Warning Output to KML/KMZ	Weather-related, three-dimensional geospatial data displayed in Google Earth, Google Maps, Google Mobile, ArcGIS Explorer, WorldWind, and other GIS viewers.
NWS Storm Prediction Center	Website that shows alerts currently in effect for the United States; normally updated every 2 to 3 minutes.
SLOSH Modeling	Computerized numerical model developed by the NWS to estimate storm surge heights resulting from historical, hypothetical, or predicted hurricanes using atmospheric pressure, size, forward speed, and track data.
NWS Western Region Regional Operations Center (WR ROC)	Primary NWS liaison and contact for FEMA Region 10 for Washington, Oregon, and Idaho for weather, water, and climate needs.
NWS WFO Seattle (SEW)	NWS Office that provides current and forecasted weather for the West Central and Northwestern Washington geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.
NWS WFO Spokane (OTX)	NWS Office that provides current and forecasted weather for the North Central and Eastern Washington geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.
NWS WFO Missoula (MSO)	NWS Office that provides current and forecasted weather for the Central Idaho Mountains geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.

Resource	Description
NWS WFO Portland (PQR)	NWS Office that provides current and forecasted weather for the Northwest Oregon and Southwest Washington geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.
NWS WFO Pendleton (PDT)	NWS Office that provides current and forecasted weather for the North Central and Northeast Oregon and South Central Washington geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.
NWS WFO Medford (MFR)	NWS Office that provides current and forecasted weather for the Southwest and South Central Oregon geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.
NWS WFO Boise (BOI)	NWS Office that provides current and forecasted weather for the Southeast Oregon and Southwest Idaho geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.
NWS WFO Pocatello (PIH)	NWS Office that provides current and forecasted weather for the Southeast Idaho geographic area. The WFO issues public, marine, aviation, fire, and hydrology forecasts. They also issue severe weather warnings, gather weather observations, and collect daily and monthly climate data.

Table B-5-4: Hazard-Specific Intelligence Resource Inventory

Resource	Description
Global Terrorism Database	Open-source database containing information on terrorist events around the world from 1970 through 2017 (with annual updates planned).
Health Map	Real-time intelligence on a broad range of emerging infectious diseases for diverse audiences, including libraries, local health departments, governments, and international travelers.
USGS ShakeMaps	Near-real-time maps of ground motion and shaking intensity following significant earthquakes.

Table B-5-5: SharePoint Intelligence Resource Inventory

Resource	Description
Region 10 After-Action Report (AAR) Library	Library of AARs from disasters and exercises held in Region 10.

Table B-5-6: Individual Assistance Intelligence Resource Inventory

Resource	Description
Cadre Management Dashboard	Website that displays current availability within cadre.
Current Locations Dashboard	Web-based tool that displays reported current location of survivors obtained during registration intake.
Disaster Housing Dashboard	Web-based tool that provides registration data by county, P-code, and total leased-in housing by unit type for disasters with an open housing mission. The Direct Housing Dashboard is populated with data from the Housing Operations Management Enterprise System (HOMES). Contains data for all disasters with an open direct housing mission that are within the 18-month assistance window unless the mission has been extended beyond that time.
Disaster Summary Dashboard	Web-based tool that provides overall summary information for open disasters.
Eligibility Dashboard	Web-based tool that displays eligibility summaries for housing and Other Needs Assistance (ONA).
Individual Assistance (IA) Assessment Survey Dashboard	Web-based tool that measures the ease of understanding of FEMA information received, the timeliness and helpfulness of assistance, the inspection process, the level of recovery, and the quality of customer service in meeting expectations. Data is from applications completed in the previous 12 months.
IA Initial Survey Dashboard	Web-based tool that measures the quality of disaster assistance information and services received during the initial registration process with a FEMA representative or online via the DisasterAssistance.gov website. Data is from applications completed in the previous 12 months.
IA Time Series Dashboard	Web-based tool that displays daily registration activity for any disaster declared in the last 90 days to identify trends and assist with personnel and resource recovery efforts.
Individuals and Households Program (IHP) Finance Dashboard	Web-based tool that assists in making obligation determinations for IHP budget needs.
Inspections Reporting Dashboard	Web-based tool where users can view assigned, returned, and pending inspections by day as well as projected inspection information.
Outgoing Letters Dashboard	Web-based tool that provides information regarding outgoing letters to survivors.
Queue Management Dashboard	Web-based tool that displays numbers of workload packets and caseworkers for workload decisions.
Recovery Demographics Dashboard	Web-based tool that provides population and housing profiles.
Recovery Grants Dashboard	Web-based tool that displays obligated financials for IHP and Public Assistance (PA) programs by calendar or fiscal year with multiple drill-down filters. Additional details available to view include Full Housing Assistance Details, Full ONA Details, PA Details (federal only), and PA Details (total project cost).

Resource	Description
Self-Assessment Triage Dashboard	This website provides users with the ability to view responses received during inspections.
Survivor Needs Dashboard	Website that displays current locations, access and functional needs, eligibility, and unmet needs of survivors.
TSA Dashboard	Website that provides a program overview for disasters where Transitional Sheltering Assistance (TSA) has been activated. Some of the data points available include eligibility periods, total room nights, hotel utilization, and applicants currently checked in/out. Available only when TSA is activated for a disaster.

Table B-5-7: Public Assistance Intelligence Resource Inventory

Resource	Description
Executive Summary Dashboard	Website that provides summarized project information at both the Region level and the disaster level for disasters declared within the last 3 years.
PA Estimates & Awards Dashboard	Website that provides an overview of PA estimates and awards for major disaster declarations by category of work: A, B, C, D, E, F, G, and Z.
Debris Removal 428 Dashboard	Website that provides an overview of debris removal by disaster and applicant county. Integrates critical data points by type of debris, percentage of total debris removed, cost projections, and daily/total cubic yards of debris removed.
PA Initial Survey Dashboard	Website that shows overall satisfaction with efforts within the early stages of the PA process as well as with FEMA customer service. Conducted roughly 60 days after a disaster declaration date. Data is from applications completed within the previous 12 months.
PA Assessment Survey Dashboard	Website that shows overall customer satisfaction with various aspects of the PA program. Conducted roughly 210 days after a disaster declaration date. Data is from applications completed within the previous 12 months.

Annex C: Operations

C.1 Situation

This annex describes the operational formation and structure necessary to implement a coordinated response to a catastrophic Cascadia Subduction Zone (CSZ) earthquake and tsunami. The CSZ earthquake, resulting tsunamis, and subsequent aftershocks will require large-scale response efforts. Primary and secondary impacts will significantly disrupt all Community Lifelines, also complicating regional, national, and international response efforts. Regional and local emergency responders may not be able to respond quickly, if at all, due to death, injury or prioritization to responder families, homes, and businesses. Effective response will require immediate lifesaving and life-sustaining capabilities from outside the impacted area to support response and recovery operations in Oregon, Washington, Alaska, and Idaho. Additionally, CSZ impacts to California and Hawaii may require the same national lifesaving and life-sustaining resources, further complicating the complex operational environment.

C.1.1 Purpose

This annex describes federal operational activities to be conducted in Phase 2, Incident Operations. Incident Operations consist of the following: 2a – Activation and Immediate Response, 2b – Community Stabilization, and 2c – Sustained Operations. Please refer to Table 8 located in the Base Plan, Section 3.2: Phased Approach for more information. The overarching Concept of Operations provides an overview of the response, and the projected actions required to meet mission objectives. Each appendix describes, by Line of Effort (LOE), the overall response concept and the specific tasking and resources necessary to support it.

C.1.2 Background

See Base Plan, Section 1.4.1: Background.

C.1.3 Authorities

See Base Plan, Section 1.6.1: Authorities.

C.1.4 Threat

See Base Plan, Section 1.4: Threat and Hazard Overview.

C.1.5 Planning Assumptions

See Base Plan, Section 1.5.2: Assumptions.

C.1.6 Critical Considerations

See Base Plan, Section 1.6: Critical Considerations.

C.2 Mission

C.2.1 Mission Statement

See Base Plan, Section 2.1: Mission Statement.

C.2.2 Senior Leaders' Intent

C.2.2.1 Senior Leader's Intent

See Base Plan, Section 2.2: Senior Leader's Intent.

C.2.2.2 Key Tasks

- Establish branch-level geographic staffing and staging requirements.
- Rapidly employ resources to stabilize Community Lifelines.
- Enable key operational decisions for Region 10 leaders that are timely and effective.
- Enable and integrate with private sector response actions.
- Reduce complexity in communications and program implementation.
- Conduct public messaging.

C.2.2.3 End State

See Base Plan, Section 2.3: End State.

C.3 Execution

C.3.1 Concept of Operations

FEMA will immediately deploy capabilities and resources to assess and establish Incident Support Bases (ISBs), Federal Staging Areas (FSAs), and other prioritized logistics nodes as available, to include air and ground avenues of approach, to enable immediate response operations. Initial resources to the I-5/Inland Geographic Reference Area (GRA) will include capabilities to establish and support lifesaving operations for the entire impacted area. Simultaneously, FEMA will initiate coordination of federal maritime assets capable of providing life sustaining support to the Coastal GRAs through maritime avenues of approach.

C.3.1.1 Initial FEMA Actions

Immediately following the disaster, FEMA will establish a federal response organization to support Region 10 state, local, tribal, and territorial (SLTT) governments.

Given the expected scope and impact of a CSZ event, FEMA facilities within Region 10 may be unusable and FEMA Region 10 personnel may be unable to activate due to personal impacts from the incident. In that case, operations may devolve to the National Response Coordination Center (NRCC) or to FEMA Region 6. Operational authority will return to the region once local capacity allows, but personnel will likely need to continue to be supplied from outside the area.

If personnel and FEMA infrastructure allow, an Incident Management Assistance Team (IMAT) will deploy to establish an Interim Operating Facility (IOF)—a site identified in consultation with the state—as a precursor to the establishment of a Joint Field Office (JFO).

The NRCC/Regional Response Coordination Center (RRCC) will provide direction to federal agencies until the IMAT has deployed and is operational.

C.3.2 Community Lifeline Status

A Community Lifeline represents a set of indispensable services that enable the operation of critical business and government functions considered essential for maintaining human health and safety and economic security. FEMA has identified seven Community Lifelines, each comprising multiple components that represent the core services provided within that lifeline.

FEMA's Community Lifeline reporting uses categories to describe the condition of each lifeline component as well as colors that reflect a component's status: Category 1 is red, Category 2 is yellow, and Categories 3–5 are green, indicating stabilization of the lifeline. (See Table C-1.)

Table C-1: Community Lifeline Component Status Categories

Category	Component Service Status	Color
1	Disrupted with no solution identified	Red
2	Disrupted but a known time to resolution is identified	Yellow
3	Stabilized by contingency response solutions	Green
4	Re-established by temporary repairs to organic lifeline system	Green
5	Re-established by permanent restoration to organic lifeline system or system was not impacted by the disaster	Green

The status of the seven Community Lifelines will help senior leaders refine the activation or demobilization needs of response and recovery resources throughout incident operations.

C.3.3 Lines of Effort (LOEs)

LOEs are the common functions that a jurisdiction must perform during emergencies, as outlined in FEMA's *National Response Framework* and FEMA's Response and Recovery *Federal Interagency Operational Plans* (FIOPs). LOEs are aimed at restoring the critical services provided through lifeline components that have been affected by a disaster. (This plan's LOEs are contained as tabs to Appendix C-2.)

LOEs are the activities that a state, tribe, or territory can ask FEMA and the federal interagency to support in order to fill their capability gaps, help manage the consequences of the incident, and support the state, tribe, or territorial government in achieving Lifeline Stabilization Targets and Recovery Outcomes. LOEs articulate a response and recovery strategy by sequencing Intermediate Objectives (which are included in Incident Action Plans as milestones) as well as the resources needed (including FEMA programs, contracts, and Pre-Scripted Mission Assignments [PSMAs]) to reach the desired end state. A state, tribe, or territory may request FEMA assistance for multiple LOEs to stabilize a single Community Lifeline.

Table C-2 identifies the established Community Lifelines and how they align with the LOEs. The table also identifies the Region 10 stabilization targets that can serve as initial targets for crisis action planning.

Table C-2: Community Lifeline Stabilization Targets and Associated LOEs

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Safety and Security 	Threats to life safety are diminished for all response personnel and impacted communities. Federal assets are no longer required to conduct search and rescue (SAR) operations. Government buildings are accessible and open with adequate staffing.	• Airfield Opening (Tab C-1) • Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Evacuation, Reception, Re-Entry, and Return (Tab C-7) • Healthcare Systems Support (Tab C-10) • Natural and Cultural Resource Protection (Tab C-14) • Port Opening (Tab C-16) • Private Sector Coordination (Tab C-17) • Public Information and Warning (Tab C-18) • Resource Staging (Tab C-19) • Responder Security and Protection (Tab C-20) • Restoration of Public Infrastructure (Tab C-21) • Sheltering Operations (Tab C-23)

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Food, Water, Shelter 	Re-entry to affected areas is allowed. Commercial grocery distribution and food banks are accessible and open. Congregate shelters are closed. Public water and wastewater utilities are providing services to the community (does not include private water or sewer systems such as wells or septic). Temporary home repair programs are initiated.	• Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Evacuation, Reception, Re-Entry, and Return (Tab C-7) • Housing Solutions (Tab C-11) • Mass Care – Food and Water (Tab C-12) • Natural and Cultural Resource Protection (Tab C-14) • Private Sector Coordination (Tab C-17) • Public Information and Warning (Tab C-18) • Resource Staging (Tab C-19) • Restoration of Public Infrastructure (Tab C-21) • Sheltering Operations (Tab C-23)
Health and Medical 	Hospitals and healthcare facilities have sustainable power and potable water systems. Emergency medical services are capable of responding to emergencies organically. Veterinary triage is complete. Fatality collection is complete. Health and social services facilities and public health services are accessible. Health assessments are complete.	• Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Fatality Management (Tab C-8) • Healthcare Systems Support (Tab C-10) • Mass Care – Food and Water (Tab C-12) • Medical Transportation (Tab C-13) • Public Information and Warning (Tab C-18) • Resource Staging (Tab C-19) • Restoration of Public Infrastructure (Tab C21) • Sheltering Operations (Tab C-23)

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Energy (Power & Fuel) 	Critical facilities are operational for lifesaving and life-sustaining activities. Fuel distribution operations are available for responder vehicles and spot generation at critical facilities. Commercial fuel stations are operational. Stable power is being provided through distribution sites and substations.	• Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Healthcare Systems Support (Tab C-10) • Medical Transportation (Tab C-13) • Natural and Cultural Resource Protection (Tab C-14) • Resource Staging (Tab C-19) • Restoration of Public Infrastructure (Tab C-21) • Temporary Emergency Power (Tab C-24)
Communications 	Commercial communications services are re-established with sustainable power. 911 services are available. The emergency response community is able to communicate over interoperable voice and data communications systems.	• Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Natural and Cultural Resource Protection (Tab C-14) • Operational Communications (Tab C-15) • Private Sector Coordination (Tab C-17)

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Transportation 	Multi-modal routes (air, rail, road, port) are clear of debris and accessible by normal or alternate routes. Pipelines are providing supplies for both electrical generation and home heating. Mass transit has been restored in metropolitan areas.	• Airfield Opening (Tab C-1) • Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Evacuation, Reception, Re-Entry, and Return (Tab C-7) • Hazardous Waste (Tab C-9) • Healthcare Systems Support (Tab C-10) • Mass Care – Food and Water (Tab C-12) • Medical Transportation (Tab C-13) • Natural and Cultural Resource Protection (Tab C-14) • Operational Communications (Tab C-15) • Port Opening (Tab C-16) • Private Sector Coordination (Tab C-17) • Public Information and Warning (Tab C-18) • Resource Staging (Tab C-19) • Responder Security and Protection (Tab C-20) • Restoration of Public Infrastructure (Tab C-21) • Sheltering Operations (Tab C-23) • Temporary Emergency Power (Tab C-24)

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Hazardous Materials 	Health and safety hazard assessments are complete. Wastewater and solid waste issues are identified and contained. Oil and hazardous substance spills or releases are identified, responsible parties are engaged, and a command structure is established, taking into account other federal agency (OFA) statutory authorities.	• Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Hazardous Waste (Tab C-9) • Restoration of Public Infrastructure (Tab C-21)

C.3.3.1 LOEs in Isolated Communities

Given the unique circumstances related to isolated communities, the LOEs required to support lifeline stabilization may differ from those of other impacted areas. Table C-3 identifies the LOEs associated with each lifeline in the context of isolated communities.

An Isolated Community may be severely fragmented in a across one or multiple community lifelines. Typically, in a CSZ isolated community, responders will have limited access into the impacted community by either ground or water. Emergency debris clearance will be necessary to establish access via ground or water. Responders located in the impact area who are capable of performing emergency debris clearance are now survivors and have limited bandwidth to operate in a responder role. Based on these and other limitations, access to the isolated community(ies) by air and/or by water will be critical for establishing or reestablishing supply routes. There will be no access to a resupply of food and water by ground, thus requiring the isolated community to develop a life-sustaining strategy based on the resources on hand. Communications capabilities, to include 911 services, will be unavailable due to the damage to the local communications infrastructure. There will be no internet, cellular or landline capability. This infrastructure damage further reduces the ability to provide broadcasts and notifications to the community. Damage to the infrastructure overall also impedes the ability to provide wrap-around services necessary to sustain both mass care and public health & medical operations. An isolated community will have difficulty sustaining short-term or long-term lifesaving or life-sustaining support.

Table C-3: Community Lifeline Stabilization Targets and Associated LOEs in Isolated Communities

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Safety and Security 	Threats to life safety are diminished for all response personnel and impacted communities. Federal assets are no longer required to conduct search and rescue (SAR) operations. Government buildings are accessible and open with adequate staffing.	• Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Route Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Port Opening (Tab C-16) • Private Sector Coordination (Tab C-17) • Public Information and Warning (Tab C-18) • Responder Security and Protection (Tab C-20) • Restoration of Public Infrastructure (Tab C-21) • Search and Rescue (Tab C-22)
Food, Water, Shelter 	Re-entry to affected areas is allowed. Commercial grocery distribution and food banks are accessible and open. Congregate shelters are closed. Public water and wastewater utilities are providing services to the community (does not include private water or sewer systems such as wells or septic). Temporary home repair programs are initiated.	• Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Evacuation, Reception, Re-Entry, and Return (Tab C-7) • Mass Care – Food and Water (Tab C-12) • Private Sector Coordination (Tab C-17) • Public Information and Warning (Tab C-18) • Restoration of Public Infrastructure (Tab C-21)

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Health and Medical 	Hospitals and healthcare facilities have sustainable power and potable water systems. Emergency medical services are capable of responding to emergencies organically. Veterinary triage is complete. Fatality collection is complete. Health and social services facilities and public health services are accessible. Health assessments are complete.	• Hazardous Waste (Tab C-9) • Healthcare Systems Support (Tab C-10)
Energy (Power & Fuel) 	Critical facilities are operational for lifesaving and life-sustaining activities. Fuel distribution operations are available for responder vehicles and spot generation at critical facilities. Commercial fuel stations are operational. Stable power is being provided through distribution sites and substations.	• Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Route Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Hazardous Waste (Tab C-9) • Healthcare Systems Support (Tab C-10) • Resource Staging (Tab C-19) • Temporary Emergency Power (Tab C-24)
Communications 	Commercial communications services are re-established with sustainable power. 911 services are available. The emergency response community is able to communicate over interoperable voice and data communications systems.	• Damage Assessment (Tab C-3) • Private Sector Coordination (Tab C-17)

Lifeline	R10 Stabilization Target	Lines of Effort (and Appendix C-2-Tab #)
Transportation 	Multi-modal routes (air, rail, road, port) are clear of debris and accessible by normal or alternate routes. Pipelines are providing supplies for both electrical generation and home heating. Mass transit has been restored in metropolitan areas.	• Airfield Opening (Tab C-1) • Commodities Distribution (Tab C-2) • Damage Assessment (Tab C-3) • Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Hazardous Waste (Tab C-9) • Healthcare Systems Support (Tab C-10) • Mass Care – Food and Water (Tab C-12) • Port Opening (Tab C-16) • Private Sector Coordination (Tab C-17) • Responder Security and Protection (Tab C-20) • Search and Rescue (Tab C-22) • Temporary Emergency Power (Tab C-24)
Hazardous Materials 	Health and safety hazard assessments are complete. Wastewater and solid waste issues are identified and contained. Oil and hazardous substance spills or releases are identified, responsible parties are engaged, and a command structure is established, taking into account other federal agency (OFA) statutory authorities.	• Debris Removal (Tab C-4) • Emergency Debris Clearance (Tab C-5) • Emergency Repairs or Augmentation to Infrastructure (Tab C-6) • Hazardous Waste (Tab C-9) • Private Sector Coordination (Tab C-17)

C.3.3.2 Task Forces and LOEs

A task force (TF) is a combination of personnel/positions and resources assembled to support a specific mission or operational need. During a CSZ incident, TFs comprised of federal, state, local, tribal, and private-sector representatives will utilize LOEs meet the Community Lifeline stabilization targets. Table C-4 crosswalks TFs to applicable LOEs. While not all LOEs have a TF pre-assigned, informal TFs may develop during an incident or formal TFs may be added based on future planning and exercise efforts.

Table C-4: Task Force-LOE Crosswalk

Task Force	Line(s) of Effort
Air Operations	• Airfield Opening
Infrastructure	• Damage Assessment • Emergency Repairs or Augmentation to Infrastructure • Restoration of Public Infrastructure
Debris Management	• Damage Assessment • Debris Removal • Emergency Route Clearance
Survivor Movement	• Evacuation, Reception, Re-Entry, and Return
Fatality Management	• Fatality Management
Feeding	• Mass Care – Food and Water
HazMat	• Hazardous Waste
Health and Medical	• Healthcare Systems Support • Medical Transportation
Marine Operations	• Port Opening
TBD	• Private Sector Coordination
TBD	• Natural and Cultural Resource Protection
Communications	• Public Information and Warning • Restoration of Public Infrastructure • Operational Communications
Safety and Security	• Responder Security and Protection
Temporary Power	• Restoration of Public Infrastructure • Temporary Emergency Power
Search and Rescue	• Search and Rescue
Shelter Operations	• Sheltering Operations
Housing	• Housing Solutions
Bulk Distribution	• Commodities Distribution
Fuel Distribution	• Resource Staging

C.3.4 Operational Phases

Federal actions are conducted in two operational phases: Phase 1 – Pre-Incident Operations and Phase 2 – Incident Operations, which has three sub-phases (Phase 2a – Activation and Immediate Response, Phase 2b – Community Stabilization, and Phase 2c – Sustained Operations [includes demobilization of federal resources and reorganization of response operations to support recovery]).

C.3.4.1 Phase 1 – Pre-Incident Operations

Phase 1 begins with coordination activities among private, non-profit, local, state, and federal stakeholders to prepare for a catastrophic event. Priorities of effort for this phase are

coordinating, planning, training, equipping, and exercising. Successful completion of Phase 1 is the foundation for the entire response effort. Phase 1 ends at the time the incident occurs.

Figure C-1 shows the Geographic Branches that will be established during an operation as well as key federal and state facilities in the region. Geographic Branches break the overall response area into manageable geographic regions for the oversight of response operations. They are based off of existing state-established structures. The map below represents the Branches and Divisions assigned to Washington, Oregon, and Idaho during a CSZ event.

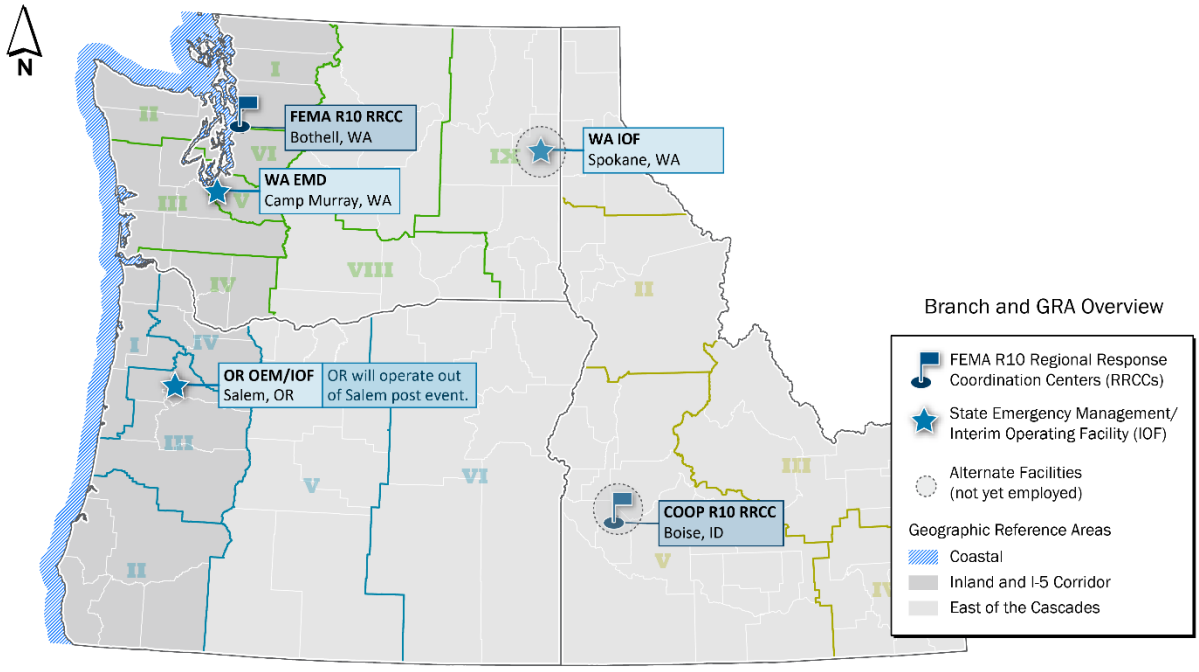


Figure C-1: Phase 1 Concept of Operations

C.3.4.2 Phase 2a – Activation and Immediate Response

Phase 2a begins at the time of the incident. Emphasis in this phase is employment of lifesaving and response-enabling resources to support establishment of logistics nodes, sending lifesaving support directly to FSAs and prioritized aerial ports of debarkation (APODs) to support all impacted communities, and the employment of remote sensing assets to verify anticipated damage, establish situational awareness (SA), and support the identification of isolated communities. Deploying lifesaving and enabling assets directly to the I-5/Inland GRA logistics nodes provides lifesaving and initiates the ability to begin staging within the I-5/inland and coastal GRAs. Staging of life-sustaining resources will begin east of the Cascades to ensure there is limited impact on the flow of lifesaving support to the Coastal and I-5/Inland GRAs.

Figure C-2 provides a visual representation of the Washington Concept of Operations for the initial deployment and employment of enabling, lifesaving, and life-sustaining resources in Phase 2a. The FSA at Joint Base Lewis-McChord (JBLM) has been prioritized for assessment and repair. The APOD at Tri-Cities Airport is anticipated to experience minimal damages and

may be able to provide additional lifesaving support almost immediately. The ISBs at Ephrata Municipal Airport and Grant County International Airport are expected to sustain little to no impacts and will be established almost immediately to support response operations in the impacted area. Federal logistics nodes, identified as ISBs, FSAs, and APODs, are in some cases collocated with pre-identified state staging areas (SSAs).

Lifesaving saving locations have been designated to support medical and emergency evacuation, which further sets the stage for counterflow operations. Maritime platforms are deployed to support and expand lifesaving and life sustaining operations.

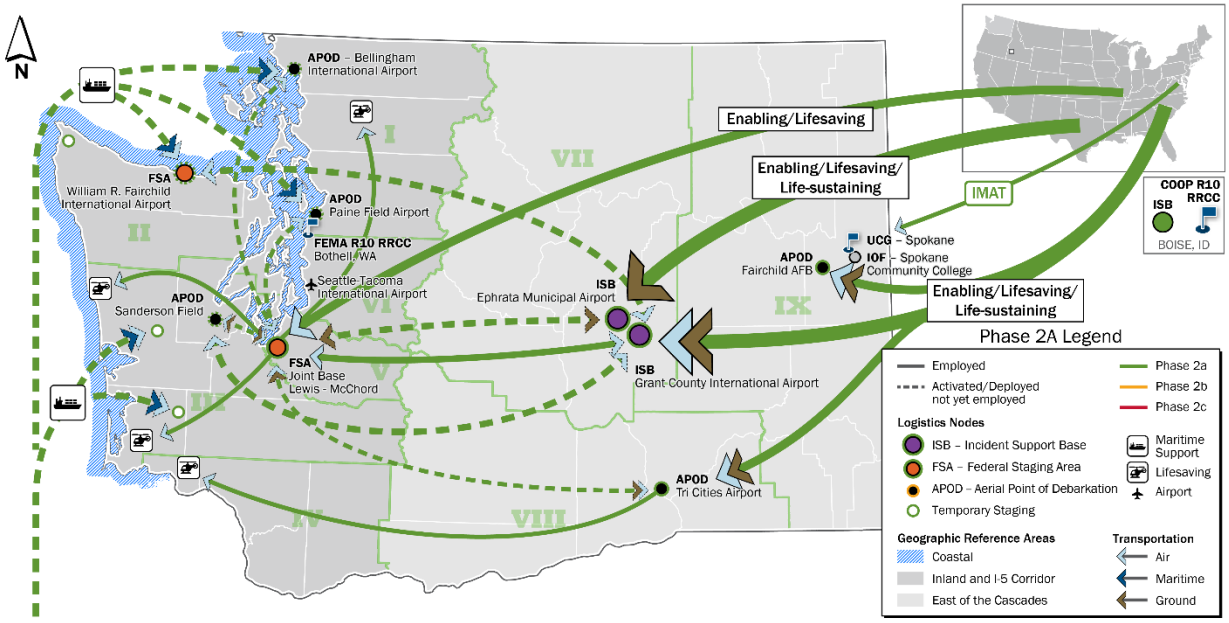


Figure C-2: Phase 2a Washington Concept of Operations

Figure C-3 provides a visual representation of the initial deployment and employment of enabling, lifesaving, and life-sustaining resources for the Oregon Concept of Operations. The FSA in Eugene, Oregon, and the APOD in Portland, Oregon, have been prioritized for assessment and repair. The APOD at Portland Oregon International (PDX) may be capable of functioning as an FSA, although the current analysis is unclear as to the expected status of PDX post-incident. If PDX is not capable of sustaining FSA operations, it will be used to the greatest extend possible to support response operations. The ISBs at Redmond Municipal Airport and Crater Lake-Klamath Regional Airport are expected to sustain little to no impacts and will be established almost immediately to support response operations in the impacted area.

Additionally, an ISB in Boise, Idaho, will serve as an additional force multiplier for the overall response. In the event additional APODs can be opened based on local assessment, they will be established, and the employment of resources will begin immediately. The identification of SSAs is critical. Additional SSAs should be identified to ensure support can be efficiently and

effectively provided to the impacted community. Currently, there are no SSAs identified for the State of Oregon.

The U.S. Department of Health and Human Services (HHS) and other medical support are supporting emergency evacuation to established safe areas. Federal maritime platforms will be deployed to support and expand based on the needs of the operations. Phase 2a ends when a UCG in Washington and Oregon are operational and staging areas are prepared to receive resources in support of response operations.

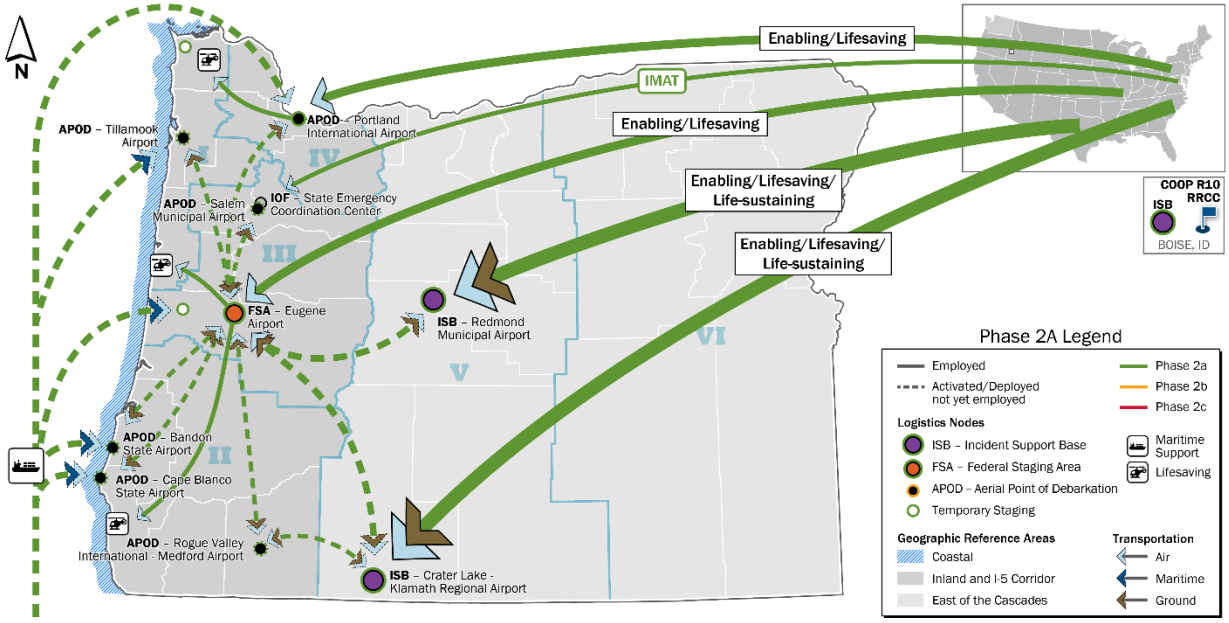


Figure C-3: Phase 2a Oregon Concept of Operations

Phase 2a Lines of Effort

Table C-5 below shows which Lines of Effort will be utilized to provide enabling, lifesaving, and life-sustaining support in each GRA. More information about each LOE can be found in Appendix C-2: Lines of Effort.

Table C-5: Phase 2a Lines of Effort by GRA

LOE Type	Coastal GRA	I-5/Inland GRA	East of the Cascades GRA
Enabling	• Airfield Opening • Damage Assessment • Operational Communications • Private Sector Coordination	• Damage Assessment (inspection) • Airfield Opening • Operational Communications • Emergency Route Clearance • Resource Staging • Responder Security • Public Information and Warning • Private Sector Coordination	• Airfield Opening • Operational Communications • Emergency Route Clearance • Temporary Power • Resource Staging • Responder Security • Public Information and Warning • Private Sector Coordination
Lifesaving	• SAR (rotary) • Evacuation (survivor/medical)	• SAR (US&R teams) • Medical Transportation	• SAR • Health Systems Support
Life-Sustaining	• N/A	• N/A	• Commodity Distribution • Mass Care
Stabilizing	• N/A	• N/A	• N/A

Phase 2a Major Actions

- Employ remote sensing assets to verify anticipated damage and establish situational awareness (SA).
- Immediately assess and initiate the opening of airports/runways that are co-located with logistics nodes within the I-5/Inland GRA.
- Deploy/employ IMATs capable of conducting 24-hour operations to Oregon and Washington.
- Deploy/employ lifesaving and limited life-sustaining assets directly to the I-5/Inland GRA.
- Establish logistics nodes in the I-5/Inland GRA for Washington and Oregon.
- Establish ISBs in the East of the Cascades GRA for Washington and Oregon.
- Deploy federal maritime platforms in order to conduct lifesaving operations along the Washington and Oregon coast.
- Establish tactical communications to facilitate response efforts in the I-5/Inland Corridor GRA.
- Establish responder expeditionary sites/camps throughout the impacted area.

- Establish hub-and-spoke distribution system for delivery of resources.

Initial Requirements

- Remote sensing capability to provide situational assessment for all coastal and isolated communities during phase 2a
- Two Joint Field Offices (JFOs), one in each state (Washington and Oregon)
- ISBs in each state (2-Washington, 1-Oregon, 1-Idaho)

C.3.4.3 Phase 2b –Community Stabilization

Phase 2b begins once the Unified Coordination Group (UCG) is operational and staging areas are prepared to receive resources in support of response operations. Emphasis for this phase includes moving life-sustaining resources into the impacted area and stabilization resources into the ISBs East of the Cascades.

Figure C-4, Phase 2b Washington Concept of Operations, provides a visual representation of the progression of stabilizing resources being brought into the East of the Cascades GRA and life-sustaining resources being brought into impacted areas in Phase 2b.

FSAs, such as William R Fairchild International Airport, and all APODs in impacted area have been established and are fully functional. These logistics nodes allow for the employment of lifesaving/life-sustaining capabilities and resources to the Coastal GRA and Isolated Communities. The employment occurs by air to provide the most immediate support.

ISBs and/or eastern Washington APODs provide support to both the FSAs and APODs within the coastal and I-5/Inland GRAs. As an example, Grant County International Airport and Ephrata Municipal Airport will provide support to Sanderson Field and Bellingham. The Tri-Cities Airport will be capable of provide support to northern Oregon or to locations of need within the State of Washington. Once ISBs, FSAs, and APODs are functional, they can provide support to any location. Again, as identified in 2a, some SSAs have been identified as they are co-located with federal logistics nodes. These logistics nodes, which include ISBs, FSAs, and APODs, are the federal path to support the impacted communities. Phase 2b ends when lifesaving activities have been completed.

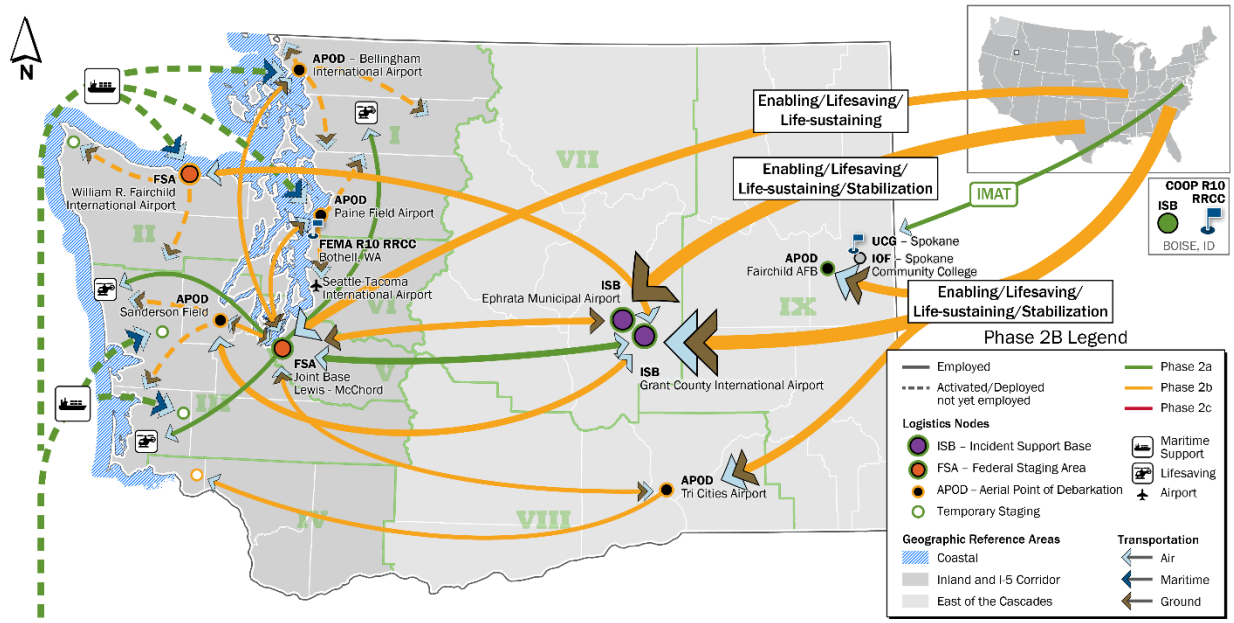


Figure C-4: Phase 2b Washington Concept of Operations

Figure C-5: Phase 2b Oregon Concept of Operations, provides a visual representation of the progression of stabilizing resources being transported into the East of the Cascades GRA and life-sustaining resources being employed in the impacted areas in Phase 2b. During this phase, life-sustaining capabilities are deployed to the impacted area while stabilization capabilities start to arrive at the ISBs in anticipation of long-term recovery operations. ISBs can be used to support FSAs or APODs. As an example, once activated, Crater Lake may support Bandon, Cape Blanco, or operations in California. Resource phasing is critical and based on response priorities.

Additional logistics nodes are established to further support the employment of lifesaving/life-sustaining capabilities and resources to the Coastal GRA and Isolated Communities. Support to the Coastal GRA and to identified isolated communities will initially be accomplished by air. There is limited access to coast due to damaged roads and debris. Establishing ground routes throughout the impacted area is a necessary to sustain operations. success requires continued assessment and stabilization of critical logistics, transportation, communications nodes to expand response operations. As part of this expansion, it is critical to plan for maritime support offshore.

During this phase, the federal response will continue to support medical and emergency evacuation to established safe areas. The response will provide support to isolated communities when evacuation is not possible and establish paths to support communities via temporary staging. Phase 2b ends when lifesaving activities have been completed.

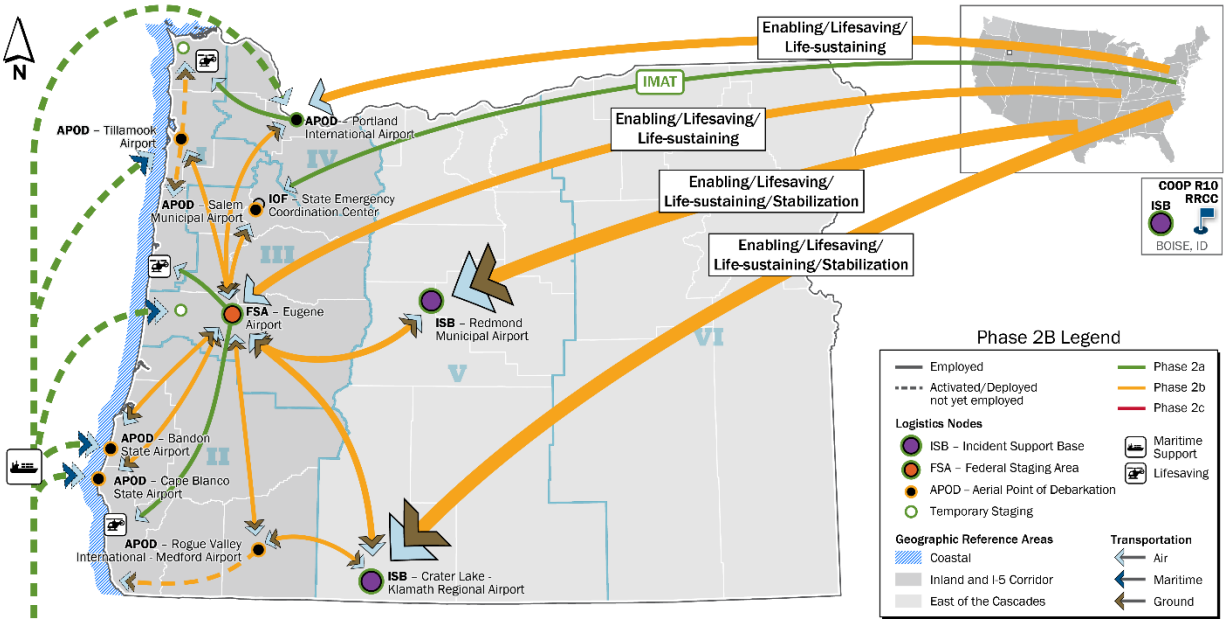


Figure C-5: Phase 2b Oregon Concept of Operations

Phase 2b Lines of Effort

Table C-6 below shows which Lines of Effort will be utilized to provide enabling, lifesaving, and life-sustaining support in each GRA. More information about each LOE can be found in Appendix C-2: Lines of Effort.

Table C-6: Phase 2b Lines of Effort by GRA

LOE Type	Coastal GRA	I-5/Inland GRA	East of the Cascades GRA
Enabling	• Emergency Route Clearance • Resource Staging • Responder Security • Public Information and Warning	• Debris Removal • Temporary Power	• Debris Removal
Lifesaving	• Medical Transportation • Healthcare Systems Support	• Healthcare Systems Support	• Healthcare Systems Support

LOE Type	Coastal GRA	I-5/Inland GRA	East of the Cascades GRA
Life-Sustaining	• Commodities Distribution • Mass Care – Food and Water • Sheltering Operations	• Fatality Management • Commodities Distribution • Mass Care – Food and Water • Sheltering Operations • Emergency Repairs or Augmentation to Infrastructure	• Sheltering Operations • Mass Care – Food and Water • Fatality Management • Emergency Repairs or Augmentation to Infrastructure
Stabilizing	• N/A	• N/A	• Natural and Cultural Resources • Restoration of Public Infrastructure • Hazardous Waste

Phase 2b Major Actions

- Establish lifesaving capabilities and support resources to isolated communities.
- Expand lifesaving and establish life-sustaining capabilities and resources to the Coastal and I-5/Inland GRAs.
- Establish additional logistics nodes to support response operations.
- Establish responder base camps and/or expeditionary sites/camps throughout the impacted area.
- Assess and stabilize critical logistics, transportation, communications nodes to expand response operations.
- Provide security and temporary power as needed to support response and sustainment of operations.
- Expand tactical communications to facilitate response efforts to isolated communities.
- Support medical and emergency evacuation to established safe areas.
- Provide support to isolated communities when evacuation is not possible.
- Establish refueling sites.

Phase 2b Initial Requirements

- 3 FSAs across Washington and Oregon
- 11 Aerial Ports of Debarkation (APODs) across Washington and Oregon

C.3.4.4 Phase 2c – Sustained Operations

Phase 2c begins when all lifesaving activities have been completed. Emphasis is on reaching stabilization throughout the impacted areas, fully establishing a resource flow that resembles hub

and spoke with resources flowing from ISBs and FSAs out to APODs, fully employing maritime support, and opening all ground routes.

Figure C-6 provides a visual representation of the operation, for the State of Washington, reaching stabilization in impacted areas and with a hub and spoke model and maritime support fully employed. All ground routes are open to support sustainment and stabilization of the response.

Phase 2c ends when all response operations have been completed and the conditions are set for the transition to long-term recovery (stabilization sets up for recovery).

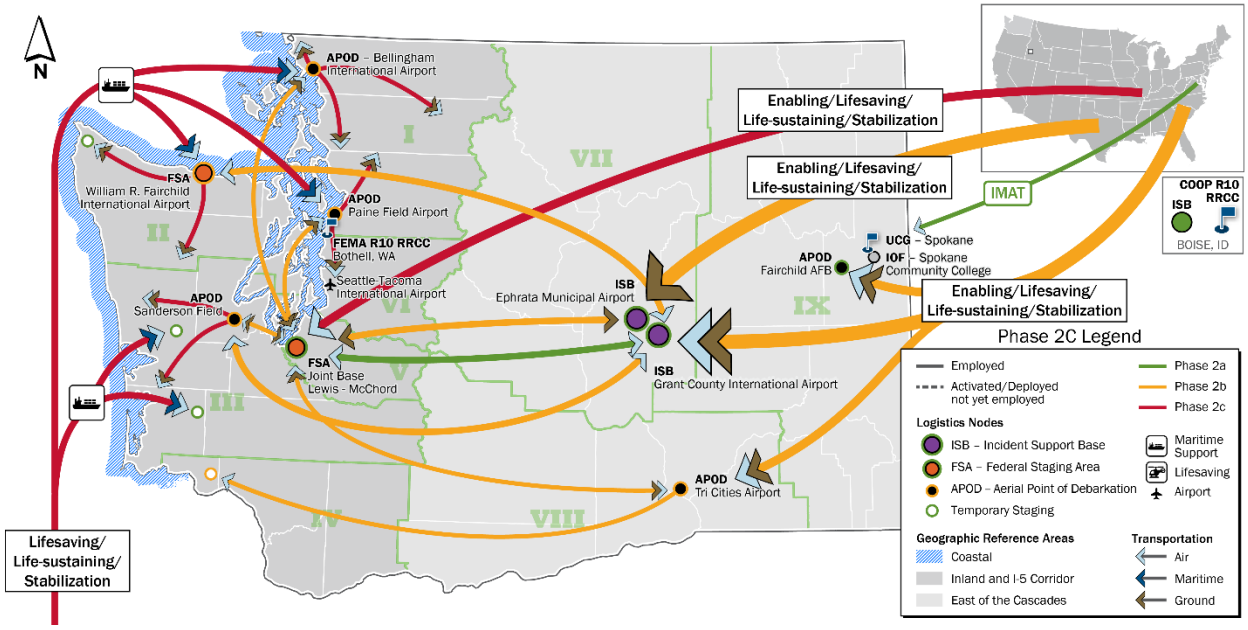


Figure C-6: Phase 2c Washington Concept of Operations

Figure C-7 also provides a visual representation of fully employed maritime support, open ground routes and a sustainable air capability. Maritime employment is illustrated through the use of solid red lines from the sea to various logistics nodes. All precoordinated logistics nodes have been fully employed to provide support to the local community. As we transition from lifesaving to life sustaining to stabilization, it is important to understand that response operations will begin to shift towards long-term recovery activities.

Phase 2c ends when all response operations have been completed. Stabilization sets the conditions for the transition to long-term recovery.

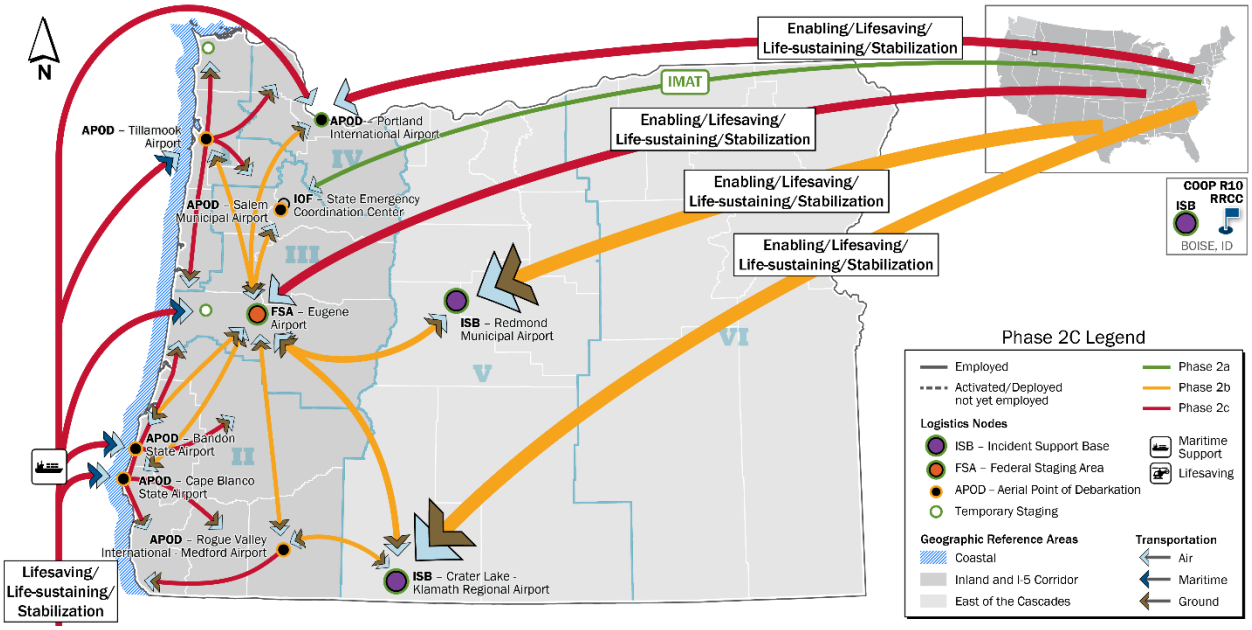


Figure C-7: Phase 2c Oregon Concept of Operations

Phase 2c Lines of Effort

Table C-7 below shows which Lines of Effort will be utilized to provide enabling, lifesaving, and life-sustaining support in each GRA. More information about each LOE can be found in Appendix C-2: Lines of Effort.

Table C-7: Phase 2c Lines of Effort by GRA

LOE Type	Coastal GRA	I-5/Inland GRA	East of the Cascades GRA
Enabling	• Port Opening • Debris Removal • Temporary Power	• N/A	• N/A
Lifesaving	• N/A	• N/A	• N/A
Life-Sustaining	• Emergency Repairs or Augmentation to Infrastructure • Fatality Management	• N/A	• N/A
Stabilizing	• Natural and Cultural Resources • Restoration of Public Infrastructure • Hazardous Waste • Housing Solutions	• Natural and Cultural Resources • Restoration of Public Infrastructure • Housing Solutions • Hazardous Waste	• Housing Solutions

Phase 2c Major Actions

- Resize, demobilize, and/or reassign any remaining SAR and other lifesaving teams and resources, based on state and tribal priorities.
- Update and refine the concept of operations to include operational priorities and requirements, based on updated situational awareness.
- Begin to demobilize base camps and tactical support, downsizing as critical infrastructure comes back online. Prepare to downsize points of distribution (PODS) and shelters as critical systems are repaired and inhabitants return to their residences, or to more permanent, long-term housing.
- Expand and stabilize critical infrastructure and systems to provide support for the inhabitants.
- Provide essential support, security, and sustainment capabilities for the response effort, for responders, for public and private sector personnel, and for short-term recovery operations.
- Redirect emergency medical support to areas with the greatest need.
- Define goals and objectives for long-term recovery.

Phase 2c Initial Requirements

- Air and ground transportation to support 24-hour operations covering 169,828 square miles
- Bulk fuel, power, water, and life support for 18 logistical nodes
- 12 responder base camps (10 expeditionary sites/camps support Geographic Operations [GeoOps]) (2 camps w/full wraparound services)
- Personnel and resources lifesaving activities for up to 27 coastal counties and 2,263 miles of coastline

C.4 Administration, Resources, and Funding

See Base Plan.

C.5 Oversight, Coordinating Instructions, and Communications

See Base Plan and Annex A (Task Organization).

Appendices and Tabs

Appendix C-1: Decision Support Matrix

Appendix C-2: Lines of Effort (LOEs)

Tab 1 to Appendix C-2: Airfield Opening

Tab 2 to Appendix C-2: Commodities Distribution

Tab 3 to Appendix C-2: Damage Assessment

Tab 4 to Appendix C-2: Debris Removal

Tab 5 to Appendix C-2: Emergency Debris Clearance

Tab 6 to Appendix C-2: Emergency Repairs or Augmentation to Infrastructure

Tab 7 to Appendix C-2: Evacuation, Reception, Re-Entry, and Return

Tab 8 to Appendix C-2: Fatality Management

Tab 9 to Appendix C-2: Hazardous Waste

Tab 10 to Appendix C-2: Healthcare Systems Support

Tab 11 to Appendix C-2: Housing Solutions

Tab 12 to Appendix C-2: Mass Care – Food and Water

Tab 13 to Appendix C-2: Medical Transportation

Tab 14 to Appendix C-2: Natural and Cultural Resource Protection and Restoration

Tab 15 to Appendix C-2: Operational Communications

Tab 16 to Appendix C-2: Port Opening

Tab 17 to Appendix C-2: Private Sector Coordination

Tab 18 to Appendix C-2: Public Information and Warning

Tab 19 to Appendix C-2: Resource Staging

Tab 20 to Appendix C-2: Responder Security and Protection

Tab 21 to Appendix C-2: Restoration of Public Infrastructure

Tab 22 to Appendix C-2: Search and Rescue

Tab 23 to Appendix C-2: Sheltering Operations

Tab 24 to Appendix C-2: Temporary Emergency Power

Appendix C-1: Decision Support Matrix

The Decision Support Matrix is intended to synchronize the criteria for a decision with the associated tasks in the Execution Checklist. This is not intended to be a comprehensive list of activities or tasks. For a full list, see Annex X (Execution Checklist). Mobilization and staging activities can be found in the Resource Phasing Plan in Annex D.

This Decision Support Matrix has been developed based on the actions described within the documents listed below. It is not intended to supersede the responsibilities outlined for each decision maker therein.

- FEMA Region 10 Standard Operating Procedure (SOP) for 24-Hour Emergency Notification and Calls
- FEMA Watch Guide (July 2019)
- Regional Administrator Playbook

Table C-1-1: FEMA Region 10 Decision Support Matrix

[DP = Decision Point (numerical marker for easy cross-referencing within other parts of the ARP); E = Event (e.g., "E+5min" is event plus 5 minutes)]

Phase	Timeframe	Decision Maker	DP	Decision	Criteria	Execution Checklist #
1b – Elevated Threat	Immediate	Mobile Emergency Response Support (MERS) Operations Center (MOC)/ Regional Watch Center (RWC)	1	Conduct incident evaluation; elevate threat posture.	• An event or incident is imminent that may be of interest to FEMA Regional and or Headquarters (HQ) leadership.	
1b – Elevated Threat	Immediate	Regional Administrator	2	Replace MOC personnel with Regional Enhanced Watch personnel.	• MOC situational awareness resources do not meet information collection needs.	

Phase	Timeframe	Decision Maker	DP	Decision	Criteria	Execution Checklist #
1b – Elevated Threat	Immediate	Regional Administrator/ Regional Coordinating Officer	3	Approve activation of Region 10 staff (State Liaison Officer [SLO]/Incident Management Assistance Team [IMAT]/Regional Response Coordination Center [RRCC]/Continuity of Operations [COOP]).	• Regional staff are available to respond to the threat. States or tribes are requesting federal assistance.	
Phase 1c – Credible Threat	E+5min	MOC/RWC	4	Evaluate current incident status: conduct "credible threat" notification and posturing.	• An event or incident is imminent that meets the thresholds for notification. (The determination to deviate from established thresholds is based on analysis and professional judgment as to whether the magnitude, scope, or prominence of a given event warrants the notification of additional personnel or the escalation of notification beyond the threshold level.)	
Phase 1c – Credible Threat	E+5min	Regional Administrator	5	Determine event alert and notification level and initiate Emergency Notification System (ENS) procedures.	• An event or incident is imminent that may require federal response operations. • Hazard-specific notification thresholds are met.	
Phase 1c – Credible Threat	E+30min	Regional Administrator	6	Conduct senior staff briefing and strategy session.	• An incident or event is imminent that may have significant impacts on states or tribes. • State or tribal resources are expected to be overwhelmed. • State or tribal governments will request federal assistance.	

Phase	Timeframe	Decision Maker	DP	Decision	Criteria	Execution Checklist #
Phase 1c – Credible Threat	E+30min	Regional Administrator	7	Deploy or stage initial response and monitoring resources.	• An incident or event is imminent that may have significant impacts on states or tribes. • State or tribal resources are expected to be overwhelmed. • State or tribal governments will request federal assistance. • The threat to the region necessitates the activation and deployment of the Regional and/or National IMAT.	
Phase 1c – Credible Threat	E+30min	Regional Administrator or Regional Coordinating Officer	8	Approve activation, deployment timelines, and locations of National/Regional IMATs.	• The threat to the region requires the activation and deployment of the Regional and/or National IMAT.	
Phase 1c – Credible Threat	E+30min	Division Directors, Response Division Branch Chiefs	10	Conduct initial outreach.	• Credible intelligence is received that a significant event occurred within the state. • Additional information needed from state or tribal partners.	
Phase 1c – Credible Threat	E+1hr	Regional Coordinating Officer	11	Approve adjudication processes to be implemented in support of requests for limited critical resources from multiple states.	• An incident or event is imminent that necessitates the adjudication of federal resources across multiple states.	
Phase 1c – Credible Threat	E+1hr	Operations Section Chief	12	Approve use of specialized/atypical resources needed for austere field conditions.	• An incident or event is imminent that may prevent or delay the deployment of federal resources to support response operations in an austere environment (e.g., extreme cold weather [ECW]).	

Phase	Timeframe	Decision Maker	DP	Decision	Criteria	Execution Checklist #
Phase 1c – Credible Threat	E+2hr	Logistics Section Chief	13	Identify/establish Federal Staging Area (FSA)/Incident Support Base (ISB) Concept of Operations (CONOPS) with FEMA HQ and approve locations for Interim Operating Facility (IOF)/ISBs/FSAs.	• Identified locations for IOF/ISBs/FSAs are functional and face no potential threats that could affect the region's ability to effectively respond to the incident.	
Phase 2a – Activation and Immediate Response	E+5min	MOC/RWC	14	Conduct additional incident evaluation and conduct notification and activation processes appropriate to threat level.	• An event or incident has occurred that meets the thresholds for notification. (The determination to deviate from established thresholds is based on analysis and professional judgment as to whether the magnitude, scope, or prominence of a given event warrants the notification of additional personnel or the escalation of notification beyond the threshold level.) • An incident or event has occurred within the state that requires immediate action. • Significant federal support is required.	
Phase 2a – Activation and Immediate Response	E+5min	Regional Administrator	15	Activate COOP plan.	• An incident or event has occurred within the state that requires immediate action. • The event impacts the Region's ability to provide service. • The Secretary of the Department of Homeland Security (DHS) activates COOP plan for Region 10.	

Phase	Timeframe	Decision Maker	DP	Decision	Criteria	Execution Checklist #
Phase 2a – Activation and Immediate Response	E+5min	Regional Administrator	16	Devolve the affected area Regional responsibilities to Region 6 and/or the NRCC.	• An incident or event has occurred, within the state, resulting in significant damage to infrastructure and transportation systems that would impede states or tribes and their partners from executing their responsibilities.	
Phase 2a – Activation and Immediate Response	E+5min	Regional Administrator	17	Determine event and alert/notification levels; initiate ENS procedures.	• A significant incident or event has occurred within the state that requires immediate action. • Significant federal support is required.	
Phase 2a – Activation and Immediate Response	E+30min	Regional Administrator	18	Conduct senior staff briefing and strategy session.	• An incident or event has occurred that has significant impacts on states or tribes. • State or tribal resources are overwhelmed. • State or tribal governments request federal assistance.	
Phase 2a – Activation and Immediate Response	E+30min	Mission Support Division Director	19	Conduct post-incident facility assessment.	• A significant incident or event has occurred within the state that impacts a FEMA facility. • Facility assessment is triggered.	
Phase 2a – Activation and Immediate Response	E+30min	Regional Administrator	20	Deploy initial response resources.	• An incident or event has occurred within the state that has significant impacts. States or tribes require immediate action. • Significant federal support is required. • State or tribal resources are overwhelmed. • State or tribal governments request federal assistance. • The incident or event necessitates the activation and deployment of the Regional and/or National IMAT.	

Phase	Timeframe	Decision Maker	DP	Decision	Criteria	Execution Checklist #
Phase 2a – Activation and Immediate Response	E+30min	Regional Administrator	21	Activate RRCC.	• An incident or event has occurred within the state that requires immediate action and significant federal support. • The event requires additional staff to monitor incident activities in addition to steady-state activities.	
Phase 2a – Activation and Immediate Response	E+30min	Regional Administrator, All Section Chiefs	22	Conduct personnel accountability process.	• A significant incident or event has occurred within the state.	
Phase 2a – Activation and Immediate Response	E+30min	Regional Administrator	23	Begin declaration process.	• State or tribal leadership make requests for an Emergency Declaration or a Major Disaster Declaration. • Joint Preliminary Damage Assessments (PDAs) have been completed (unless waived by FEMA). • Federal Coordinating Officer (FCO) has been designated. • Contact has been made with the state or tribe.	
Phase 2b – Community Stabilization	E+24hr	FCO	24	Initiate program delivery.	• Unified Coordination Group (UCG) joint incident objectives require the use of specialized federal resources to complete supporting tasks. • The remote Joint Field Office (JFO) (or IOF) is open and programs are ready to begin services. • FEMA-State Agreement has been signed by Governor's Authorized Representative (GAR) and FEMA Regional Administrator.	

Phase	Timeframe	Decision Maker	DP	Decision	Criteria	Execution Checklist #
Phase 2c – Sustained Operations	E+TBD	Regional Administrator	25	Transfer operational control.	• Authority for the incident has been transferred to the field level. • Resource needs can be handled through the JFO or FEMA steady-state operations. • Situational awareness can be handled at the field level with assistance from the RWC. • All RRCC staff are coordinating with field counterparts to ensure proper handoff of activities before demobilization of Regional Response Coordination Staff (RRCS).	

This page is intentionally left blank.

Appendix C-2: Lines of Effort (LOEs)

C.2.1 Background

Lines of Effort (LOEs) are the common functions that a jurisdiction must perform during emergencies, as outlined in FEMA's *National Response Framework* and FEMA's Response and Recovery *Federal Interagency Operational Plans* (FIOPs). LOEs are aimed at restoring the critical services provided through Community Lifelines that have been affected by a disaster. (Community Lifelines represent sets of indispensable services that enable the operation of critical business and government functions considered essential for maintaining human health and safety and the economic security of a community.)

LOEs are the activities that a tribe or state can ask FEMA and the federal interagency to support in order to fill their capability gaps while managing the consequences of an incident. Support for multiple LOEs may be required to stabilize a single lifeline.

LOEs help incident personnel at all levels visualize how federal interagency capabilities can support the stabilization of Community Lifelines by articulating the strategy to meet federal assistance requirements. LOEs are valuable tools when used to achieve unity of effort in an incident involving many Emergency Support Functions (ESFs), Recovery Support Function (RSFs), Core Capabilities, and FEMA programs.

C.2.2 CSZ Plan LOEs

This appendix includes tabs for the 24 LOEs deemed necessary for the execution of this *FEMA Region 10 Cascadia Subduction Zone* (CSZ) *Earthquake and Tsunami Plan*. They are intended to aid incident personnel in focusing response and recovery operations. The Appendix C-2 tabs are as follows:

- Tab 1 to Appendix C-2: Airfield Opening
- Tab 2 to Appendix C-2: Commodities Distribution
- Tab 3 to Appendix C-2: Damage Assessment
- Tab 4 to Appendix C-2: Debris Removal
- Tab 5 to Appendix C-2: Emergency Repairs or Augmentation to Infrastructure
- Tab 6 to Appendix C-2: Emergency Debris Clearance
- Tab 7 to Appendix C-2: Evacuation, Reception, Re-Entry, and Return
- Tab 8 to Appendix C-2: Fatality Management
- Tab 9 to Appendix C-2: Hazardous Waste
- Tab 10 to Appendix C-2: Healthcare Systems Support
- Tab 11 to Appendix C-2: Housing Solutions
- Tab 12 to Appendix C-2: Mass Care – Food and Water
- Tab 13 to Appendix C-2: Medical Transportation

- Tab 14 to Appendix C-2: Natural and Cultural Resource Protection and Restoration
- Tab 15 to Appendix C-2: Operational Communications
- Tab 16 to Appendix C-2: Port Opening
- Tab 17 to Appendix C-2: Private Sector Coordination
- Tab 18 to Appendix C-2: Public Information and Warning
- Tab 19 to Appendix C-2: Resource Staging
- Tab 20 to Appendix C-2: Responder Security and Protection
- Tab 21 to Appendix C-2: Restoration of Public Infrastructure
- Tab 22 to Appendix C-2: Search and Rescue
- Tab 23 to Appendix C-2: Sheltering Operations
- Tab 24 to Appendix C-2: Temporary Emergency Power

C.2.3 LOE Tab Structure

Each LOE tab includes Intermediate Objectives, a desired end state, organizational roles and responsibilities, and resources, such as FEMA programs, contracts, and Pre-Scripted Mission Assignments (PSMAs). The main tab sections are as follows:

- **Purpose** – Describes the general focus of the LOE.
- **Intermediate Objectives/End State** – Identifies in a linear manner the key activities that need to be completed in order to achieve the desired end state where federal assistance is no longer required. Completion of the Intermediate Objectives and achievement of the desired end state will indicate completion of the LOE and will contribute to the overall stabilization of the lifelines applicable to that LOE. Intermediate Objectives serve as starting points for developing Incident Action Plans (IAPs).
- **Key LOE Organizations and Their Roles/Responsibilities** – Identifies the relevant organizations that contribute capabilities or resources to completing the LOE's Intermediate Objectives.
- **Operational Assessment** – Aligns Key Indicators and sources of those indicators with the Intermediate Objectives. These indicators serve as initial measurements of success towards completing each Intermediate Objective. The Regional Response Coordination Center (RRCC) (or Unified Coordination Group [UCG]) will modify and expand these indicators depending upon the incident and reporting requirements.
- **Operational Considerations** – Provides additional insight, including but not limited to facts, assumptions, and limiting factors that may have specific relevance for an LOE.
- **Resources** – Identifies federal resources or assets that could be employed through either an MA or through an agency's statutory authorities. (More detail on these resources [number of personnel, equipment, whether they are self-sustaining, etc.] will be contained in the Federal Resource Capability Inventory [FRCI] being developed by FEMA.)

- **Pre-Scripted Mission Assignments** – Lists the Pre-Scripted Mission Assignments (PSMAs) that may be activated to acquire partner support in completing an LOE.
- **Execution Checklist** – Catalog's tasks/actions that must be implemented to fulfill the Intermediate Objectives and desired end states.
- **Linkages** – Identifies the Community Lifeline(s), Core Capability(ies), ESF(s), and RSF(s) associated with an LOE.
- **References** – Identifies standard operating procedures (SOPs), guides, manuals, or reference materials that are relevant to the completion of the LOE and could inform/influence associated actions.

This page is intentionally left blank.

Tab 1 to Appendix C-2: Airfield Opening

Purpose: Provide federal assistance to open major and secondary airfields impacted by the event.

C.2.Tab.1.1 Intermediate Objectives

Intermediate Objectives						End State
1a	1b	1c	1d	1e	1f	
Identify critical facilities for assess-ment; identify additional airfield capacity require-ments.	Deploy DOD or ESF #1 assets for assess-ment/ immediate re-establish-ment.	Support initial stabili-zation of airfield infrastruc-ture.	Maintain airfield infra-structure systems.	Conduct permanent repairs; consoli-date operations.	Demobilize federal assets.	All major airfields are open; majority of secondary airfields are operational and tertiary airfields are supported, as identified.

C.2.Tab.1.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities (M)

C.2.Tab.1.2.1 Primary Agencies

Organization	Roles and Responsibilities

Emergency Support Function (ESF) #1 / U.S. Department of Transportation (DOT)	• Coordinates the support of management of transportation systems and infrastructure, regulation of transportation, management of the nation's airspace, and the ensuring of the safety and security of the national transportation system. Functions include but are not limited to the following:
	  ○ Transportation mode management and control
	  ○ Transportation safety
	  ○ Stabilization and re-establishment of the transportation infrastructure
	  ○ Movement restrictions
	  ○ Damage and impact assessment
	• Provides technical expertise and assistance for the repair and restoration of transportation systems and infrastructure.
	• Provides engineering personnel and support for assisting with damage assessments, structural inspections, and the restoration of transportation infrastructure.
	• Administers special funding for use in the repair or reconstruction of major highway facilities as well as grant programs for transit systems and railroads for use in the repair and rehabilitation of damaged infrastructure.
	• Monitors and reports on the status of and damage to the transportation system and infrastructure resulting from the incident.
	• Identifies temporary alternative transportation solutions that can be implemented by others when systems or infrastructure are damaged, unavailable, or overwhelmed.
	• Coordinates requests for federal transportation assistance in accordance with the National Response Framework (NRF), to support Washington State Department of Transportation (WSDOT).
	• The Federal Aviation Administration (FAA) is the controlling authority for all airspace in the United States.

C.2.Tab.1.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Customs and Border Protection (CBP)	• Identifies and provides transportation-related Department of Homeland Security (DHS)/CBP assets and resources. • Provides assets to complement temporarily degraded or disrupted DOT/FAA air navigation services capabilities as requested by DOT/FAA and ESF #1.

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Provides support in the emergency operation and restoration of inland waterways, ports, and harbors under the supervision of DOD/USACE, including dredging operations. • Provides resources through contracts, statutory authority for debris in navigable waterways, and technical assistance to states and tribes. • Provides technical assistance, engineering, and construction management resources and support to assist in restoring the transportation infrastructure. • Executes repairs or construction activities as directed by FEMA to critical infrastructures identified by the state.
ESF #11 / U.S. Department of Agriculture (U.S. Forest Service)	• If available, provides transportation assets to ESF #1 when U.S. Forest Service resources are the most effective to support the ESF #1 mission. • If available, provides appropriate engineering and contracting/procurement personnel and equipment to assist in emergency removal of debris, demolition, repair of roads and bridges, and temporary repair of essential public facilities.
ESF #12 / U.S. Department of Energy (DOE)	• Through the National Nuclear Security Administration, provides fixed- and rotary-wing aircraft to support radiological environment surveys and/or search capabilities during a radiological or nuclear incident. • Provides information on status of, needs for, and plans for restoration of interdependent infrastructure.

ESF #13 / U.S. Department of Justice (DOJ)	• Provides federal public safety and security assistance in circumstances where state, local, tribal, and territorial (SLTT) resources are overwhelmed or inadequate, or where federal-to-federal support is needed, or a unique federal capability is required.
	• DOJ Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF)
	  ○ Identifies and provides departmental transportation support assets in support of the ESF #1 mission when not committed for internal operations.
	  ○ When mission assigned, activates the ESF #13 National Coordination Center and deploys an Incident Management Team (IMT) to the affected areas of responsibility to accomplish public safety and security situational assessment/awareness.
	  ○ Commands, coordinates federal law enforcement personnel and resources to support an ESF #13 response.

Organization	Roles and Responsibilities

Federal Emergency Management Agency (FEMA)	• Provides funding for activation under Stafford Act–eligible ESF #1 activities.
	• Ensures the availability of accessible transportation options for individuals with disabilities and others with access and functional needs during mass evacuations, as consistent with the National Response Framework (NRF).
	• Identifies transportation modes and capabilities for all populations, including individuals located in hospitals and nursing homes, and individuals with disabilities and others with access and functional needs.
	• Provides contracted, managed, multi-functional medical support resources and capabilities as needed in support of federal assistance through FEMA's National Evacuation Program.
	• May evacuate those who have chronic medical conditions with the general population. For evacuation of patients, refer to ESF #8.
	• Consistent with the NRF and the Post-Katrina Emergency Management Reform Act, is responsible for evacuation of service and companion animals.
	• Coordinates National Contracts through the HQ Response Operations Integration Branch (i.e., Air Transportation Support Services Contract, Air Evacuation Aviation Ground Support Contract).
	• ESF #5
	  ○ Implements objectives and priorities for expanding transportation access into the affected area by using priority airfields and ground routes.
	  ○ Employs available personnel to support ongoing transportation assessments specific to airfields and the associated ground routes.
	• ESF #7
	  ○ Assists SLTT and federal agencies; private sector entities; and voluntary organizations requiring personnel, equipment or supplies for an Incident of Local or Regional Significance.
	  ○ General Services Administration (GSA)
	  ▪ Assists in identifying sources and contracting transportation services needed for execution of the ESF #1 mission.

Office of Infrastructure Protection	• Provides information and assistance concerning the recovery and restoration of transportation critical infrastructure, as well as all other critical infrastructure impacted by transportation.

Organization	Roles and Responsibilities
Transportation Security Administration	• Through the Transportation Security Operations Center, provides transportation and threat information reports, including Information Sharing and Analysis Center reports, to ESF #1. • Serves as ESF #1 liaison to ESF #13, as appropriate. • Leads efforts to protect transportation infrastructure from the effects of acts of terrorism and supports efforts to protect transportation infrastructure from the effects of manmade and natural disasters. • Provides assets to address security and on-site coordination requirements for the ground operations and in-flight segments of mass air evacuation operations as requested by ESF #1. • Provides assistance in the allocation and prioritization of resources through the Infrastructure Liaison or the National Infrastructure Coordinating Center.
U.S. Coast Guard (USCG)	• Identifies and provides assets and resources in support of ESF #1. • Coordinates with support agencies and other maritime stakeholders for ESF #1 mission assignments to prioritize, evaluate, and support restoration of domestic ports, shipping, waterways, and related systems and infrastructure. • Provides information about the status of the maritime domain and Marine Transportation System in support of overall transportation sector status reporting. • Leads cooperative efforts to protect Marine Transportation System from acts of terrorism and manmade and natural disasters. • Acta as regulatory authority for the operational requirements of the state ferry system to include safety and security, staffing levels, etc. • Provides waterway inputs to assist in the creation of comprehensive intermodal operating picture. • Acts as collaborating agency for waterway security and safety.

Organization	Roles and Responsibilities
U.S. Department of Defense (DOD)	• Provides military transportation capacity from the U.S. Transportation Command (USTRANSCOM) or other organizations to move essential resources, including DOT response personnel and associated equipment and supplies, when requested and upon approval by the Secretary of Defense. U.S. Northern Command also provides staff to the headquarters ESF #1 function and the regional ESF #1 when requested and upon approval by the Secretary of Defense. • Provides assets to complement temporarily degraded or disrupted DOT/FAA air navigation services capabilities as requested by DOT/FAA and ESF #1. • Provides security and traffic control for fuel distribution points. • Through U.S. Air Force Airfield Survey Team, conducts worldwide airfield and site surveys to assess airfield capabilities in support of air mobility ops; as well as land zone and drop zone surveys.
U.S. Department of Interior (DOI)	• Identifies, and if available, provides departmental transportation assets (e.g., fixed-wing aircraft and all-terrain vehicles) and support resources (e.g., mechanics and pilots) if these are the most effective to support the ESF #1 mission. Resources will be assigned commensurate with each unit's level of training and the adequacy and availability of equipment. ESF #4 or the DOI Operations Center is the contact for this support. • Provides information on status of, needs for, and plans for restoration of infrastructure.
U.S. Department of State (DOS)	• Provides a liaison to the DOT Crisis Management Center in the event incidents have potential international implications. • Coordinates international offers of transportation-related assistance and support in accordance with the NRF. • In coordination with DOT/FAA, modifies or revokes previously approved foreign diplomatic aircraft clearances. This DOS action does not obviate the continuing need for flight crews to check the pertinent Notices to Airmen released by DOT/FAA. DOS will reference DOT/FAA airspace restrictions, including Temporary Flight Restrictions, as part of its processing of requests from foreign embassies/missions for diplomatic aircraft clearance.
U.S. Postal Service (USPS)	• Collects and reports on transportation infrastructure disruption and damages as information becomes available.

C.2.Tab.1.3 Operational Assessment (M)

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
1a. Identify critical facilities for assessment; identify additional airfield capacity requirements.	• Lifeline Infrastructure Assessment • Status of impacted airfields (facilities/navigational aids/equipment/fuel availability)	• DOT • USACE • DOE • Cybersecurity and Infrastructure Security Agency (CISA)
1b. Deploy DOD or ESF #1 assets for assessment / immediate re-establishment.	• Notification of a Cascadia Subduction Event (CSZ) event • Status of impacted airfields (facilities/navigational aids/equipment/fuel availability) • Temporary Flight Restrictions • Resources available/staged/ deployed (temporary towers, radar systems, etc.) • Available federal assets to support airfield damage assessments resource shortfalls	• FAA • DOD • National Response Coordination Center (NRCC) • USACE • DOT
1c. Support initial stabilization of airfield infrastructure.	• Status of impacted airfields (facilities/navigational aids/equipment/fuel availability) • Temporary Flight Restrictions	• ESF #1 • USACE • ESF #14 • CISA
1d. Maintain airfield infrastructure systems.	• Status of impacted airfields (facilities/navigational aids/equipment/fuel availability) • Temporary Flight Restrictions • Resources available/staged/ deployed (temporary towers, radar systems, etc.) • Alternate airfields available to support operations	• ESF #1 • USACE • ESF #14 • CISA
1e. Conduct permanent repairs; consolidate operations.	• Status of impacted airfields (facilities/navigational aids/equipment/fuel availability) • Temporary Flight Restrictions • Resources available/staged/ deployed (temporary towers, radar systems, etc.) • Alternate airfields available to support operations	• CISA • DOT • FAA • USACE • DOD • DOE • ESF #15 • State Emergency Operations Center (EOC)

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
1f. Demobilize federal assets.	• Status of impacted airfields (facilities/navigational aids/equipment/fuel availability) • Resources available/staged/ deployed (temporary towers, radar systems, etc.)	• ESF #1 • DOT • FAA • USACE • DOD • DOE • ESF #14 • ESF #15 • CISA • NRCC

C.2.Tab.1.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a CSZ incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.1.4.1 Planning Factors

- There are 98 airports in CSZ impact areas of Washington and Oregon.

C.2.Tab.1.4.2 Priorities

- Rapidly assess status of air transportation infrastructure.

C.2.Tab.1.4.3 Facts

- The following airports in Washington State are built on relatively stable ground: Paine Field, McChord, SEA, Olympia, Moses Lake, Spokane, Civil airfield at Port Angeles, and Grays Harbor Airfield.
- Airports within the impacted geographic reference areas (GRAs) will suffer slight to extensive damage. Of those that don't sustain damage, all will have ground access issues and problems with wraparound services (power, water, sanitation, fuel, and communications).

- C-130 aircraft are used for response operations. Runways capable of landing a fully loaded C-130 require approximately 3,500 feet of runway to accommodate the maximum landing weight.
- The number of significantly damaged and blocked airports overwhelms the limited number of engineers, inspectors, and crews to conduct assessments and inspections.
- Of the airport runways in the impact area that can accommodate the C-130 aircraft used for response operations, nearly half will sustain significant damage.

C.2.Tab.1.4.4 Assumptions

- For rotary-wing aircraft, creating landing zones will be easier than restoring airfields.
- Damage to roads, bridges, ports, rail systems, and airports hinders the response.
- Debris clearance, assessment, traffic management, and repairs commence at pre-identified airports and along ground routes immediately post-incident.
- Smaller airports along the coast may suffer severe or complete runway damage resulting in limited fixed-wing aircraft operations for emergency response

C.2.Tab.1.4.5 Shortfalls/Limiting Factors

- Communities in the Coastal GRA are limited to air and water access for much of the response; smaller airfields may only be able to handle rotary-wing assets; there is a need for atypical solutions such as the use of all-terrain vehicles, horses, and foot travel for ground transportation/deliveries.
- Multiple agencies are involved in airfield inspections, the completion of which affects both logistics and the Transportation Community Lifeline. The inspection process needs to be better coordinated among agencies or waivers need to be applied.

C.2.Tab.1.4.6 Critical Considerations

- See Annex D
    - RSOI
    - Priority logistics nodes
    - Priority routes

C.2.Tab.1.4.7 Task Force(s)

- Air Operations
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.1.5 Resources (M)

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.1.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF #1 – 68	Ground Air Traffic Control	FOS/ DFA/
DOD PSMA ESF #1 – 92	Airfield Repair Team	FOS/ DFA
DOD PSMA ESF #1 – 94	Airfield Assessment Survey Team	FOS/ DFA
DOD PSMA ESF #1 – 103	Regional Air Movement Control Center (RAMCC) Personnel	FOS/ DFA/
DOD PSMA ESF #1 – 105	Aerial Port Operations Team	FOS/ DFA/
DOT PSMA ESF # 1 - 144	Activation: DOT	
FAA PSMA ESF #1 – 158	Air Traffic Control (ATC) Services Personnel and Systems	FOS/ DFA
FAA PSMA ESF #1 – 160	Air Navigation Services (ANS) System and Personnel	FOS/ DFA
USACE PSMA ESF # 3 - 283	Infrastructure Assessment Planning and Response Team (PRT)	
GSA PSMA ESF # 7 - 166	Activation: GSA	
DOT PSMA ESF #7 – 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships	FOS
HHS PSMA ESF # 8 - 17	Activation: HHS	
DOJ PSMA ESF # 13 - 132	Activation: DOJ	

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.1.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.1.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Safety and Security	• Law Enforcement/ Security • Fire Service • Government Service	• Mass Search and Rescue Operations • On-Scene Security, Protection, and Law Enforcement	• 5, 13
• Transportation	• Aviation	• Critical Transportation • Infrastructure Systems • Logistics and Supply Chain Management • Mass Search and Rescue Operations	• 1, 3, 5, 7

C.2.Tab.1.9 References

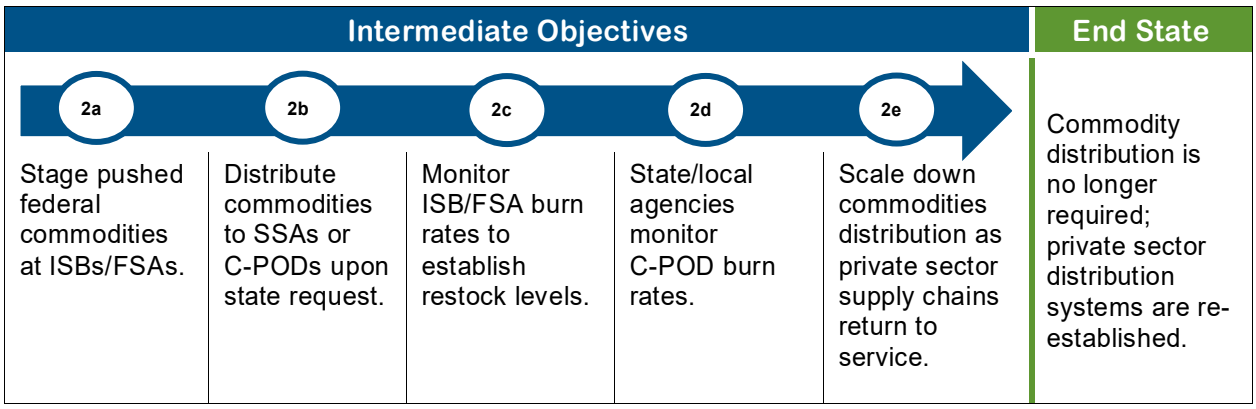
- Annex X, Execution Matrix, Airfield Opening Tab
- ESF #1/Defense Coordinating Officer (DCO)/Defense Coordinating Element (DCE)
  - Airfield Assessment Survey Teams
  - Airfield Repair Teams
  - Ground Air Traffic Control
- ESF #1/FAA
  - Air Traffic Control Services Personnel and Systems
  - Air Navigation Services System and Personnel
- Pre-Scripted Mission Assignments Library December 31, 2020

This page is intentionally left blank.

Tab 2 to Appendix C-2: Commodity Distribution

Purpose: Coordinate support for the distribution of resources at appropriate sites (i.e., Incident Support Base [ISB), Federal Staging Area [FSA], Aerial Port of Debarkation [APOD], State Staging Areas [SSAs], commodity points of distribution [C-PODs], etc.).

C.2.Tab.2.1 Intermediate Objectives



C.2.Tab.2.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.2.2.1 Primary Agencies

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #7 / Defense Logistics Agency (DLA)	• Procures and deliver bottled drinking water in support of FEMA disaster operation. • Provides shelf-stable meals in support of disaster operations.
ESF #7 / FEMA Regional/Incident Level Logistics Staff	• Manages resource request fulfilment process for items that can be obtained from within the Region. • Establishes and manages logistical nodes. • General Services Administration (GSA) ○ Provides resource fulfillment support
FEMA Headquarters (HQ) Logistics Management Directorate (LMD)	• Manages resource request fulfilment process. • Establishes and manages ISBs.

C.2.Tab.2.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Department of Defense (DOD)	• Produces, transfers, carries, and distributes bulk potable water for emergency use in support of disaster operations. • Provides personnel augmentation to execute operations at FEMA Distribution Centers in support of disaster operations. • Activates and deploys strategic sealift (barge) assets capable of providing logistic transportation of key commodities to littoral areas within the impacted region (e.g., Portland and Puget Sound).
ESF #5 / Information and Planning	• Places orders through the National Response Coordination Center (NRCC) for Initial Response Requests (IRR) support temporary Life Saving/Sustainment drops to county tsunami assembly locations.
ESF #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• Gathers, assesses, prioritizes, coordinates, and communicates resource requirements for mass care. • Establishes a Bulk Distribution Task Force to support each state. • Initiates the acquisition and delivery of life-sustaining resources, hygiene items, and clean-up items to meet the urgent needs of disaster survivors to ISBs. • Provides equipment, supplies, and services required to assist children and adults with disabilities and others with access and functional needs. • In coordination with ESF #7, verifies deployment of any IRR activated by other states in Region 10. • Coordinates with all response entities to maintain resource inventory and prevent duplication of services.
ESF #8 / U.S. Department of Health and Human Services (HHS)	• With ESF #6 and states, identifies mass care needs for assisted care patients in private homes and for persons with access and functional needs that are living independently and deploy resources to support. • Monitors and supports mass care needs for assisted care patients in private homes and for persons with access and functional needs who are living independently.
ESF #11 / U.S. Department of Agriculture (USDA)	• With ESF #6 and partners, identifies initial requirements for the transportation of food to survivors and responders. • Arranges for the transportation of food into and throughout affected areas.
Local Office of Emergency Management (OEM), Office of Emergency Services (OES), Emergency Management Agency (EMA)	• Maintains operational Points of Distribution (PODs)
State EMA Logistics	• Maintains operational SSAs
State Emergency Operations Center (SEOC)	• Identifies and maintains operationally ready SSAs/C-PODs.

Organization	Roles and Responsibilities
State/Local/Voluntary Organizations Active in Disaster (VOAD) Organizations	• Staffs and operates PODs. • Manages donations.
U.S. Coast Guard (USCG)	• Provides transportation of personnel, cargo and/or commodities (i.e., food, water, etc.) using maritime assets to support disaster operations.
U.S. Department of Transportation (DOT)	• Through U.S. Maritime Administration (MARAD), provides cargo ships in support of disaster operations. • Supports air transportation requirements.

C.2.Tab.2.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
2a. Stage pushed federal commodities at ISBs/FSAs.	• Commodity estimates derived from Regional planning factors or real-world situational awareness	• Regional leaders • Field leaders • FEMA HQ
2b. Distribute commodities to SSAs or C-PODs upon state request.	• State-requested commodities that require delivery to SSAs or C-PODs	• State leaders
2c. Monitor ISB/FSA burn rates to establish restock levels.	• State SSA reorders for commodities • FEMA Logistics External Branch reorders for federal commodities to meet state requests	• Field Logistics staff
2d. State/local agencies monitor C-POD burn rates.	• State SSA reorders for commodities • Local entity reports indicating number of recipients per day as well as stock levels, which determine burn rates • U.S. Army Coprs of Engineers (USACE) Commodities Planning and Response Team (PRT) spot monitoring of C-PODs for independent monitoring	• State and local entities • USACE
2e. Scale down commodities distribution as private sector supply chains return to service.	• C-PODs reports of much lower or no burn rates • Steady-state private sector supply chains capable of meeting community needs (e.g., grocery stores, restaurants, gas stations)	• State and local entities

C.2.Tab.2.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:

  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ incident).
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.2.4.1 Planning Factors

- N/A

C.2.Tab.2.4.2 Priorities

- Assess logistics nodes and routes.
- Establish emergency and supply routes.
- Re-establish the supply chain (commodities, fuel) for Washington, Oregon, Alaska, and Idaho citizens.

C.2.Tab.2.4.3 Facts

- While rail and barge deliveries of fuel provide some modal redundancy for Idaho, disruption of the Marathon pipeline, primarily, and the Yellowstone pipeline, secondarily, would cause significant statewide and regional economic impacts.
- More than 80% of Alaska's maritime trade and over 90% of consumer goods pass through the Port of Alaska.
- There is limited in-state production of food and other basic commodities in the State of Alaska. There will likely be a disruption to food and commodity shipments due to damage to ports in Washington and Oregon.

C.2.Tab.2.4.4 Assumptions

- Commodities and fuel shipments will need to be redirected to ports in California (San Francisco/Oakland, LA/Long Beach, San Diego) for onward shipment to Alaska.
- Washington and Oregon provide information, through FEMA Region 10 or its designated backup Region, about their levels of capability, commodity distribution shortfalls, and locations of SSAs and PODs.
- Debris clearance, assessment, traffic management, and repairs commence at pre-identified airports and along ground routes immediately post-incident.

C.2.Tab.2.4.5 Shortfalls/Limiting Factors

- C-PODs are not identified for either Washington or Oregon.
- Maritime node considerations for commodity distribution have not been factored into the planning process.
- Air transportation logistics are limited by ground connections.
- Multiple agencies are involved in airfield inspections, the completion of which affects both logistics and the Transportation Community Lifeline. The inspection process needs to be better coordinated among agencies or waivers need to be applied.
- Phase timing/syncing considerations for commodity resource availability and ramp-up rates at logistics nodes are not established.

C.2.Tab.2.4.6 Critical Considerations

- RSOI – See Annex D
- Priority routes – See Annex D.
- Priority logistics nodes – Logistics nodes are listed in the following table:

Location	Node Function	FEMA Priority	DOD Airfield Assessment (Available DOD Assessment Teams)	Airfield Opening
Joint Base Lewis McChord (JBLM)	FSA	1	C001 (Internal Assessment)	C001
Eugene Airport	FSA	2	C001	C002
Portland International Airport	APOD	3	C001	C002
William R. Fairchild International Airport	FSA	4	C001	C002
William R. Fairchild International Airport	SSA	4	C001	C002
Salem Municipal Airport	APOD	5	C001	C002
Grant County International Airport	ISB	6	C002	C003
Ephrata Municipal Airport	ISB	7	N/A (Intermediate Ground Location)	N/A
Rogue Valley International-Medford Airport	APOD	8	C002	C003
Crater Lake-Klamath Regional Airport	ISB	9	C002	C003
Redmond Municipal Airport	ISB	10	C002	C003
Sanderson Field	APOD	11	C003	C004
Sanderson Field	SSA	11	C003	C004
Paine Field Airport	APOD	12	C003	C004
Paine Field Airport	SSA	12	C003	C004
Tillamook Airport	APOD	13	C003	C004
Bellingham International Airport	APOD	14	C004	C005
Bellingham International Airport	SSA	14	C004	C005

Location	Node Function	FEMA Priority	DOD Airfield Assessment (Available DOD Assessment Teams)	Airfield Opening
Cape Blanco State Airport	APOD	15	C004	C005
Clark County Fairgrounds	SSA	16	N/A (Ground Location)	N/A
Southwest Washington Regional Airport	SSA	17	C004	C005
Arlington Municipal Airport	SSA	18	C004	C005
Bowerman Airport	SSA	19	C005	C006
Olympia Regional Airport	SSA	20	C005	C006
Bandon State Airport	APOD	21	C005	C006
Bremerton National Airport	SSA	22	C005	C006
Tri Cities Airport	APOD	23	C006	C007
Boise Airport RWY 09/27	ISB	24	N/A (Intermediate Ground Location)	N/A
Fairchild AFB	APOD	25	C001 (Internal Assessment)	C001

C.2.Tab.2.4.7 Task Force(s)

- Bulk Distribution
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.2.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified as it is password protected.

C.2.Tab.2.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DLA PSMA ESF #7 - 11	(DFA) BOTTLED WATER (Subsistence Supply Chain)	DFA
DLA PSMA ESF #7 - 12	(DFA) WATER TANKER TRUCKS (Construction & Equipment Supply Chain)	DFA
DLA PSMA ESF #7 - 12	(FOS) WATER TANKER TRUCKS (Construction & Equipment Supply Chain)	FOS
DLA PSMA ESF #7 - 22	(DFA) MEALS (Subsistence Supply Chain)	DFA
DLA PSMA ESF #7 - 22	(FOS) MEALS (Subsistence Supply Chain)	FOS
DLA PSMA ESF #7 - 25	(FOS) PORTABLE WATER JUGS (Construction & Equipment Supply Chain)	FOS
DLA PSMA ESF #7 - 25	(DFA) PORTABLE WATER JUGS (Construction & Equipment Supply Chain)	DFA
DLA PSMA ESF #7 - 31	(FOS) DLA DISTRIBUTION EXPEDITIONARY PACKAGES	FOS
DOD PSMA ESF #7 - 40	(FOS) Staging: ISB, FSA or FTSF	FOS
DOD PSMA ESF #7 - 48	(DFA) Transportation: Cargo or Personnel	DFA
DOD PSMA ESF #7 - 48	(FOS) Transportation: Cargo or Personnel	FOS
DOD PSMA ESF #7 - 56	(FOS) Strategic Air Transportation	FOS
DOD PSMA ESF #7 - 96	(FOS) Bulk Water - Potable	FOS
DOD PSMA ESF #7 - 96	(DFA) Bulk Water - Potable	DFA
DOD PSMA ESF #7 - 107	(FOS) FEMA Distribution Center Operations: Personnel - Military	FOS
DOD PSMA ESF #7 - 108	(DFA) Water Purification: Potable Water	DFA
DOD PSMA ESF #7 - 110	(FOS) ISB Augmentation	FOS
DOT PSMA ESF #7 - 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships	FOS
GSA PSMA ESF #7 - 169	(DFA) Commodities and Services Support	DFA
USCG PSMA ESF #7 – 326	Maritime Transportation for Logistics Support: Vessel	DFA
USCG PSMA ESF #7 – 326	Maritime Transportation for Logistics Support: Vessel	FOS
USCG PSMA ESF #7 – 328	Air Transportation for Logistics Support: Rotary-Wing Aircraft	DFA
USCG PSMA ESF #7 – 328	Air Transportation for Logistics Support: Rotary-Wing Aircraft	FOS
USCG PSMA ESF #7 – 330	Air Transportation for Logistics Support: Fixed-Wing Aircraft	DFA
USFS PSMA ESF #7 – 372	Logistics Facility Support Team	DFA

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.2.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.2.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Energy	• All	• Critical Transportation • Infrastructure Systems • Logistics and Supply Chain Management • Operational Communications	• 3, 7
• Food, Water, Shelter	• All	• Logistics and Supply Chain Management • Mass Care Services • Public and Private Services and Resources	• 3, 5, 6, 7, 8, 11
• All	• All	• Logistics and Supply Chain Management	• 7
• Communications	• Alerts, Warnings, and Messages	• Natural and Cultural Resources	• 15
• Transportation	• All	• Critical Transportation • Logistics and Supply Chain Management • Operational Coordination	• 1,3,6,7,11

C.2.Tab.2.9 References

- Annex X, Execution Checklist, Commodity Distribution Tab
- *National Response Framework (NRF) ESF #7 Annex* (Logistics Management and Resource Support)
- Pre-Scripted Mission Assignments Library December 31, 2020

Tab 3 to Appendix C-2: Damage Assessment

Purpose: State or tribal governments request joint damage assessments.

C.2.Tab.3.1 Intermediate Objectives

Intermediate Objectives				End State
3a	3b	3c	3d	
Scope mission; conduct task analysis with state and/or tribes.	Activate assessment assets (unmanned aerial systems [UASs], modeling, Preliminary Damage Assessment [PDA] teams, etc.) to conduct PDA operations/ information. collection.	Conduct analysis and provide situational awareness to senior leaders.	Reassess until incident closeout.	Damage assessments conclude as other means of situational awareness are established.

C.2.Tab.3.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.3.2.1 Primary Agencies

Organization	Roles and Responsibilities

Federal Emergency Management Agency (FEMA)	• FEMA Regional Recovery Division Director
	  ○ Oversees the deployment of division staff required to support state and tribal requests for joint damage assessment.
	• FEMA Regional Public Assistance (PA) Branch Chief
	  ○ Oversees the mobilization of personnel and assets, the coordination of federal activities between all responsible state or tribal officials, and completion of the damage assessment process in accordance with appropriate policies and practices.
	• FEMA Regional Individual Assistance (IA) Branch Chief
	  ○ Facilitates the exchange of information with state, tribal, and local officials to provide an accurate and efficient collection of damage, cost, and program eligibility information in affected areas and to validate the projected cost of the disaster.
	• Emergency Support Function (ESF) #5
	  ○ Initiates pre-identified remote sensing to determine priorities for first response actions.
	  ○ In coordination with federal, state, local, and tribal governments, conducts a rapid needs assessment of the affected areas.
	  ○ Activates/deploys/employs ESF #5 personnel with the Incident Management Assistance Team(s) (IMAT[s]) to state/tribal emergency operations centers (EOCs).
	  ○ Analyzes, prioritizes, and establishes Situational Assessment resources to support state, local, tribal, and territorial (SLTT) governments and establish a situational picture (SitPic).
	  ○ Submits incident report into WebEOC.
	• ESF #6
	  ○ Activates and deploys mass care assessment teams, planning teams, and liaisons to EOCs

ESF #1 / U.S. Department of Transportation (DOT) / Federal Aviation Administration (FAA)/ Federal Transit Administration (FTA)	• Makes damage assessments; administer funds.
ESF #2 / FEMA Communications	• Provides standard communications, such as cell and radio for dispatching and operations.

Organization	Roles and Responsibilities
Local transit authority	• Makes damage assessments, performs debris removal and infrastructure repair, develops alternate routing (new routes around damaged roads or bridges), and requests mutual aid or peer-to-peer assistance from other transit agencies.

C.2.Tab.3.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Civil Air Patrol (CAP)	• May provide remote sensing support through aerial imagery equipment and staff.
ESF #4 / Department of Agriculture/Forest Service (Firefighting)	• Obtains an initial fire situation and damage assessment through established intelligence procedures.
National Oceanic and Atmospheric Administration (NOAA)/National Weather Service (NWS)	• Provides weather forecasting and modeling.
Oil and gas companies	• Provides fuel and power.
Power companies / CO-Ops / Rural Electric Associations (REAs)	• Performs power restoration for systems such as third rail, catenary, signaling, switching, operations/control centers, radio systems, fuel storage, and distribution pumping.
U.S. Small Business Administration (SBA)	• May provide low-interest disaster loans to businesses, homeowners, personal property owners, and eligible private non-profit organizations in a county included in a Presidential disaster declaration. The SBA uses information gathered on uninsured or underinsured homes to estimate potential program costs.

C.2.Tab.3.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
3a. Scope mission; conduct task analysis with state and/or tribes.	• Resource needs that exceed state and/or tribe capacities • Number of federal damage assessment resources needed by state(s)/tribe(s) • Number of federal damage assessment resources available	• State and local damage summaries
3b. Activate assessment assets (unmanned aerial systems [UASs], modeling, Preliminary Damage Assessment [PDA] teams, etc.) to conduct PDA operations/ information. collection.	• Number of damage assessment assessments collected	• State or tribal requests for joint damage assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
3c. Conduct analysis and provide situational awareness to senior leaders.	• IA and/or PA program declaration criteria met	• State and local damage summaries • Damage assessment survey results
3d. Reassess until incident closeout.	• Continued identification of additional requirements • Number of additional assessments requested • Number of additional assessments completed	• State and local damage summaries

C.2.Tab.3.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.3.4.1 Planning Factors

- N/A

C.2.Tab.3.4.2 Priorities

- Assess access to damaged homes and status of utilities.
- Assess capabilities post-incident.
- Assess the status of socially vulnerable populations (reference National Risk Overview – elderly, disabled, and access and functional needs) within the impact area.
- Assess priority ingress and egress requirements for healthcare facilities and patient evacuation points.
- Assess routes to energy infrastructure sites.
- Assess access to facilities within impacted branches where mission-essential services are needed.

C.2.Tab.3.4.3 Facts

Facts

- General
    - Clearance and storage capacity for 32 million cubic yards of debris is required as a result of the initial earthquake. Additional debris results from bridge collapses and tsunami inundation. Debris removal is required for numerous functional areas beyond transportation (e.g., infrastructure, emergency services, communications, search and rescue [SAR]).
    - Facilities and infrastructure in Oregon and Washington estimated to be affected by the CSZ incident include 15,858 miles of highway; 6,826 highway bridges (different estimation methodologies were used for Oregon and Washington); 5,828 miles of rail; 93 rail bridges; 98 airports; and 716 port facilities (including 72 ports). (For the purposes of this plan, ports are maritime transportation hubs, while port facilities are the facilities that support those hubs by providing fuel, access to waterways, navigation, etc.)
    - Any railcars carrying chemicals damaged during the event could pose hazardous materials (HAZMAT) issues. (In 2009, 439 railcar loads per day of chemicals traveled through Region 10.)
    - The number of significantly damaged and blocked roads, railways, airports, and seaports overwhelms the limited number of engineers, inspectors, and crews to conduct assessments and inspections.
    - Transportation capabilities are essential to response efforts, including assessment, repair, and people/supply movement.
- Ground
    - Damage to overpass structures results in debris on roadways; debris cleanup is necessary to use roadways as aircraft landing areas.
    - Damage to transportation infrastructure is most severe along the coast and in the coastal mountains. Serious damage also occurs along the I-5 corridor, and major damage occurs throughout the Cascades due to ground shaking, avalanches, and landslides.
    - Of the five major bridges that cross the Columbia River in the affected area, four are severely damaged: the Astoria Bridge and WA 433, I-5, and I-205 bridges. The Stevenson Bridge is expected to have no damage.
    - There is major damage to coastal roads and bridges as well as to nearly all primary and secondary roads between the coast and the I-5 corridor.
    - Most of U.S. 101 is completely damaged.
    - Roughly 40% of I-5 sustains complete damage.
    - The south end of I-405 sustains significant damage. The bridge over the Duwamish/Green River will probably fail due to Hollow Column construction.
    - Washington highways 4, 6, 8, 105, 109, and 112, as well as U.S. 12, all sustain complete damage along their extent, limiting access to the coast.

  - In Portland, five downtown bridges sustain damage, and many road segments are damaged as well. The potential for viable alternate routes exists, enabling some degree of movement, but with longer travel times and more congestion.
  - Major roads expected to sustain less damage than others include a section of U.S. 26, OR 36, OR 229, a small section of OR 34, sections of OR 47 and OR 202 (adjacent), most roads east of I-5, I-5 from Creswell to Sutherlin, and I-5 from Glendale to the California border. In the Portland area, roads expected to sustain less damage than others include I-405, U.S. 26, OR 99E north of SE Holgate Blvd., OR 99W, and I-84 east of 99E.
  - Roughly 50% of I-5 sustains complete damage. In Oregon, Wolf Creek to Sutherlin sustains complete damage. Eugene to Portland sustains nearly complete damage.
  - Routes connecting U.S. 101 to I-5 all sustain complete damage. These include Oregon state highways 42, 38, 126, 34, 20, 18, 22, and 6 and U.S. 26, 30, and 199.
  - U.S. 101 is completely damaged for its full extent along the Oregon coast.
  - Portions of I-5 are unusable due to damage to key bridges.
  - The initial earthquake and tsunami destroy most of U.S. 101 and other roads that provide access to the coast.

- Air
  - During the 2001 Nisqually earthquake, the air traffic control tower at SEA was heavily damaged. It has since been retrofitted and is now used for ground control. Federal Aviation Administration (FAA) controllers operate out of a new tower built in 2004 and engineered for an M9.5 earthquake. If need be, FAA could work out of the old tower to control air traffic.
  - Portland International Airport (PDX) is a joint civil-military airport and the largest airport in Oregon. Its terminal and facilities suffer moderate damage, and its runways sustain no damage from the earthquake.
  - Access and potential damage to supporting infrastructure leading to and from airports are limiting factors for aerial the delivery of resources.

- Maritime
  - All seaports along the Pacific Coast are at risk of sustaining complete damage; seaports along Puget Sound and the Columbia River (west of I-205 bridge) are at risk for major damage.
  - Major seaports are susceptible to liquefaction, including the Port of Seattle, Port of Tacoma, Port of Vancouver, and Port of Portland. The Port of Port Angeles is very susceptible to liquefaction, and plans are underway to move much of its operations to the airport location, which is on solid ground and 300 feet above the harbor. The ports in Pacific County are also subject to liquefaction, and most of the Long Beach peninsula in Washington State is less than 20 feet above sea level.

- Due to damage at various ports, crane ships may be necessary to facilitate movement of port assets. Due to the large power requirements of crane ships, no port operations are likely to occur if ports are without power.
- Navigation is extremely difficult from the mouth of the Columbia River to the Portland/Vancouver area. The tsunami damages many of the river's navigation aids and debris and sediment compromise the channel. Navigation could also be extremely difficult in the area of Longview, Kelso, and Castle Rock if debris from Mount St. Helens is shaken loose and causes a breach in the sediment debris blockage and a subsequent draining of Spirit Lake into the Toutle and Cowlitz rivers that feed into the Columbia River.
- There are 45 ferry facilities in Washington. All facilities in the Coastal Geographic Reference Area (GRA) sustain complete damage. Puget Sound facilities sustain moderate to complete damage. San Juan Island facilities sustain slight to moderate damage.
- Twenty-one ports are exposed in Oregon.
- Major commercial and container ports in the impacted area include Portland and Dalles-McNary.
- There are 7 river ferry facilities in Oregon. They sustain moderate to complete damage.

- Rail
  - Key rail bridges in Seattle, Olympia, Vancouver, and Portland sustain complete damage.
  - Rail transportation is not possible along the I-5 corridor or along any railroad spurs to the west; there are no rail services available for the transport of people or supplies.
  - Seattle and Portland are both served by rail lines from the east that may be significantly impacted by landslides.
  - The majority of rail facilities in the Cascadia region (train stations, dispatch facilities, and fuel facilities) are along the I-5 corridor; most of these facilities suffer extensive to complete damage.

C.2.Tab.3.4.4 Assumptions

- General
  - All impacted counties/tribal nations will receive Presidential disaster declarations post-event.
  - There are a limited number of qualified inspectors to support assessments of both public and private transportation infrastructure.
  - Airports, marine port facilities, railways, and ground routes are the focus of assessments, repairs, debris clearance, and traffic management immediately post-earthquake.
  - Mutual aid agreements (MAAs) may not be workable due to the catastrophic nature of the incident, as requests quickly surpass capacity.

- Oregon Department of Transportation (ODOT) (ESF #1) consists of two staff members and has no capacity to handle catastrophic nature of CSZ even with support.

C.2.Tab.3.4.5 Limiting Factors

- General
  - Damage assessment resources/capabilities is needed to support all modes of transportation.
  - Most ESF #1 engineers lack required certifications for responding to a CSZ incident.
- Ground
  - Ground movement is restricted in many areas
- Air
  - Air reconnaissance and analysis support are needed for situational awareness.
- Maritime
  - There are no functional ports in the impact area until temporary port capabilities established.

C.2.Tab.3.4.6 Critical Considerations

- See Annex D:
  - RSOI
  - Staging
  - Priority Nodes
  - Priority Routes
- See Annex C, Tab 9: Hazardous Waste.

C.2.Tab.3.4.7 Task Force(s)

- Infrastructure
- Debris Management
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.3.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the

associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.3.6 Pre-scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOT PSMA ESF #1 - 147	(DFA) Damage Assessments for Transit Agencies	FOS/DFA
USFS PSMA ESF #2 376	(FOS) Communications: Radio Starter System	FOS
USACE PSMA ESF #3 - 281	(FOS) Infrastructure Assessment Planning and Response Team (PRT): Mngt Cell	FOS
USCG PSMA ESF #5 - 332	(FOS) Damage Assessment and/or Situational Awareness: Imagery	DFA
USAF PSMA ESF #5 – 89	Civil Air Patrol	FOS/DFA
USCG PSMA ESF #5 - 332	(DFA) Damage Assessment and/or Situational Awareness: Imagery	DFA
USCG PSMA ESF #10 - 344	(DFA) Oil/HAZMAT Response	DFA
USCG PSMA ESF #10 - 351	(DFA) Sunken, Derelict, Displaced Vessel	DFA

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.3.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.3.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• 911 & Dispatch • Alert, Warnings, and Messages • Infrastructure • Responder Communications	• Infrastructure Systems • Operational Communications • Situational Assessment	• All
• Energy	• All	• Infrastructure Systems	• 5
• Food, Water, Shelter	• All	• Mass Care Services	• 6
• Safety and Security	• Community Safety • Fire Service • Government Service • Law Enforcement/ Security	• Operational Coordination • Public and Private Services and Resources	• All
• Transportation	• All	• Infrastructure Systems • Operational Communications • On-Scene Security, Protection, and Law Enforcement	• 1, 5

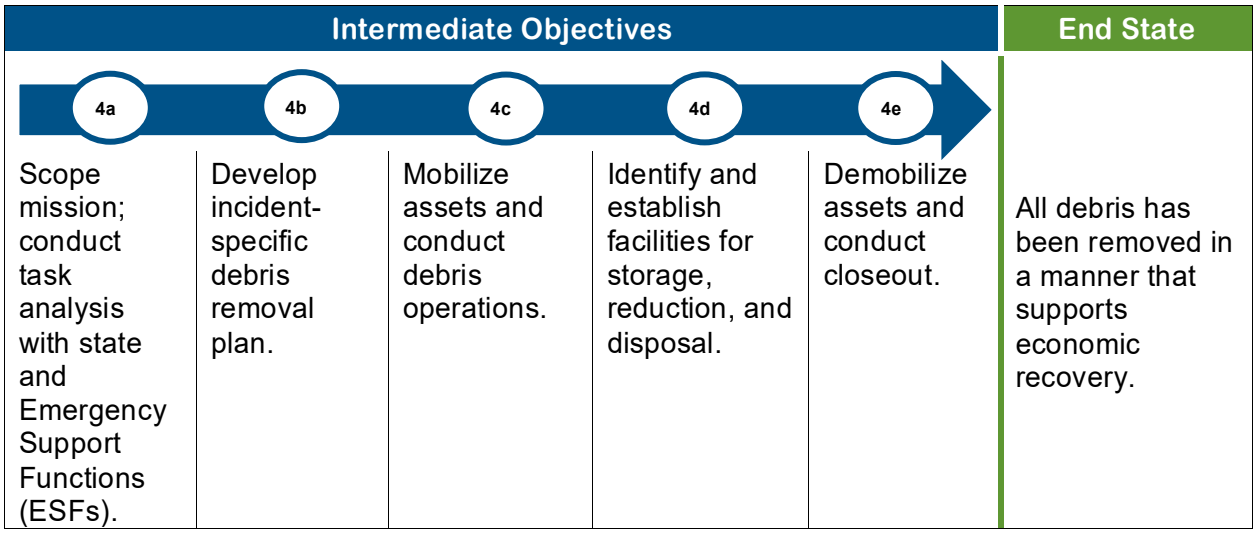
C.2.Tab.3.9 References

- Annex X, Execution Matrix, Damage Assessment Tab
- *Damage Assessment Operations Manual,* FEMA (May 2022)
- Pre-Scripted Mission Assignments Library December 31, 2020

Tab 4 to Appendix C-2: Debris Removal

Purpose: Provide federal assistance to support removal and disposal of debris that impacts the emergency response and community functionality.

C.2.Tab.4.1 Intermediate Objectives



C.2.Tab.4.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.4.2.1 Primary Agencies

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Provides debris technical expertise and debris clearance and management operations via Advanced Contract Initiative (ACI) contract.
ESF #1 / U.S. Department of Transportation (DOT)	• Based on initial assessment, in coordination with ESF #3, ESF #5, states, and Defense Coordination Element, develops a debris removal plan. • Supplies sustainment resources to support public and private debris removal teams.

Federal Emergency Management Agency (FEMA)	• Regional Response Coordination Center (RRCC)
	  ○ Supports state requests for debris resources.
	  ○ Addresses conflicting requests for debris resources.
	  ○ Pre-positions resources as necessary.
	• Infrastructure Branch Director
	  ○ Provides technical support to states for debris removal, including decisions on requirements for federal resources, such as ESF #3 or ESF #10 technical assistance or Direct Federal Assistance (DFA).
	  ○ Identifies state requirements, available resources, and priorities for resources to support debris operations.
	  ○ If requested, supports development of a state debris support strategy (mission-capable resources, timeline, prioritization of tasks or resources, etc.).
	  ○ Establishes federal agency roles and responsibilities for debris removal, including hazardous debris, wet debris, and animal carcasses.
	  ○ Establishes and leads Debris Task Force to ensure collaborative execution of overall debris mission.
	• Environmental and Historic Preservation (EHP) Program
	  ○ Ensures that debris staging, and disposal sites are in compliance with environmental laws and regulations.

C.2.Tab.4.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #4 / Department of Agriculture/Forest Service (Firefighting)	• In coordination with states, tribes, and ESFs #1, #3, and #5, identifies support requirements for debris removal. • Employs resources to assist ESF #3 with debris removal for state, county, and city priority roads to support emergency access, to include hand crews (Type #1, Type #2), trucks, front-end loaders and transportation, personnel (not required for firefighters), and equipment in coordination with ESF #1 and #5.
ESF #5 / FEMA Information and Planning	• Deploys Marine Debris Program staff to coordinate debris removal with FEMA and USACE in support of FEMA disaster operations.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Provides household hazardous waste (HHW) support, laboratory services, and technical assistance to states and tribes.
U.S. Department of Agriculture (USDA) – Animal and Plant Health Inspection Service (APHIS)	• Supports diseased animal carcass removal and invasive species quarantines.
USDA – Farm Service Agency (FSA)	• Removes debris from agricultural land to return it to productive agricultural use.

C.2.Tab.4.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
4a. Scope mission; conduct task analysis with state and ESFs.	• Modeling that indicates significant debris management needs • Number of FEMA-approved state, local, tribal, and territorial (SLTT) organization debris management requests	• RRCC • SLTT entities • State Emergency Operations Center (SEOC)/Initial Operating Facility (IOF) • National Response Coordination Center (NRCC) • GIS
4b. Develop incident-specific debris removal plan.	• Plan is developed and resourced	• SLTT entities • RRCC • SEOC/IOF • NRCC • ESF #3

4c. Mobilize assets and conduct debris operations.	• Emergency debris removal:
	  ○ Number of assigned miles of roadway cleared
	  ○ Assigned critical facilities accessible
	  ○ Number of assigned miles of waterway cleared
	• Collection and transportation of debris:
	  ○ Number of debris collection passes through assigned areas
	• Debris reduction:
	  ○ Number of debris reduction sites needed/in operation
	  ○ Household and non-household hazardous debris mitigated
	• Debris disposal:
	  ○ Number of disposal sites available and operational
		• ESF #3

4d. Identify and establish facilities for storage, reduction, and disposal.	• Number of storage facilities needed for debris based on volume or weight
	  ○ Number of reduction capacity for
	  ○ debris needed
	  ○ Number of disposal capacity for
	  ○ debris needed
	  ○ Percentage of needed debris storage capacity available
	  ○ Percentage of needed debris reduction capacity available
		• SLTT entities

4e. Demobilize assets and conduct closeout.	• Jurisdictions agree that no further removal operations are needed. • Debris reduction sites are closed. • Debris removal sites are closed. • Federal resources are no longer required to assist with debris removal.	• SLTT entities • RRCC • SEOC/IOF • NRCC • ESF #3

C.2.Tab.4.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a CSZ incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.4.4.1 Planning Factors

- A total of 14,269 millions of tons of debris will be generated in the State Washington.
- A total of 12,904 millions of tons of debris will be generated in the State Oregon.

C.2.Tab.4.4.2 Priorities

- N/A

C.2.Tab.4.4.3 Facts

- Debris removal is required for numerous functional areas beyond transportation (e.g., infrastructure, emergency services, communications, search and rescue [SAR]).

C.2.Tab.4.4.4 Assumptions

- Wireline (copper and fiber) systems continue to be damaged by debris removal, cleanup, and repair operations; active communications links—both overhead and underground—get damaged or are severed.
- Initial road-clearing efforts focus on moving debris out of the way; debris removal occurs later in the response.

C.2.Tab.4.4.5 Shortfalls/Limiting Factors

- There are insufficient debris removal crews.

- Private sector infrastructure (e.g., material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation systems) will be significantly impacted.
- There is a need to identify private sector operational capabilities, specifically targeting material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation.

C.2.Tab.4.4.6 Critical Considerations

- See Annex D:
  - RSOI
  - Staging
  - Priority Nodes
  - Priority Routes
- Hazardous Waste – See Annex C, Tab 9.

C.2.Tab.4.4.7 Task Force(s)

- Debris Management
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs

C.2.Tab.4.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.4.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF #3 – 69	Emergency Route Clearing/Opening Team	DFA
USACE PSMA ESF #3 – 231	Activation: ESF #3 Cadre	FOS

PSMA ID	PSMA Title	Type*
USACE PSMA ESF #3 – 271	Debris Planning and Response Team (PRT) Management Cell: Pre-Position	FOS
USACE PSMA ESF #3 – 273	Debris Clearance and Removal PRT: Execution	DFA
CNCS PSMA ESF #6 – 8	Field Deployment: CNCS	DFA
USACE PSMA ESF #3 – 277	Debris Operations – Oversight: Subject Matter Experts (SMEs)	FOS/ DFA
USFS PSMA ESF #4 – 374	Emergency Road Clearing (Pre-Position): Wildland Firefighter Hand-Crews	FOS
USFS PSMA ESF #4 – 375	Emergency Road Clearing (Execution): Wildland Firefighter Hand-Crews	DFA
NOAA PSMA ESF #5 – 203	NOAA Marine Debris Assessment SMEs	FOS
EPA PSMA ESF # 10 – 149	Activation: EPA	FOS
EPA PSMA ESF # 10 – 153	Oil and HAZMAT Assessment, Response and Removal Incident Management Team	DFA
USCG PSMA ESF # 10 – 344	Oil/HAZMAT Assessment, Response and Removal: SMEs	FOS/ DFA

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.4.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.4.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Energy	• All	• Infrastructure Systems	• 3
• Hazardous Materials	• All	• Infrastructure Systems	• 3
• Safety and Security	• All	• Infrastructure Systems • Mass Search and Rescue Operations • Operational Communications	• 3
• Transportation	• All	• Critical Transportation • Infrastructure Systems • Logistics and Supply Chain Management • Situational Assessment	• 1, 3, 4, 5

C.2.Tab.4.9 References

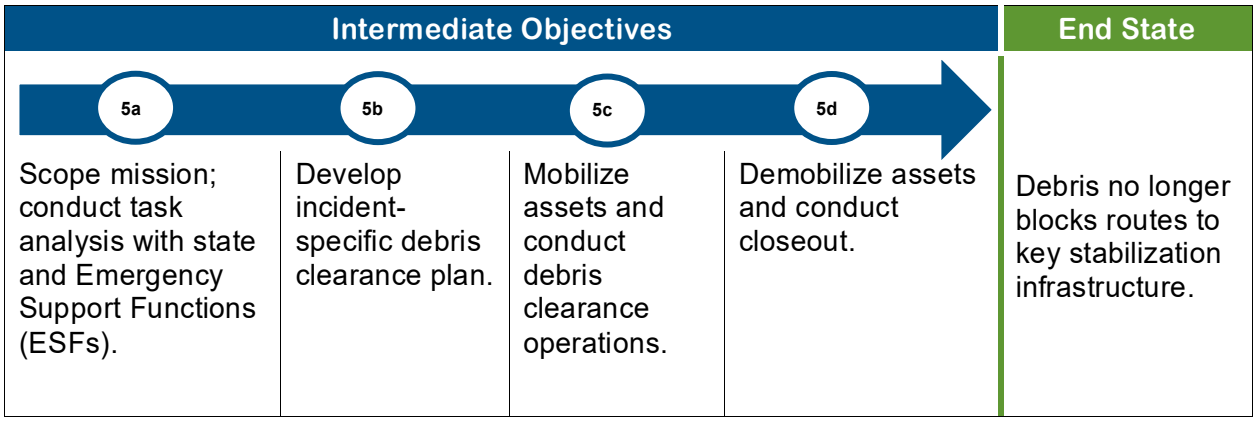
- Annex X, Execution Matrix, Debris Removal Tab
- National References
  - Disaster Operations Legal Reference, Version 3.0, FEMA (Jan 20, 2017)
- Pre-Scripted Mission Assignments Library December 31, 2020
- Regional References
  - *Public Assistance Program and Policy Guide,* FEMA
  - *Individual Assistance Program and Policy Guide,* FEMA

This page is intentionally left blank.

Tab 5 to Appendix C-2: Emergency Debris Clearance

Purpose: Provide federal assistance to support clearance of debris that impacts the emergency response and community functionality.

C.2.Tab.5.1 Intermediate Objectives



C.2.Tab.5.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.5.2.1 Primary Agencies

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Provides debris technical expertise and debris clearance and management operations via Advanced Contract Initiative (ACI) contract.
ESF #1 / U.S. Department of Transportation (DOT)	• Identifies available routes and impediments for tactical and permanent restoration of communications systems and nodes. • Identifies available routes and impediments for tactical and permanent movement of security personnel. • Based on initial assessment, in coordination with ESF #3, ESF #5, states, and Defense Coordination Element, begins clearing debris from priority transportation routes/facilities.

Organization	Roles and Responsibilities

Federal Emergency Management Agency (FEMA)	• Regional Response Coordination Center (RRCC)
	  ○ Supports state requests for debris resources.
	  ○ Addresses conflicting requests for debris resources.
	  ○ Pre-positions resources as necessary.
	• Infrastructure Branch Director
	  ○ Provides technical support to states for debris clearance, including decisions on requirements for federal resources, such as ESF #3 or ESF #10 technical assistance or Direct Federal Assistance (DFA).
	  ○ Identifies state requirements, available resources, and priorities for resources to support debris operations.
	  ○ If requested, supports development of a state debris support strategy (mission-capable resources, timeline, prioritization of tasks or resources, etc.).
	  ○ Establishes federal agency roles and responsibilities for debris clearance, including hazardous debris, wet debris, and animal carcasses.
	  ○ Establishes and leads Debris Task Force to ensure collaborative execution of overall debris mission.
	• Environmental and Historic Preservation (EHP) Program
	  ○ Ensures that debris staging, and disposal sites are in compliance with environmental laws and regulations.

C.2.Tab.5.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Provides household hazardous waste (HHW) support, laboratory services, and technical assistance to states and tribes.
ESF #14 / FEMA Cross-Sector Business and Infrastructure	• Coordinate and complete debris clearance from critical roadways following a declaration.

C.2.Tab.5.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
5a. Scope mission; conduct task analysis with state and ESFs.	• Modeling that indicates significant debris management needs • Number of FEMA-approved state, local, tribal, and territorial (SLTT) organization debris management requests	• RRCC • SLTT entities • State Emergency Operations Center (SEOC)/Initial Operating Facility (IOF) • National Response Coordination Center (NRCC) • GIS

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
5b. Develop incident-specific debris clearance plan.	• Plan is developed and resourced.	• SLTT entities • RRCC • SEOC/IOF • NRCC • ESF #3
5c. Mobilize assets and conduct debris operations.	• Emergency debris clearance: ○ Number of assigned miles of roadway cleared ○ Assigned critical facilities accessible ○ Number of assigned miles of waterway cleared • Collection and transportation of debris: ○ Number of debris collection passes through assigned areas • Debris reduction: ○ Number of debris reduction sites needed/in operation ○ Household and non-household hazardous debris mitigated • Debris disposal: ○ Number of disposal sites available and operational	• ESF #3
5d. Demobilize assets and conduct closeout.	• Jurisdictions agree that no further clearance operations are needed. • Federal resources are no longer required to assist with debris clearance.	• SLTT entities • RRCC • SEOC/IOF • NRCC • ESF #3

C.2.Tab.5.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.5.4.1 Planning Factors

- A total of 14,269 millions of tons of debris will be generated in the State Washington.
- A total of 12,904 millions of tons of debris will be generated in the State Oregon.

C.2.Tab.5.4.2 Priorities

- Coordinate debris clearance to enable access to key energy infrastructure facilities.
- Debris clearance, assessment, traffic management, and repairs commence at pre-identified airports and along ground routes immediately post-incident.

C.2.Tab.5.4.3 Assumptions

- Airports, marine port facilities, railways, and ground routes are the focus of debris clearance immediately post-earthquake.
- Debris clearance commences at pre-identified airports and along ground routes immediately post-incident.

C.2.Tab.5.4.4 Shortfall/Limiting Factor

- Damage to transportation infrastructure and debris clearance issues will hinder access to isolated communities and key infrastructure.

C.2.Tab.5.4.5 Critical Considerations

- Annex D
  - RSOI
  - Staging
  - Priority Nodes
  - Priority Routes
- Hazardous Materials – See Annex C: Tab 9.

C.2.Tab.5.4.6 Task Force(s)

- Debris Management
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs

C.2.Tab.5.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of

interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.5.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF #3 – 69	Emergency Route Clearing/Opening Team	DFA
USACE PSMA ESF #3 – 231	Activation: ESF #3 Cadre	FOS
USACE PSMA ESF #3 – 271	Debris PRT Management Cell: Pre-Position	FOS
USACE PSMA ESF #3 – 273	Debris Clearance and Removal Planning and Response Team (PRT): Execution	DFA
CNCS PSMA ESF #6 – 8	Field Deployment: Corporation for National and Community Service (CNCS)	DFA
USACE PSMA ESF #3 – 277	Debris Operations – Oversight: Subject Matter Experts (SMEs)	FOS/ DFA
USFS PSMA ESF #4 – 374	Emergency Road Clearing (Pre-Position): Wildland Firefighter Hand-Crews	FOS
USFS PSMA ESF #4 – 375	Emergency Road Clearing (Execution): Wildland Firefighter Hand-Crews	DFA
NOAA PSMA ESF #5 – 203	National Oceanic and Atmospheric Administration (NOAA) Marine Debris Assessment SMEs	FOS
EPA PSMA ESF # 10 – 149	Activation: EPA	FOS
EPA PSMA ESF # 10 – 153	Oil and HAZMAT Assessment, Response and Removal Incident Management Team	DFA
USCG PSMA ESF # 10 – 344	Oil/HAZMAT Assessment, Response and Removal: SMEs	FOS/ DFA

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.5.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.5.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• Alert, Warnings, and Messages	• Infrastructure Systems • Operational Communications	• 1,3
• Energy	• All	• Infrastructure Systems	• 3
• Hazardous Materials	• All	• Infrastructure Systems	• 3
• Safety and Security	• All	• Infrastructure Systems • Mass Search and Rescue Operations • Operational Communications	• 3
• Transportation	• All	• Critical Transportation • Infrastructure Systems • Logistics and Supply Chain Management	• 1, 3, 10,14

C.2.Tab.5.9 References

- Annex X, Execution Matrix
  - Emergency Debris Clearance Tab
- *Disaster Operations Legal Reference, Version 3.0,* FEMA (Jan 20, 2017)
- *Individual Assistance Program and Policy Guide,* FEMA
- Pre-Scripted Mission Assignments Library December 31, 2020
- *Public Assistance Program and Policy Guide,* FEMA

Tab 6 to Appendix C-2: Emergency Repairs or Augmentation to Infrastructure

Purpose: Provide federal assistance for the temporary support of eligible critical facilities that are degraded and where alternative sites are insufficient.

C.2.Tab.6.1 Intermediate Objectives

Intermediate Objectives					End State
6a	6b	6c	6d	6e	
Stage resources for assessment and emergency repairs or alternate approaches to augment critical infrastructure.	Assess and prioritize infrastructure repair or augmentation requirements by assessing serviceability and inter-dependencies.	Employ resources for emergency repairs or alternate approaches to augment critical infrastructure.	Re-assess critical infrastructure capabilities with state, local, tribal, and territorial (SLTT) partners.	Develop plan and identify resources available for facilitating permanent repairs to infrastructure; demobilize temporary repair resources.	Temporary repairs or alternate approaches are in place, stabilizing critical infrastructure and providing minimum required functionality; a plan for permanent repairs is in place.

C.2.Tab.6.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.6.2.1 Primary Agencies

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #1 / U.S. Department of Transportation (DOT)	• Provides technical expertise and assistance for the repair and restoration of transportation systems and infrastructure. • Provides engineering personnel and support for assisting with damage assessments, structural inspections, and the restoration of transportation infrastructure. • Administers special funding for use in the repair or reconstruction of major highway facilities as well as grant programs for transit systems and railroads for use in the repair and rehabilitation of damaged infrastructure. • Monitors and reports on the status of and damage to the transportation system and infrastructure resulting from the incident. • Identifies temporary alternative transportation solutions that can be implemented by others when systems or infrastructure are damaged, unavailable, or overwhelmed.
ESF #2 / FEMA Communications and U.S. Department of Defense (DOD)	• Initiate's spectrum coordination. • Maintains situational awareness of state and local critical communications infrastructure, and state or tribal priorities for restoration. • Assesses, reports, and supports tactical communications for responders. • Expands emergency and tactical communication to support responders, dense population areas, and isolated areas of each state. • Employs Communication Action Team (CAT) in impacted areas to assess tactical communications capabilities and capacity. • Employs mobile communications capability to isolated communities based on state/tribal priorities. • Employs regulatory waivers from state and federal agencies, as required. • Ensures 911 services are operational throughout the affected area. • Ensures that key ESF #2, Disaster Emergency Communications (DEC), and Mobile Emergency Response Support (MERS) staff within the Joint Field Office (JFO) communicate with parent organizations through established Federal Coordinating Officer (FCO) and DEC Division protocols and guidelines. • Deploys communications teams to provide communications in support of disaster operations. Capabilities may include, but are not limited to, voice, data, and video communications at a fixed location.

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Provides ESF #3 with technical assistance, engineering, and construction management resources and support during response activities. • Executes repairs and construction activities or provision of modular/other temporary facilities as directed by FEMA for critical infrastructure identified by the state.
ESF #12 / U.S. Department of Energy (DOE)	• Provides information concerning the energy restoration process, including projected restoration schedules, percent completion of restoration, geographic information on the restoration, and other information as appropriate.
U.S. Department of Homeland Security (DHS) – Cybersecurity and Infrastructure Security Agency (CISA)	• Identifies critical private sector and supply chain infrastructure and interdependencies. • Provides technical assistance to partners conducting repairs to infrastructure.
Federal Emergency Management Agency (FEMA)	• Provides ESF #3 with recovery resources and support. FEMA's Public Assistance (PA) program provides supplemental federal disaster grant assistance for debris removal and disposal, emergency protective measures, and the repair, replacement, and restoration of disaster-damaged public facilities and the facilities of certain qualified private non-profit organizations.

C.2.Tab.6.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Corporation for National and Community Services (CNCS)	• Provides teams of trained National Service participants to carry out canvassing, needs assessments, temporary roof repairs, and elimination of specified health/safety hazards.
ESF #4 / U.S. Department of Agriculture/Forest Service (Firefighting)	• Employs engineering and contracting personnel and equipment to assist with emergency removal of debris, demolitions, and the temporary repair of essential public facilities and water supply and sanitation systems. • Provides engineering and contracting/procurement personnel and equipment to assist in emergency demolition and repair of roads and bridges.
ESF #5 / FEMA Information and Planning	• Employs the Infrastructure Branch, as required. • Initiates remote assessments of previously identified priority facilities and infrastructure. • Provides a prioritized Infrastructure of Concern (IOC) list. • Identifies and provides transportation for responders and repair teams, including for sustainment services and supplies. • Processes requests for assistance from critical infrastructure owners/operators as the situation allows.
ESF #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• Identifies survivors with disabilities and access and functional needs and requests resources for transporting them.

Organization	Roles and Responsibilities

ESF #7 / FEMA Logistics	• U.S. General Services Administration (GSA)
	  ○ Provides resource support for damage assessments, structural inspections, and the restoration of facilities.
	  ○ Provides technical assistance in construction inspection and environmental and archeological assessments.

ESF #8 / U.S. Department of Health and Human Services (HHS)	• Provides situational awareness regarding needs at critical healthcare and other critical infrastructure and key resources (CIKR) sector facilities. • Maintains resources for augmenting healthcare critical infrastructure.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Assists in identifying critical water and wastewater needs, including personnel, electrical power, and treatment chemicals.
ESF #11 / U.S. Department of Agriculture (United States Forest Service)	• Deploys U.S. Department of the Interior (DOI) resource to support assessment of damaged bridges, roads, culverts, borrow pits, and ditches in coordination with ESF #5 and ESF #1 based on identified priority locations.
ESF #13 / U.S. Department of Justice (DOJ)	• Continues support and outreach to local jurisdictions, states, and critical infrastructure owners/ operators.
ESF #14 / FEMA Cross-Sector Business and Infrastructure	• Participates in Infrastructure Branch, as required. • In coordination with all appropriate Infrastructure Systems ESFs and partners, identifies damage to critical infrastructure. • Activates emergency contracts for infrastructure-related lifesaving and life-sustaining services, including potable water, emergency power, commodities, services, communications, and transportation.
Tennessee Valley Authority (TVA)	• Provides personnel to assist in damage assessments, structural inspections, and the restoration of facilities.
DOI – Bureau of Reclamation	• Provides engineering support for the evaluation of damage to water control structures and systems, such as dams, levees, and water delivery facilities. • Provides personnel to assist in damage assessment, structural inspections, and restoration of facilities. • Provides technical assistance in contract management, contracting, procurement, construction inspection, and environmental and archeological assessments.
DOI – Office of Wildland Fire	• Provides appropriate engineering and contracting/ procurement personnel and equipment to assist with demolition, repair of roads and bridges, and temporary repair of essential public facilities, including those for water supplies and sanitation.
U.S. Department of Veteran Affairs (VA)	• Provides engineering personnel and support, including design estimating and construction supervision, for the repair, reconstruction, and restoration of eligible facilities.

C.2.Tab.6.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
6a. Stage resources for assessment and emergency repairs or alternate approaches to augment critical infrastructure.	• Repair personnel and resources are staged and ready for Mission Assignments (MAs). • Resources deployed to augment critical services are ready for MAs.	• Staging Area Manager
6b. Assess and prioritize infrastructure repair or augmentation requirements by assessing serviceability and interdependencies.	• Damage assessment teams have inspected critical infrastructure. • Critical public functions have been assessed and prioritized by the Unified Coordination Group (UCG).	• Infrastructure damage assessment team reports
6c. Employ resources for emergency repairs or alternate approaches to augment critical infrastructure.	• Repairs are completed for projects that were determined to be a priority. • Personnel and resources can redeploy to other (lower priority) locations. • Resources deployed for augmenting critical functions are providing services to the community. • Alternate approaches (bottled water) are provided to meet needs.	• UCG Operations Section Chief (OSC)/SLTT partners
6d. Re-assess critical infrastructure capabilities with SLTT partners.	• All immediate damage repairs are completed; repaired infrastructure/systems are providing critical functionality for the area. • Survivors within the impact area are receiving basic critical services.	• UCG OSC/SLTT partners
6e. Develop plan and identify resources available for facilitating permanent repairs to infrastructure; demobilize temporary repair resources.	• Plan is developed. • Resources are allocated to restoration activities, and the Restoration of Critical Infrastructure LOE can begin.	• UCG OSC/SLTT partners

C.2.Tab.6.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile

  - R10 Tribal Nations Annex

- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a CSZ incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.6.4.1 Planning Factors

- Facilities and infrastructure in Oregon and Washington estimated to be affected by the CSZ incident include 15,858 miles of highway; 6,826 highway bridges (different estimation methodologies were used for Oregon and Washington); 5,828 miles of rail; 93 rail bridges; 98 airports; and 716 port facilities (including 72 ports). (For the purposes of this plan, ports are maritime transportation hubs while port facilities are the facilities that support those hubs by providing fuel, access to waterways, navigation, etc.)

C.2.Tab.6.4.2 Priorities

- N/A

C.2.Tab.6.4.3 Facts

- Critical infrastructure interdependencies among the communications, electricity, fuel, and transportation sectors significantly impact the ability to deploy temporary emergency solutions within the affected area for the initial life-safety response; coordination is required between strike teams from these sectors within the first 2 weeks of the disaster.
- Damage to interdependent communications systems (landline, cell tower, radio tower, and microwave) affects restoration of all critical infrastructure (CI) sectors and hampers situational awareness.
- The extent of damage and debris limits access for the conduct of assessments and repairs.
- Repairs take may take weeks, months, or years.
- Fuel requirements for assessment and repair crews exceed local supplies.

C.2.Tab.6.4.4 Assumptions

- Debris and road damage prevent access to communications towers, central offices, remote switches, cable head-ends, and other critical communications infrastructure for assessing damage, conducting repair operations, and refueling generators.
- Fuel requirements for assessment and repair crews exceed local capabilities; fuel and highway infrastructure must come via barge or air; power is critical for fuel distribution.
- There are a limited number of qualified inspectors to support assessments of both public and private transportation infrastructure.

C.2.Tab.6.4.5 Shortfalls/Limiting Factors

- There is limited access to impacted areas for local repair crews and limited replacement parts for damaged infrastructure.

- There is limited communication capability with local repair crews in impacted areas.
- There is a limited number of available local repair crews due to potential injuries of personnel and family of personnel in impacted areas.
- There is a need for water for the communications sector for running through air conditioning systems and cooling switches (widespread damage to communications infrastructure and lack of commercial power may limit this initial need).
- There is an inoperable fuel distribution networks for much of the response (bulk fuel deliveries are necessary to meet all fuel requirements until repairs to local infrastructure are completed).

C.2.Tab.6.4.6 Critical Considerations

- There are numerous interdependencies that need to be considered when performing temporary emergency repairs. Each infrastructure sector should be consulted when planning for and initiating the repair effort.
- Related LOEs include Preliminary Damage Assessment, Healthcare Systems Support, Temporary Emergency Power, and Restoration of Public Infrastructure.
- Annex D:
  - RSOI
  - Staging
  - Priority Nodes
  - Priority Routes
- Hazardous Materials – See Annex C, Tab 9.

C.2.Tab.6.4.7 Task Force(s)

- Infrastructure
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.6.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and

the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.6.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF #1 – 67	Airborne Air Traffic Control	FOS
DOD PSMA ESF #1 – 68	Ground Air Traffic Control	FOS/ DFA
DOD PSMA ESF #1 – 92	Airfield Repair Team	FOS/ DFA
DOD PSMA ESF #1 – 94	Airfield Assessment Survey Team	FOS/ DFA
DOT PSMA ESF #1 – 144	Activation: DOT	FOS
DOT PSMA ESF #1 – 147	Damage Assessments for Transit Agencies	DFA
FAA PSMA ESF #1 – 158	Air Traffic Control Services Personnel and Systems	FOS/ DFA
FAA PSMA ESF #1 – 160	Air Navigation Services (ANS) System and Personnel	FOS/ DFA
DOD PSMA ESF #2 – 58	Mobile Communications Team for First Responders	FOS/ DFA
DOD PSMA ESF #2 – 59	Fixed-Site Communications Team	FOS/ DFA
USACE PSMA ESF #3 – 279	Critical Public Facilities Planning and Response Team (PRT) Planning Cell: Pre-Position	FOS
USACE PSMA ESF #3 – 280	Critical Public Facilities PRT: Execution	DFA
USACE PSMA ESF #3 – 281	Infrastructure Assessment PRT: Management Cell	FOS
USACE PSMA ESF #3 – 283	Infrastructure Assessment PRT: Execution	DFA
USACE PSMA ESF #3 – 287	Water and Wastewater Infrastructure Assessment Subject Matter Experts (SMEs): Pre-Position	FOS
USACE PSMA ESF #3 – 289	Water and Wastewater Infrastructure Assessment Personnel: Execution	DFA
USACE PSMA ESF # 3 – 290	Deployable Tactical Operations System (DTOS) Vehicles and Personnel	FOS
USACE PSMA ESF #3 – 306	Unwatering Team: Execution	DFA
USACE PSMA ESF #3 – 310	USACE Technical SMEs: Execution	FOS/ DFA
USFS PSMA ESF #4 – 375	Emergency Road Clearing (Execution): Wildland Firefighter Hand-Crews	DFA
USAF PSMA ESF #5 – 89	Civil Air Patrol	FOS/ DFA
USCG PSMA ESF #5 – 332	Damage Assessment and/or Situational Awareness: Imagery	DFA
CNCS PSMA ESF #6 – 8	Field Deployment: CNCS	DFA

PSMA ID	PSMA Title	Type*
DLA PSMA ESF #7 – 36	Defense Logistics Agency (DLA) Provide and/or Distribute Fuel	FOS/DFA
DOD PSMA ESF #7 – 64	Fuel Distribution Point: Vertical/Rotary-wing Aircraft	FOS/DFA
DOD PSMA ESF #7 – 80	Fuel Distribution Point – Ground Vehicles	FOS/DFA
DOD PSMA ESF #7 – 108	Water Purification: Potable Water	DFA
DOD PSMA ESF #8 – 63	Temporary Medical Treatment Facilities	DFA
HHS PSMA ESF #8 – 17	Activation: HHS	FOS
EPA PSMA ESF #10 – 149	Activation: EPA	FOS
EPA PSMA ESF #10 – 153	Oil and HAZMAT Assessment, Response, and Removal: Incident Management Team	DFA
USCG PSMA ESF #10 – 344	Oil/HAZMAT Response	DFA
USCG PSMA ESF #10 – 351	Sunken, Derelict, Displaced Vessel	DFA
OI PSMA ESF # 11 – 119	Activation: DOI	
DOE PSMA ESF #12 – 112	Activation: DOE	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.6.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.6.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• All	• All	• Infrastructure Systems • Operational Coordination • Public and Private Services and Resources	• 3, 4, 5, 14

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• Alert, Warning and Messages	• Critical Transportation • Critical Transportation • Information Systems • Logistics and Supply Chain Management • Operational Communications • Public and Private Services and Resources • Public and Private Services and Resources • Public Information and Warning • Public Information and Warning • Situational Assessment	• 1, 2, 3, 4, 5
• Energy	• All	• Infrastructure Systems • Operational Communications • Operational Coordination • Public and Private Services and Resources • Public Health, Healthcare and Emergency Medical Services • Situational Assessment	• 2, 3,12
• Hazardous Materials	• All	• Infrastructure Systems	• 10
• Health and Medical	• Medical Care • Medical Supply Chain	• Infrastructure Systems	• 8
• Safety and Security	• Government Service • Law Enforcement/ Security	• Infrastructure Systems • Operational Communications	• All

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Transportation	• All	• Critical Transportation • Infrastructure Systems • Mass Search and Rescue Operations • Operational Communications • Public and Private Services and Resources • Situational Assessment	• 1, 3, 4, 5, 6, 7, 11, 14

C.2.Tab.6.9 References

- Annex X, Execution Checklist, Emergency Repairs and Augmentation to Infrastructure Tab
- Pre-Scripted Mission Assignments Library December 31, 2020
- *Public Assistance Program and Policy Guide*, FEMA

This page is intentionally left blank.

Tab 7 to Appendix C-2: Evacuation, Reception, Re-Entry, and Return

Purpose: Assist individuals in need of general evacuation support in departing the disaster area through whole-of-government coordination.

C.2.Tab.7.1 Intermediate Objectives

Intermediate Objectives					End State
7a	7b	7c	7d	7e	
Assess and stage general population transportation resources.	Transport and/or evacuate survivors.	Track evacuees from embarkation hubs to shelters.	Conduct re-entry operations.	Demobilize transportation resources.	Safe evacuation and subsequent re-entry of survivors are complete; federal resources are no longer required.

C.2.Tab.7.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.7.2.1 Primary Agencies

Organization	Roles and Responsibilities
Federal Emergency Management Agency (FEMA)	• Emergency Support Function (ESF #5) processes state requests for federal evacuation transportation and resources. • ESF #6 coordinates with and supports general population shelter operations (e.g., feeding, mass care, reunification, pets) until re-entry or stabilization in other locations occur. • ESF #9 coordinates search and rescue (SAR) operations to ensure triage of survivors into evacuation operations as needed. • ESF #15 supports public messaging regarding evacuation operations.
U.S. Department of Defense (DOD) – U.S. Transportation Command (TRANSCOM)	• Defense Coordinating Element (DCE) coordinates with TRANSCOM on operational requirements and employment of aircraft supporting general population evacuation.

C.2.Tab.7.2.2 Supporting Agencies

Organization	Roles and Responsibilities

ESF #1 / U.S. Department of Transportation (DOT)	• Coordinates with airfields supporting aerial port of embarkation (APOE)/aerial port of debarkation (APOD) operations; provides wraparound services.
	• Federal Aviation Administration (FAA)
	  ○ Coordinates with airfields that support APOE/APOD operations.
	• U.S. Transportation Security Administration (TSA)
	  ○ Supports evacuee screening.

ESF #3 / U.S. Army Corps of Engineers (USACE)	• Determines if facilities are structurally safe for re-entry.
ESF #5 / FEMA Information and Planning	• In coordination with each state, ESF #7, ESF #6, and #11, identifies logistics requirements to support the projected evacuation of survivors and pets. • Backfills federal response employees impacted by evacuation orders. • Supports state(s) with Motor Coach Support Contracts and the Aviation and Ground Support (AGS) Contracts. • In coordination with each state, ESF #6, ESF #1, and ESF #7, supports evacuation priorities using state identified evacuation criteria. • In coordination with states, ESF #6, ESF #7, ESF #11, and DOD, implements voluntary evacuation from the coastal areas to locations using rotary-wing support and maritime platform off the coast based upon state-identified priorities. • As directed, provides fuel along evacuation routes. • Supports state repatriation efforts with resources and support services. • In coordination with each state, ESF #7, and DOD, provides transportation assets to support coastal evacuations in each state.

Organization	Roles and Responsibilities
ESF #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• In coordination state agencies, local and tribal governments, and federal response partners, establishes evacuation criteria for survivors, animals, household pets, ambulatory and non-ambulatory patients by branch for each state. • Assesses survivor evacuation needs to identify transportation requirements. • Employs resources to support feeding and sheltering along evacuation routes. • Ensures evacuee reception capabilities. • ESFs #1, #5, and #6 will coordinate with states and tribes on evacuation route locations. • Supports state(s) with feeding, hydrating, tracking, and sheltering of evacuees. • Emergency Assistance – Mass Evacuation: Deploys resources to support affected and host jurisdiction evacuation operations to include mass evacuation tracking system kits and staff to provide technical assistance. • Provides support for state strategies for registering survivors for disaster assistance and returning survivors.
ESF #7 / FEMA Logistics	• Activates support requirements and resources, in coordination with ESF #6 for sheltering and evacuations of people and pets using appropriate resources to Incident Support Bases (ISBs). • In coordination with ESF #6 and #11, supports the preparation of in-state and out-of-state evacuation plans for pets and service animals that accompany human evacuees. • Provides transportation assets and service contracts to support emergency evacuation requirements. • Provides transportation to support repatriation of evacuated survivors, service animals, and household pets as the situation allows.
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Activates the Emergency Prescription Assistance Program (EPAP) via MA.
ESF #11 / U.S. Department of Agriculture (United States Forest Service)	• In coordination with ESF #5, ESF #6, ESF #7, non-governmental organizations (NGOs) and state, establishes plans for in state and out-of-state evacuation of pets and service animals. • Identifies initial requirements for the transportation of household pets and service animals. • Arranges transportation for household pets and service animals.
ESF #13 / U.S. Department of Justice (DOJ)	• ESF #13 provides security to facilities and transportation as needed (e.g., embarkation hubs, buses, airfields, aircraft).

Organization	Roles and Responsibilities
ESF #15 / FEMA External Affairs)	• Ensures full coordination for announcing the end of shelter-in-place orders and follow-on procedures. • If evacuating foreign nationals, notifies Consulate General Offices through the U.S. Department of State (DOS) Office of Foreign Missions (OFM). • Provides critical information to evacuees returning home and strategies to rebuild safer and stronger communities.

C.2.Tab.7.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
7a. Assess and stage general population transportation resources.	• Projected number of displaced survivors justifies the staging of federal evacuation resources. • State is taking equivalent actions in support of local evacuations (e.g., state has received a request to provide host shelter support).	• GIS modeling • State Emergency Coordination Center (SECC) • State Emergency Operations Center (SEOC) • ESF #1
7b. Transport and/or evacuate survivors.	• Number of displaced survivors are projected to require government transportation to move to host shelters.	• SECC • SEOC • ESF #1
7c. Track evacuees from embarkation hubs to shelters.	• State evacuee tracking system is in place.	• SECC • SEOC • ESF #1 • ESF #6
7d. Conduct re-entry operations.	• Shelter reports reflect a decline of occupants in shelters and a reduced number of shelters. • Multi-Agency Sheltering Task Force (MASTF) reports indicate that survivors are finding alternate shelter solutions. • SEOC reports reflect a return of evacuees.	• American Red Cross (Red Cross) shelter reports • ESF #6 • MASTF team casework reports • SEOC situation reports (SITREPs)
7e. Demobilize transportation resources.	• State declares federal transportation resources are no longer needed. • All survivors on manifests have been successfully moved.	• Local embarkation hub manifests • SEOC • ESF #1 • ESF #6

C.2.Tab.7.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:

  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a CSZ incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.7.4.1 Planning Factors

- N/A

C.2.Tab.7.4.2 Priorities

- Provide personnel to support local and state corrections personnel with additional security during evacuation operations, convoy escort duty, etc.

C.2.Tab.7.4.3 Facts

- Coastal communities are isolated in terms of ground transportation, limiting resupply and evacuation capabilities.
- Correctional facilities in shake zone will sustain significant damage and may require evacuation.
- For incidents in which the number of damaged cars is high or in which roads are damaged, the percentage seeking government-provided transportation will be higher.
- Many states do not have plans to provide government-assisted evacuation or evacuee tracking and may need additional federal support.
- Pre-incident, survivors will be evacuated based on local evacuation orders or recommendations. The number of evacuees will be high, pre-incident, since even those who may not be impacted by the event will evacuate.
- Post-incident, the number of survivors being evacuated will be a percentage of those who have been displaced (homes damaged). Of those, the majority will move in with family and friends or to hotels or other non-congregate shelter options. Others will use their own transportation to move to local or host jurisdiction shelters. A small percentage (usually less than 6%of those who have been displaced) will seek government transportation options for transport to host jurisdiction shelters.

C.2.Tab.7.4.4 Assumptions

- Air transportation is the only viable means of delivering supplies and evacuating people in many areas in the initial days post-disaster due to the event's impacts on roads, bridges, ports, and rail systems.

- Correctional facilities may require evacuation due to damage to the facility and life-sustaining infrastructure.

C.2.Tab.7.4.5 Shortfalls/Limiting Factors

- There is a lack of ingress/egress options, leading to stalled evacuation efforts.
- There are insufficient rotary-wing assets to support evacuation and supply to isolated coastal communities.
- Evacuations are difficult due to limited public safety personnel availability.

C.2.Tab.7.4.6 Critical Considerations

- Annex D:
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.7.4.7 Task Force(s)

- Survivor Movement
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.7.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.7.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
TSA PSMA ESF #1 – 135	Transportation Security Forward Teams (TSFTs)	DFA
DOT PSMA ESF # 1 - 144	Activation: DOT	

PSMA ID	PSMA Title	Type*
TSA PSMA ESF #1 – 267	Transportation Security Advance Teams (TSATs)	FOS/ DFA
USACE PSMA ESF # 3 - 283	Infrastructure Assessment Planning and Response Team (PRT)	
DOT PSMA ESF #7 – 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships	FOS
GSA PSMA ESF #7 – 166	Activation: U.S. General Services Administration (GSA)	
HHS PSMA ESF #8 – 17	Activation: HHS	
HHS PSMA ESF #8 – 240	Emergency Prescription Assistance Program (EPAP) and Medical Equipment Replacement: Contracted Pharmacy Personnel	DFA
HHS PSMA ESF #8 – 10001	Headquarters (HQ) - National Watch Center (NWC) Use Only - Catastrophic Mission Assignment – HHS 001	FOS
DOJ PSMA ESF # 13 - 132	Activation: DOJ	

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.7.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.7.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Food, Water, Shelter	• All	• Logistics and Supply Chain Management • Mass Care Services • Operational Coordination	• 1, 5, 6, 7, 11

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Safety and Security	• Community Safety • Fire Service • Law Enforcement/ Security	• Critical Transportation • Mass Care Services • Mass Search and Rescue Operations • On-Scene Security, Protection, and Law Enforcement	• 1, 3, 5, 6, 7, 8, 11, 13, 15
• Transportation	• All	• Critical Transportation • Logistics and Supply Chain Management • Mass Care Services • Mass Search and Rescue Operations • On-Scene Security, Protection, and Law Enforcement • Operational Communications • Operational Coordination	• 1, 5, 6, 7, 11

C.2.Tab.7.9 References

- Annex X, Execution Matrix, Evacuation, Reception, Return, and Re-Entry Tab
- *Mass Evacuation Incident Annex*
- 9523.18 Host-State Evacuation & Sheltering Reimbursement
- National Mass Evacuation Tracking System (NMETS)
- Pre-Scripted Mission Assignments Library December 31, 2020

Tab 8 to Appendix C-2: Fatality Management

Purpose: Provide decedent remains recovery, processing, and temporary storage as well as victim identification and counseling to the bereaved.

C.2.Tab.8.1 Intermediate Objectives

Intermediate Objectives						End State
8a	8b	8c	8d	8e	8f	
Conduct analysis of fatality manage-ment require-ments.	Mobilize and stage fatality manage-ment resources.	Conduct body recovery and identifica-tion.	Conduct body processing and mortuary services.	Provide temporary storage.	Conduct decedent family assistance services.	All disaster-related fatalities are recovered, identified, and provided temporary mortuary solutions; information to reunify family members and caregivers with decedents is shared; counseling is provided to the bereaved.

C.2.Tab.8.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.8.2.1 Primary Agency

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #8 / U.S. Department of Health and Human Services (HHS)	• Provides consultation, subject matter expertise, and resource assistance to state, local, tribal, and territorial (SLTT) jurisdictions, including the following: ○ Developing mission scope and assessment requirements ○ Engaging subject matter experts (SMEs), Disaster Mortuary Operational Response Teams (DMORTs), and DMORT Assessment Teams ○ Deploying Disaster Portable Morgue Units (DPMUs) ○ Establishing Victim Identification Centers (VICs) ○ Providing mental and behavioral health services for survivors

C.2.Tab.8.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #1 / U.S. Department of Transportation (DOT)	• Provides technical support to assist in arranging logistical movement support (e.g., supplies, equipment, blood supplies) from DOT resources, subject to DOT statutory requirements.
ESF #7 / U.S. General Services Administration (GSA)	• Provides contract support in a catastrophic fatality incident for temporary storage capability of human remains, such as refrigerated trucks, trailers, or rail cars. • Provides temporary power generation.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Provides environmental technical assistance (e.g., environmental monitoring) and information in the event temporary interment is necessary and/or human remains are contaminated.
ESF #13 / U.S. Department of Justice (DOJ)	• Assists in victim identification, coordinated through the Federal Bureau of Investigation (FBI). • Provides SLTT officials with legal advice concerning identification of the deceased, consistent with culturally sensitive practices. • Provides crowd control at fixed and deployed facilities for the protection of workers and to address public safety and security concerns. • Establishes an adult missing-persons call center and assists in the disposition of cases. • Shares missing person data with ESF #6, ESF #8, ESF #13, and the American Red Cross in support of identification of the deceased and seriously wounded. • Supports local death scene investigations/evidence recovery.
Federal Emergency Management Agency (FEMA)	• Through ESF #6, coordinates with Voluntary Organizations Active in Disaster (VOAD) entities for bereavement and reunification services. • Provides temporary power generation.

U.S. Department of Defense (DOD)	• Provides available assistance for human fatality management services, including the following:
	  ○ Remains collection
	  ○ Remains transport
	  ○ Mortuary services
	  ○ Victim identification
	  ○ Autopsies (if appropriate)
	  ○ Consultation and general assistance with temporary interment sites
	• Provides technical consultation for chemically or radiologically contaminated or infectious remains.
	• Provides support to VICs.
	• Track's decedents transported on DOD assets to fatality management facilities (e.g., mortuaries, funeral homes).
	• Provides temporary power generation.

Organization	Roles and Responsibilities
U.S. Department of Homeland Security (DHS)	• Provides locations for human remains to facilitate humane recovery and collection of available forensic/antemortem data during the course of search and rescue (SAR) operations. • Identifies and arranges for use of U.S. Coast Guard (USCG) SAR aircraft and other assets in providing search operations for human remains, as mission assigned.
U.S. Department of Veterans Affairs (VA)	• Buries and memorializes eligible veterans and advises on methods for interment of the dead during national or homeland security emergencies.

C.2.Tab.8.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
8a. Conduct analysis of fatality management requirements.	• Number of fatalities • Number of resources required • Condition of remains • Complexity of incident has been determined.	• SLTT entities
8b. Mobilize and stage fatality management resources.	• Jurisdictional threshold for number or complexity of fatalities has been exceeded; support contracts are not in place; federal assistance is required.	• SLTT entities
8c. Conduct body recovery and identification.	• Within a specific period of time of incident occurrence, complete recovery, identification, and mortuary services, including temporary storage services for a specific number of fatalities.	• Body recovery: DOD (under the auspices of ESF #8) • Identification: HHS, DOD, National Disaster Medical System (NDMS)
8d. Conduct body processing and mortuary services.	• Jurisdictional authority (e.g., medical examiner [ME]) has certified identities and causes and manner of death.	• ESF #8, in support of existing SLTT capacity • Certification of death is an SLTT function only (not federal)
8e. Provide temporary storage.	• Required storage capacity is provided.	• ESF #8, in support of existing SLTT capacity
8f. Conduct decedent family assistance services.	• Immediate and ongoing services for surviving families are provided.	• FEMA Individual Assistance (IA) Program • ESF #6

C.2.Tab.8.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.8.4.1 Planning Factors

- Initially, fatality management services are required for the remains of at least 12,666 decedents.
- Limited refrigeration capability is expected to be available.

C.2.Tab.8.4.2 Priorities

- N/A

C.2.Tab.8.4.3 Facts

- Federal support is required for remains collection, identification, storage, and reunification or interment.
- Normal means of fatality management are not available.
- Priorities for fatality management are health and safety for the living, identification and eventual documentation of the deceased, dignified treatment of remains, return of remains to surviving relatives, and interment for those not claimed.
- Stabilization and emergency medical treatment of survivors take precedence over fatality management.
- The number of decedents overwhelms local fatality management capabilities. Local communities do not have the plans or resources in place to deal with mass fatalities on this scale.
- There is a need to provide public information for fatality management, such as how to handle human remains.
- There is little capacity to store bodies locally.

C.2.Tab.8.4.4 Assumptions

- Aftershocks compound fatality consequence management and delay response activities.
- Demands for guidance and support from local and state medical examiners exceed capabilities
- Disinterment will occur in liquefaction and inundation zones.
- Due to the scale of the disaster and its impact on the mortuary industry, temporary mass interment of bodies may be required.
- Exposed human and animal remains pose threats for the spread of disease and biohazards.
- Fatality management activities are needed for a significant period of time.
- If human remains are not processed promptly, health hazards will increase.
- In the event of a catastrophic mass fatality incident, critical human remains care management issues will overburden the capability and capacity of local government.
- Local jurisdictions execute existing fatality management plans.
- Power is off for a significant amount of time on the coast, which will impact the capability to store remains.
- Retrieving bodies from rural areas might take weeks. Forces of nature and wild animals might damage human remains.
- There is a limited ability to provide death certificates and/or other legal documentation for the missing and the deceased.

C.2.Tab.8.4.5 Shortfalls/Limiting Factors

- It is difficult to provide appropriate guidance and public messaging, due to communication and transportation damage.
- Lack of power, back-up generators, and fuel supplies impacts temporary morgues.
- Mental health services will be required, and additional capability will be needed.
- Temporary morgue facilities have not been identified.
- Temporary storage for remains is limited; identification is difficult.
- The following capacity gaps exist: shortage of materials to support mass fatalities, including clear plastic and/or body bags, note cards for identification, heavy storage bags, non-porous storage surface areas, etc.; shortage of equipment to identify remains; shortage of mortuary and other personnel; limited facilities to store remains; and limited family assistance centers.
- There is an existing shortage of resources available to manage remains at both the state and federal levels.
- There is no established alternate standard of care for mortuary affairs.
- There will be limited storage space for bodies in funeral homes and hospitals.

- This event will cause a large number of deaths that will overwhelm the normal system.

C.2.Tab.8.4.6 Critical Considerations

- Regional cultural/religious ritual considerations
- Contamination of remains and hazardous materials (HAZMAT) issues
- Legal authority for reporting and managing fatalities (e.g., county ME, coroner)
- Memorandums of understanding (MOUs)
- Limited mental and behavioral health providers
- HHS DMORT personnel are not permitted to issue cause of death; only state MEs/coroners can declare cause of death.
- See Annex D:
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.8.4.7 Task Force(s)

- Fatality Management
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.8.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.8.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOT PSMA ESF # 1 - 144	Activation: DOT	
USACE PSMA ESF # 3 - 283	Infrastructure Assessment Planning and Response Team (PRT)	
DLA PSMA ESF #7 – 20	Human Remains Pouches (Medical Supply Chain)	FOS/ DFA
DOT PSMA ESF #7 – 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships	FOS
GSA PSMA ESF # 7 - 166	Activation: GSA	
DOD PSMA ESF #8 – 79	Mortuary Affairs Team	DFA
HHS PSMA ESF #8 – 17	Activation: HHS	FOS
HHS PSMA ESF #8 – 71	Public Health Services: Assistance for State and Local Health	DFA
HHS PMSA ESF #8 – 238	HHS Consultants/Scientific Experts	DFA
HHS PSMA ESF #8 – 243	Mortuary Operations Assistance (Non-NDMS)	DFA
HHS PSMA ESF #8 – 245	Environmental Health – Hazard Identification and Control Measures: HHS Water/Wastewater SMEs	DFA
HHS PSMA ESF #8 – 248	Behavioral Healthcare: HHS Mental Health Team(s)	DFA
HHS PSMA ESF #8 – 252	NDMS: HHS Disaster Medical Assistance Teams (DMATs), National Veterinary Response Teams (NVRTs), DMORT Teams	DFA
HHS PSMA ESF #8 – 10001	Headquarters (HQ) - National Watch Center (NWC) Use Only - Catastrophic Mission Assignment – HHS 001	FOS
DOJ PSMA ESF # 13 - 132	Activation: DOJ	

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.8.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.8.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Health and Medical	• Fatality Management	• Fatality Management Services • Infrastructure Systems • Logistics and Supply Chain Management • Mass Care Services • Operational Coordination • Public Health, Healthcare, and Emergency Medical Services	• 8

C.2.Tab.8.9 References

- Annex X, Execution Matrix, Fatality Management Tab
- *National Response Framework* (NRF) *ESF #8 Annex* (Public Health and Medical Services) (Jun 2016)
- *National Disaster Recovery Framework* (NDRF) *Health and Social Services Recovery Support Function Concept of Operations Plan* (Aug 2015)
- Pre-Scripted Mission Assignments Library December 31, 2020

Tab 9 to Appendix C-2: Hazardous Waste

Purpose: Provide federal assistance to support the response to sustained, widespread, and significant environmental, safety, and health hazards.

C.2.Tab.9.1 Intermediate Objectives

Intermediate Objectives				End State
9a	9b	9c	9d	
Assess and communicate immediate risks from the release of hazardous substances and oil as well as any compounding risks for secondary hazards in the affected area and water systems (e.g., potential or threatened releases).	Disseminate risk information (or Protective Action Guidance [PAG] for nuclear/ radiological events) and monitor status of public water and wastewater treatment facilities and private regulated facilities.	Respond to immediate oil and hazardous substance releases; establish collection process and locations for disposition of household and other hazardous substances and oil, in compliance with regulatory requirements.	Conduct remote sensing, environmental sampling, and monitoring activities and maintain operational coordination.	Appropriate plans are in place to support state, local, tribal, and territorial (SLTT) officials for a smooth transition to stabilize the Hazardous Material Lifeline.

C.2.Tab.9.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.9.2.1 Primary Agencies

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #10 / U.S. Environmental Protection Agency (EPA)	• Oversees environmental response and cleanup processes in inland zones. • Prevents, minimizes, or mitigates releases of oil or hazardous substances (including chemical, biological, radiological, and nuclear [CBRN] contaminants) and stabilizes any ongoing releases to prevent spread. • Detects and assesses environmental contamination. • Provides technical assistance to federal and state, local, tribal, and territorial (SLTT) agencies regarding protective actions. • Provides technical assistance to state and tribal solid waste agencies regarding municipal solid waste landfills and construction and demolition waste landfills. • Identifies locations of, and provides safety guidance for, areas affected by oil and hazardous substance incidents.
ESF #11 / U.S. Department of Agriculture (USDA)	• Monitors environmental conditions and conducts sampling as requested. • Provides technical advice on mitigating impacts of contaminants and debris removal plans. • Recommends cleanup actions to minimize damage to sensitive resources from response activities.
U.S. Coast Guard (USCG)	• Oversees environmental response and cleanup processes in coastal zones. • Prevents, minimizes, or mitigates releases of oil or hazardous substances (including CBRN contaminants) and stabilizes any ongoing releases to prevent spread. • Detects and assesses environmental contamination. • Provides technical assistance to federal and SLTT agencies regarding protective actions. • Identifies locations of, and provides safety guidance for, areas affected by oil and hazardous substance incidents.

C.2.Tab.9.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #1 / U.S. Department of Transportation (DOT)	• Activates and deploys Pipeline and Hazardous Materials Safety Administration (PHMSA) hazardous material (HAZMAT) inspectors and response teams to priority releases associated with pipelines in coordination with ESF #5 and ESF #10 and pipeline providers. • Identifies transportation solutions for accessing and evacuating high-priority release sites. • Provides technical assistance to FEMA and the states on transportation-related HAZMAT releases in coordination with ESF #10. • Request's activation and deployment of Federal Railroad Administration (FRA) HAZMAT inspectors and response teams to priority releases associated with railroads in coordination with ESF #5, ESF #1, and rail providers.
ESF #2 / FEMA Communications	• In coordination with ESF #7, maintains communications services and tactical communications for environmental responders.
ESF #3 / U.S. Army Corps of Engineers (USACE)	• As Coordinating and Lead Federal Agency (LFA) for ESF #3, aids with debris removal and works with EPA to collect and remove hazardous substances.
ESF #4 / USDA – Forest Service (Firefighting)	• Activates, deploys, and coordinates federal firefighting activities and provide ESF #4 resources as needed to support life-saving missions. • Ensures that incident-specific briefing and training are accomplished for private sector responders and repair teams prior to implementation of suppressing priority fires including HAZMAT/fire subject matter experts (SMEs). • In coordination ESF #10, provides technical assistance (e.g., engineers or miscellaneous overhead personnel) to supplement HAZMAT response as required.

Organization	Roles and Responsibilities
ESF #5 / FEMA Information and Planning	• Activates appropriate ESF #10 staffing and resources to provide coordination, technical assistance, and response to environmental health and safety response. • Activates worker safety and health resources under the Worker Safety and Health Support Annex of the National Response Framework. • Conducts assessments and predictive modeling to identify environmental health and safety risks in the incident area in coordination with ESF #10. • In coordination with ESF #10, ESF #8, the Occupational Safety and Health Administration (OSHA), the states, and tribes, identifies PPE requirements for survivors and responders, and direct ESF #7 to provide personal protective equipment (PPE) supplies to fill shortfalls. • Provides the just-in-time health and safety training for responders at reception, staging, onward movement, and integration (RSOI) sites before they are sent into areas of with risk of hazards exposure in coordination with OSHA, and ESF #10.
ESF #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• Assesses potable water, wastewater, and solid waste disposal facilities and sheltering, feeding, and medical care sites and identify any public health risks.
ESF #7 / FEMA Logistics	• Orders, stages, and provides PPE supplies for survivors and responders as required meeting shortfalls. • Provides supplies and services for environmental health and safety responders not provided through the logistics capabilities of their own agencies.
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Coordinates with EPA (inland zones) and USCG (coastal zones) on information regarding health concerns associated with hazardous substances.
ESF #12 / Department of Energy	• In coordination with Protective Security Advisors (PSAs) and ESF #3, identifies priority power requirements in support of oil and HAZMAT response.
ESF #13 / U.S. Department of Justice (DOJ)	• Provides responder and site security.
ESF #14 / Cybersecurity and Infrastructure Security Agency (CISA)	• Provides health and safety guidance to survivors near privately operated facilities with Extremely Hazardous Substances (EHS) in impacted areas. • Reports, controls, and contains releases at privately operated facilities with EHS. • Reports, controls, and contains HAZMAT releases at privately operated facilities with EHS.

Organization	Roles and Responsibilities
ESF #15 / FEMA External Affairs	• In coordination with ESF #8, ESF #10, ESF #11, and the impacted states, provides health and safety precautions to the survivors. • Updates and disseminates public messaging about health and safety precautions for survivors, based on ongoing situational awareness, in coordination with other ESFs, the states, and tribes. • In coordination with EPA, USCG, CISA, and states, provides health and safety guidance to survivors near privately operated facilities with EHS, oil, and HAZMAT.
Federal Emergency Management Agency (FEMA)	• Activates ESF #10 at the Regional level to provide coordination, technical assistance, and response to oil and hazardous substance incidents.
USDA	• Activates and deploys components to support response and recovery efforts, Natural Resources Conservation Services-Agricultural activities, and rural debris removal.
U.S. Customs and Border Protection (CBP)	• Where hazardous materials are transported by persons, cargo, mail, or conveyances arriving from outside the United States, provides extensive analytical and targeting capabilities through its National Targeting Center, full examination capabilities by trained CBP officers equipped with radiation detection and nonintrusive inspection technology, and nationwide rapid technical response capabilities through its Laboratory and Scientific Services Division.
U.S. Department of Homeland Security (DHS) – CISA	• Designates an Infrastructure Liaison to address issues regarding the protection and stabilization of critical infrastructure affected by a release of oil or hazardous materials. • Maintains access to a database of sites with hazardous materials, provides detailed knowledge of various hazardous material sites as a result of site visits and vulnerability assessments, and assists in the reduction of vulnerabilities and risks associated with certain hazardous material sites.
U.S. Department of the Interior (DOI)	• Provides expertise in and information on offshore drilling, production practices and facilities, and offshore minerals. • Maintains computer models for oil spill trajectory analysis and calculation of pipeline oil discharge volumes. • As a Coordinating Agency for ESF #11 and Natural and Cultural Resources Recovery Support Function (RSF), coordinates with EPA, USCG, and resource agencies for the protection and recovery of natural and cultural resources and historic properties protection. • Provides technical specialists and observers to aid response and recovery efforts.
U.S. Department of State (DOS)	• Facilitates an integrated response between nations when a discharge or release crosses or threatens to cross international boundaries or involves foreign flag vessels.

Organization	Roles and Responsibilities
National Oceanic and Atmospheric Administration (NOAA)	• Provides scientific support to USCG for spill responses, including computer modeling for oil spill trajectory analysis.

C.2.Tab.9.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
9a. Assess and communicate immediate risks from the release of hazardous substances and oil as well as any compounding risks for secondary hazards in the affected area and water systems (e.g., potential or threatened releases).	• Communications are established with stakeholders. • Operational coordination is occurring among stakeholders.	• Coordinating entities and stakeholders, including federal, state, and local environmental protection entities; private sector hazardous waste management organizations; health, land management, and emergency management agencies; first responders; and debris managers
9b. Disseminate risk information (or PAG for nuclear/radiological events) and monitor status of public water and wastewater treatment facilities and private regulated facilities.	• Ongoing monitoring and disbursement of critical information. • Stakeholders are receiving alerts and notifications.	• Regional Response Coordination Center (RRCC) • State Emergency Operations Center (SEOC)/Interim Operating Facility (IOF) • National Response Coordination Center (NRCC) • Public/private water and wastewater treatment facilities
9c. Respond to immediate oil and hazardous substances releases; establish collection process and locations for disposition of household and other hazardous substances and oil, in compliance with regulatory requirements.	• Appropriate resources are deployed to incident site(s). • Active releases are stopped. • Oil or hazardous substances are removed, and areas are decontaminated. • Hazards have been mitigated.	• EPA • USCG • DOD • U.S. Department of Energy (DOE) • Federal and SLTT HAZMAT teams

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
9d. Conduct remote sensing, environmental sampling, and monitoring activities and maintain operational coordination.	• Appropriate staff and resources are deployed to incident site(s). • Operational coordination is occurring between agencies.	• EPA • USCG • NOAA • DOD • DOE • SLTT environmental departments

C.2.Tab.9.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.9.4.1 Planning Factors

- There are 86 chemical facilities in Washington and Oregon that experience moderate to complete damage.
- There are 2,295 facilities in the affected areas of Washington and Oregon that have reportable quantities of EHS.
- There are 107 petroleum facilities and 686 miles of petroleum pipeline that experience moderate to complete damage in Washington and Oregon.
- There are 2,810 miles of natural gas pipeline in the impact areas of Washington and Oregon that sustain more than 800 breaks.

C.2.Tab.9.4.2 Priorities

- Coordinate and support lifesaving and life-sustaining response efforts.
- Assess the number, type, and extent of HAZMAT incidents caused by the CSZ event.
- Deploy HAZMAT emergency response resources.

C.2.Tab.9.4.3 Facts

- There are over 60 Facility Response Plan (FRP) facilities, 500 Risk Management Plan (RMP) facilities, 1,700 Toxic Release Inventory (TRI) facilities, and 360 Toxic

Substances Control Act (TSCA) facilities in Washington and Oregon. Failure at any of these facilities may result in significant fire, explosion, inhalation, or skin contact hazards.

- Any railcars carrying chemicals damaged during the event could pose HAZMAT issues. (In 2009, 439 railcar loads per day of chemicals traveled through Region 10.)
- Damage to communications infrastructure limits the ability to identify and prioritize HAZMAT releases.
- Damage to transportation infrastructure and related route obstructions limit the ability to assess and contain HAZMAT releases.

C.2.Tab.9.4.4 Assumptions

- Life-threatening HAZMAT releases occur in Washington and Oregon due to damage to chemical/industrial facilities.
- Responders and the public are not always aware of HAZMAT conditions; damage to communications infrastructure limits the ability for health and safety guidance to be provided.

C.2.Tab.9.4.5 Shortfalls/Limiting Factors

- Fires and HAZMAT releases constrain movement.
- There is a need for updated tsunami impacts to HAZMAT facilities/pipelines.

C.2.Tab.9.4.6 Critical Considerations

- See Annex D regarding the following considerations:
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.9.4.7 Task Force(s)

- HazMat
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.9.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of

interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.9.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
HHS PSMA ESF #8 – 238	HHS Consultants/Scientific Experts	FOS/ DFA
EPA PSMA ESF #10 – 149	Activation: EPA	FOS
EPA PSMA ESF #10 – 151	Oil and HAZMAT Technical Analysis: Aircraft – Fixed-Wing (ASPECT)	DFA
EPA PSMA ESF #10 – 152	Oil and HAZMAT Technical Analysis: Mobile Platform	DFA
EPA PSMA ESF #10 – 153	Oil and HAZMAT Assessment, Response, and Removal: Incident Management Team	DFA
USCG PSMA ESF #10 – 344	Oil/HAZMAT Assessment, Response, and Removal: Subject Matter Experts (SMEs)	DFA
USCG PSMA ESF #10 – 347	Oil/HAZMAT Assessment, Response, and Removal: Vessels	DFA
USCG PSMA ESF #10 – 348	Oil/HAZMAT Assessment, Response, and Removal: Aircraft – Rotary-Wing	DFA
USCG PSMA ESF #10 – 349	Oil/HAZMAT Assessment, Response, and Removal: Aircraft – Fixed-Wing	DFA
USCG PSMA ESF #10 – 357	Oil/HAZMAT Preliminary Damage Assessment (PDA)/Rapid Needs Assessment (RNA) Assessment Teams: Response & Removal	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.9.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.9.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Hazardous Materials	All	• Critical Transportation • Environmental Response/ Health and Safety • Infrastructure Systems • Mass Care Services • Mass Search and Rescue • Operational Coordination • Public Health and Medical • Public Information and Warning • Situational Assessment	• 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15
• Communications	Alerts, Warnings, and Messages	• Operational Communications	• 2, 10
• Transportation	All	• Critical Transportation • Operational Communications	• 1, 10

C.2.Tab.9.9 References

- Annex X, Execution Matrix, Hazardous Waste Tab
- Environmental Authorities
  - National Oil and Hazardous Substances Pollution Contingency Plan, 40 Code of Federal Regulations (CFR) Section 300 (1994)
  - Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Sections 6901-6992k
  - Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Superfund Act), Pub. Law 96-510 (codified as amended at 42 U.S.C. Sections 9601-9675)
  - Animal Health Protection Act (7 U.S.C. Sections 8301-8317 – Veterinary services program for removal and burial of diseased animal carcasses)
  - Clean Water Act
  - Presidential Executive Order 12580
  - Clean Air Act, Section 112R
- Pre-Scripted Mission Assignments Library December 31, 2020
- Public Authorities
  - Occupational Safety and Health Act of 1970, Pub. Law 91-596, 29 U.S.C. Sections 651 et seq.

- Executive Order 12196 and 29 CFR Sections 1900-1960 (safety and health for federal employees)
- 29 CFR 1910.1096 (Ionizing Radiation)
- 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response)

This page is intentionally left blank.

Tab 10 to Appendix C-2: Healthcare Systems Support

Purpose: Provide federal assistance to support healthcare systems that are unable to provide adequate patient services.

C.2.Tab.10.1 Intermediate Objectives

Intermediate Objectives					End State
10a	10b	10c	10d	10e	
Mobilize and stage healthcare system support resources.	Provide support for triage and patient treatment.	Resupply and conduct facility sustainment operations, including staffing.	Reassess continued need of healthcare system support resources.	Demobilize healthcare system support resources.	Healthcare delivery systems are able to meet community patient care needs without the support of federal resources.

C.2.Tab.10.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.10.2.1 Primary Agency

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #8 / Coordinated by U.S. Department of Health and Human Services (HHS)	• Maintains primary responsibility for the situational awareness of public health, medical, and behavioral health assistance. • Assumes operational control of federal emergency public health and medical assets (with the exception of members of the armed forces, who remain under the authority and control of the U.S. Department of Defense [DOD]). • Requests activation and deployment of health professional and veterinary personnel, pharmaceuticals, equipment, and supplies in response to requests for federal assistance. • Conducts health surveillance to assess morbidity, mortality, and community needs related to the emergency. • Monitors blood, blood product, and tissue supplies, shortages, and reserves. • Activates the National Disaster Medical System (NDMS), as necessary, to support response operations. • Deploys pharmaceuticals (including Strategic National Stockpile [SNS]) or medical resources, as appropriate. • Provides public health risk communication messages and advisories.

C.2.Tab.10.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Federal Emergency Management Agency (FEMA)	• Provides communications support in coordination with ESF #2. • Provides logistical support for deploying ESF #8 medical elements and coordinates use of mobilization centers/staging areas, resource transport, disaster fuel contracts, emergency meals, potable water, base camp services, supply, and equipment resupply, and use of all national contracts and interagency agreements (IAAs) managed by the U.S. Department of Homeland Security (DHS) for response operations.
U.S. Department of Defense (DOD)	• Provides logistical support, medical supplies, and materiel. • Deploys medical, surgical, and behavioral health personnel for casualty clearing and staging, patient management, and treatment. • Deploys healthcare providers in a limited capacity to augment civilian hospital staff and federal deployable teams. • Deploys chemical, biological, radiological, and nuclear (CBRN) medical subject matter experts (SMEs) and/or teams. • Provides deployable units (e.g., Expeditionary Medical Support System, Combat Support Hospitals) and platforms (e.g., U.S. Navy hospital ships, and/or other naval vessels) for patient medical and/or surgical care. • Provides the use of functional DOD military treatment facilities within or near the incident area for medical care of non-military healthcare system beneficiaries. • Provides blood, blood products, and tissue. • Alerts DOD NDMS Federal Coordinating Centers (FCCs) to activate NDMS patient reception plans in a phased approach.
U.S. Department of Interior (DOI)	• Provides personnel, equipment, and supplies for communications, aircraft, and the establishment of base camps for deployed federal public health and medical teams. • Collaborates with HHS and ESF #11 to deliver effective “one health” response that integrates human, animal, plant, and environmental health considerations.
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Provides technical assistance, equipment, and supplies for the temporary restoration of damaged public utilities affecting public health and medical facilities. • Provides temporary power to medical and public health facilities.

Organization	Roles and Responsibilities
ESF #6 / American Red Cross (Red Cross)	• Provides disaster-related health and behavior health services. • Provides information regarding behavioral health surveillance and trends. • Supports NDMS evacuations through the provision of services for accompanying family members/caregivers in coordination with state, local, tribal, and territorial (SLTT) officials. • Provides personnel to assist in temporary infirmaries, immunization clinics, hospitals, and nursing homes. • Coordinates with the American Association of Blood Banks (AABB) Task Force to provide blood and services. • Supports reunification efforts through the Red Cross Safe and Well website and in coordination with government entities.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Assists in identifying alternate water supplies and wastewater collection and treatment for critical healthcare facilities.
ESF #11 / U.S. Department of Agriculture (USDA)	• Collaborates with HHS and DOI to deliver effective “one health” response that integrates human, animal, plant, and environmental health considerations.
ESF #12 / U.S. Department of Energy (DOE) – National Nuclear Security Administration (NNSA)	• Provides personnel, equipment (e.g., portable monitors) and assistance to personnel advise on and conduct screening/decontamination.
ESF #13 / U.S. Department of Justice (DOJ)	• Provides force protection for HHS personnel and facilities. • Provides security for the SNS and secure movement of inbound medical equipment, supplies, blood, and tissue. (Note: The security of the SNS is an organic mission of the U.S. Marshals Service [USMS], typically outside of ESF #13.) • Provides crowd control at fixed and deployed healthcare facilities for the protection of workers and to address public safety and security needs.
U.S. Forest Service (USFS)	• Provides personnel, equipment, and supplies primarily for communications, aircraft, and base camps for deployed federal public health and medical teams.
U.S. Department of Veterans Affairs (VA)	• Coordinates with participating NDMS hospitals to provide incident-related medical care to authorized NDMS beneficiaries. • Furnishes available VA hospital care and medical services. • Deploys available medical, surgical, mental health, and other health service support assets. • Provides a Medical Emergency Radiological Response Team (MERRT) for technical consultation. • Alerts VA FCCs to activate NDMS patient reception plans in a phased approach.

C.2.Tab.10.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
10a. Mobilize and stage healthcare system support resources.	• Staging areas have been established and are receiving medical resources.	• ESF #8
10b. Provide support for triage and patient treatment.	• Patients are receiving medical treatment appropriate to their needs or according to established crisis standards of care.	• ESF #8
10c. Resupply and conduct facility sustainment operations, including staffing.	• Continued medical operations are sustained without shortfalls in temporary medical care solutions.	• ESF #8
10d. Reassess continued need of healthcare system support resources.	• Long-term medical solutions are in place and resources are no longer required.	• ESF #8
10e. Demobilize healthcare system support resources.	• All resources, equipment, and personnel have been demobilized.	• ESF #8

C.2.Tab.10.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.10.4.1 Planning Factors

- The number of expected fatalities is 13,800.
- The number of expected injuries is 107,535.
- The number of expected hospital beds expected to be lost is 13,800.
- Local pharmaceutical supplies are expected to be insufficient to meet demand.

- Ability to re-establish supply chain will be severely impeded by damaged transportation infrastructure.

C.2.Tab.10.4.2 Priorities

- Coordinate and support lifesaving and life-sustaining response efforts.
- Establish situational awareness with healthcare stakeholders.
- Confirm that healthcare capability is self-sustaining.
- Assess priority ingress and egress requirements for healthcare facilities and patient evacuation points.
- Assess, activate, and deploy resources to establish patient movement capability.
- Determine ambulance staging locations for national Emergency Medical Services (EMS) contract ambulances (if requested).

C.2.Tab.10.4.3 Facts

- Approximately 100 hospitals will require evacuation or support and use of up to 1,708 regular beds and 228 critical care beds will be lost. Excess capacity in hospitals within 250 miles of the impact area will become saturated.
- All mutual aid teams coming into the area require self-sustainment. Local systems are unable to provide adequate support.
- A population of approximately 19,000 hospital patients and 77,000 nursing home residents will require support or evacuation.
- Patients located in assisted living facilities before the event will need alternative care sites (ACSs).
- Captive and wild, dangerous, and domestic animals can present public health issues due to destroyed or damaged facilities/operations, stressed, and expired animals.
- Considerations will need to be made for electricity-dependent and durable medical and assistive equipment and devices, such as ventilators, which are essential for many users to maintain independent living.
- Damage to water infrastructure (i.e., treatment facilities, storage facilities, and delivery systems) causes shortages and contamination that lead to immediate health risks to the public and first responders.
- Approximately 3,000 nursing homes may require evacuation or support.
- The earthquake and tsunami will disrupt the EMS system, which includes emergency medical technicians (EMTs)/paramedics, ambulances, dispatch services, and emergency departments.
- Oregon and Washington will implement Emergency Management Assistance Compact (EMAC) and any intra-state agreements for health and medical treatment assistance.

C.2.Tab.10.4.4 Assumptions

- A Public Health Emergency Declaration occur within hours of the event occurring.
- High number of casualties plus reduced hospital capacity combine to overwhelm existing capabilities.
- All healthcare facilities will need access to potable water, fuel, and backup power supplies.
- Animals (including service animals and search and rescue (SAR) dogs, mounted police horses, etc.) may need veterinary attention.
- Care and sheltering of medical needs survivors exceed local and state capabilities.
- Casualties and critically injured persons in coastal communities must be transported by air or sea due to damage to road networks.
- Damage to utilities and transportation infrastructure isolates hospitals; assistance is unavailable for at least 24 to 72 hours.
- Medical systems are required to have backup power redundancy. Hospitals have their own generators; however, during a catastrophic event, generators become the primary power source and require additional backup power supplies.
- People evacuate without their prescription medications or their durable medical equipment.

C.2.Tab.10.4.5 Shortfalls/Limiting Factors

- Burn care will be a gap, and there are not sufficient beds.
- Kidney dialysis network planning has not been robust enough. The kidney dialysis network has the ability to absorb and address the extra people, but not the ability to move patients to their facilities.
- Loss of power, water, fuel, and communications limit surviving hospitals' ability to provide services.
- Medical facilities will be required to provide support services for their staff.
- Medical support for the chronically ill is limited or unavailable.
- Outside resources need to be brought in, including acute care teams, support personnel, pharmaceutical supplies, dialysis treatment capabilities, psychotropic medications, oxygen, fuel, water, and laundry services.
- Patient tracking system is not well integrated from the local to federal level.
- Transportation limitations require in-place triage and treatment of the injured.

C.2.Tab.10.4.6 Critical Considerations

- Region 10 has substantial healthcare infrastructure and a mature public health system. Most incidents of small or moderate size can be managed successfully at the state level.
- Federal medical surge capabilities include ACSs and hospital decompression.

- ACSs will deliver medical care in temporary or permanent facilities (e.g., a primary care clinic, a triage tent).
- Teams augment hospital staff when supporting hospital decompression.
- HHS response personnel are not personally equipped to deploy in support of healthcare systems in arctic conditions; Disaster Medical Assistance Team (DMAT), Rapid Deployment Forces (RDF), and other personnel are not issued arctic gear by HHS.
- Wraparound services are required for a Federal Medical Station (FMS) to function.
- DMATs are self-sufficient for up to 72 hours, but don't deploy with fuel and are not prepared for arctic or severe cold weather conditions.
- In Oregon and Washington, most of the medical capability is located west of the Cascade Mountains (Seattle and Portland areas). Any incident that damages infrastructure in Seattle and/or Portland will significantly reduce the capability and capacity of healthcare systems in Oregon and Washington.
- Level One medical trauma support for Alaska will be limited due to the loss of capability in Washington and Oregon.

C.2.Tab.10.4.7 Task Force(s)

- Health and Medical
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.10.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.10.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF #5 – 37	Activation: DOD	FOS
DOD PSMA ESF #8 – 63	Temporary Medical Treatment Facilities	DFA
DOD PSMA ESF #8 – 88	Medical Care: Federal Medical Station (FMS)	DFA
DOD PSMA ESF #8 – 99	Public Health Personnel	DFA
HHS PSMA ESF #8 – 17	Activation: HHS	FOS
HHS PSMA ESF #8 – 71	Public Health Services: Assistance for State & Local Health	DFA
HHS PSMA ESF #8 – 72	Medical Care & Support	DFA
HHS PSMA ESF #8 – 73	Federal Medical Station (FMS)	FOS
DOD PSMA ESF #8 – 88	Medical Care: Federal Medical Station (FMS)	DFA
HHS PSMA ESF #8 – 171	Mass Vaccination Clinic Operations: Vaccination Team	DFA
HHS PSMA ESF #8 – 172	ESF #8 Case Management Assistance: Service Access Team (SAT)	DFA
HHS PSMA ESF #8 – 177	National Emergency Medical Services (EMS) Contract Support	DFA
HHS PSMA ESF #8 – 179	Trauma Critical Care Team	DFA
HHS PSMA ESF #8 – 236	Advance Logistics Reception Team (ALRT)	DFA
HHS PSMA ESF #8 – 238	HHS Consultants/Scientific Experts	DFA
HHS PSMA ESF #8 – 240	Emergency Prescription Assistance Program (EPAP) and Medical Equipment Replacement: Contracted Pharmacy Personnel	DFA
HHS PSMA ESF #8 – 248	Behavioral Health Care: HHS MHT(s)	DFA
HHS PSMA ESF #8 – 252	NDMS: HHS DMAT, National Veterinary Response Team (NVRT), Disaster Mortuary Operational Response Team (DMORT)	DFA
DOJ PSMA ESF #13 – 137	Force Protection	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.10.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.10.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• Alert, Warning and Messages	• Public Health, Healthcare, and Emergency Medical Services	• 2
• Energy	• All	• Public Health, Healthcare, and Emergency Medical Services	• 3, 12
• Health and Medical	• All	• Environmental Response/Health and Safety • Infrastructure Systems • Logistics and Supply Chain Management • Mass Care Services • Mass Search and Rescue Operations • Operational Coordination • Public Health, Healthcare, and Emergency Medical Services • Public Information and Warning • Situational Assessment	• 8
• Safety and Security	• Community Safety • Fire Service • Law Enforcement/ Security • Search and Rescue	• Public Health, Healthcare, and Emergency Medical Services	• 13
• Transportation	• Aviation • Highway/Roadway/ Motor Vehicle • Maritime	• Critical Transportation	• 8

C.2.Tab.10.9 References

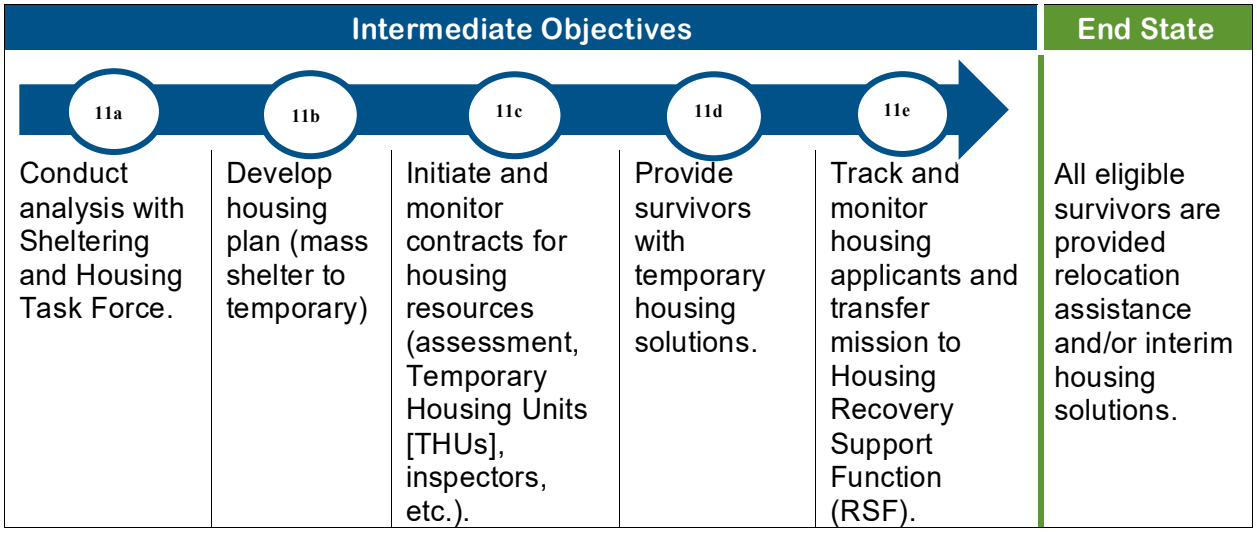
- Annex X, Execution Matrix, Healthcare Systems Support Tab
- *National Response Framework* (NRF) *ESF #8 Annex* (Public Health and Medical Services) (Jun 2016)
- *National Disaster Recovery Framework* (NDRF) *Health and Social Services Recovery Support Function Concept of Operations Plan* (Aug 2015)
- Pre-Scripted Mission Assignments Library December 31, 2020

This page is intentionally left blank.

Tab 11 to Appendix C-2: Housing Solutions

Purpose: Provide temporary housing solutions to eligible survivors.

C.2.Tab.11.1 Intermediate Objectives



C.2.Tab.11.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.11.2.1 Primary Agency

Organization	Roles and Responsibilities
Federal Emergency Management Agency (FEMA)	• Delivers prioritized capabilities to implement housing solutions that effectively support the needs of survivors and contribute to the sustainability and resilience of communities. • Supports the development of an initial temporary housing strategy to transition survivors from congregate to temporary housing alternatives and provides relocation assistance or interim housing for families unable to return to their pre-disaster homes. • Facilitates the return of evacuees to their pre-disaster homes or to alternate locations for those unable to return to their pre-disaster homes by providing relocation assistance or interim housing solutions. • Assesses preliminary housing impacts/needs, identifies available options for temporary housing, and plans for permanent housing solutions. • FEMA Voluntary Agency Liaison (VAL) receives referrals, verifies information, and acts as a facilitator to one of the long-term recovery committees operating throughout the state(s). • Activates Individual Assistance (IA) Services Contract (IASC) and U.S. Army Corps of Engineers (USACE) Housing Planning and Response Team (PRT), in coordination with the Operations Section Chief (OSC) and Individual Assistance Branch Director (IABD).

C.2.Tab.11.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #3 / U.S. Army Corps of Engineers (USACE)	• Coordinates with ESF #6, and ESF #5 / FEMA Headquarters (HQ) to begin coordination for potential mission for USACE Rapid Repair Program and temporary roofing.
ESF #5 / FEMA Information and Planning	• Decides whether to implement a regional strategy for managing and implementing housing support. • Coordinates closely with the OSC to synchronize the delivery of housing services.

Organization	Roles and Responsibilities
ESF #6 / Mass Care and Individuals & Households Group and American Red Cross (Red Cross)	• Coordinates with the state housing lead on the development of an initial housing strategy. • Initiates financial assistance to homeowners for the repair of their primary residence, including utilities and mechanical systems. • Activates programs to provide temporary accommodations for eligible displaced survivors unable to return to their pre-disaster primary residence. • Implements Stafford Act programs to transition survivors from shelters to permanent housing. • Establishes a Sheltering and Housing Field Team (SHF) within 48 hours of a Joint Field Office (JFO) request. • Identifies requirements for direct housing missions; identifies alternative housing options; synchronizes assistance programs. • Moves from congregate care to non-congregate care options and provides relocation assistance or interim housing solutions for families unable to return to their pre-disaster homes. • Provides temporary housing units to survivors when other housing resources are not available both inside and outside the impacted areas of operation (AOs) of each state. • Identifies and catalogs housing units from the private sector and other federal agencies available to disaster survivors, including physically accessible housing options. • In coordination with states, provides quick repairs to damaged roofs on private homes that allow residents to return to and remain in their own homes while making permanent repairs.
ESF #7 FEMA Logistics	• Manages a collaborative and complex housing logistics supply chain that provides equipment, supplies, and services for incidents requiring an integrated whole-community housing response capability.
ESF #11 / U.S. Department of Agriculture (USDA)	• Offers eligible displaced households priority housing access in USDA-financed multifamily housing properties. • Helps very-low-income homeowners in eligible rural areas make home repairs. • Provides affordable loans to low-income households to buy, build, or repair a home in eligible rural areas. • Coordinates with approved lenders to provide low- and moderate-income households with loans to buy, build, or repair a home in eligible rural areas.
U.S. Department of Housing and Urban Development (HUD)	• Enforces the Fair Housing Act and ensures compliance with other applicable civil rights statutes.

Organization	Roles and Responsibilities
U.S. Small Business Administration (SBA)	• Provides low-interest disaster loans to businesses, private non-profit organizations, homeowners, and renters. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.

C.2.Tab.11.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
11a. Conduct analysis with Sheltering and Housing Task Force.	• Number of applicants eligible for rental assistance, repair, and direct housing • Number of damaged homes • Percent of damaged homes covered by insurance • Number of survivors in shelters • Number of renters versus homeowners • Locations of eligible applicants • Availability of rental resources • Availability of assistance from other sources, including voluntary agencies • Availability, feasibility, and cost-effectiveness of options for direct • housing	• ESF #6 • ESF #7
11b. Develop housing plan (mass shelter to temporary).	• Number of completed plans	• ESF #6 • ESF #7
11c. Initiate and monitor contracts for housing resources (assessment, THUs, inspectors, etc.).	• Number of contracts started • Number of contracts monitored • Total number of Mission Assignments (MAs) issued	• ESF #7

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
11d. Provide survivors with temporary housing solutions.	• Number of requests • Number of requests adjudicated • Number of applicants approved for Manufactured Housing Units (MHUs) • Number of approved private sites • Number of approved commercial sites • Number of site inspection requests • Number of total haul & install (private) • Number of total haul & install (commercial) • Number of requests for occupancy • Number of MHUs licensed in • Number of Multi-Family Lease and Repair Program (MLRP) units leased in	• ESF #6 • ESF #7
11e. Track and monitor housing applicants and transfer mission to Housing RSF.	• Number of transfers to Housing RSF operations • Number of survivors still in temporary housing • Time required to move survivors into permanent housing	• ESF #6 • ESF #7 • Housing RSF

C.2.Tab.11.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.11.4.1 Planning Factors

- N/A

C.2.Tab.11.4.2 Priorities

- N/A

C.2.Tab.11.4.3 Facts

- Bringing in telecommunications crews and resources, such as transportation, housing, and fuel, from unaffected areas requires coordination.
- Some, if not all, temporary housing programs are initiated and defined through the disaster declaration process.
- Unified Coordination Group (UCG) decision regarding the housing assistance programs that should be implemented will be based on FEMA's Disaster Housing Plan, taking into consideration:
    - Number of individuals and families who need support and the anticipated duration of needed support;
    - Type of damage to dwellings (e.g., roofs, destroyed sections, sanitary systems);
    - Types and locations of damaged dwellings (e.g., rural, suburban, urban; single- or multi- family);
    - Availability of community support systems for households and families, such as social services, medical services, and temporary housing;
    - Community's demographic profile, rental costs, number of household pets and service animals, and proximity of post-disaster housing to survivor pre-disaster residences;
    - Available housing resources, including rental properties, hotels, and motels; and
    - Timeframe for implementation of these programs.

C.2.Tab.11.4.4 Assumptions

- Indirect impacts to the state of Alaska may include disruption of communications, supply chain network, infrastructure, and food/water/shelter (mass care).
- Indirect impacts to Idaho will include disruption of supply chain networks, energy systems, and food/water/shelter (mass care) resources.
- Restoration of communications capabilities is a central component of the incident response, along with the restoration of transportation and power facilities and situational assessment, search and rescue (SAR), and mass care capabilities.

C.2.Tab.11.4.5 Shortfalls/Limiting Factors

- N/A

C.2.Tab.11.4.6 Critical Considerations

- RSOI – See Annex D:
    - Responder Housing
        - Extremely limited housing resources in the Pacific Northwest

- Need for non-traditional solution sets

C.2.Tab.11.4.7 Task Force(s)

- Housing
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.11.5 Order of Priority of Housing Assistance in Region 10

NOTE: While in typical operations these programs are prioritized, during a CSZ incident they will likely be activated simultaneously).

Program	Summary Description	State Consideration	Comments
Rental Assistance	Financial assistance to individuals and families for rental of temporary housing	N/A	Priority for interim housing in Region 10
Temporary Roof Repair (i.e., Blue Roof Program)	Quick repairs to damaged roofs of private homes, enabling residents to return to and remain in their homes while permanent repairs made	Requires request by the state (25% cost-share by state)	Disaster-specific solution, usually for wind damage
Transitional Sheltering Assistance (TSA) (Hotel and Motel Program)	Temporary housing for individuals and families who are unable to return to their pre-disaster dwellings and must transition from congregate shelters or other types of temporary housing	Requires state request (25% cost-share by state)	Most appropriate for urban or suburban areas with available hotel and motel rooms; rooms may be acquired in locations other than within the state where the disaster occurred
Rapid Temporary Repair Program	Temporary emergency repairs to doors and windows to enable access to and habitation of a private dwelling	Requires state request (25% cost-share by state)	Allows residents to return to their homes and prevents their ongoing reliance on financial support
Direct Leasing	Direct payments by FEMA to landlords on behalf of disaster survivors	Requires state request	Must be approved by FEMA HQ; program is similar to rental assistance but eliminates requirement for survivors to pay landlords

Program	Summary Description	State Consideration	Comments
Multi-Family Repair Program	Renovation of and repairs to vacant multi-family homes in which FEMA places survivors	Requires state request	Must be approved by FEMA HQ; multi-unit apartments repaired and placed into service for survivors
Non-Congregate Facilities	Facilities that provide private or semi-private accommodation but are not considered temporary housing solutions (e.g., tent cities, military installations, school dormitories, modified nursing homes)	Public Assistance (PA) program staff should be consulted for potential cost reimbursement	Used as an interim housing solution until more appropriate, longer-term solutions become available
Direct Housing Operations	Provision of temporary units, usually factory-built; this option only used when other housing resources are not available; units must be appropriate to the community's needs and be fully accessible	Requires state request	Program for use only when other options exhausted or rejected
Transportation Assistance	Assistance to relocate individuals and households outside the disaster area in locations where short- or long-term housing resources are available; transportation services may include the return of disaster survivors to their pre-disaster locations	Must be eligible for temporary housing assistance and express a need for assistance; must have been evacuated more than 60 miles away either (1) by FEMA or the state or (2) under a mandatory evacuation order	Program for use only when other options exhausted or rejected
Permanent Housing Construction – New and Repair	Direct assistance for the repair or construction of permanent or semi-permanent housing for individuals and families	Requires state request	Most likely implemented as part of Housing RSF activities

Program	Summary Description	State Consideration	Comments
Disaster-Specific Housing / Atypical Solutions	Housing solutions developed for use in a specific disaster	N/A	Example: Sheltering and Temporary Essential Power (STEP) Pilot Program for Hurricane Sandy (2012) or Voluntary Agencies Leading and Organizing Repairs (VALOR) for Hurricane Maria (2017)

C.2.Tab.11.6 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.11.7 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOT PSMA ESF # 1 - 144	Activation: DOT	
USACE PSMA ESF # 3 - 283	Infrastructure Assessment Planning and Response Team (PRT)	
USACE PSMA ESF #3 – 296	Temporary Housing PRT: Pre-position	FOS
USACE PSMA ESF #3 – 298	Temporary Housing PRT: Execution	FOS
USACE PSMA ESF #3 – 310	USACE Specialist SMEs	FOS
VA PSMA ESF #6 – 52	Housing Task Force (HTF)	FOS
DOD PSMA ESF #6 – 66	Temporary Housing Unit Site Prep Team	DFA
HUD PSMA ESF #6 – 184	HUD Subject Matter Experts (SMEs): Housing Planning and Building Sustainable Communities	FOS
USACE PSMA ESF 6 - 292	Temp Roofing Planning & Response Team (PRT) SME Cell PREPOSITION	
USACE PSMA ESF #6 – 299	Temporary Housing Site Development	FOS
USACE PSMA ESF #6 – 300	Temporary Housing Haul & Install	FOS
USACE PSMA ESF #6 – 301	Temporary Housing Technical Monitor Support	FOS

PSMA ID	PSMA Title	Type*
USDA PSMA ESF #6 – 366	Rural Development Support: USDA SMEs	FOS
DOT PSMA ESF #7 – 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships	FOS
GSA PSMA ESF # 7 - 166	Activation: U.S. General Services Administration (GSA)	
HHS PSMA ESF # 8 - 17	Activation: U.S. Department of Health & Human Services (HHS)	
DOE PSMA ESF #12 – 112	Activation: U.S. Department of Energy (DOE)	FOS
DOJ PSMA ESF # 13 - 132	Activation: U.S. Department of Justice (DOJ)	

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.11.8 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.11.9 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• All	• All	• Logistics and Supply Chain Management • Public and Private Services and Resources	• 6, 7
• Food, Water, Shelter	• All	• Logistics and Supply Chain Management • Mass Care Services • Public and Private Services and Resources • Public Information and Warning	• 3, 5, 6, 7, 11

C.2.Tab.11.10 References

- CSZ Annex X, Execution Matrix, Housing Solutions Tab
- Direct Housing Assessment SOP (May 2013)

- FEMA Direct Housing Guide, July 2021
- *FEMA Incident Management and Support Keystone* (Jan 2011)
- FEMA MHU Field SOP (Sep 2015)
- *FEMA Recovery Operations Support Manual* (Jul 2016)
- *Individuals and Households Program Unified Guidance* (IHPUG) (Sep 2016)
- Integrated Operating Concept for Field Operations (Dec 2016)
- *National Incident Management System* (NIMS) (Dec 2008)
- *National Response Framework* (NRF) (Jun 2016)
- Pre-Scripted Mission Assignment (PSMA) Library Catalog December 31, 2020
- *Recovery Operations Playbook* (Feb 2015)
- State-Administered Direct Housing Grant Guide (SADHGG), July 2020
- Termination of Direct Temporary Housing Assistance SOP (Apr 2016)

This page is intentionally left blank.

Tab 12 to Appendix C-2: Mass Care – Food and Water

Purpose: Support food and water operations for the impacted populations.

C.2.Tab.12.1 Intermediate Objectives

Intermediate Objectives					End State
12a	12b	12c	12d	12e	
Validate shelter support requests and needs.	Coordinate with stakeholders on the ordering and delivery of requested shelter resources.	Provide requested food and water resources.	Monitor usage rates and determine shortfalls and surpluses and food and water requirements.	Determine transition to local distribution systems and operations.	Federal assistance is no longer required to support food and water distribution.

C.2.Tab.12.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.12.2.1 Primary Agency

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• Coordinates and provides life-sustaining food and water resources when the needs of disaster survivors exceed state, local, tribal, and territorial (SLTT) capabilities. • American Red Cross (Red Cross) ○ As co-lead agency for ESF #6, works with DHS/FEMA to anticipate feeding and distribution requirements and develops strategies to address gaps, in coordination with SLTT, private sector, and non-governmental entities.

C.2.Tab.12.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Corporation for National and Community Service (CNCS)	• Provides teams of National Service participants to distribute food, water, ice, and other goods.
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Assesses water and wastewater infrastructure systems supported by U.S. Environmental Protection Agency (EPA).
ESF #7 / FEMA Logistics	• Provides comprehensive logistics planning, management, and sustainability. • Provides relief supplies, in coordination with the U.S. General Services Administration (GSA).

Organization	Roles and Responsibilities
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Assesses potable water and other issues related to public health in establishments holding, preparing, and/or serving food. • Assists with monitoring of public health conditions that can affect the health of all shelter occupants including shelter workers. • Provides technical assistance for shelter operations related to food, vector control, water supplies, and waste disposal.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Provides potable water testing.
ESF #11 / U.S. Department of Agriculture (USDA)	• Provides nutrition assistance, ensures the safety of food supplies, and provides for the safety and well-being of pets during emergency response operations and evacuations. • Food and Nutrition Service (FNS) provides disaster food assistance in coordination with ESF #11, including USDA foods/commodities to support emergency congregate feeding and/or for disaster household distribution; purchases infant formula and baby food if requested by FEMA (under Individual Assistance [IA] Declaration); and Supplemental Nutrition Assistance Program (SNAP) support through waivers and/or flexibilities, with potential for Disaster Supplemental Nutrition Assistance Program (D-SNAP), if requested and approved (under IA Declaration). • Animal and Plant Health Inspection Service (APHIS) provides technical expertise in support of animal and agricultural emergency management, including responding to requests from FEMA to assist SLTT and federal jurisdictions to facilitate coordination of public, private, and non-governmental organization (NGO) resources to provide surge response capabilities pertaining to animals. • When mission assigned, ensures, in coordination with ESF #8, that animal/veterinary issues in natural disasters are supported.
ESF #14 / Cybersecurity and Infrastructure Security Agency (CISA)	• Coordinates with grocers and other private industry food and water distributors and suppliers.
National Voluntary Organizations Active in Disaster (NVOAD)	• Through a coalition of organizations that work together through committees, NVOAD focuses on mass care and volunteer/donations management support.
U.S. Department of Defense (DOD)	• Provides water purification capability, shelf stable meals, logistics support, and support staffing.
U.S. Department of Veterans Affairs (VA)	• May provide for food preparation and storage in VA facilities.

C.2.Tab.12.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
12a. Validate shelter support requests and needs.	• Number of food/water sector impacts and requests received	• ESF #5 • ESF #6 • ESF #11
12b. Coordinate with stakeholders on the ordering and delivery of requested shelter resources.	• Number and type of feeding resources ordered • Locations of shelters, fixed feeding sites, kitchen and distribution sites, and home delivery routes • Urgency of need	• ESF #6 • ESF #7 • ESF #8 • ESF #11 • NVOAD NGOs • Mass Care (MC) task forces (TFs)
12c. Provide requested food and water resources.	• Feeding support within a specified number of days for specified number of people (two meals per day) • Number of staff, logistics, and technical support staff needed	• ESF #6 • ESF #8 • ESF #11
12d. Monitor usage rates and determine shortfalls and surpluses and food and water requirements.	• Feeding/hydration support for a specified number of people for a specified number of days	• ESF #6 • ESF #7 • ESF #11
12e. Determine transition to local distribution systems and operations.	• Within specified number of days post-incident, affected populations served by specified percent of water and food supplies and distribution systems	• Disaster MC Feeding TF • ESF #6 • ESF #11

C.2.Tab.12.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.12.4.1 Planning Factors

- Food supplies will be disrupted until transportation and power networks are stabilized. (Frozen and refrigerated foods will be especially vulnerable.)
- On Day 1, 594,075 households will be without potable water service.
- Food and food processing facility inspection requirements will exceed local capacity.
- Drinking Water Sources: Areas inundated by the tsunami will see disruption or catastrophic destruction to drinking water infrastructure and will require the establishment of drinking water supply stations and a massive construction effort to restore drinking water systems.
- Drinking Water Treatment Plants: Fuel will be needed to support generators for backup energy for wells and water treatment facilities. Disruption of water and electrical systems and damage to sewage treatment infrastructure requires an extensive network of temporary wraparound services to support sheltering operations.
- Public Refrigeration Warehouses: There are 62 public refrigerated warehouses in Washington and Oregon. If damaged, food stores at these locations may no longer be viable. Information will require alignment with private sector data.
- National Shelter System (NSS) Facilities: In Oregon and Washington, schools and shelters listed in the NSS database receive moderate to complete damage and are unavailable or inaccessible for sheltering.
- Parks: A significant percentage of displaced populations will choose to stay on or close to their properties by camping in parks, RVs, or trucks in parking lots and other open spaces. They will require sanitation, feeding, and medical support.
- Fairgrounds: There are 293 convention centers and fairgrounds in Washington and Oregon that may serve as open air shelters for displaced residents. However, a significant number of these venues, particularly in the Coastal and I-5 Corridor/Inland Geographic Reference Areas (GRAs), may be damaged and/or inaccessible.
- Major Sports Venues (e.g., stadiums/arenas): There are 21 major sports venues in Washington and Oregon that may support mega-shelter operations. However, a significant number of these venues, particularly in the Coastal and I-5 Corridor/Inland GRAs, may be damaged and/or inaccessible.

C.2.Tab.12.4.2 Priorities

- Assess capabilities post-incident.
- Assess the status of socially vulnerable populations (reference: National Risk Overview – elderly, disabled, and access and functional needs) within the impact area.
- Implement feeding and hydration support in impacted branches.

C.2.Tab.12.4.3 Facts

- Feeding and hydration support for up to 2.5 million survivors, 1.5 million pets, 3,750 service animals, and 32,000 livestock in the Coastal and I-5/Inland GRAs.

- Food and water distribution solutions during a catastrophic incident can vary by Region, state, and even community. Weather, terrain, economics, and local policies all play a significant role in determining if survivors can be sustained in certain locations and whether safe bulk distribution of food and water is feasible and/or appropriate.
- Shortfalls in feeding capabilities will be filled by national organizations, such as NVOAD, or through the federal, state, or tribal contracting process.

C.2.Tab.12.4.4 Assumptions

- A significant percentage of the displaced population will choose to stay on or close to their properties by camping in parks, RVs, or trucks in parking lots and other open spaces; they will require sanitation, feeding, and medical support.
- A small percentage of the rural population is self-sufficient for a short period of time, but the larger more metropolitan populations are not.
- Coordination with Search and Rescue (SAR) will be necessary to ensure rescued survivors are provided food, water, and shelter.
- Culturally appropriate food may include subsistence foods being served in shelters and/or distributed.
- Damage to transportation systems will disrupt the flow of food and basic needs commodities to the affected region.
- Disruption or catastrophic destruction to drinking water infrastructure will require establishing drinking water supply stations and a massive construction effort to restore drinking water systems.
- Disruptions to water and electrical power systems, combined with damage to the sewage treatment infrastructure, require establishing an extensive network of temporary sanitation stations to manage human and pet wastes.
- Emergency shelter sites will also serve as fixed feeding and bulk distribution locations for people sheltering in place in neighborhoods or staying in nearby open spaces.
- Feeding and bulk food and water distribution may include ad hoc or pop-up feeding, and distribution sites organized by faith-based or community organizations; private vendors will require close coordination with ESF #8 and local authorities to ensure food safety and to avoid duplication of effort.
- Government, private, general public, and volunteer organizations need to be self-sufficient for at least 2 or 3 weeks.
- Impacts to transportation systems and geography isolate neighborhood communities.
- Indirect impacts to Idaho will include disruption of supply chain networks, energy systems, and food/water/shelter (mass care) resources.
- Indirect impacts to the state of Alaska may include disruption of communications, supply chain network, infrastructure, and food/water/shelter (mass care).
- Local sheltering will be limited due to facility damage and lack of available personnel.

- Mobile kitchens need access to working utilities or portable systems for power, potable water, wastewater, and trash.
- Potential for disease increases due to dead bodies and animal carcasses.
- Pre-disaster homeless will lose access to support services and require shelter, feeding, and other mass care support.
- Repair time for the overall water and wastewater infrastructure could be weeks or months for facilities sustaining complete damage.
- Some impacted communities may have community and neighborhood organizations with strategies for food and water distribution.
- The affected areas, the Coastal and I-5 Corridor/Inland GRAs will compete for scarce resources.
- Transportation issues will result in significant delays in the arrival of food and drinking water resources.
- Urban populations do not have sufficient food supplies to sustain them until mass feeding locations are established.
- U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) is the lead agency in support of ESF #6 to provide emergency food.
- USDA FNS: In exceptional circumstances, states can request approval from FNS to operate a disaster household distribution. Upon FNS approval, emergency feeding organizations can distribute USDA Foods in smaller sizes to individual households for preparation and consumption at home. Households cannot receive both disaster SNAP benefits and disaster USDA Food household food packages at the same time.
- USDA FNS: To support congregate feeding, FNS supplies USDA Foods to disaster relief organizations such as the Red Cross and The Salvation Army. Emergency feeding organizations request this food through state agencies; states, in turn, notify USDA of the types and quantities of food needed. USDA Foods intended for the National School Lunch Program (NSLP) are most often used for mass feeding.
- USDA Foods include a variety of non-perishable fruits, vegetables, meat, poultry, and whole grain products. In disasters, states may use existing inventories of USDA Foods stored at state, local, and school warehouses intended for the NSLP, The Emergency Food Assistance Program (TEFAP), and other USDA nutrition assistance programs. USDA does not set aside or pre-position food specifically for disasters.
- USDA FNS develops an adult, child, and infant feeding menu for the shelters.
- Very limited communications are available. Using Operational Area Satellite Information System (OASIS) may be required

C.2.Tab.12.4.5 Shortfalls/Limiting Factors

- There will be difficulties validating the food, water, & shelter needs and coordinating support.

- There is difficulty in moving and delivering resources and capabilities to meet demand.
- Disruption of water and electrical systems and damage to sewage treatment infrastructure requires an extensive network of temporary wraparound services to support sheltering operations.
- Fuel is needed to support generators for backup energy for wells and water treatment facilities.
- There will difficulties identifying staging locations within the coastal GRA due to inundation.
- There are insufficient resources and infrastructure to support evacuation, reunification, and sheltering of survivors.
- There is a lack of food, water, and other critical life-sustaining commodities, including medications, medical equipment, and supplies.
- There is limited local capability to support populations trapped in isolated areas of the coast.
- The overwhelming volume of local, state, tribal, federal, non-governmental, and private-sector organizations supporting mass care service activities creates a significant coordination challenge and requires the creation of multi-agency taskforces coordinated through the Mass Care/Emergency Assistance Group at the Joint Field Office (JFO).
- People not staying at a shelter need resources being offered at the shelters.
- State, local, tribal, and territorial (SLTT) Point of Distribution (PODS) planning is necessary to ensure resources get from staging areas to survivor's post incident.
- Sustained disruptions to surface transportation cause shortages of basic food and other critical life sustaining commodities, including medications and related medical equipment and supplies.
- State, local, tribal, and territorial (SLTT) jurisdictions in the impacted areas should further develop their pre-disaster evacuation signage, alerts, warnings, and messaging in preparation for a CSZ event.
- There is a high probability of contagious disease outbreak because of damage to wastewater disposal systems and lack of proper sanitation equipment, supplies, facilities, or operators.
- Tribal evacuation and mass care planning is not known by responding agencies.
- There is a lack of support mechanisms for the shelters until the logistics supply chain catches up with the need.
- Water filtration capacity is needed.

C.2.Tab.12.4.6 Critical Considerations

- Annex D:
    - RSOI

- Priority logistics nodes
- Priority routes

- Public information regarding messaging on how the public can get food and water

C.2.Tab.12.4.7 Task Force(s)

- Feeding
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.12.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.12.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOT PSMA ESF # 1 - 144	Activation: DOT	
USACE PSMA ESF # 3 - 283	Infrastructure Assessment Planning and Response Team (PRT)	
USACE PSMA ESF 3 - 287	(FOS) Water and Wastewater Infrastructure Assessment Subject Matter Experts (SMEs) PREPOSITION	
USACE PSMA ESF 3 - 289	(DFA) Water and Wastewater Infrastructure Assessment Personnel: EXECUTION	DFA
DLA PSMA ESF #7 – 11	Bottled Water (Subsistence Supply Chain)	DFA
DLA PSMA ESF #7 – 22	Meals (Subsistence Supply Chain)	FOS/ DFA
DOD PSMA ESF #7 – 96	Bulk Water – Potable	FOS/ DFA

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

PSMA ID	PSMA Title	Type*
DOT PSMA ESF #7 – 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships	FOS
GSA PSMA ESF # 7 - 166	Activation: GSA	
HHS PSMA ESF # 8 – 17	Activation: HHS	
USDA PSMA ESF 11 - 364	Activation: USDA	FOS
DOJ PSMA ESF # 13 - 132	Activation: DOJ	

C.2.Tab.12.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.12.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• All	• All	• Public and Private Resources and Services	• 6
• Communications	• Alerts, Warning and Messages	• Public and Private Resources and Services	• 6
• Food, Water, Shelter	• All	• Environmental Response/Health and Safety • Infrastructure Systems • Mass Care Services • Public Health, Healthcare, and Emergency Medical Services • Public Information and Warning • Situational Assessment	• 3, 6, 7, 8, 11

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Health and Medical	• Medicare Care • Medical Supply Chain • Patient Movement • Public Health	• Public Health, Healthcare, and Emergency Medical Services	• 8
• Transportation	• Aviation • Highway/Roadway/ Motor Vehicle • Maritime • Railway	• Critical Transportation	• 11

C.2.Tab.12.9 References

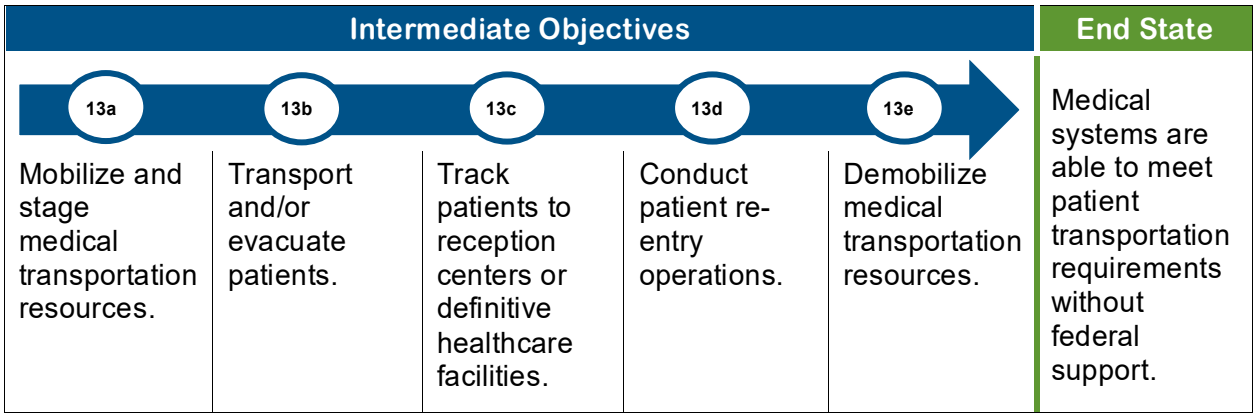
- American Red Cross Feeding in COVID-19 Congregate Shelters (July 2020)
- Annex X, Execution Matrix, Mass Care—Food and Water Tab
- Best practice: "Post-disaster Rural Community Based Feeding" (Hurricane Michael abstract)
- *Disaster Planning: Infant and Child Feeding During Disasters*, CDC
- *Emergency Water Supply Planning Guide*, CDC (2019)
- *EPA's Support to the Water Sector in the NRF* (2009)
- FEMA Commonly Used Sheltering Items and Service Listing (CUSI-SL) Catalog (2019)
- *FEMA Draft Recovery Directorate Disaster Survivor Assistance Concept of Operations* (2013)
- FEMA Multi Agency Feeding Support Template (2015)
- *Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters* (Nov 2010)
- *Household Disaster Feeding Operational Procedure – A State Template* (Jul 10, 2012)
- National Animal Rescue and Sheltering Coalition (NARSC) Emergency Animal Sheltering Best Practice Working Group
- National Mass Care Strategy website – Resource Center and archives
- *National Response Framework* (NRF) *ESF #6 Annex* (Mass Care, Emergency Assistance) (Jun 2016)
- Pets Evacuation and Transportation Standards Act (PETS) (Pub. Law 109-308)
- *Planning for an Emergency Drinking Water Supply*, EPA (2015)
- Pre-Scripted Mission Assignments Library December 31, 2020
- *Sheltering and Feeding Capabilities Definitions,* NVOAD Mass Care Committee (Sep 2019)

- USDA Food and Nutrition Service (FNS) Foods Disaster Assistance program website

Tab 13 to Appendix C-2: Medical Transportation

Purpose: Provide federal assistance for the support of Emergency Medical Services (EMS) transport.

C.2.Tab.13.1 Intermediate Objectives



C.2.Tab.13.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.13.2.1 Primary Agency

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #8 / U.S. Department of Health and Human Services (HHS)	• Coordinate's patient movement requirements with supporting departments, agencies, and governments throughout the incident. • Provides situational awareness of medical transportation support. • Activates the National Disaster Medical System (NDMS), as necessary, to support response operations. • NDMS implements the national Joint Patient Assessment and Tracking System (JPATS) for medical evacuations.

C.2.Tab.13.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #5 (Information and Planning)	• Initiates requests for medical priority refueling requirements.
ESF #6 / American Red Cross (ARC)	• Supports NDMS evacuations through the provision of services for accompanying family members and caregivers.
ESF #7 FEMA Logistics	• Coordinates with ESFs #6 and #8 to activate bus and ambulance contracts, as required.
Federal Emergency Management Agency (FEMA)	• Provides logistics support. • Provides support through the National Ambulance Contract for the evacuation of patients.

Organization	Roles and Responsibilities
U.S. Coast Guard (USCG)	• May provide support in coordination with other service providers. • Provides rotary wing air transportation support (e.g., MH-60 or MH-65) for medical personnel, cargo and/or patient evacuation to support disaster operations. • Provides transportation of personnel, cargo and/or commodities (i.e., food, water, etc.) using fixed-wing assets (e.g., C-130 or C-27) to support disaster operations.
U.S. Department of Defense (DOD)	• Air Operations Center provides flight mission planning and execution management. • Initiates medical transportation contracting capabilities. • DOD's NDMS Federal Coordinating Centers (FCCs) activate NDMS patient reception plans. • Provides NDMS support for the aeromedical evacuation and medical management of NDMS patients transiting from DOD patient collection points (Aerial Ports of Embarkation [APOEs]) to patient reception areas (Aerial Ports of Debarkation [APODs]/FCCs). • Coordinates or participates in reception, tracking, and management of patients evacuated on DOD assets as well as patients received at DOD FCCs and transported to nearby NDMS and U.S. Department of Veterans Affairs (VA) hospitals. • Provides or facilitates medical care to patients moved on DOD transportation assets.
U.S. Department of Veterans Affairs (VA)	• VA FCCs activate NDMS patient reception plans in a phased approach.

C.2.Tab.13.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
13a. Mobilize and stage medical transportation resources.	• Resources have been staged.	• ESF #8
13b. Transport and/or evacuate patients.	• All patients requiring transport or evacuation have been transported/evacuated.	• ESF #8 • State, local, tribal, and territorial (SLTT) entities
13c. Track patients to reception centers or definitive healthcare facilities.	• All patients have been tracked to a destination and are accounted for.	• ESF #8 • SLTT entities
13d. Conduct patient re-entry operations.	• Patients still requiring medical care have a care plan established and/or have re-entered their prior care area.	• ESF #8 • SLTT entities
13e. Demobilize medical transportation resources.	• All equipment, supplies, and personnel have been demobilized.	• ESF #8

C.2.Tab.13.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.13.4.1 Planning Factors

- Emergency Medical System (EMS) Stations: The earthquake and tsunami will result in a disruption to the EMS system, which includes emergency medical technicians (EMTs)/paramedics, ambulances, dispatch services, and emergency departments.

C.2.Tab.13.4.2 Priorities

- Assess, activate, and deploy resources to establish patient movement capability.
- Determine ambulance staging locations for national EMS contract ambulances (if requested).

C.2.Tab.13.4.3 Facts

- Hospitals will be the primary providers of acute care, but limited transportation capability will require that people are triaged/treated in place. Movement to surviving care centers will require outside assistance.
- Indicators for federal involvement may include:
  - The mutual aid network is overwhelmed or not available;
  - A large number of medical facilities are unsafe for patients and/or have critical systems that are not functional (e.g., power, water) and the services requiring such systems cannot be delivered;
  - There are not enough available beds in safe facilities in the immediate area to meet demand; or
  - Insufficient resources are available to provide medical sheltering or to enable a medical surge.
- JPATS and Hospital Available Beds for Emergencies and Disasters (HAvBED) are used across the Region to identify healthcare system capacity and demand during a public health emergency or mass casualty incident; track the number of beds available at

hospitals, clinics, and long-term care facilities; track situational assessment data, such as hospital evacuation and repatriation status reporting as well as level-of-operation, critical asset need, and infrastructure integrity assessments; and track patient movement throughout continuum of care, from evacuation to discharge from a healthcare facility.

- Region 10 FCCs are located at Madigan Army Medical Center (MAMC) on Joint-Base Lewis-McChord (DOD), in Boise, Idaho (VA), and in Portland, Oregon (VA).
- The decision to evacuate patients from a healthcare facility must be weighed against the inherent risks of transporting and caring for acutely ill or injured patients in an out-of-hospital environment.
- U.S. Department of Health and Human Services (HHS) can provide medical evacuation planes.

C.2.Tab.13.4.4 Assumptions

- Ambulance and emergency medical support will require additional support to meet the need of survivors.
- Casualties and critically injured persons in coastal communities must be transported by air or sea due to damage to road networks.
- Damage to utilities and transportation infrastructure isolates hospitals; assistance is unavailable for at least 24 to 72 hours.
- Insufficient transportation resources used to deliver medical supplies, personnel, and inadequate patient transport lead to limited medical care delivery.
- The majority of local staff does not report to care facilities due to a variety of factors: death, lack of transportation capacity, inability to proceed past checkpoints, family emergencies, etc.
- Transportation of casualties is difficult due to damaged highways, airports, and limited or no EMS transport.

C.2.Tab.13.4.5 Shortfalls/Limiting Factors

- Transportation limitations require in-place triage and treatment of the injured.
- It is difficult to provide appropriate guidance and public messaging, due to communication and transportation damage.
- There is a lack of resources to support household pets and service animals (e.g., transportation, appropriate vehicles, cages, food, and veterinary care).
- Sustained disruptions to surface transportation cause shortages of basic food and other critical life sustaining commodities, including medications and related medical equipment and supplies.
- Isolated Communities: This includes communities or pockets of populations in which there are no open roads or transportation infrastructure nor are there public services that can provide long-term lifesaving or life-sustaining support. The supply chain for Community Lifelines is cut off and will take weeks to months to re-establish.

C.2.Tab.13.4.6 Critical Considerations

- Annex D:
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.13.4.7 Task Force(s)

- Health and Medical
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.13.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.13.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF #8 – 70	Patient Movement – Medical Care: FCC	DFA
DOD PSMA ESF #8 – 74	Patient Movement Enablers	DFA
DOD PSMA ESF #8 – 77	NDMS Patient Movement: Fixed-Wing	DFA
HHS PSMA ESF #8 – 172	ESF #8 Case Management Assistance: Service Access Team (SAT)	DFA
HHS PSMA ESF #8 – 173	Patient Return – Medical Evacuee Return Home: SAT	DFA
HHS PSMA ESF #8 – 175	FCC: Patient Reception Team	FOS/ DFA
HHS PSMA ESF #8 – 177	National EMS Contract Support	DFA
HHS PSMA ESF #8 – 178	Ground Support Patient Movement: Litter Bearer Team	DFA
HHS PSMA ESF #8 – 180	Patient Tracking: JPATS Team	DFA

PSMA ID	PSMA Title	Type*
HHS PSMA ESF #8 – 236	Advance Logistics Reception Team (ALRT)	DFA
HHS PSMA ESF #8 – 252	NDMS: HHS DMAT, National Veterinary Response Team (NVRT), Disaster Mortuary Operational Response Team (DMORT)	DFA
HHS PSMA ESF #8 – 254	NDMS: Patient Evacuation Support	DFA
USCG PSMA ESF #8 – 340	Patient Evacuation/Medical Transport: Rotary-Wing	DFA
USCG PSMA ESF #8 – 342	Patient Evacuation/Medical Transport: Fixed-Wing	DFA

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.13.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.13.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Energy	• All	• Public Health, Healthcare, and Emergency Medical Services	• 5
• Health and Medical	• All	• Critical Transportation • Logistics and Supply Chain Management • Public Health, Healthcare, and Emergency Medical Services	• 8
• Transportation	• Aviation • Highway/Roadway/ Motor Vehicle • Maritime • Railway	• Critical Transportation • Logistics and Supply Chain Management	• 7

C.2.Tab.13.9 References

- Annex X, Medical Transport tab
- *National Response Framework* (NRF) *ESF #8 Annex* (Public Health and Medical Services) (Jun 2016)
- Pre-Scripted Mission Assignment Catalog 2020

This page is intentionally left blank.

Tab 14 to Appendix C-2: Natural and Cultural Resource Protection and Restoration

Purpose: Preserve, conserve, rehabilitate, and restore natural, cultural, and historic resources consistent with post-disaster community priorities and in compliance with prevailing environmental and cultural resources laws, regulations, and executive orders.

C.2.Tab.14.1 Intermediate Objectives

Intermediate Objectives				End State
14a	14b	14c	14d	
Scope mission/ conduct analysis with state, local, tribal, and territorial (SLTT) partners and Emergency Support Functions (ESFs).	Develop plan for natural and cultural resources and historic properties.	Review response and recovery actions for potential impacts and solutions.	Monitor delivery of programs and close-out.	Natural and cultural resources and historic properties are evaluated, protected, and/or restored.

C.2.Tab.14.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.14.2.1 Primary Agencies

Organization	Roles and Responsibilities
Federal Emergency Management Agency (FEMA)	• Environmental and Historic Preservation Advisor (EHAD) serves on the advisory staff of the Chief of the Regional Response Coordination Staff (RRCS). • FEMA Environmental Planning and Historic Preservation (EHP) Program provides Incident Management Assistance Team (IMAT) / Unified Coordination Staff (UCS) with a list of natural and cultural resources and historic properties (NCH) in the affected area. • Unified Federal Review Advisor (UFRA) supports Recovery Support Functions (RSFs) with technical guidance on the review of EHP compliance considerations, priority scoping, and strategy development for recovery. • External Affairs (ESF #15) develops and disseminates messages that instruct employees of private cultural institutions or municipalities as well as survivors on how to report damage to NCH. • Heritage Emergency National Task Force (HENTF) Liaison coordinates 42 service organizations and federal agencies in the protection of the nation's cultural heritage properties/assets from the damaging effects of natural disasters and other emergencies.

Organization	Roles and Responsibilities

U.S. Department of the Interior (DOI)	• Through ESF #11, the DOI:
	  ○ Anticipates incident-specific resource requirements for at-risk cultural and natural resources and updates Pre-Scripted Mission Assignments (PSMAs), memorandums of understanding (MOUs), and/or interagency agreements (IAAs) accordingly;
	  ○ Identifies cultural and natural resource concerns, through coordination with SLTT partners, and provides RRCS and/or the FEMA EHAD with a list of incident-specific vulnerable cultural and natural resources in the Region;
	  ○ Coordinates with partner agencies and stakeholders, as appropriate, to address immediate and time-sensitive concerns associated with cultural and natural resources; and
	  ○ Conducts the transition of natural resource response activities to the Natural and Cultural Resources (NCR) RSF, as directed by the Regional Coordinating Officer (RCO) and in coordination with the EHAD.
	• Through the NCR RSF, the DOI:
	  ○ Represents the RSF with the IMAT/UCS and deploys resources, in coordination and collaboration with ESF #11 and the EHAD;
	  ○ Activates and oversees staffing of NCR RSF Field Coordinator position that assists SLTT agencies with long-term environmental and cultural resource recovery planning;
	  ○ Provides technical knowledge on preservation, conservation, rehabilitation, and restoration of impacted NCH resources;
	  ○ Maintains inter- and intra-RSF communications;
	  ○ Sets priorities for RSF efforts and develops a Recovery Support Strategy (RSS);
	  ○ Identifies, assesses, and provides resources to support the sustained recovery of NCH in the impacted area through the identification of NCR RSF gaps;
	  ○ Delivers the NCR RSF;
	  ○ Fosters coordination between and interdependencies among recovery partners;
	  ○ Identifies available resources;
	  ○ Provides technical assistance; and
	  ○ Supports the implementation of SLTT sustained recovery plans.
	• Coordinates with the Extension Disaster Education Network (EDEN).

C.2.Tab.14.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Clears debris, as appropriate, to mitigate ongoing threats to fragile, at-risk NCH. • Provides technical assistance for stabilizing historic structures and facilities.

Organization	Roles and Responsibilities
ESF #5 / FEMA Information and Planning	• Ensures that FEMA Office of Environmental Planning and Historic Preservation (EHP) personnel get pushed to the field and are supported through the RRCC. • Reviews U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and River Management projects before contract work begins (ensures eligibility). • Ensures that SLTT authorities understand compliance issues related to federal environmental laws, regulations, and executive orders. • Ensures that the impact to federal properties is understood.

ESF #10 / U.S. Environmental Protection Agency (EPA)	• U.S. Environmental Protection Agency (EPA)
	  ○ Provides technical assistance for environmental cleanup.
	• U.S. Coast Guard
	  ○ Provides technical assistance for environmental cleanup within the coastal zone, per the National Contingency Plan (NCP) and the Clean Water Act (CWA).

ESF #13 / U.S. Department of Justice (DOJ)	• Provides access to select employees of cultural institutions in restricted areas so they can assess damage and mitigate ongoing threats to fragile, at-risk NCH.
ESF #15 (External Affairs)	• Provide public messaging for handling/accessing natural and cultural areas and facilities that are damaged.

C.2.Tab.14.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
14a. Scope mission/ conduct analysis with SLTT partners and ESFs.	• Number of resources needed • Time required for mobilizing and staging resources • Number of resources staged	• EHAD • State/Tribal Historic Preservation Officers (SHPOs/THPOs) • ESF #11
14b. Develop plan for natural and cultural resources and historic properties.	• Plan approval by Operations Section Chief (OSC)	• EHAD • Regional Support Plan, Incident Action Plan (IAP) • SHPOs/THPOs • ESF #11/NCR RSF
14c. Review response and recovery actions for potential impacts and solutions.	• Number of response and recovery operations reviewed for EHP compliance	• EHAD • SHPOs/THPOs • NCR RSF
14d. Monitor delivery of programs and close-out.	• Number of programs delivered • Development of demobilization plan	• EHAD, Regional Environmental Officer • SHPOs/THPOs • NCR RSF

C.2.Tab.14.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.14.4.1 Planning Factors

- N/A

C.2.Tab.14.4.2 Priorities

- Ensure that cultural differences are incorporated in all response efforts for fatality management.

C.2.Tab.14.4.3 Facts

- FEMA Region 10 has extensive natural resources. The preservation and conservation of these resources are of great interest to non-governmental entities and to Native American tribes. Response and recovery activities have the potential to affect the balance between communities and the natural environment. Extensive coordination with resource agencies, non-governmental stakeholders, and tribes will be crucial to the protection and preservation of natural and cultural resources post-event. Resources that will demand the greatest amount of time and effort will be endangered species, subsistence resources, and cultural resources (archeology).

C.2.Tab.14.4.4 Assumptions

- Impacts to tribal lands and access for restoration activities may present distinct challenges that require understanding of specialized authorities or approaches.
- Notification and response mechanisms for affected tribes or villages must reflect tribal sovereignty and the unique cultural composition of tribes.
- People of different racial and ethnic backgrounds often have different cultural reactions and requirements in emergencies. For instance, tribes in Washington and Oregon prefer to handle their own fatalities.
- Support for damaged infrastructure under tribal authority may require permissions in order for responders to enter tribal lands.

C.2.Tab.14.4.5 Shortfalls/Limiting Factors

- N/A

C.2.Tab.14.4.6 Critical Considerations

- Annex D:
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.14.4.7 Task Force(s)

- TBD
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOE.

C.2.Tab.14.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.14.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
BIA PSMA ESF #11 – 1	Activation: Bureau of Indian Affairs (BIA)	FOS
DOI PSMA ESF #11 – 119	Activation: DOI	FOS/ DFA
DOI PSMA ESF #11 – 120	Archaeology, Collections, Historic Environments Subject Matter Experts (SMEs)	DFA
DOI PSMA ESF #11 – 123	Archaeology, Historic, Cultural, Tribal SMEs	FOS
DOI PSMA ESF #11 – 125	GIS SMEs	FOS
USDA PSMA ESF #11 – 364	Activation: USDA SMEs	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.14.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.14.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• Alerts, Warnings, and Messages	• Natural and Cultural Resources	• 3, 10, 15
• Energy	• All	• Natural and Cultural Resources	• 3, 10
• Food, Water, Shelter	• All	• Operational Coordination • Public Health, Healthcare and Emergency Medical Services	• 11
• Safety and Security	• Community Safety • Government Service • Law Enforcement/ Security	• Infrastructure Systems • Natural and Cultural Resources	• 5, 11, 10, 13
• Transportation	• All	• Critical Transportation • Natural and Cultural Resources	• 3, 10, 11

C.2.Tab.14.9 References

- Annex X – Execution Matrix, Natural and Cultural Resources Tab
- National References

  References and tools that support the execution of the All-Hazards Plan and its annexes, appendices, and tabs are compiled in a spreadsheet and updated periodically. The following list of references and tools provides guidance for the execution of ESF #11 and the NCR RSF Core Capability:

  - DOI/ESF #11 (NCH)

    - DOI/NCR RSF
    - Advisory Council on Historic Preservation
    - Council on Environmental Quality
    - FEMA Unified Federal Review (UFR)
    - Council of State Archivists
        - Emergency Preparedness Initiative
        - Intergovernmental Preparedness for Essential Records
    - Foundation of the American Institute for Conservation Heritage Preservation
- Pre-Scripted Mission Assignments Catalog Library December 31, 2020
- Regional References
    - Regional standard operating procedures (SOPs)

This page is intentionally left blank.

Tab 15 to Appendix C-2: Operational Communications

Purpose: Ensure the capacity for timely communications among and between affected communities in the impact area and all response forces.

C.2.Tab.15.1 Intermediate Objectives – Communications Infrastructure

Intermediate Objectives – Communications Infrastructure				End State
15a	15b	15c	15d	
Provide enabling support to conduct assessments of essential industry facilities requiring critical communications support for restoration.	Receive, verify, and prioritize requirements for resource deployment to conduct critical restoration capabilities including public notifications and 911.	Provide enabling support to reestablish industry communications networks and coordinate the deployment of equipment to provide basic coverage in high priority, densely populated, and other identified areas.	Coordinate with industry to address logistical, access, and enabling requirements for the identification, deployment, and employment of equipment, supplies, and personnel to complete restoration, maintenance, and long-term resiliency.	Stable and reliable wireless, wireline and broadcast communications networks are available for the public and first responders.

C.2.Tab.15.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.15.2.1 Primary Agencies

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #2 / FEMA Communications	• Supports the restoration of the communications infrastructure, facilitates the recovery of systems and applications from cyber-attacks, and coordinates federal communications support to response efforts during incidents. • Implements the provisions of the Office of Science and Technology Policy (OSTP) National Plan for Telecommunications Support. • Provides communications support to federal, state, tribal, and local governments and first responders when their systems have been impacted. • Provides communications and information technology (IT) support to the Joint Field Office (JFO) and JFO field teams.

C.2.Tab.15.2.2 Supporting Agencies

Organization	Roles and Responsibilities
U.S. Department of Defense (DOD)	• Provides highly mobile and non-standard systems of information dissemination along with trained systems operators. • Provides broadcast capabilities.
ESF #1 / U.S. Department of Transportation (DOT)	• Reports on options for accessible transportation to support operational communications.
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Initiate's information-sharing protocols with the private sector for capacity waivers and infrastructure restoration.
ESF #4 (Firefighting)	• In coordination with ESF #2, provides spectrum management, as needed.
ESF #5 / FEMA Information and Planning	• Collects, analyzes, processes, and disseminates information about a potential or actual incident, and conducts deliberate and crisis action planning activities to facilitate overall activities in support of the whole community. • Provides information for the development of credible, culturally appropriate, and accessible messages to inform the public of ongoing emergency services, protective measures, and other life-sustaining actions that facilitate the transition to recovery.
ESF #7 / FEMA Logistics	• Integrates whole-community logistics incident planning and support for timely and efficient delivery of supplies, equipment, services, and facilities. • Coordinates the procurement of communications equipment and services.

Organization	Roles and Responsibilities
ESF #9 (Search and Rescue)	• In coordination with ESF #2, ESF #5, and the U.S. Coast Guard (USCG), integrates the USCG Auxiliary high frequency (HF) Auxiliary Communications Network (AUXNET) radio network to augment connectivity to MARS, Radio Amateur Civil Emergency Services (RACES), and maritime very high frequency (VHF) radio communities.
ESF #12 / U.S. Department of Energy (DOE)	• Coordinates with public and private energy resources to identify impacts to communications critical infrastructure.

C.2.Tab.15.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
15a. Provide enabling support to conduct assessments of essential industry facilities requiring critical communications support for restoration.	• All industry facility assessments completed	• To Be Determined (TBD)
15b. Receive, verify, and prioritize requirements for resource deployment to conduct critical restoration capabilities including public notifications and 911.	• Requirements for resources identified and prioritized for follow-up action	• TBD
15c. Provide enabling support to reestablish industry communications networks and coordinate the deployment of equipment to provide basic coverage in high priority, densely populated, and other identified areas.	• Industry communication networks operational in identified areas	• TBD
15d. Coordinate with industry to address logistical, access, and enabling requirements for the identification, deployment, and employment of equipment, supplies, and personnel to complete restoration, maintenance, and long-term resiliency.	• Long-term plan developed for complete restoration with federal support, as needed, to address shortfalls, limitations, constraints, and resource shortages	• TBD

C.2.Tab.15.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.15.4.1 Planning Factors

- Of 1,032 communications infrastructure facilities, 682 receive moderate or greater damage.
- Lack of communications and impaired accessibility to impacted areas limits situational assessment.
- Responders and survivors in heavily impacted areas do not have access to internet, cell phone, landline, television, or two-way radio services.
- Communications with coastal communities is limited to radio frequency (RF), satellite, and runners.
- Communications will be cut off completely in isolated areas; affected communities will require direct contact.
- Potentially affected financial institutions number 3,912.

C.2.Tab.15.4.2 Priorities

- Coordinate and support lifesaving and life-sustaining response efforts.
- Conduct Public Information and Warning efforts for impacted communities.
- Support incident command and control.
- Help to re-establish critical communications infrastructure.

C.2.Tab.15.4.3 Facts

- Communications infrastructure is significantly degraded immediately following the event and continues to deteriorate over the next 3 days, due to the nature of backup power systems at communications towers and wire centers and the inability to refuel and repair generators.

- Critical infrastructure interdependencies among the communications, electricity, fuel, and transportation sectors significantly impact the ability to deploy temporary emergency solutions within the affected area for the initial life-safety response; coordination is required between strike teams from these sectors within the first 2 weeks of the disaster.
- Search and Rescue (SAR) personnel typically communicate with very high frequency (VHF) simplex, amateur radio, and ultra-high frequency (UHF) radio. Due to communications infrastructure damage, some of these methods of communication may not be available.
- Damage to interdependent communications systems (land line, cell tower, radio towers, and microwave) will affect restoration of all critical infrastructure sectors (CIS) and hamper situational awareness.
- The majority of communications facilities in the I-5 corridor and westward will suffer moderate to severe damage from the earthquake. Any facilities that escape damage may be inoperable due to power loss.
- There is competing demand for limited communications assets.
- Multiple redundant communications systems among the National Response Coordination Center (NRCC), Region 10 Regional Response Coordination Center (RRCC), and state Emergency Operations Centers (SEOCs) will survive and provide initial communication and limited coordination capacity.
- Lack of communications and impaired accessibility to impacted areas limits situational assessment.
- Satellite and radio frequencies (RF), including amateur radio networks, will be the primary communications modes in the affected areas.
- Communications are limited within each state.
- Remote communications nodes and lines (wire and optical) are inaccessible and non-repairable for a period exceeding 30 to 90 days.
- Local public safety personnel operate in place due to the inability to travel as a result of damaged transportation infrastructure and disrupted communications networks.
- Bringing in telecommunications crews and resources, such as transportation, housing, and fuel, from unaffected areas requires coordination.

C.2.Tab.15.4.4 Assumptions

- Operational communications hub relay damage reduces Regional communications capabilities.
- Earthquakes will cause landslides and uncontrolled fires damaging wire and fiber along roads, railroads, and bridges and affecting connections between repeaters.
- Debris and road damage prevent access to communications towers, central offices, remote switches, cable head-ends, and other critical communications infrastructure to assess damages, to conduct repair operations, and for the refueling of generators.

- Wireline (copper and fiber) systems will continue to be damaged by debris removal, cleanup, and repair operations as active communications links—both overhead and underground—get damaged or even severed.
- Communications infrastructure is significantly degraded immediately following the event and continues to deteriorate due to the nature of backup power systems at communications towers and wire centers and inability to replenish limited fuel supplies.
- The widespread damage may cause failure to multiple redundant network facilities, causing more widespread outages beyond the immediate impact area.
- Infrastructure damage in western regions of the impacted states will affect communications in eastern regions.
- Communications will deteriorate 8 to 12 hours following the initial event due to the loss of backup power, fuel, etc.
- There is a lack of access to facilities to conduct assessment and repair operations.
- Communications restoration equipment (generators, fuel tanks, and cabling) and existing infrastructure will be at risk of theft and vandalism.
- Loss of communications facilities due to a Cascadia Subduction Zone (CSZ) incident will likely impact areas outside of the impact zone. For instance, undersea cables from Washington and Oregon that are severed would impact communications with Alaska, other Pacific Rim areas, and east Asian countries (Alaska has a terrestrial fiber link through Canada as of 2020); restoration of undersea cable systems is likely to take 2 to 3 months, depending on the number of breaks and the availability of cable ships to conduct repairs.
- The response is impacted by changing environmental conditions, additional seismic-related events, and degraded emergency response organizations.
- Operational communications hub relay damage reduces Regional communications capabilities.
- Damage to long-haul fiber optic cables will cause regional and nationwide delays in Internet and long-distance operation as the network attempts to reroute around the affected area.
- Restoration of communications capabilities is a central component of the incident response, along with the restoration of transportation and power facilities and situational assessment, SAR, and mass care capabilities.
- Remote communications nodes and lines (wire and optical) are inaccessible and non-repairable for a period of up to 90 days.
- Responders and survivors in heavily impacted areas do not have access to modern means of communication; there will be no internet, cell phone, landline, television, or two-way radio service.
- Communication to coastal communities is limited to RF, satellite, and courier service.

- Communications will be cut off completely in isolated areas and communities and will require direct contact.
- Single points of failure, particularly in remote areas and connecting "last mile" routes will cause localized outages.
- Satellite communications are severely limited due to congestion during a CSZ response; users may need to use satellite devices outdoors for best reception, affecting how easily they can be used during response operations.
- The majority of fixed radio systems are degraded or inoperable due to failures with copper, fiber, and line-of-sight (LOS) links, including microwave, as well as loss of power and/or damage.
- Overuse of communications networks may cause congestion, resulting in latency, call failures, or other communications issues. Communications priority systems, such as the Government Emergency Telecommunications Service (GETS) and the Wireless Priority Service (WPS), help alleviate issues for responders and other officials.
- Many tower-based systems will fail or otherwise be unavailable during and after an incident because of misalignment, tower collapse (full or partial), transport, interconnectivity failure, loss of redundant systems, power failure, fuel resupply, or overutilization.
- Trunked radio systems will be degraded or inoperable due to failures with copper, fiber, and microwave transmission modes.
- Cellular towers may not be able to link customers to switching centers, leaving customers with no access to emergency and telecommunications service.
- An inability to communicate with regional leadership would trigger FEMA Headquarters (HQ) response actions soon after the incident occurs.
- Under current capability assessment, there will be limited availability of crews to assess Operational Communications facilities.
- Local communications staff will be personally affected by the event and may not be available to support response efforts due to family emergencies, death, and damage to transportation infrastructure and systems, etc.

C.2.Tab.15.4.5 Shortfalls/Limiting Factors

- There is limited access to impacted areas for local repair crews and limited replacement parts for damaged infrastructure.
- Failure in the communications infrastructure causes outages beyond the impacted area.
- Aerial assessment support in early response efforts along with reports from personnel having satellite or radio communications capabilities is needed.
- Water for the communications sector for running through air conditioning systems and cooling switches is needed (widespread damage to communications infrastructure and lack of commercial power may limit this initial need).

- There is a lack of sufficient quantities of generator fuel and parts, as well as inability to access sites to repair/refuel generators.
- Damage assessment capabilities for landline, cellular, cable, microwave, and RF infrastructure is limited.
- There is a lack of transportation and access to facilities to conduct assessment, repair, and refueling operations.
- There is a lack of priority support to communications restoration teams for logistics and access.
- There is a lack of identification of locations of all emergency response assets (private and public sector) that require priority assistance.
- There is insufficient availability of aerial platforms needed for visual assessments and transportation of teams.
- Tactical communications among teams to support and coordinate communications assessments and repair is needed.
- Life support and facilities for repair crews will be limited at the logistics nodes within the impacted area.
- There is a lack of prioritization of restoration efforts, pre-event.
- There is a lack of information on tribal nation communications needs.
- Potential need for initial aerial assessments of status of communications assets within the impact area; would support deployment decisions based on status of equipment (damaged or not) and transport needs, whether by road (if accessible) or by air
- Lack of knowledge about survivability of state's communications resources
- Survivability of state's communications resources unknown.
- Incomplete planning efforts between communications stakeholders and interdependent utilities
- Lack of a set method for determining islands of transportation power communications (TPC)
- No standard, consolidated, and simple means of coordinating communications between the private sector and government entities during the response
- Need for tactical communications among teams to support and coordinate communications assessments and repairs
- Limited availability of repair and restoration crews and access to the impacted area to conduct assessments and repair of operational communications facilities.
- Lack of information on contingency communications plans of work crews in the affected area
- Lack of clear coordination and/or command and control elements at the state level

- Need for an expeditious process or system to verify responder credentials and to establish driver restriction waivers
- Need for coordination and communications with and between out-of-state repair crews

C.2.Tab.15.4.6 Critical Considerations

- Annex D
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.15.4.7 Task Force(s)

- Operational Communications
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs

C.2.Tab.15.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline or LOE; please find the associated column, click the drop down and identify the ESF, Community Lifeline or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1-5 data, origin of resource and proposed precoordinated destination. The RPP also houses tabs which contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified as it is password protected.

C.2.Tab.15.6 Pre-scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF # 2 - 58	Mobile Communications Team for First Responders	DFA/FOS
PSMA ESF 2 - 185	Activation: CISA ESF-2	FOS
PSMA ESF 2 - 391	Activation: DOC	FOS
PSMA ESF 2 - 392	NTIA Spectrum Management	FOS
PSMA ESF - 2 - 58	Mobile Communications Team for First Responders	DFA/FOS
PSMA ESF - 2 - 59	Fixed Site Communications Team	DFA/FOS

PSMA ID	PSMA Title	Type*
PSMA ESF 1 – 160	Air Navigation Services (ANS) System and Personnel	DFA/FOS
PSMA ESF 2 - 145	FCC Spectrum Management	FOS
PSMA ESF 2 - / 162	Activation: FCC	FOS
PSMA ESF 2 – 164	Project Roll Call: FCC SMEs	FOS
PSMA ESF 3 - 290	Deployable Tactical Operations System (DTOS) vehicles and personnel: EXECUTION	FOS
PSMA ESF 2 - 334	Mobile Communications Vehicle (MCV)	DFA/FOS
PSMA ESF 2 - 335	Enhanced Mobile Incident Command Post (eMICP)	DFA/FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.15.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X – Execution Checklist can be found in the Annex X – Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core-capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.15.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• All	• Infrastructure Systems • Logistics and Supply Chain Management • Mass Care Services • Operational Communications • Operational Communications • Operational Coordination • Operational Coordination • Public Information and Warning • Public Information and Warning • Situational Assessment	• 1, 2, 3, 4, 5, 7, 9, 12

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Safety and Security	• All	• Operational Communications • Operational Coordination • Situational Assessment	• 1, 5
• Transportation	• All	• Critical Transportation • Logistics and Supply Chain Management	• 1, 2

C.2.Tab.15.9 References

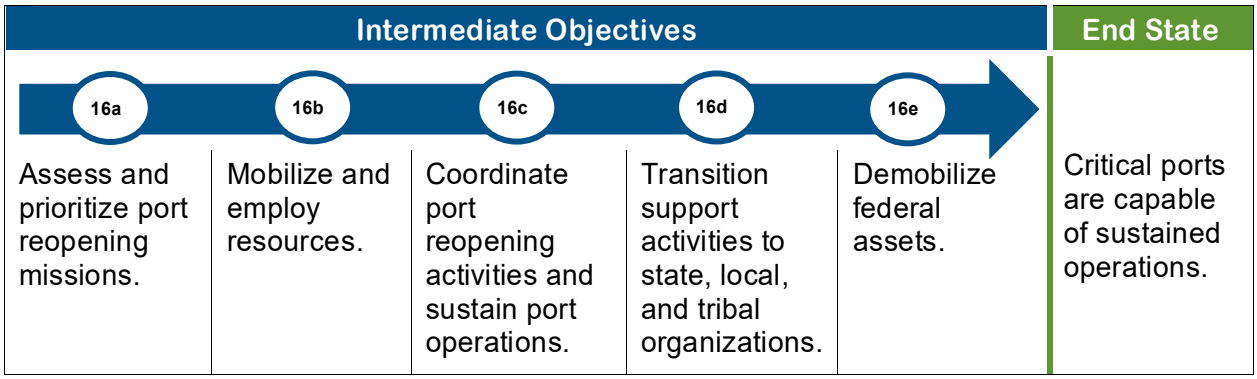
- Annex X – Execution Matrix, Operational Communications Tab
- Pre-Scripted Mission Assignments Catalog Library December 31, 2020

This page is intentionally left blank.

Tab 16 to Appendix C-2: Port Opening

Purpose: Provide federal assistance to support the repair and restoration of critical ports.

C.2.Tab.16.1 Intermediate Objectives



C.2.Tab.16.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.16.2.1 Primary Agencies

Organization	Roles and Responsibilities
U.S. Coast Guard (USCG)	• Provides port recovery specialist / subject matter expert (SME) • Opens, closes, and/or restricts vessel/facility operations within seaport complexes and navigable waterways to ensure a safe and secure Maritime Transportation System (MTS).
Emergency Support Function (ESF) #3 / U.S. Army Corps of Engineers (USACE)	• Provides technical assistance, engineering, and construction management resources and support during response activities. • Deploys Debris Management Teams to support the demolition, clearance, removal, transport, temporary storage, segregation, reduction, and, ultimately, disposal of debris.
Federal Emergency Management Agency (FEMA)	• Coordinates response to Presidentially declared disasters/ emergencies under the Stafford Act. • Provides funding for response activities. • Manages Incident Management Assistance Teams (IMATs). • Is lead agency for providing national-level strategic transportation coordination, movement planning, and tracking of federal partner resources (commodities, personnel, and equipment) into the incident area through the Movement Coordination Center (MCC).

C.2.Tab.16.2.2 Supporting Agencies

Organization	Roles and Responsibilities

ESF #1 / U.S. Department of Transportation (DOT)	• Maritime Administration (MARAD)
	  ○ Maintains fleet of cargo (and other) ships in reserve to provide surge sealift.
	  ○ Charters commercial vessels or procures maritime industry resources, if tasked and subject to available funding.
	  ○ Provides technical assistance and, in the event Congress appropriates relief funding, has authority to award grants to improve port infrastructure.

ESF #5 / FEMA Information and Planning	• Mission-assigns DOD marine platform capability to the coast of each state. • Maintains a Maritime Branch to facilitate operations in the coastal, navigable waterways in the impacted areas of each state (i.e., Puget Sound, Pacific Ocean, and the Columbia River, etc.). • In coordination with ESF #1, DOD, states, and Port Authorities, implements a plan to reestablish tactical port capability on the coast of each state. • In coordination with ESF #1, ESF #3, DOD, USCG, states, and Port Authorities, assesses ports and create priorities for port reopening.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Activates and deploys the Environmental Response Team (ERT) and National Strike Force (NSF) to provide specialized technical assistance to the On-Scene Coordinator (OSC) in the areas of health and safety, environmental sampling, ecological assessment, toxicology, air monitoring, waste treatment, and site decontamination and cleanup. • Deploys OSCs to coordinate the on-scene tactical response to oil and hazardous materials (HAZMAT) incidents impacting inland (EPA) or coastal (U.S. Coast Guard [USCG]) areas.
ESF #13 / U.S. Department of Justice (DOJ)	• Coordinates with the USCG to obtain situational awareness of the security status of maritime assets and to provide port security and port law enforcement.
ESF #14 / FEMA Cross-Sector Business and Infrastructure	• Department of Homeland Security (DHS) – Cybersecurity and Infrastructure Security Agency (CISA) ○ Assesses cross-sector challenges, identifies interdependencies, and disseminates analysis products to inform decisions about sequencing response efforts. • Works with infrastructure owners/operators on requests for information (RFIs) and requests for assistance (RFAs) regarding critical infrastructure.
National Oceanic and Atmospheric Administration (NOAA)	• Provides maritime-specific navigation, observation, and positioning services. • Serves as Scientific Support Coordinator to the USCG for marine oil and HAZMAT spills/releases. • Maintains capability to conduct rapid response remote-sensing missions (e.g., aerial imagery and airborne light and detection ranging [LiDAR]) to support emergency response, damage assessment, and recovery actions.

Organization	Roles and Responsibilities
U.S. Department of Defense (DOD)	• Deploys Title 10 forces for staging augmentation. • Deploys transportation assets for strategic and tactical movement.
U.S. Department of the Interior (DOI) – Bureau of Reclamation	• Provides engineering support to assist in evaluating damage to water control systems, such as dams and levees, and to water delivery facilities and structures. • Provides personnel to assist in damage assessments, structural inspections, and the restoration of facilities. • Provides technical assistance in contract management, procurement, construction inspections, and environmental and archeological assessments.

C.2.Tab.16.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
16a. Assess and prioritize port reopening/clearance missions.	• Infrastructure damage is identified. • Interdependencies are identified. • Stabilization operations are prioritized.	• State Emergency Operations Center (SEOC)/Interim Operating Facility (IOF) • ESF #1 • ESF #3 • ESF #10
16b. Mobilize and employ resources.	• Resource requirements are identified. • Identified resources are activated and deployed.	• Unified Coordination Group (UCG) (Joint Field Office [JFO]/SEOC) • ESF #3 & #10
16c. Coordinate port reopening activities and sustain port operations.	• Critical ports are reopened and functional. • Waterways are navigable.	• UCG (JFO/SEOC) • ESF #3 & #10
16d. Transition support activities to state, local, and tribal organizations.	• State, local, and tribal organizations have assumed responsibility for ports and waterways.	• UCG (JFO/SEOC) • ESF #3 & #10
16e. Demobilize federal assets.	• Federal resources are no longer required.	• UCG (JFO/SEOC) • ESF #3 & #10

C.2.Tab.16.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile

    - R10 Tribal Nations Annex

- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
    - Tab 1 to Appendix B-1: State of Alaska
    - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.16.4.1 Planning Factors

- In Washington and Oregon, 72 ports are affected.
- In Washington and Oregon, 716 maritime port facilities are affected.
- All major seaports along the Pacific Coast are at risk of sustaining complete damage, while seaports along Puget Sound and the Columbia River are at risk of significant damage.
- Crane ships may be necessary to facilitate movement of assets, but if the port is without power crane ships will not be able to operate.

C.2.Tab.16.4.2 Priorities

- Rapidly assess status of port infrastructure.
- Coordinate release of emergency funding and issuance of waivers to expedite critical port infrastructure repairs.
- Assess access to ports/port facilities within impacted branches where mission-essential services are needed.
- Assist in re-establishing maritime supply chains.
- Assist state, federal, and private sector partners in identifying impacts to fuel delivery systems and infrastructure in order to establish fuel supplies (gas, diesel, etc.) for critical maritime needs.
- Pre-establish or confirm agreements regarding labor work force.

C.2.Tab.16.4.3 Facts

- Facilities and infrastructure in Oregon and Washington estimated to be affected by the CSZ incident include 716 port facilities (including 72 ports). (For the purposes of this plan, ports are maritime transportation hubs while port facilities are the facilities that support those hubs by providing fuel, access to waterways, navigation, etc.)
- All seaports along the Pacific Northwest coast are at risk of sustaining complete damage; seaports along Puget Sound and the Columbia River (west of I-205 bridge) are at risk for major damage.
- Major seaports are susceptible to liquefaction, including the Port of Seattle, Port of Tacoma, Port of Vancouver, and Port of Portland. The Port of Pt. Angeles is very susceptible to liquefaction, and plans are underway to move much of its operations to the airport location, which is on solid ground and 300 feet above the harbor. The ports in

Pacific County are also subject to liquefaction, and most of the Long Beach peninsula in Washington State is less than 20 feet above sea level.

- Due to damage at various ports, crane ships may be necessary to facilitate movement of port assets. Due to the large power requirements of crane ships, no port operations are likely to occur if ports are without power.
- Navigation is extremely difficult from the mouth of the Columbia River to the Portland/Vancouver area. The tsunami damages many of the river's navigation aids and debris and sediment compromise the channel.
- More than 80% of Alaska's maritime trade and over 90% of consumer goods pass through the Port of Alaska.

C.2.Tab.16.4.4 Assumptions

- There will likely be a disruption to food and commodity shipments due to damage to ports in Washington and Oregon.
- Commodities and fuel shipments will need to be redirected to ports in California (San Francisco/Oakland, LA/Long Beach, San Diego) for onward shipment to Alaska.

C.2.Tab.16.4.5 Shortfalls/Limiting Factors

- There are no functional ports in the impact area until temporary port capabilities established.

C.2.Tab.16.4.6 Critical Consideration(s)

- Upon receipt of a mission request, U.S. Northern Command (USNORTHCOM) may be able to support the assessment/survey of roads, bridges, seaports and aerial ports of debarkation (APODs) using unmanned aerial vehicles (UAVs).

C.2.Tab.16.4.7 Task Force(s)

- Marine Operations
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.16.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that

contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.16.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOT PSMA ESF #1 – 144	Activation: DOT	FOS
USACE PSMA ESF #3 – 231	Regional Activation: ESF #3 Cadre	FOS
USACE PSMA ESF #3 – 281	Infrastructure Assessment Planning and Response Team (PRT): Management Cell	FOS
USACE PSMA ESF #3 – 283	Infrastructure Assessment PRT: Execution	DFA
		FOS
USCG PSMA ESF #5 – 321	Activation: USCG	FOS
USCG PSMA ESF #5 – 322	USCG Liaison Officers to National (N)-IMAT	FOS
USCG PSMA ESF #5 – 324	Incident Management Subject Matter Experts (SMEs)	FOS
EPA PSMA ESF #10 – 149	Activation: EPA	FOS
EPA PSMA ESF #10 – 151	Oil and HAZMAT Technical Analysis: Aircraft – Fixed-wing (Airborne Spectral Photometric Environmental Collection Technology [ASPECT])	DFA
EPA PSMA ESF #10 – 152	Oil and HAZMAT Technical Analysis: Mobile Platform	DFA
EPA PSMA ESF #10 – 153	Oil and HAZMAT Assessment, Response, and Removal Incident Management Team (IMT)	DFA
USCG PSMA ESF #10 – 344	Oil/HAZMAT Response	DFA
USCG PSMA ESF #10 – 351	Sunken, Derelict, Displaced Vessel	DFA
USCG PSMA ESF #10 – 357	Oil/HAZMAT Rapid Needs Assessment (RNA)	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.16.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.16.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Safety and Security	• Law Enforcement/ Security • Fire Service • Government Service	• On-Scene Security, Protection, and Law Enforcement	• 13
• Transportation	• Aviation • Highway/ Roadway/ Motor Vehicle • Maritime • Mass Transit	• Critical Transportation • Infrastructure Systems • Logistics and Supply Chain Management • Operational Coordination • Situational Assessment	• 1, 3, 5

C.2.Tab.16.9 References

- CSZ Annex X, Execution Matrix, Port Opening Tab
- *National Response Framework* (Oct 28, 2019), FEMA
- *Maritime Emergency Response Guide* (Mar 2015), USCG
- Pre-Scripted Mission Assignments (PSMA) Catalog *(*December 31, 2020)
- 2020 Washington Transportation Regional Resiliency Assessment Program (RRAP) Report
- 2021 Oregon Transportation RRAP Report

This page is intentionally left blank.

Tab 17 to Appendix C-2: Private Sector Coordination

Purpose: Provide federal assistance in support of private sector operations; help infrastructure owners and operators, businesses, and their government partners coordinate cross-sector operations.

C.2.Tab.17.1 Intermediate Objectives

Intermediate Objectives					End State
17a	17b	17c	17d	17e	
Identify federal and state requirements in support of private sector readiness and response efforts.	Activate National Business Emergency Operations Center (NBEOC).	Support private sector response activities.	Stabilize private sector supply chain and distribution mechanisms.	Deactivate NBEOC and return to steady-state operations.	Private sector is supporting survivor-centric requirements without federal intervention; collaboration and information-sharing is established with the private sector, allowing for business-led restoration and long-term recovery efforts.

C.2.Tab.17.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.17.2.1 Primary Agencies

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #14 / Cross-Sector Business and Infrastructure	• Through the NBEOC, and in coordination with regional Private Sector Liaison, facilitates the integration and transparency of private sector planning, response, and recovery activities with those of the public sector, under the tenets of the National Response Framework (NRF). • Department of Homeland Security (DHS) – Cybersecurity and Infrastructure Security Agency (CISA) ○ Co-lead for ESF #14 in Region 10.

C.2.Tab.17.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #1 / U.S. Department of Transportation (DOT)	• In coordination with Protective Security Advisors and states, identifies private sector critical infrastructure and key resources that could affect critical transportation. • Identifies solutions for accessing priority facilities.
ESF #2 / FEMA Communications	• Coordinates federal actions to assist in securing communications services for private sector responders. • Supports private sector restoration communication teams (vendors) and equipment. • In coordination with private sector partners, determines communication outages and status of backup resources (generators, fuel, etc.), and provides technical assistance as requested.
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Initiates protocols for sharing information with the private sector regarding capacity, waivers, and restoration of critical infrastructure. • Alerts public and private sector liaisons of potential logistics requirements. • Coordinates with public and private sector liaisons to fulfill logistics requirements.
ESF #4 / U.S. Department of Agriculture – Forest Service (Firefighting)	• Provides ESF #4 private sector resources, as needed, to support response efforts.

Organization	Roles and Responsibilities
ESF #5 / FEMA Information and Planning	• Uses private sector reports and CI status, provided through established mechanisms, for inclusion in the Situational Picture (SitPic). • Activates Private Sector Incident Communications Conference Line (PICCL), as necessary, and holds coordination calls. • Supports voluntary organizations (VOLAGs) in managing donations. • Establishes process/structure to support coordination with the private sector in coordination with Protective Security Advisor (PSA) and Private Sector Liaison. • Processes requests for assistance and information from critical infrastructure owners and operators in coordination with the state, PSAs, ESF #1, ESF #2, ESF #3, ESF #11, ESF #12, and Critical Infrastructure Task Forces. • Engages public and private whole-community stakeholders in response activities. • Establishes information sharing with the private sector regarding capacity, waivers, and restoration. • Maintains private sector and NGOs participation in the response and update resource availability and shortfalls within the impacted area. • Activates communications plan to coordinate with private sector entities. • Coordinates with state to partners establish reentry standards for private sector facilities. • In coordination with states and private sector partners, conducts detailed analyses to determine possible shortfalls.
ESF #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• Engages private sector to determine resource availability. • Supports the efforts of the Volunteer and Donations Coordination Team (VDCT) in establishing warehouses for spontaneous donations and coordinating unsolicited donations. • Supports the use of information collection tools to ensure a coordinated donations management strategy for goods, services, and unaffiliated volunteers. • Closes out and/or hands over to local agencies any remaining mass care support services, in coordination with state, tribal, and organization partners. • Coordinates long-term state needs concerning Animal Welfare Act (AWA) licensees with ESF #14. • Supports Voluntary Organizations Active in Disaster (VOAD) donations management closeout plans.

Organization	Roles and Responsibilities
ESF #7 / FEMA Logistics	• Alerts public and private sector liaisons regarding potential response requirements. • Coordinate's logistics support for public and private sector services and resources, as needed. • Coordinates with the private sector to provide space for its response teams. • Determines private sector sustainment support requirements. • In coordination with Private Sector Liaison, identifies logistics shortfalls the private sector can fill. • Coordinates private sector responder requirements, as needed, including logistics support, berthing, and messing. • Prepares to mobilize and deliver governmental, non-governmental, and private sector resources, as required. • In coordination with National Response Coordination Center (NRCC) / Regional Response Coordination Center (RRCC) and State Private Sector Liaisons, support reception, staging, onward movement, and integration (RSOI) of private sector responders and base camp support as requested. • Coordinates with Unified Coordination Group (UCG) and State Private Sector Liaisons to support RSOI of responders and to provide the location of accommodations for private sector and volunteer responders as requested. • Coordinate's demobilization of unneeded private sector resources, supplies, services, and personnel. • Supports private sector resource execution, sustainment, and eventual demobilization.
ESF #12 / U.S. Department of Energy (DOE)	• Expands coordination with public and private energy resources to identify impact to communications critical infrastructure.
ESF #15 / FEMA External Affairs	• Coordinates with CISA, Emergency Services Branch, Infrastructure Branch through Private Sector Liaison. • Coordinates with the private sector on information gathering.
Public-private partnerships (PPPs)	• Organizations at all echelons of governance (state, local, tribal, and territorial [SLTT]) promote activities through public and private entities through pre-established mutual agreements. • PPP capacities align various jurisdictional and mission activities to enhance the exchange of information and transparency during steady-state and disaster operations.
U.S. Department of Commerce – U.S. Economic Development Administration (EDA)/Economic RSF	• Facilitates and enables federal recovery programs to integrate with private sector organizations (non-governmental organizations [NGOs], volunteer organizations, non-profits, investment capital firms, and the banking industry) to return economic stability/sustainability to communities post-disaster.

C.2.Tab.17.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
17a. Identify federal and state requirements in support of private sector readiness and response efforts.	• NBEOC prioritizes Community Lifeline requirements based on coordination with State Private Sector Liaison (LNO).	• NBEOC
17b. Activate NBEOC; support prioritized requests from the Emergency Services Sector Coordinating Council for private sector readiness and response efforts.	• NBEOC Community Lifeline "snapshot" reports identify status of industries.	• NBEOC
17c. Support private sector response activities.	• Socialize information at daily Senior Leadership Brief (SLB).	• Business and Infrastructure Conference Call
17d. Stabilize private sector supply chain and distribution mechanisms.	• Validate supply chain challenges and root causes and socialize with ESFs for mission assignment.	• ESF #14/NBEOC
17e. Deactivate NBEOC and return to steady-state operations.	• NRCC SLB continues to report on private sector stabilization. • ESF #14 supports Economic RSF strategy development by transitioning continuity of effort activities, including sector-based contacts, workflow of NBEOC, coordination calls, and Federal Coordinating Officer (FCO)/Federal Disaster Recovery Coordinator (FDRC) guidance.	• ESF #14/NBEOC

C.2.Tab.17.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.

- Tab 1 to Appendix B-1: State of Alaska
- Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.17.4.1 Planning Factors

- Private sector infrastructure (e.g., material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation systems) will be significantly impacted.

C.2.Tab.17.4.2 Priorities

- Lifesaving
  - Employee life safety
  - Facility access, inspection, and repair
  - Debris management
  - Situational awareness, including anticipated impacts on critical infrastructure
- Community Stabilization
  - Facility access for inspection/repair
  - Establishment of communications links: business-to-business; business-to-government; business-to-employees
- Assist private sector partners in identifying impacts to fuel delivery systems and infrastructure in order to establish fuel supplies (gas, diesel, liquefied natural gas and compressed natural gas, Avgas, JP-8, and Jet A-1) for critical transportation needs.

C.2.Tab.17.4.3 Facts

- Coordination with the private sector on information gathering is necessary.
- The Economic RSF and ESF #14 are aligned to support recovery activities beyond Community Lifeline stabilization in order to meet and fulfill the "Recovery Outcomes" framed by the FDRC or contained within the Recovery Support Strategy (RSS) developed pursuant to the National Disaster Recovery Framework (NDRF). ESF #14 maintains continuity of effort with private and public sector partners through activities prioritized by response and recovery leaders.

C.2.Tab.17.4.4 Assumptions

- Public and private sector resources activated through contracts, memorandums of understanding (MOUs), and the Emergency Management Assistance Compact (EMAC) will quickly diminish.

C.2.Tab.17.4.5 Shortfalls/Limiting Factors

- There is a lack of information on private sector and NGO capabilities and limitations.
- No standard, consolidated, and simple means of coordinating communications exists between the private sector and government entities during the response.

- There is a need to identify private sector operational capabilities specifically targeting material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation.

C.2.Tab.17.4.6 Critical Considerations

- Through private sector work group analysis, the following areas have been identified as areas which the private sector will be requesting support:
  - Access to situational awareness between the government and private sector
  - Transportation system access (ground, air, maritime) and waivers
  - Fuel (access and distribution)
  - Operational coordination integration

C.2.Tab.17.4.7 Task Force(s)

- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.17.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.17.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
CISA PSMA ESF #5 – 216	Activation: CISA ESF #14	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.17.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.17.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• All	• All	• Logistics and Supply Chain Management • Public and Private Services and Resources	• 3, 5, 6, 7, 14
• Communications	• Alerts, Warnings and Messages	• Infrastructure Systems • Operational Communications • Public and Private Services and Resources • Situational Assessment	• 2, 5, 12, 14
• Food, Water, Shelter	• All	• Logistics and Supply Chain Management • Mass Care Services	• 6, 14
• Safety and Security	• All	• Infrastructure Systems • Operational Coordination • Public and Private Services and Resources	• 4, 5, 15
• Transportation	• All	• Critical Transportation • Public and Private Services and Resources	• 1, 7, 14

C.2.Tab.17.9 References

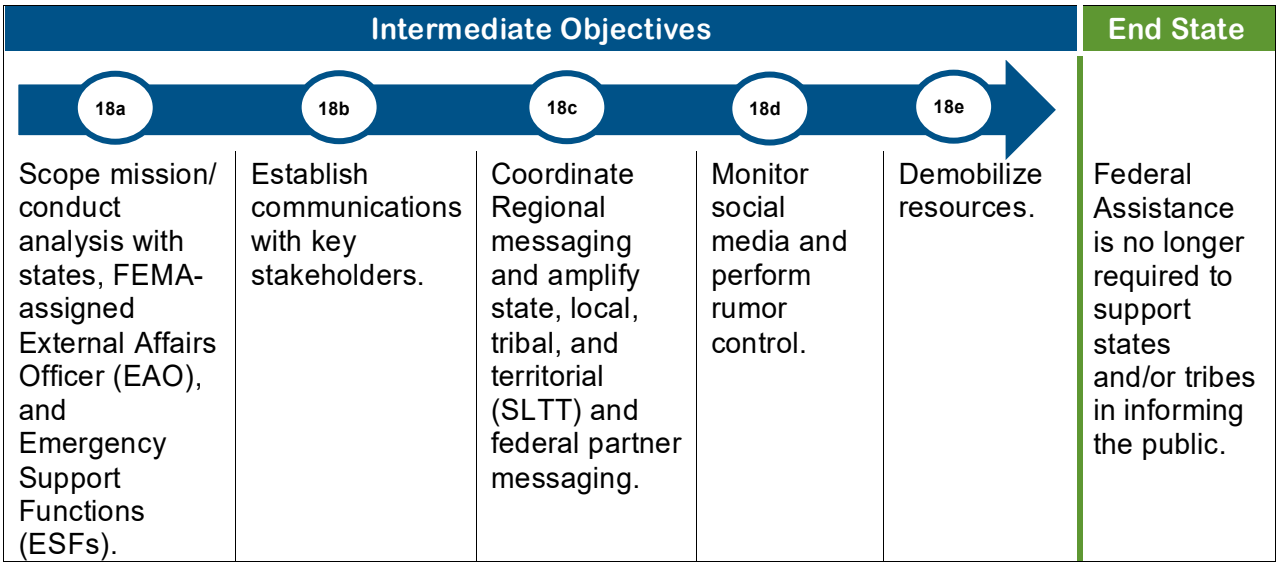
- *Critical Infrastructure Support Annex* of the NRF (also called "Critical Infrastructure and Key Resources Annex")
- CSZ Annex X, Execution Matrix, Private Sector Coordination Tab
- *Private Sector Coordination Support Annex* of the NRF
- *National Infrastructure Protection Plan* (NRF)
- Pre-Scripted Mission Assignments (PSMA) Catalog (December 2020)
- Private Sector Resources Catalogue, DHS (May 2012)

This page is intentionally left blank.

Tab 18 to Appendix C-2: Public Information and Warning

Purpose: Share coordinated, timely, precise, and actionable information with survivors and partners.

C.2.Tab.18.1 Intermediate Objectives



C.2.Tab.18.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.18.2.1 Primary Agency

Organization	Roles and Responsibilities

Federal Emergency Management Agency (FEMA)	• ESF #15 – External Affairs
	  ○ As part of advisory staff to the Chief of the Regional Response Coordination Staff (RRCS), EAO provides consistent information for public messages.
	  ○ Delivers credible messages to inform the public about the federal response, including information on protective measures and other life safety and life-sustaining actions and assistance resources available.
	• ESF #2 – Communications
	  ○ Provides short-term restoration support to SLTT government emergency communications efforts.
	  ○ Coordinates federal actions to assist industry in restoring the public communications infrastructure and to assist SLTT governments with emergency communications and restoration of public safety/first responder communications networks.
	  ○ Supports federal departments and agencies in procuring and coordinating national security and emergency preparedness communications services.
	• Disaster Emergency Communications Branch Director (DECBD)
	  ○ Enables command and control, for assisting SLTT emergency communications offices.
	  ○ Coordinates restoration of public safety / first responder communications networks.
	  ○ Assists in restoration of communications infrastructure.
	  ○ Ensures smooth transition to long-term restoration efforts.
	• Incident Management Assistance Team (IMAT)
	  ○ Supports establishment of Joint Information Center (JIC) in the field.
	• National Continuity Program (NCP)
	  ○ Implements the national alert and warning systems to ensure that federal government and stakeholders can provide timely and effective warnings to the public for all hazards and under all conditions.
	  ○ Ensures the integration, operations, reliability, availability, and security of specialized national continuity telecommunication and information systems at all times, under all conditions, in accordance with National Continuity Policy and National Communications Directive D-16-1 for FEMA and a subset of executive departments and agencies.

C.2.Tab.18.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #1 / U.S. Department of Transportation (DOT)	• Provides informational media releases through External Affairs relative to the safety and accessibility of roads, bridges, airports, rail, ports and other transportation routes to responders and to the general public in coordination with each state.
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Alerts and deploys USACE liaisons to support FEMA/State ESF #15 Public Information and Warning (PIW)/JIC operations.
ESF #5 / FEMA Information and Planning	• Develops and maintains situational awareness and provides information required / priorities for public messages, responder messages and media releases in coordination with ESF 15. • Directs initial lifesaving/life-sustaining responders to deliver messages to survivors during initial lifesaving operations, in coordination with ESF #15. • Facilitates expedited analysis and information-sharing with all partners on impacts to critical infrastructure. • In coordination with U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA) and Tsunami Warning Center, provides notification and warning of following on tsunamis due to aftershocks. • Employs Community Liaisons to support agencies and elected officials in small, heavily impacted communities and to support information sharing as the situation allows. • Employs private sector liaison in each Unified Coordination Group (UCG); maintains coordination/information sharing with private sector stakeholders, associations, academia and non-governmental organizations. • Federal Coordinating Officer (FCO) establishes messaging priorities in coordination with the State Coordinating Officer (SCO).
ESF #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• In coordination with each state and the American Red Cross (Red Cross), develops initial coordination structure and process with ESF #15 and ESF #11 to establish messaging for Mass Care sheltering, feeding/hydrating and evacuation of people and pets. • Supports JIC development of communications regarding mass care; distribution points for food, water, and medical assistance; and pet sheltering.
ESF #7 / FEMA Logistics	• Provides logistical support, life sustaining resources and air transport for response teams who do not coordinate their teams transportation under their own authority.

Organization	Roles and Responsibilities
ESF #8 / (Public Health and Medical Services)	• Coordinates public health and medical messaging to ensure accuracy and consistency with state and tribal priorities. • Coordinates with ESF #15 to initiate public messaging for fatality management that addresses cultural practices in affected areas. • Provides technical information about public health risks in support of public messaging and response operations. • Supports JIC on the release of general medical public health response information to the public.
ESF #9 / FEMA Search and Rescue (SAR)	• In coordination with ESF #2, ESF #5, ESF #8, ESF #15, and states, provides critical SAR information to support broadcasts and public messaging that outlines warnings, safety instructions, and expectations for the public and responders. • Initiates local public messaging regarding collection point locations. • In coordination with ESF #5 and #15, maintains support for broadcasts and public messaging that outlines warnings, safety instructions, and expectations for the public and responders to support initial lifesaving activities. • Maintains lists of survivor collection points in local communities.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• In coordination with ESF #2, ESF #5, ESF #8, ESF #6, ESF #15, and states, provides information to support broadcasts and public messaging that outlines warnings, safety instruction, and expectations for the public and responders as it relates to HAZMAT incidents within the impacted areas. • Provides the technical expertise to support the preparation of federal public information related to the environmental response in support of ESF #15.
ESF #12 / U.S. Department of Energy (DOE)	• In coordination with public and private sector providers of energy products, provides updates on the status and availability of essential energy sources to responders and survivors. • Maintains coordination with public and private sector providers of energy products; provides updates on the status of essential energy sources to support responders and survivors.
ESF #13 / U.S. Department of Justice (DOJ)	• Coordinates with ESF #5, ESF #15, and states to provide messaging on movement restrictions, curfews, etc. • Coordinates with states and ESF #15 to execute and update public messaging.

Organization	Roles and Responsibilities
ESF #14 / Cross-Sector Business and Infrastructure	• Reaches out through states' Private Sector Coordinators, PSA or other points of contact to establish clear communication goals and expectations for how the private sector to receive and may assist with public information and warning. • Department of Homeland Security (DHS) – Cybersecurity and Infrastructure Security Agency (CISA) ○ National Coordination Center for Communications (NCC) ○ Emergency Communications Division (ECD) ○ Office of Cybersecurity and Communications (CS&C)
National Oceanic and Atmospheric Administration (NOAA)	• To be determined (TBD)
Other federal agencies (OFAs)	• Coordinates message delivery.
U.S. Coast Guard (UCCG)	• TBD

C.2.Tab.18.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
18a. Scope mission/conduct analysis with states, FEMA-assigned EAO, and ESFs.	• Numbers of news media, congressional and outside information requests requiring message creation • Rumor control and need for fact sheet distribution • Social media activity ○ Number of social media platforms requiring monitoring ○ Number of posts identified that require response ○ Number of posts responded to with corrections or clarifications by credible sources • Status of telecommunications services (including internet, cellular) • Potential requirements for radio/satellite communications capabilities • Status of emergency broadcast systems (TV, radio, cable) and their capabilities for disseminating accessible information to the entire community	• ESF #2 • ESF #3 • ESF #15 • State Emergency Operations Center (SEOC) • DHS Office of Infrastructure Protection (IP) • DHS Office of Emergency Communications (OEC)

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
18b. Establish communications with key stakeholders.	• Communications via phone, email, or other means • Coordinated messaging with state • Status of telecommunications service (including internet, cellular) • Potential requirements for radio/satellite communications capabilities • Status of emergency broadcast systems (TV, radio, cable) and their capabilities for disseminating accessible information to the entire community	• ESF #2 • ESF #3 • ESF #15 • SEOC • DHS IP • DHS OEC
18c. Coordinate Regional messaging and amplify SLTT and federal partner messaging.	• Coordinated and timely messaging ready for distribution across traditional and social media channels	• ESF #15
18d. Monitor social media and perform rumor control.	• TBD	• TBD
18e. Demobilize resources.	• TBD	• TBD

C.2.Tab.18.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.18.4.1 Planning Factors

- Responders and survivors in heavily impacted areas do not have access to internet, cell phone, landline, television, or two-way radio services.
- Communications will be cut off completely in isolated areas; affected communities will require direct contact.

C.2.Tab.18.4.2 Priorities

- Conduct Public Information and Warning efforts for impacted communities.

C.2.Tab.18.4.3 Facts

- General
    - There is no warning time (no-notice incident).
    - Warning time for the tsunami is 10 to 30 minutes, depending on location.
    - Impacted populations in Washington and Oregon without standard communications capabilities are as follows:
        - 388,000 in the Coastal Geographic Reference Area (GRA)
        - 7,189,000 in the I-5 Corridor GRA
        - 1,738,000 in the East of the Cascades GRA
    - A large percentage of communication facilities receive moderate or greater damage.
    - Communication infrastructure is significantly degraded immediately following the event, and further deteriorates 8 to 12 hours later, due to the loss of backup power, fuel, etc.
    - A large number of electric power facilities receive moderate or greater damage.
    - Fuel dispensing is hampered by lack of power; supplies will not be replenished through the current supply chain.
    - Repairs to the electric power systems in the Coastal and I-5 Corridor GRAs are expected to take weeks, months, or, in some cases, years to repair.
    - Normal means of broadcasting emergency information are disrupted.
    - Regional communication disruptions occur in landline, wireless, and internet availability.
    - Satellite and radio frequencies (RF), including ham networks, will be the primary communications modes in the affected areas.
    - Two federal JICs, one for each UCG, will be staffed to coordinated with tribal nations and state partners within each state.
    - Federal, state, tribal, and local authorities share responsibility for coordinating and communicating information to the public.
    - Federal Public Information Officers (PIOs) support both Oregon and Washington JICs.
    - ESF #15 supports state, local and tribal messaging.
    - Public messaging activities are coordinated with ESF #15 at federal and at JICs in each state.
    - There are significant challenges with delivering consistent and accessible messaging.
    - There is a lack of situational awareness to support public messaging.

  - Timely and effective rumor control activities are crucial in instilling or restoring public confidence.
  - Extensive impacts to the infrastructure systems within both Washington and Oregon will affect staffing JICs and make public outreach almost impossible.

- State of Oregon
  - Before activating a JIC, Oregon coordinates public messaging via Joint Information System (JIS).
  - In Oregon, the PIO becomes the lead PIO for the event. The lead state agency is determined by plan, statute, governor's direction, or operational need.
- State of Washington
  - In Washington, the PIO of the Military Department, Emergency Management Division (EMD) is the state's lead PIO. He or she coordinates with the Governor's Communications Office.
  - Prior to activation of a JIC, Washington coordinates public messaging.

C.2.Tab.18.4.4 Assumptions

- Communications will be compromised.
- ESF #15 capabilities are limited or unavailable.
- Federal response activities within the impacted state(s), local, tribal, and territorial (SLTT) governments are coordinated based on response and UCG priorities.
- Impacts on local infrastructure systems (communications, energy, transportation) limit the ability of federal responders to make timely situational assessments.
- Lack of communication with the public creates challenges such as: lack of alerts/warnings & messages make it difficult to provide emergency notifications, survivors don't know where to go for help, rumors become the facts.
- Lack of information leads to rumors that shape public opinion/actions.
- Local and trained PIOs and media capabilities are unavailable.
- Loss of communications facilities in a CSZ event will likely impact areas outside the damage area (i.e., undersea cables from Washington and Oregon are severed and have impacts on communications to Alaska and other Pacific areas and East Asian Countries). (Note: As of 2020, Alaska has a terrestrial fiber link through Canada).
- Many media facilities will be damaged and inoperable. Remaining operating media facilities and capabilities, supplemented as necessary by government resources, will be instrumental in disseminating emergency public information and instructions.
- Responders and survivors in heavily impacted areas do not have access to modern means of communication, including internet, cell phone, landline, television, or two-way radio services.
- Restoration of undersea cable systems is likely to take 2 to 3 months, depending on the number of breaks and the availability of cable ships to conduct the repairs.

- Restoration timelines for communications infrastructure will depend on the pattern of damage and the restoration of services is expected to take weeks and months.
- Shelters are a primary location for survivors to receive information updates.
- State, local, tribal, and federal communicators will be unavailable and may not report to work.
- Survivors will have limited access to news, social media, and other outlets due to communications and power outages.
- The increased demand for timely and accurate information by the media and public may require agencies charged with providing information to utilize trained personnel from other agencies, volunteers, etc.
- There will be significant need for accessible communications to support persons with a vision, hearing, or speech disability, to communicate with, receive information from, and convey information to, the covered entity.
- Tsunami and earthquake warning systems cannot provide sufficient warning to the impacted populations.

C.2.Tab.18.4.5 Shortfalls/Limiting Factors

- General
    - There is no alternate means for disseminating information to the public.
    - There is an inability to deliver, inform, and provide consistent messaging to all survivors.
    - There are coordination issues for unified public safety and response messaging, such as the following:
        - Lack of methods to communicate to the public after the loss of principal communications systems
        - Limited physical access to impacted populations
        - Heavily impacted areas limited to radio frequency (RF) and satellite communications
- Oregon
    - Once a JIC is established, it will rely on PIOs from other non-essential state entities in the event of emergency operations center (EOC) activation. The reliability of additional PIOs is compromised by ancillary PIOs being able to respond. There is no guarantee, mandate, or protocol for them to respond.
    - Oregon Emergency Management currently has one PIO and no ESF #15 section.
    - Oregon has limited capabilities for public messaging and depends on media outlets to disseminate information.
    - Oregon has no Continuity of Operations (COOP) plan for ESF #15. Oregon has no logistical equipment or procedures for setting up a redundant JIC.
    - Oregon's Emergency Alert System (EAS) has experienced problems.

- There is no funding to train or meet with local/county stakeholders to discuss protocols, messaging, and other potential issues.
- There is no standardized messaging between local governments and the state.

C.2.Tab.18.4.6 Critical Considerations

- Annex D:
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.18.4.7 Task Force(s)

- Communications
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.18.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.18.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DOD PSMA ESF #15 – 82	Public Affairs Communications Team	FOS/ DFA
DOD PSMA ESF #15 – 102	Public Affairs: Civil Authority Information Support (CAIS)	FOS/ DFA
Other PSMA ESF #15 – 168	Other Federal Agency (OFA) EA SME	FOS
USCG PSMA ESF #15 – 393	EA SMEs	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.18.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.18.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• Alerts, Warnings and Messages	• Critical Transportation • Infrastructure Systems • Mass Care Services • Mass Search and Rescue Operations • Operational Communications • Public and Private Services and Resources • Public Information and Warning • Situational Assessment	• 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15
• Food, Water, Shelter	• All	• Mass Care Services	• 15
• Health and Medical	• All	• Public Information and Warning • Public Health, Healthcare, and Emergency Medical Services	• 8
• Safety and Security	• All	• Mass Care Services • On-Scene Security, Protection, and Law Enforcement	• 9, 13
• Transportation	• All	• Infrastructure Systems	• 15

C.2.Tab.18.9 References

- CSZ Annex X, Execution Matrix, Public Information and Warning Tab

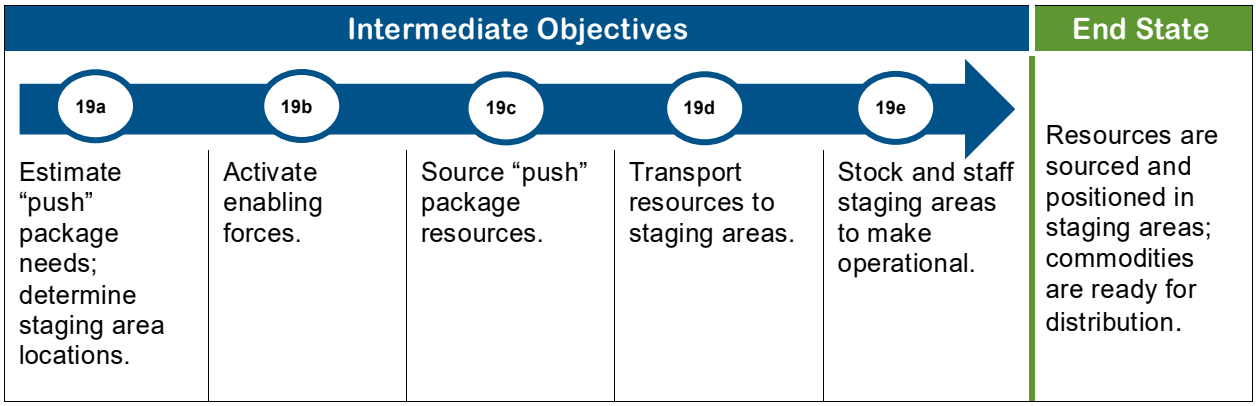
- *ESF #2 Annex* of the NRF
- *ESF #15 Annex* of the *National Response Framework* (NRF)
- *ESF #15 Standard Operating Procedure* (ESF #15 SOP)
- *Public Affairs Support Annex* of the NRF
- Pre-Scripted Mission Assignments (PMSAs) Catalog (December 2020)

This page is intentionally left blank.

Tab 19 to Appendix C-2: Resource Staging

Purpose: Coordinate support for the sourcing and staging of federal resources at Federal Staging Areas (FSAs) and Incident Support Bases (ISBs).

C.2.Tab.19.1 Intermediate Objectives



C.2.Tab.19.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.19.2.1 Primary Agencies

Organization	Roles and Responsibilities
FEMA Headquarters (HQ) Logistics Management Directorate (LMD)	• Manages resource request fulfilment process. • Establishes and manages ISBs.
FEMA – Region-/Incident-level Logistics	• Manages resource request fulfilment process for items that can be obtained Regionally. • Establishes and manages FSAs.
U.S. General Services Administration (GSA)	• Activates Public Buildings Service for commercial real estate leasing. • Initiates short- and long-term leasing of vehicles. • Sources requested resources through strategic agreements and blanket purchase agreements (BPAs).

C.2.Tab.19.2.2 Supporting Agencies

Organization	Roles and Responsibilities
U.S. Department of Defense (DOD)	• Deploys Title 10 forces for staging augmentation. • Deploys transportation assets for strategic and tactical movement.

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #1 / U.S. Department of Transportation (DOT)	• Coordinates with GSA, ESF #1, ESF #5, ESF #7, and the DOD for material handling equipment (MHE) personnel requirement. • In coordination with Maritime Administration (MARAD), identifies availability and deploy training ships • In coordination with MARAD, identifies availability and deploy Navy Steam Ships for housing response personnel to the coasts of each state. • Deploys resources to support public and private transportation assessment teams with sustainment supplies. • Employs resources to support and establish transportation capabilities for both lifesaving and life-sustaining activities. • Establishes base camps for responders and repair teams, as necessary. • Supports air transportation requirements in coordination with ESF #1, ESF #3, ESF #5, and the DOD, as necessary. • In coordination with each state, ESF #7, and ESF #13, updates waivers and other legal measures needed for logistics movement.
ESF #2 / FEMA Communications	• Assesses communication requirements for field personnel and facilities. • Identifies resource competition issues. • Informs Logistics staff about staging requirements for incoming equipment and personnel. • Coordinates with ESF #2 and ESF #7 on communications capabilities for identified personnel and facilities. • Deploys tactical communications assets to identified staging areas, as needed, in coordination with ESF #7.
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Assists in preparation of FEMA emergency power generators.

Organization	Roles and Responsibilities
ESF # 4 / U.S. Department of Agriculture – Forest Service (Firefighting)	• Provides appropriate personnel (single resource, Incident Management Team [IMT] or other) to provide management and coordination support for four FSAs (two per state) and at least eight point of distribution [PODS] per state). Deploys and employs ISB teams and Incident Management Teams to supplement, establish and maintain logistics operations. • Provides necessary resources and staffing to support the Responder Support Camp (RSC) at the FSA in the impacted areas as requested. • Deploys ESF #4 communications resources to identified staging locations in support of ESF #2. • Coordinates with state and tribal responders to identify additional firefighting resource needs and determines issues regarding resource shortages and resource ordering. • If requested, provides appropriate personnel and resources to support logistical operations (i.e., teams, single resources, equipment, contracting capability, etc.)

Organization	Roles and Responsibilities
ESF #5 / FEMA Information and Planning	• Coordinates with ESF #7 for sustainment/billeting requirements for incoming responders. • Deploys resources and assessment teams to ISBs East of the Cascades and initiate targeted employment into to the impacted areas in coordination with each state, ESF #5, and ESF #7. • Deploys and employs ESF #7 with IMAT(s) to support state emergency operations centers (SEOCs). • In coordination with each state, establishes objectives and priorities for resource allocation. • Integrates resources from FEMA Logistics Management Directorate (LMD), the U.S. General Services Administration (GSA), states, local jurisdictions, and private sector providers to meet operational requirements. • Places orders through the National Response Coordination Center (NRCC) for Initial Response Request (IRR) packages to be delivered to ISBs and FSAs. • Provides status of logistics supply lines and identifies resource shortfalls. • Requests DOD transport of tactical communication assets into the affected area. • Provides staging areas for search and rescue (SAR) operations and resources. • Conducts resource and requirement tracking to determine additional information requirements, key resources, and shortfalls. • Provides direction to Logistics Section on coordinating movement of personnel, resources, and materials in support of incident objectives and Mission Assignments (MAs), as requested. • The National Response Coordination Staff, Transportation and Movement Coordination Group's Movement Coordination Center (MCC) will coordinate and track the transportation of nationally deployed resources (including teams, individual responders, supplies and equipment) until the transfer of control to incident management. • Coordinates with ESF #1, ESF #6, and ESF #7 for transportation for the entry of response teams and supplies into the affected area.

Organization	Roles and Responsibilities
ESF #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• Assists in the selection of federal staging locations from those that have been pre-identified. • Implements procedures with response partners to maintain resource inventory to prevent duplication of services and to address gaps. • Requests transportation resources to move supplies, services, and responders. • As part of ESF #6, determines and informs on staging and reporting areas for local volunteers and staff. • Manages unaffiliated volunteers; provides support for unsolicited donations east of the Cascades and Voluntary Organization Active in Disasters (VOAD) support requirements for immediate cleanup. • Supports the efforts of the Volunteer and Donations Coordination Team (VDCT) in establishing warehouses for spontaneous donations and coordinating unsolicited donations. • Supports the use of Aidmatrix to ensure a coordinated donations management strategy for goods, services, and unaffiliated volunteers. • Coordinates with all response entities to maintain resource inventory and prevent duplication of services.
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Coordinates with ESF #7 for RSC requirements. • Coordinates with ESF #7 on medical field station sites and staging requirements. • Establishes staging area services and RSCs for ESF #8.
ESF #12 / U.S. Department of Energy (DOE)	• Assists in locating fuel for transportation, communications, and emergency operations.
ESF #14 / FEMA Cross-Sector Business and Infrastructure	• Establishes contact with Federal/State Private Sector Liaisons and Reception, Staging, Onward Movement, and Integration (RSOI) staff regarding access into the impact area and the location of accommodations for their responders and resource requirements.
U.S. Agency for International Development (USAID)	• Deploys USAID/Office of U.S. Foreign Disaster Assistance (OFDA) commodities.
U.S. Department of Defense (DOD) – Defense Logistics Agency (DLA)	• Deploys DLA Distribution Expeditionary Team (DDXX) for ISB management or augmentation. • Uses DLA Defense Depot to meet disaster commodities requirements. • Activates DLA Energy fuels contract.
U.S. Forest Service (USFS)	• Deploys logistics facilities support team to augment ISB/FSA operations.

C.2.Tab.19.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
19a. Estimate "push" package needs; determine staging area locations.	• Commodity estimates derived from Regional planning factors or real-world situational awareness • Selection of staging areas based on incident needs and Regional plans	• Region/field leadership or FEMA HQ Logistics
19b. Activate enabling forces (e.g., ISB teams, DDXX, USFS).	• FEMA LMD determination of staffing needs and options to meet anticipated requirements	• FEMA HQ Logistics • Regional Logistics staff
19c. Source "push" package resources (e.g., Logistics Supply Chain Management System [LSCMS], contracted sources, MAs).	• Number of commodities/ resources needed, based on "push" estimates and availability	• FEMA HQ Logistics
19d. Transport resources to staging areas.	• Resource transport needs, based on incident and required delivery dates for commodities	• FEMA HQ Logistics
19e. Stock and staff staging areas to make operational.	• ISB/FSA reports on operational status and current stock levels	• FEMA HQ Logistics • Field Logistics staff

C.2.Tab.19.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.19.4.1 Planning Factors

- N/A

C.2.Tab.19.4.2 Priorities

- Assess logistics nodes and routes.

- Establish emergency and supply routes.
- Establish logistics nodes.
- Acquire and/or deliver resources.
- Support the movement of emergency services staff and equipment into the affected area based on the following order of priority:
    - Firefighting
    - SAR
    - Law Enforcement
    - Emergency Medical Services (EMS)
    - Evacuation operations
    - Establishing RSOI for evacuees
    - Commodity distribution

C.2.Tab.19.4.3 Facts

- General
    - The state heavily relies on ESF #7 when it comes to resource movement. This includes the use of private sector.
- State of Oregon
    - No state staging areas have been identified.
- State of Washington
    - The state has predetermined the following as State Staging Areas (SSAs):
        - Arlington Municipal Airport
        - Bellingham International Airport
        - Bowerman Airport
        - Bremerton National Airport
        - Clark County Fairgrounds
        - Olympia Regional Airport
        - Paine Field Airport
        - Sanderson Field
        - Southwest Washington Regional Airport
        - William R. Fairchild International Airport
    - The state places impetus on local jurisdictions when it comes to commodity distribution. The state actually defines C-PODs as County Staging Areas or Community Points of Distribution rather than Commodity Points of Distribution.

C.2.Tab.19.4.4 Assumptions

- Sufficient collaboration occurs between federal agencies, states, tribes, local governments, non-governmental organizations (NGOs), the private sector, and international response partners to coordinate resources.
- Washington and Oregon provide information, through FEMA Region 10 or its designated backup Region, about their levels of capability, commodity distribution shortfalls, and locations of SSAs and PODs.
- The priority of effort for logistics during the initial response is to support lifesaving operations.
- Initial logistics support is required for two Interim Operating Facilities (IOFs) / Joint Field Offices (JFOs), two ISBs for Washington, two ISBs for Oregon, three FSAs for Washington, and two FSAs for Oregon as well as for other response facilities, including RSCs, responder base camps, field hospitals, shelters, survivor collection points, area field offices, branch offices, etc.
- A Stafford Act Disaster Declaration is issued.
- Debris clearance, assessment, traffic management, and repairs commence at pre-identified airports and along ground routes immediately post-incident.
- One million survivors and 600,000 pets require short-term sheltering.
- Residents sheltering in place have 1 to 3 days of life-sustaining supplies on hand.
- Tourist populations have little capability to support themselves during a CSZ incident.
- Two point five million survivors and 1.5 million pets require short-term hydration and feeding.

C.2.Tab.19.4.5 Shortfalls/Limiting Factors

- Commodities
    - Commodity Points of Distribution (C-PODs) have not been identified for either Washington or Oregon.
    - Maritime node considerations for commodity distribution have not been factored into the planning process.
    - Air transportation logistics are limited by ground connections.
    - Multiple agencies are involved in airfield inspections, the completion of which affects both logistics and the Transportation Community Lifeline. The inspection process needs to be better coordinated among agencies or waivers need to be applied.
    - Phase timing/syncing considerations for commodity resource availability and ramp-up rates at logistics nodes are not established.
- Responders
    - Evaluate RSOI considerations.
    - Lodging and responder self-sustainment considerations need to be established.

- Contra-flow modeling will not be performed for this iteration of the plan. States need to identify the medical facilities that will be overwhelmed as well as other medical facilities that can support operations. That information will then be used to identify aeromedical staging areas.
- Aeromedical staging area locations are not pre-identified in this plan revision. Locations from the previous plan were not validated during the information analysis process.
- Private sector operational capabilities specifically targeting material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation need to be identified.
- The resource capabilities of other federal partner agencies and VOADs need to be identified.
- Full identification of memorandums of understanding (MOUs) and Emergency Management Assistance Compact (EMAC) considerations applicable to a CSZ incident has not been completed.
- The method by which the private sector communicates with government partner agencies has not been established.
- Badging/access control methodology for response to a CSZ event is still in development.

C.2.Tab.19.4.6 Critical Considerations

- Annex D:
  - RSOI
  - Priority logistics nodes (See C.2. Tab.19.5.)
  - Priority routes

C.2.Tab.19.4.7 Task Force(s)

- TBD
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.19.5 Logistics Node Prioritization

Location	Node Function	FEMA Priority	DOD Airfield Assessment (Available DOD Assessment Teams)	Airfield Opening
Joint Base Lewis McChord (JBLM)	FSA	1	C001 (Internal Assessment)	C001
Eugene Airport	FSA	2	C001	C002
Portland International Airport	APOD	3	C001	C002
William R. Fairchild International Airport	FSA	4	C001	C002

Location	Node Function	FEMA Priority	DOD Airfield Assessment (Available DOD Assessment Teams)	Airfield Opening
William R. Fairchild International Airport	SSA	4	C001	C002
Salem Municipal Airport	APOD	5	C001	C002
Grant County International Airport	ISB	6	C002	C003
Ephrata Municipal Airport	ISB	7	N/A (Intermediate Ground Location)	N/A
Rogue Valley International-Medford Airport	APOD	8	C002	C003
Crater Lake-Klamath Regional Airport	ISB	9	C002	C003
Redmond Municipal Airport	ISB	10	C002	C003
Sanderson Field	APOD	11	C003	C004
Sanderson Field	SSA	11	C003	C004
Paine Field Airport	APOD	12	C003	C004
Paine Field Airport	SSA	12	C003	C004
Tillamook Airport	APOD	13	C003	C004
Bellingham International Airport	APOD	14	C004	C005
Bellingham International Airport	SSA	14	C004	C005
Cape Blanco State Airport	APOD	15	C004	C005
Clark County Fairgrounds	SSA	16	N/A (Ground Location)	N/A
Southwest Washington Regional Airport	SSA	17	C004	C005
Arlington Municipal Airport	SSA	18	C004	C005
Bowerman Airport	SSA	19	C005	C006
Olympia Regional Airport	SSA	20	C005	C006
Bandon State Airport	APOD	21	C005	C006
Bremerton National Airport	SSA	22	C005	C006
Tri Cities Airport	APOD	23	C006	C007
Boise Airport RWY 09/27	ISB	24	N/A (Intermediate Ground Location)	N/A
Fairchild AFB	APOD	25	C001 (Internal Assessment)	C001

C.2.Tab.19.6 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data,

origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.19.7 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DLA PSMA ESF #7 – 11	Bottled Water (Subsistence Supply Chain)	FOS
DLA PSMA ESF #7 – 12	Water Tanker Trucks (Construction & Equipment Supply Chain)	FOS
DLA PSMA ESF #7 – 22	Meals (Subsistence Supply Chain)	FOS
DLA PSMA ESF #7 – 25	Portable Water Jugs (Construction & Equipment Supply Chain)	FOS
DLA PSMA ESF #7 – 31	DDXX Packages	FOS
DOD PSMA ESF #7 – 96	Bulk Water - Potable	FOS
DOD PSMA ESF #7 – 107	FEMA Distribution Center Operations: Personnel - Military	FOS
DOD PSMA ESF #7 – 110	ISB Augmentation	FOS
DOD PSMA ESF #7 – 40	Staging: ISB, FSA, or Federal Teams Staging Facility (FTSF)	FOS
DOD PSMA ESF #7 – 48	Transportation: Cargo or Personnel	FOS
DOT PSMA ESF # 1 - 144	Activation: DOT	FOS
USACE PSMA ESF #3 –175	Commodity Team	FOS
USACE PSMA ESF #3 – 258	Temporary Emergency Power: Execution	DFA
USACE PSMA ESF # 3 - 283	Infrastructure Assessment Planning and Response Team (PRT)	
DOD PSMA ESF #7 – 48	Transportation: Cargo or Personnel	FOS
DOD PSMA ESF #7 – 56	Strategic Air Transportation	
DOD PSMA ESF #7 – 80	Fuel Distribution Point – Ground Vehicles	FOS/DFA
DOD PSMA ESF #7 – 110	ISB Augmentation	FOS
DOT PSMA ESF # 7 – 141	Maritime Administration (MARAD) Berthing Ships	
DOT PSMA ESF #7 – 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships	
GSA PSMA ESF # 7 - 166	Activation: GSA	
GSA PSMA ESF #7 – 169	Commodities and Services Support	
USAID PSMA ESF #7 – 315	USAID Commodities Transport/Backfill	FOS
USCG PSMA ESF #7 – 326	Maritime Transportation for Logistics Support: Vessel	FOS
USCG PSMA ESF #7 – 328	Air Transportation for Logistics Support: Rotary-wing Aircraft	FOS
USCG PSMA ESF #7 – 330	Air Transportation for Logistics Support: Fixed-wing Aircraft	FOS
USCG PSMA ESF # 7 – 338	Incident Support Base (ISB), Federal Staging Area (FSA)	
USFS PSMA ESF #7 – 371	Logistics Facility Support Team	FOS
HHS PSMA ESF # 8 - 17	Activation: HHS	
DOJ PSMA ESF # 13 - 132	Activation: U.S. Department of Justice (DOJ)	

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.19.8 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.19.9 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• All	• All	• Logistics and Supply Chain Management • Mass Search and Rescue Operations • Operational Coordination • Public and Private Services and Resources • Situational Assessment	• 1, 2, 3, 4, 5, 7, 8
• Communications	• Alerts, Warnings and Messages	• Logistics and Supply Chain Management • Operational Communications • Public Information and Warning	• 2, 3, 4, 5, 7
• Energy	• All	• Infrastructure Systems • Logistics and Supply Chain Management • Operational Communications	• 3, 7, 12
• Food, Water, Shelter	• All	• Logistics and Supply Chain Management • Mass Care Services • Public and Private Services and Resources	• 1, 3, 5, 6, 7

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Safety and Security	• Law Enforcement/ Security • Fire Service • Government Service	• Environmental Response/Health and Safety • Mass Search and Rescue Operations • Operational Communications • Operational Coordination • Public and Private Services and Resources • Situational Assessment	• All
• Transportation	• All	• Critical Transportation • Environmental Response/Health and Safety • Infrastructure Systems • Logistics and Supply Chain Management	• 1, 5, 6, 7, 14

C.2.Tab.19.10 References

- CSZ Annex X, Execution Matrix, Resource Staging Tab
- ESF #3 Field Guide, USACE (2015)
- National Response Framework (NRF) ESF #7 Annex (Logistics Management and Resource Support)
- Pre-Scripted Mission Assignment (PSMA) Catalog (December 2020)

This page is intentionally left blank.

Tab 20 to Appendix C-2: Responder Security and Protection

Purpose: Support, establish, and sustain responder and facility protection.

C.2.Tab.20.1 Intermediate Objectives

Intermediate Objectives					End State
20a	20b	20c	20d	20e	
Conduct analysis of security requirements.	Deploy and stage federal law enforcement (LE) resources.	Conduct federal security and protection operations.	Monitor ongoing security requirements.	Demobilize security and protection resources.	Federal capabilities are no longer required to provide a safe and secure environment for responders.

C.2.Tab.20.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.20.2.1 Primary Agency

Organization	Roles and Responsibilities

Emergency Support Function (ESF) #13 / Department of Justice (DOJ) – Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF)	• Coordinate's provision of federal public safety and security assistance to state, local, tribal, and territorial (SLTT) jurisdictions.
	• Functions as ESF #13 Coordinator.
	• Mobilizes and deploys ESF #13 Incident Management Team (IMT) to affected areas to accomplish public safety and security situational assessment/awareness.
	• Deploys liaison personnel.
	• Staffs staging areas to coordinate the reception and assignment of ESF #13 resources to their missions.
	• Provides federal LE resources.
	• Drug Enforcement Administration (DEA)
	  ○ Provides federal LE resources.
	  ○ Provides fixed- and rotary-wing air assets to support LE missions.

C.2.Tab.20.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #1 / U.S. Department of Transportation (DOT)	• Evaluate transportation-related security requirements (i.e., for infrastructure, equipment, supplies, and personnel), and right size as appropriate.

Organization	Roles and Responsibilities
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Supports the Worker Safety and Health Support Annex. • Provides technical assistance. • Conducts exposure assessments and risk management to control hazards for response workers.
Federal Bureau of Investigation (FBI)	• Provides federal LE resources. • Coordinates the FBI's prevention and investigative efforts with ESF #13 activities, as appropriate.
Federal Bureau of Prisons (BOP)	• Provides general and specialized resources to assist in the ESF #13 response. • Provides logistics personnel to support ESF #13 IMT. • Provides Federal Corrections Officers to assist state departments of corrections during ESF #13 responses.
Other departments with Federal Law Enforcement Officers (FLEOs)	• Provides federal LE resources.
U.S. Department of Defense (DOD)	• DOD liaison assigned full time to ESF #13 headquarters (HQ) staff. • Provides mission support.
U.S. Department of Homeland Security (DHS)	• Provides federal LE resources to support an ESF #13 response through its member departments and agencies, including Customs and Border Protection (CBP), Immigration and Customs Enforcement, Federal Protective Service (FPS), U.S. Secret Service, Office of the Inspector General, U.S. Coast Guard (USCG), Transportation Security Administration (TSA), and Federal Air Marshal Service (FAMS).
U.S. Department of the Interior (DOI)	• Provides federal LE resources. • Bureau of Indian Affairs (BIA) Emergency Management Division coordinates ESF #13 liaisons with federally recognized tribes.
U.S. Department of State (DOS)	• Provides federal LE resources.
U.S. Department of Treasury	• Provides federal LE resources.
U.S. Marshals Service (USMS)	• Provides federal LE resources. • Manages the Special Deputation Program to provide expanded federal LE authority to FLEOs assisting in the ESF #13 response, when required. • Assists in staffing the IMT, if required.

C.2.Tab.20.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
20a. Conduct analysis of security requirements.	• Identify force protection requirements for ESF #8, ESF #9, and other ESFs. • Determine state LE authority of FLEOs and identify potential for Direct Federal Assistance (DFA) requests and requirements for FLEOs to augment state resources.	• ESF #13
20b. Deploy and stage federal law enforcement resources.	• Deploy 100 percent of the federal LE resources needed. • In-process 100 percent of ESF #13 LE resources to mission-ready status. • Maintain 100 percent accountability of resources.	• ESF #13
20c. Conduct federal security and protection operations.	• Within specified period of time post-incident, provide security and LE to protect emergency responders.	• ESF #13
20d. Monitor ongoing security requirements.	• Identify the number of additional resources requested. • Sustain staffing for existing requirements.	• ESF #13
20e. Demobilize security and protection resources.	• Develop ESF #13 demobilization plan. • LE environment has stabilized and federal resources are no longer required. • Demobilize 100 percent of ESF #13 resources in accordance with plan.	• ESF #13

C.2.Tab.20.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska

- Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.20.4.1 Planning Factors

- Police lack capability to perform services in heavily damaged areas; minimal capabilities are available in lesser damaged locations due to lack of access and communications.

C.2.Tab.20.4.2 Priorities

- Support lifesaving and life-sustaining activities within the impacted area.
- Maintain situational awareness regarding safety and security/law enforcement environment.
- Provide safety and security for response personnel (especially ESFs #8 and #9), critical infrastructure, and property.

C.2.Tab.20.4.3 Facts

- General
  - Communications will be fragmented and, at the beginning, probably reduced to line-of-sight radios.
  - Local law enforcement personnel will be initially required to operate in place due to the inability to move and disrupted communications networks.
  - There will be significant populations that will have no law enforcement presence.
  - Security teams are required for at least two joint field offices (JFOs), two initial support bases (ISBs), two forward staging areas (FSAs), and atypical federal staging areas on the coast. Security for any FEMA facility/location is provided through FEMA contract security and not typically an ESF #13 mission. ISBs and co-located staging area security would typically be provided by base military personnel. ESF #13 could be mission assigned to help support lifesaving and life sustaining missions.
  - Law enforcement personnel on duty will need to have their families supported.
- State of Washington
  - Local and state law enforcement agencies will be inadequate to achieve operational objectives (and will require federal assistance). There is no known statutory authority under Washington law that provides for state law enforcement authority for federal agents/officers. Washington state and local law enforcement will be heavily dependent on Emergency Management Assistance Compact (EMAC) resources to meet their resource requirements.
- State of Oregon
  - Local and state law enforcement agencies will be inadequate to achieve operational objectives (and will require federal assistance). Oregon Revised Statutes 133.245 grants state authority to a federal officer upon certification by the Oregon Department of Public Safety Standards and Training.
  - Title 10 State Constitution allows for state-to-state compacts to support Oregon.

C.2.Tab.20.4.4 Assumptions

- Because communications are down, situational awareness is largely line-of-sight in affected areas.
- Competing priorities exist for looting protection, traffic control, search and rescue, crowd control, assessments, commodity escorts (Washington State Patrol has agreement in place for this), etc.
- Correctional facilities in the shake zone sustain significant damage and may require evacuation.
- Demand for state, tribal, and local government law enforcement services exceed current capabilities.
- Deployment of security personnel and equipment is delayed due to damaged transportation, communications, power systems, and the lack of comprehensive situational awareness.
- Effects of price gauging and competition for fuel might generate security requirements.
- Emergency operations centers (EOCs) in some jurisdictions might not function with ESF structure. Incident Command System (ICS) is designed for incident management, not necessarily for incident support.
- Even the responding officers are affected by extreme fatigue, damage to their own homes, and their own family needs.
- Federal response security requirements will exceed available resources.
- Law enforcement and corrections facilities execute existing disaster plans for security.
- Law enforcement and public safety personnel are present in impacted communities, but that presence is fragmented by failures in transportation and communications systems.
- Limited staffing exists on a day-to-day basis, so insufficient staff/reserves can be expected after a CSZ event for the local area and the surrounding jurisdictions.
- Local jurisdictions or organizations exhaust their law enforcement and mutual aid resources before seeking assistance from the Washington or Oregon State Patrols.
- Memorandums of understanding (MOUs) for support from surrounding agencies may be significantly impacted by an increase in demand and impacts to capacity by the incident.
- National Guard can support communications for inoperable dispatch systems within the impact area.
- Nearly all coastal police stations will experience complete damage.
- Public service announcements communicate infrastructure picture, security requirements, and status of facilities.
- The demand for law enforcement services will be higher after the incident than before and will continue to rise as panic and frustration increase in the population.
- There will be increased criminal activity in the impact area.

- Volunteer ham radio operators are not necessarily integrated across the counties or the state.
- Weather, especially in winter or across mountain passes, affects the transportation of staffing.

C.2.Tab.20.4.5 Shortfalls/Limiting Factors

- General
    - Availability of qualified force protection resources to support response operations facilities, including prisons and detention facilities, is limited throughout geographically dispersed areas.
    - Multiple impacted states requesting the same EMAC resources further depletes limited resources.
    - Police emergency communications capabilities may be severely damaged or totally destroyed. A shortage of local, state, and tribal LE support personnel (including call-takers, dispatchers, records staff, maintenance staff, etc.) impacts the LE mission.
    - Security will be needed at county Fuel Points of Distribution (FPODs) to secure and restrict access to FPODs receiving emergency bulk fuel supplies.
- Federal
    - Federal law enforcement personnel in the affected area will be survivors or will be tied to their own missions and not available to support state and local law enforcement agencies. (ESF #13 does not typically pull personnel/resources from the impacted area.) As victims, they will likely be unavailable or tasked to support the organic response of their parent agencies.
    - There is a need for a comprehensive federal plan to augment state LE and security systems, including communications, command structure, resupply, and base operational support in the affected area.
    - There is no known statutory authority under Washington law that provides for state law enforcement authority for federal agents/officers. Washington state and local law enforcement will be heavily dependent on EMAC resources to meet their resource requirements.
    - Oregon Revised Statutes 133.245 grants state authority to a federal officer upon certification by the Oregon Department of Public Safety Standards and Training.
    - There is a need for detailed and promulgated security and law enforcement priorities in time of disaster.
- State of Washington
    - Fuel shortfalls and local capacity will need to be determined in advance of an incident.
    - There will be a lack of operational objectives for the security of hospitals; logistical stockpile locations; community points of distribution (C-PODS) and the Strategic National Stockpile (SNS); power generation facilities; mass sheltering facilities; feeding operations; commodity movement security; critical

infrastructure; facilities or resources that could be weaponized; port facilities; biodiesel storage facilities; agricultural chemicals; federal, state, and local staging areas; communications; and commercial districts.

- There will be a lack of a comprehensive plan to incorporate outside augmentation to form a flexible, cohesive, and effective law enforcement security system throughout the state.
- There will need to be prioritization of detailed and promulgated security and law enforcement needs in time of disaster.
- There will be a lack of an Integrated Continuity of Operations Plan (state, county, and local) and Disaster Recovery Centers (DRCs).

- State of Oregon
  - Agreements for jail-displacement housing with eastern communities need to be explored.
  - Assets need to be pre-stocked in small caches in each community to support command and control, law enforcement, transportation, and communications.
  - Development of a comprehensive plan to incorporate outside augmentation to form a flexible, cohesive, and effective law enforcement security system throughout the state is needed.
  - Development of a volunteer plan to bring in civilian volunteers to free up badged officers is needed.
  - Development of detailed and promulgated security and law enforcement priorities in time of disaster is needed.
  - Expansion of mutual aid agreements beyond neighboring jurisdictions is needed.
  - Jails will be vulnerable. Lower-level offenders may be released. (County sheriffs would decide, in consultation with the board, who would be released.)
  - There is a need to provide training for and incorporate into exercises the use emergency communications equipment.
  - There will be high demand for law enforcement, which is a low-density asset.

C.2.Tab.20.4.6 Critical Considerations

- State FLEO authorization
- Public perception
- Regionally and culturally specific threats
- What housing, feeding, hydration, and sanitation plans are in place for safety, security, and fire personnel who are deployed from outside of the impact area?
- What is the Department of Corrections' evacuation/mass care plan for prisoners?
- Is there a credentialing system for personnel deployed from outside of the impact area?
- Are there any DHS Immigration and Customs Enforcement (ICE) facilities in the affected area? If so, is there a plan in place for evacuating detainees in the event of an incident?

- Annex D:
  - Priority logistics nodes
  - Priority routes

C.2.Tab.20.4.7 Task Force(s)

- Safety and Security
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.20.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.20.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
USACE PSMA ESF #3 – 277	Debris Operations – Oversight: Subject Matter Experts (SMEs)	FOS/DFA
HHS PSMA ESF #8 – 240	Emergency Prescription Assistance Program (EPAP) and Medical Equipment Replacement: Contracted Pharmacy Personnel	DFA
DOI PSMA ESF #11 – 120	Archaeology, Collections, Historic Environments SMEs	
DOJ PSMA ESF #13 – 132	HQ Activation: DOJ	FOS/ DFA
DOJ PSMA ESF #13 – 137	Force Protection	FOS/ DFA
FPS PSMA ESF #13 – 187	Contract Security Officers: Personnel	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.20.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.20.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• Alerts, Warnings and Messages	• On-scene Security, Protection, and Law Enforcement • Operational Communications	• 13
• Safety and Security	• All	• On-scene Security, Protection, and Law Enforcement	• 13
• Transportation	• All	• Critical Transportation	• 1, 13

C.2.Tab.20.9 References

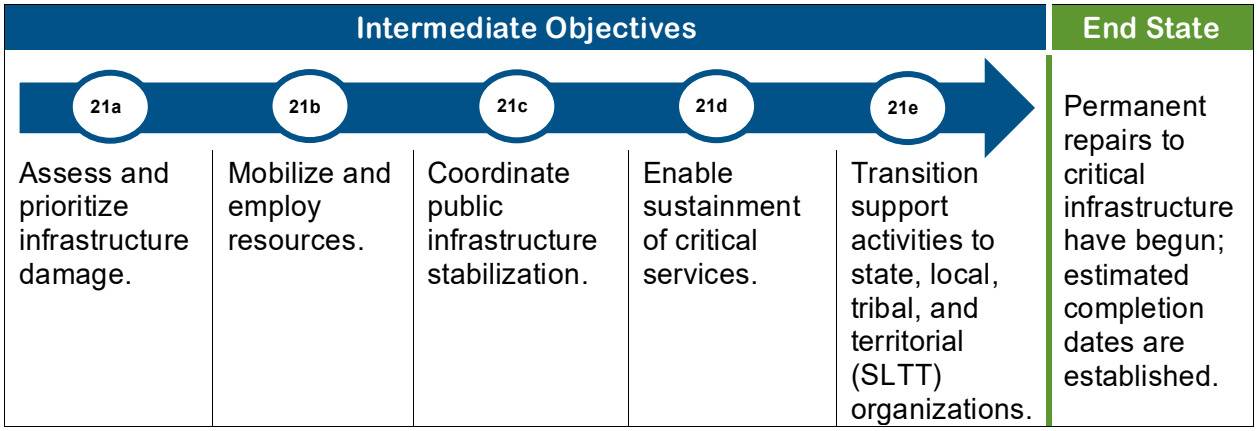
- CSZ Annex X, Execution Matrix, Responder Security Tab
- *National Response Framework* (NRF) *ESF #13 Annex* (Public Safety and Security)
- Pre-Scripted Mission Assignment (PSMA) Catalog (December 2020)

This page is intentionally left blank.

Tab 21 to Appendix C-2: Restoration of Public Infrastructure

Purpose: Provide federal assistance to support the repair and restoration of critical infrastructure.

C.2.Tab.21.1 Intermediate Objectives



C.2.Tab.21.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.21.2.1 Primary Agencies

Organization	Roles and Responsibilities

Federal Emergency Management Agency (FEMA)	• Provides infrastructure systems recovery coordination and resources.
	• Administers the Public Assistance (PA) program.
	  ○ Provides supplemental federal disaster grant assistance for debris removal and disposal; emergency protective measures; and the repair, replacement, and restoration of disaster-damaged public facilities and facilities of certain qualified private non-profit organizations.
	• Administers hazard mitigation programs authorized by the Stafford Act and National Flood Insurance Act.
	  ○ Identifies requirements for and coordinates a unified federal environmental and historic preservation review.

Emergency Support Function (ESF) #3 / U.S. Army Corps of Engineers (USACE)	• Through ESF #3, provides technical assistance, engineering, and construction management support during response and recovery activities, including debris management, infrastructure assessment, temporary repairs, temporary critical facilities, and temporary emergency power.

C.2.Tab.21.2.2 Supporting Agencies

Organization	Roles and Responsibilities
Corporation for National and Community Services (CNCS)	• Provides teams of trained National Service participants to carry out canvassing, needs assessments, temporary roof repairs, and elimination of specified health/safety hazards.
ESF #1 / U.S. Department of Transportation (DOT)	• Provides technical expertise and assistance for the repair and restoration of transportation infrastructure. • Provides engineering personnel and support to assist in damage assessments, structural inspections, and restoration of the nation's transportation infrastructure. • Administers special funding that can be used for repair or reconstruction of major highway facilities as well as grant programs for transit systems and railroads that may be used for repair and rehabilitation of damaged infrastructure.
ESF #2 / FEMA Communications	• Establishes public safety, tactical and restoration communications priorities with an emphasis on heavily populated areas, key transportation corridors, and temporary emergency communications in isolated areas including the coasts of each state. • Executes tactical, restoration, and communication plans with key federal partners.
ESF #4 / U.S. Department of Agriculture – Forest Service (Firefighting)	• Employs ESF #4 contracting/procurement personnel and equipment to assist in the emergency removal of debris, demolition, and temporary repair of essential public facilities, water supply, and sanitation in coordination with ESF #3, ESF #5, Protective Security Advisor (PSA) and ESF #5, states, and Critical Infrastructure (CI) Task Forces.
ESF #5 / FEMA Information and Planning	• Establishes response priorities for tactical repair and permanent restoration of key critical infrastructure in coordination with each state, PSAs, CI Task Force, and ESF #12. • Facilitates Critical Infrastructure and Key Resources (CIKR) situational awareness and information sharing by coordinating with Interim Operating Facility (IOF) / Joint Field Office (JFO) sections, ESFs and sector representatives, CIKR owners and operators, and security partners. • Supports the activation and deployment of teams to conduct assessments of publicly owned critical infrastructure assets.

Organization	Roles and Responsibilities
ESF #7 / FEMA Logistics	• Provides airlift capability to support infrastructure assessments within the I-5/Inland Geographic Reference Area (GRA) and expanding to the Coastal GRA as the coastal priorities change from lifesaving in coordination with the U.S. Department of Defense (DOD). • In conjunction with state partners, provides fuel for first responders through fuel contracts and establishes logistical supply lines for fuel delivery into affected areas. • In coordination with ESF #5, Air Branch, and DOD, provides airlift capability to support infrastructure assessment and repairs. • Maintains coordination support for USACE mission assignments.
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Provides situational awareness regarding needs at critical healthcare facilities and other CIKR facilities.
ESF #10 / U.S. Environmental Protection Agency (EPA)	• Assists in identifying critical water and wastewater needs, including personnel, electric power, and treatment chemicals.
ESF #12 / U.S. Department of Energy (DOE)	• Provides information concerning the energy restoration process, such as projected restoration schedules, percent completion of restoration, geographic information on restoration projects, and other information, as appropriate.
ESF #13 / U.S. Department of Justice (DOJ)	• Identifies CIKR protection and restoration needs to support efficient prioritization of efforts in support of operational priorities. • In coordination with ESF #5, PSAs, and ESF #12, identifies, activates, and deploys resources to augment state security at identified critical infrastructure sites in coordination with response mission priorities.

Organization	Roles and Responsibilities
ESF #14 / FEMA Cross-Sector Business and Infrastructure	• Supports analysis of impact on CI, and expedites information sharing with all public and private partners. • Identifies CIKR protection and restoration needs to support efficient prioritization of efforts in support of operational priorities. • Request's arrival of identified qualified personnel from outside the region to conduct infrastructure assessments. • Deploys the Infrastructure Liaison with Incident Management Assistance Teams (IMAT) to state emergency operations centers (SEOCs). • U.S. Department of Homeland Security (DHS) – Cybersecurity and Infrastructure Security Agency (CISA) o Serves as the lead agency for providing ESF #14 operational support. o Serves as the interface with business, industry, and critical infrastructure sectors not aligned with other ESFs. o Assesses cross-sector challenges, identifies cross-sector interdependencies, and disseminates analysis products to inform decisions about sequencing response efforts. o Integrates critical infrastructure sector information and reporting from Sector-Specific Agencies (SSAs) and ESFs with community infrastructure and private sector reporting, conducts cross-sector analysis, and develops recommendations to expedite supply chain and Community Lifeline stabilization and restoration. o Coordinates cross-sector operations between government, public and private sector infrastructure owners/operators to stabilize Community Lifelines and impacted National Critical Functions and supports the repair and restoration of identified infrastructure. o Works with infrastructure owners/operators on requests for information and requests for assistance regarding critical infrastructure. o Helps coordinate and sequence operations to mitigate cascading failures and risks. o Coordinates with Recovery Support Functions (RSFs) and infrastructure owners/operators to help inform prioritization of short- and long-term recovery activities. o Provides support for development of sector and/or asset restoration plans. o In collaboration with ESF #2, coordinates the restoration of communications infrastructure and works to mitigate cascading effects. o Identifies critical private sector and supply chain infrastructure.
Tennessee Valley Authority (TVA)	• Provides personnel to assist in damage assessments, structural inspections, and restoration of facilities

Organization	Roles and Responsibilities
U.S. Department of the Interior (DOI) – Bureau of Reclamation	• Provides engineering support to assist in evaluating damage to water control systems, such as dams, levees, and water delivery facilities and structures. • Provides personnel to assist in damage assessments, structural inspections, and restoration of facilities. • Provides technical assistance in contract management, procurement, construction inspections, and environmental and archeological assessments.
U.S. Department of the Interior (DOI) - Office of Wildland Fire	• Provides appropriate engineering and contracting/procurement personnel and equipment to assist in demolition, the repair of roads and bridges, and the temporary repair of essential public facilities, such as water and sanitation systems.
U.S. Department of Veterans Affairs (VA)	• Provides engineering personnel and support, including design estimating and construction supervision, for the repair, reconstruction, and restoration of eligible facilities.
U.S. General Services Administration (GSA)	• Provides resource support to assist in damage assessments, structural inspections, and restoration of facilities. • Provides technical assistance for construction inspections and environmental and archeological assessments.

C.2.Tab.21.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
21a. Assess and prioritize infrastructure damage.	• Identify infrastructure damage. • Identify interdependencies. • Prioritize stabilization and restoration operations.	• Regional Response Coordination Center (RRCC) • State Emergency Operations Center (SEOC)/Interim Operating Facility (IOF) • National Response Coordination Center (NRCC) • ESF #3 • ESF #14
21b. Mobilize and employ resources.	• Identify resource requirements. • Activate and deploy identified resources.	• RRCC • SEOC/IOF • NRCC • All ESFs
21c. Coordinate public infrastructure stabilization.	• To be determined (TBD)	• RRCC • SEOC/IOF • NRCC • ESF #3 • ESF #14

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
21d. Enable sustainment of critical services.	• TBD	• TBD
21e. Transition support activities to SLTT organizations.	• Grant programs transition from development phase to administration phase.	• RRCC • SEOC/IOF • NRCC

C.2.Tab.21.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.21.4.1 Planning Factors

- Energy
  - There are 3,947 natural gas line leaks/breaks that occur.
  - On Day 1, 88,288 households will be without power.
  - Out of 81 power facilities, 9 will sustain damage.
  - Cascading effects of power outages will affect other lifeline stabilization efforts.
- Communications
  - Of 1,032 communications infrastructure facilities, 682 receive moderate or greater damage.
  - Potentially, 3,912 financial institutions are affected.
- Transportation
  - There are 15,858 miles of highway and 6,826 road bridges in CSZ impact areas of Washington and Oregon.
  - There are 5,828 miles of railroad and 93 railroad bridges in CSZ impact areas of Washington and Oregon.
  - There are 98 airports in CSZ impact areas of Washington and Oregon.
  - In Washington and Oregon, 72 ports are affected.

- In Washington and Oregon, 716 maritime port facilities are affected.
- In Washington and Oregon, 156 bus facilities are affected.
- In Oregon, 99 bus facilities are affected, with potential losses of $29.7 million.
- In Washington and Oregon, 52 ferry facilities are affected.

C.2.Tab.21.4.2 Priorities

- Prioritize restoration of natural gas and water services.
- Facilitate restoration of life saving by reestablishment of energy/infrastructure systems.
- State of Oregon
  - Restoration priorities will be determined by the Governor's Disaster Cabinet.
  - Oregon Department of Energy restoration priorities will be based on initial assessments of routes with the highest priority given to routes with safety considerations and the identified Oregon Department of Transportation priority lifeline routes.
- State of Washington
  - Restoration priorities will be determined by a Recovery Task Force appointed by the Governor's Office.
  - Washington State Department of Transportation (WSDOT) restoration priorities will be based on initial assessments of routes with the highest priority given to routes with life safety considerations and the identified WSDOT Seismic Lifeline route.

C.2.Tab.21.4.3 Fact

- Infrastructure restoration in coastal areas and along I-5 corridor is expected to take from months to years.
- Communications
  - Damage to interdependent communications systems (landline, cell tower, radio tower, and microwave) will affect restoration of all critical infrastructure (CI) sectors and hamper situational awareness.
- State of Washington
  - WSDOT works with state, local, and tribal counterparts in identifying priority reconstruction needs, restoration of critical and strategically important transportation infrastructure, and mitigating the effects of system degradation.

C.2.Tab.21.4.4 Assumptions

- General
  - Coastal areas will experience a long recovery time due to limited access for restoration and the extent of structural damage.

  - The role of FEMA and state emergency management agencies is to facilitate private and public sector utility and fuel restoration efforts as a part of overall response and recovery operations.
  - Utility crews from across North America will be deployed in numbers sufficient for restoration purposes; the ability to get to the places requiring repairs will serve as a limiting factor. Sheltering and feeding the mutual assistance crews will also be a limiting factor for the restoration efforts.

- Communications
  - Communications restoration equipment (generators, fuel tanks, cabling) and existing infrastructure are at risk of theft and vandalism.
  - Restoration of communications capabilities is a central component of the incident response, along with the restoration of transportation and power facilities and situational assessment, search and rescue (SAR), and mass care capabilities.

- Energy
  - Fuel requirements for damage assessment, life-safety missions, and critical infrastructure restoration exceed local capabilities; fuel must come via barge to support coastal communities, via truck from eastern/central Oregon and Washington to support I-5 corridor communities, and by air to isolated communities.
  - Assessing damage: Substations will require manual inspection and reset prior to power restoration.
  - Damage to electrical infrastructure will take months to years to rebuild; damage to roads and widespread debris will limit access for rebuilding; availability of mutual aid crews and acquisition of needed equipment will contribute to feasible restoration timelines.

C.2.Tab.21.4.5 Shortfall/Limiting Factor

- General
  - There is limited ability for assessment and restoration of public and private critical infrastructure across a large geographic area.
  - Assessments must be accomplished before any recovery or restoration begins.

- Communications
  - There is a lack of priority support to communications restoration teams for logistics and access.
  - Availability of repair and restoration crews and access to affected areas to conduct assessments and repair communications facilities is limited.

- Transportation
  - Restoration and repair resources/capabilities to support all modes of transportation is needed.

- State of Washington

- Capability/capacity to conduct damage assessment and restoration of the energy sector (electrical power gas and petroleum) is limited.

C.2.Tab.21.4.6 Critical Considerations

- Interdependencies within the energy sector, particularly between the oil, gas, and electric subsectors, can complicate power restoration, and incident operations are dependent with power restoration.
- Does public information adequately address community perceptions on the equity and efficiency of restoration operations?
- Any restoration support for damaged electric infrastructure under tribal authority may require permissions in order for responders to enter tribal lands.
- Impacts to tribal lands and access for restoration activities may present distinct challenges that require understanding of specialized authorities or approaches.

C.2.Tab.21.4.7 Task Force(s)

- Debris Management
- Public-Private Sector
- Communications
- Temporary Power
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.21.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.21.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
USACE PSMA ESF # 3 – 231	Activation: ESF #3 Cadre	FOS
USACE PSMA ESF # 3 – 271	Debris Planning and Response Team (PRT) Management Cell: Pre-position	FOS
USACE PSMA ESF # 3 – 273	Debris Clearance and Removal PRT: Execution	DFA
USACE PSMA ESF # 3 – 277	Debris Operations – Oversight: Subject Matter Experts (SMEs)	DFA
USACE PSMA ESF # 3 – 279	Critical Public Facilities PRT: Pre-position	FOS
USACE PSMA ESF # 3 – 280	Critical Public Facilities PRT: Execution	DFA
USACE PSMA ESF # 3 – 281	Infrastructure Assessment PRT Management Cell: Pre-position	FOS
USACE PSMA ESF # 3 – 283	Infrastructure Assessment PRT	DFA
USACE PSMA ESF # 3 – 287	Water and Wastewater Infrastructure Assessment SMEs: Pre-Position	FOS
USACE PSMA ESF # 3 – 289	Water and Wastewater Infrastructure Assessment Personnel SMEs	DFA
USACE PSMA ESF # 3 – 290	Deployable Tactical Operations System (DTOS) Vehicles and Personnel	FOS
USACE PSMA ESF # 3 – 296	Temporary Housing PRT: Pre-Position	FOS
USACE PSMA ESF # 3 – 298	Temporary Housing PRT: Execution	FOS
USACE PSMA ESF # 3 – 305	Unwatering Team Management Cell: Pre-Position	FOS
USACE PSMA ESF # 3 – 306	Unwatering Team: Execution	DFA
USACE PSMA ESF # 3 – 308	Recovery Field Office	FOS
USACE PSMA ESF # 3 – 310	USACE Specialist SMEs	DFA
USACE PSMA ESF # 3 – 311	Cost Estimate Validation: Cost Engineering Center	FOS
USACE PSMA ESF # 3 – 312	Project Worksheet Support	FOS
NPPD PSMA ESF #5 – 216	Activation: NPPD	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.21.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.21.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• All	• All	• Logistics and Supply Chain	• 3, 7
• Communications	• Alerts, Warnings and Messages	• Infrastructure Systems • Logistics and Supply Chain Management • Operational Communications • Operational Coordination • Situational Awareness	• 1, 2, 3, 4, 5 13, 14
• Energy	• All	• Infrastructure Systems • Logistics and Supply Chain Management • Operational Coordination • Public and Private Services and Resources • Situational Awareness	• 1, 3, 4 ,5, 7, 12, 13, 14
• Food, Water, Shelter	• All	• Infrastructure Systems • Operational Coordination	• 1, 3, 4, 5, 14
• Hazardous Materials	• All	• Infrastructure Systems	• 3, 4, 5, 14
• Health and Medical	• All	• Public Health, Healthcare, and Emergency Medical Services	• 8
• Safety and Security	• Community Safety • Fire Service • Government Service • Law Enforcement/ Security	• Infrastructure Systems • Operational Coordination	• 3, 5, 13, 14

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Transportation	• All	• Critical Transportation • Infrastructure Systems • Logistics and Supply Chain Management • Operational Coordination • Situational Assessment	• 1, 3, 4, 5, 7, 13, 14

C.2.Tab.21.9 References

- CSZ Annex X, Execution Matrix, Restoration of Public Infrastructure Tab
- *Public Assistance Program and Policy Guide*, FEMA
- Pre-Scripted Mission Assignments (PSMAs) Catalog (December 2020)

Tab 22 to Appendix C-2: Search and Rescue

Purpose: Provide federal assistance to support search and rescue (SAR) operations.

C.2.Tab.22.1 Intermediate Objectives

Intermediate Objectives				End State
22a	22b	22c	22d	
Scope mission; conduct analysis with states, tribes, and Emergency Support Functions (ESFs).	Activate, mobilize, and stage federal search and rescue (SAR) assets.	Conduct SAR operations.	Demobilize SAR support.	Survivors in impacted areas are located, rescued, and transported to safety.

C.2.Tab.22.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.22.2.1 Primary Agencies

Organization	Roles and Responsibilities

Federal Emergency Management Agency (FEMA)	• Serves as lead for ESF #9 (Search and Rescue).
	  ○ Coordinates mass SAR operations.
	  ○ Assesses specific SAR requirements and assigns one of the four primary agencies depending on ground, structure, water, or wilderness SAR requirements.
	  ○ Maintains the National Urban Search and Rescue (US&R) Response System.
	• Serves as lead for ESF #2 (Communications) to coordinate communications support for SAR operations.
	• Serves as lead for ESF #6 (Mass Care, Emergency Assistance, Temporary Housing, and Human Services).
	• Serves as co-lead for ESF #7 (Logistics).

U.S. Coast Guard (USCG)	• Serves as maritime SAR coordinator under its statutory authorities. • Performs the inland SAR function in coordination with other service providers
U.S. Department of the Interior (DOI) – National Park Service (NPS)	• Serves as inland/wilderness SAR coordinator.

C.2.Tab.22.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #1 / U.S. Department of Transportation (DOT)	• In coordination with ESF #5 and ESF #9, establishes initial routing of SAR personnel and resources if available.

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Provides USACE Structures Specialists to augment FEMA US&R Task Forces and Incident Support Team (IST).
ESF #4 / U.S. Department of Agriculture – Forest Service (Firefighting)	• Activates and deploys equipment and supplies from the Interagency Cache System and use of Interagency Fire Center contract aircraft during the incident based on standby agreements and contingency plans. • Activates and deploys wildland fire teams to assist in wide area search operations in support of SAR efforts.
ESF #5 / FEMA Information and Planning	• Deploys and employs an FSARC (Federal Search and Rescue Coordination) Group with each Incident Management Assistance Team (IMAT) for emergency operations centers (EOCs). • Mission-assigns U.S. Department of Defense (DOD) to provide SAR support. • Deploys the Geospatial Analyst Type I Team to assist the US&R Incident Support Team and deployed task forces in support of disaster operations.
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Patient Care: Deploys medical capability to support SAR activities. • Coordinates with the Incident Commander and IMATs to move the rescued and/or injured.
ESF # 10 / U.S. Environmental Protection Agency (EPA)	• Provides technical assistance to SAR as requested to deal with oil and hazardous materials (HAZMAT) contamination including, but not limited to. • Provides HAZMAT tracking, evacuation recommendations, and Material Safety Data Sheet (MSDS) information.
ESF #11 (Agriculture and Natural Resources)	• Coordinates with ESF #5, ESF #9, and ESF #6 to execute plan for rescue of household pets.
ESF #12 / U.S Department of Energy (DOE)	• In coordination with ESF #7, refines and updates fuel projections for SAR operations.
ESF #13 / U.S. Department of Justice (DOJ)	• Provides force protection for SAR resources.
ESF #15 / FEMA External Affairs	• Coordinates with ESF #9 and states for SAR messaging.
US&R Task Forces	• Conducts physical SAR operations. • Provides emergency medical care for entrapped survivors, task force personnel, and search canines. • Conducts reconnaissance to assess damage and provides feedback to local, state, and federal officials. • Assesses/shuts off utilities to houses and other buildings. • Surveys and evaluates HAZMAT threats. • Evaluates structural/hazard conditions of buildings needed for immediate occupancy to support disaster relief operations. • Stabilizes damaged structures (shoring and cribbing). • Provides HAZMAT Equipment Push Packages for extending operational timeframe in a contaminated environment.

Organization	Roles and Responsibilities
U.S. Department of Defense (DOD)	• Provides SAR assets.

C.2.Tab.22.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
22a. Scope mission; conduct analysis with states, tribes, and ESFs.	• SAR support requirements, including number of survivors to be rescued and number of identified/estimated collapsed structures potentially requiring SAR assets • Number of animals/pets requiring rescue	• IMAT / Unified Coordination Group (UCG)
22b. Activate, mobilize, and stage federal SAR assets.	• Mission Assignment Task Order (MATO) / Scopes of Work	• Regional Response Coordination Center (RRCC) / Operations Section Chief (OSC), with guidance from Emergency Services Branch Director (ESBD) and ESF #9 lead
22c. Conduct SAR operations.	• Percent of structures needing SAR for which operations completed • Percent of assigned area for which wide-area search completed • Percent of survivors rescued • Percent of decedents recovered • Percent of animals/pets rescued	• Situation Reports (SitReps)
22d. Demobilize SAR support.	• Decision to transition SAR response operations to recovery • Number of resources needing demobilization • Number of resources demobilized • Percent of resources demobilized	• UCG

C.2.Tab.22.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile

  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.22.4.1 Planning Factors

- There will be over 726,781 damaged residential buildings in I-5 Corridor Geographic Reference Area (GRA).
- There will be over 220,047 damaged residential buildings in the Coastal GRA.
- There are 11 counties, 46 communities and 17,170 square miles in the Coastal GRA.
- SAR operations are required for an area covering more than 60,441 square miles.

C.2.Tab.22.4.2 Priorities

- To be determined (TBD)

C.2.Tab.22.4.3 Facts

- A full Incident Support Team (IST) is co-deployed and immediately embeds with the Incident Management Assistance Team (IMAT).
- IST (Red, White, and Blue) Standing Rostered Teams of 25 (core) personnel can be quickly augmented to support additional ICS positions.
- Access to the most severely impacted areas is limited for ground assets and primarily available through air assets (likely by helicopter) due to damaged surface transportation infrastructure. Responders will access affected communities by whatever means available, so multi-modal transportation must be considered. US&R task forces and other Mass SAR resources may require air or marine movement to reach the affected areas are damaged or blocked and will require local transportation to the incident site once they've arrived via air/water. Mass SAR requires route clearance in order to gain access to assignments and to enable the medical evacuation of casualties and the movement of uninjured population.
- Animal rescue is a key component of SAR operations. Many survivors do not want to leave their animals behind.
- Bulk fuel resources will be needed to support air operations and ground mass SAR operations.
- Debris and sediment in waterways from the event significantly challenge marine SAR operations conducted via vessel.
- Designated locations will be established for rescued survivor evacuation.

- Evacuation responsibility falls to the local level (law enforcement agencies), with subsequent state and federal support.
- External SAR teams coming into the area need to be completely self-supporting for as long as they are on site; little to no local resources are available (e.g., fuel, communications, billeting).
- FEMA Region 10 US&R resources would likely not be available due to impacts to personnel, so responding teams would come from outside the region.
- Ground transportation will provide support in accessible areas for US&R teams when possible.
- In coordination with ESF #1, viable routes will be established for US&R into and in the Coastal GRA.
- Maritime SAR resources (air/sea) is needed for up to 46 communities, 11 counties, and 453 miles of coastline (157miles in Washington, 296 miles in Oregon).
- Mass SAR teams are needed as follows:
    - For a total area covering more than 60,000 square miles
    - For up to 200,000 damaged homes in the Coastal GRA
    - For up to 250,000 damaged homes in the I-5/Inland GRA
    - To conduct wide-area search for up to 17,200 square miles in the Coastal GRAs of OR and WA
- Medical support for survivors will be needed.
- Region 9's US&R teams and Task Forces are needed in California and are not available to support Region 10.
- SAR focuses on rescuing the living rather than recovering remains; however, finding and marking the location of remains is an important function. Once remains are located, ESF #8 is responsible for recovering them.
- SAR operations will be impacted by environmental challenges, including limited daylight, winter weather, environmental hazards (e.g., downed wires, chemical contamination, flooding), aftershocks, and additional tsunamis and seiches.
- SAR personnel typically communicate with very high frequency (VHF) simplex, ham radio, and ultra-high frequency (UHF) radio. Due to communications infrastructure damage, some of these methods of communication are not available. This will limit SAR personnel to local intra-scene communications, isolating them from communicating to command-and-control elements located in the I-5/Inland GRA and on the east side of the Cascades. This limitation, in turn, will greatly impact SAR personnel's ability to request additional resources and supplies as well as re-assignment to new incidents.
- SAR resources provided through Emergency Management Assistance Compacts (EMACs) are insufficient to meet demands, leading to competing EMAC requests.
- State, federal, tribal, and local authorities share responsibility for SAR operations.

- Teams, including ESF #13 support, are deployed to a federal staging area and coordinate with incident command.
- The scale of the event limits regional capability to conduct SAR operations.
- The federal government and FEMA can activate federal resources utilizing Surge Funding in preparation of a Presidential Disaster Declaration and stage them on Federal Operational Status (FOS). This can occur at the FEMA Region or Headquarters (HQ) level. This staging is in anticipation of a state "employing" the resources on Direct Federal Assistance (DFA).
- There is limited availability of airports, reception areas, and staging areas for coastal communities impacted by the tsunami.
- Urban fires and conflagrations would severely impact Safety and Security operations (i.e., firefighting, SAR, law enforcement, etc.) because of resource demand challenges and because fires moving through impacted areas would create additional critical urgency to Safety and Security operations such as rescuing survivors trapped by fire.
- US&R task forces are trained and capable of searching and rescuing from all types of structures, not just multistory buildings, and can conduct wide-area searches.
- Working dogs will require veterinary support during extended missions.
- State of Washington: Approximately 5,700 people require rescue within 96 hours of an incident.

C.2.Tab.22.4.4 Assumptions

- Additional tsunami waves, debris, and collapsed bridges across entrances of ports and rivers will present navigation challenges to marine SAR responders trying to reach impacted coastal populations.
- Animal SAR teams may be deployed to assist US&R teams.
- Avalanches could block SAR access and possibly trap additional populations.
- Counties and cities unable to communicate requests for SAR may have the greatest need for resources.
- Damage to transportation systems, communications, and critical infrastructure critically impacts lifesaving efforts.
- Emergency responders in the impacted area are overwhelmed and have limited ability to perform SAR.
- Fire and HAZMAT incidents affect SAR activities.
- HAZMAT contamination impacts SAR operations.
- Inclement weather and limited visibility hinder SAR operations.
- Local Community Emergency Response Teams (CERT) have a limited ability to provide immediate search and rescue functions.

- Local first responders in Coastal and I-5/Inland GRAs will be overwhelmed and have limited SAR capacity available. Responders east of the Cascades may incur less impacts and may be available to provide support.
- Local resources such as CERT and locally trained SAR personnel will rescue significant portions of the population in the first days after the incident but will still need support services such as medevac missions for rescued individuals who require advanced medical care.
- Survivors in tsunami inundation zones may assemble at designated rally points or spontaneous locations with family or other survivors.
- Safety hazards will exist and will affect SAR responders and survivors alike, including structural collapse, fires, HAZMAT incidents, and rioting and looting.
- SAR teams will not arrive in impacted communities with enough time or resources to save lives in all collapsed structures.
- SAR teams will require security support to effectively conduct SAR operations.
- The earthquake and tsunami will degrade the response capabilities of USCG assets on the Oregon and Washington coasts.
- State of Washington: US&R specialists and Liaison Officers will augment Washington Task Force 1 (WATF 1) personnel.

C.2.Tab.22.4.5 Shortfalls/Limiting Factors

- Access for both ground and air assets to the most severely impacted areas is limited.
- Air assets for transportation of personnel and survivors are insufficient.
- Healthcare, sheltering, and evacuation capacities to support SAR survivors are insufficient.
- Security and protection resources are insufficient.
- Trained personnel and equipment are insufficient to conduct SAR operations.
- Transportation support for SAR Task Forces, including heavy-lift rotary-wing aircraft and boats, is insufficient.
- There is a lack of bulk fuel capability to support air/ground SAR operations.
- There is a lack of sufficient veterinary support for working dogs.
- Availability of airports, reception areas, and staging areas for coastal communities is limited.
- Capability to deploy specialized teams and equipment to the impacted area is limited.
- The number of trained local and national personnel and equipment to conduct search and rescue operations is limited.
- The capability to provide specialized teams and equipment in heavily impacted areas is limited.

- Traditional SAR planning does not account for tsunami conditions/effects.
- State of Washington: There is an identified and widely understood capability gap in Washington State SAR resources.
- State of Oregon: There are insufficient support resources for the Civil Air Patrol (CAP), including 100 octane fuel, support staff, food, water, sanitation, and billeting for staff.

C.2.Tab.22.4.6 Critical Considerations

- Annex D:
  - RSOI
  - Priority logistics nodes
  - Priority routes

C.2.Tab.22.4.7 Task Force(s)

- Search and Rescue
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.22.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.22.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
NGA PSMA ESF #5 – 190	Geospatial Intelligence (GEOINT) for US&R: Geospatial Analyst Type I Team	FOS
DOD PSMA ESF #9 – 62	Search and Rescue: Rotary-Wing	DFA
DOD PSMA ESF #9 – 100	Search and Rescue: Augmentation Personnel	DFA
NPS PSMA ESF #9 – 206	Activation: NPS	FOS

PSMA ID	PSMA Title	Type*
NPS PSMA ESF #9 – 208	Land Search & Rescue (LSAR) Team	FOS/ DFA
NPS PSMA ESF #9 – 209	Search and Rescue Aircraft: Rotary-Wing	FOS/ DFA
NPS PSMA ESF #9 – 210	Search and Rescue: Single Boat & Operator	FOS/ DFA
NPS PSMA ESF #9 – 211	Search and Rescue: Boating Crew	FOS/ DFA
USACE PSMA ESF #9 – 302	Search and Rescue: Structural Specialist (StS) Strike Team Execution	FOS
USCG PSMA ESF #9 – 358	CISAR: Catastrophic Incident Search & Rescue	FOS/ DFA
USCG PSMA ESF #9 – 359	Support to US&R	FOS/ DFA
USCG PSMA ESF #9 – 363	Flood Water Rescue Operations	FOS/ DFA
USCG PSMA ESF #9 – 390	Federal Search & Rescue Coordination Group (FSARCG)	FOS
CBP PSMA ESF 9 - 405	CBP-AMO Air/Marine assets	FOS/ DFA
DOJ PSMA ESF #13 – 137	Force Protection	FOS

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.22.7 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.22.8 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Communications	• Alerts, Warnings and Messages	• Operational Communications	• 2, 15

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Safety and Security	• Search and Rescue	• Critical Transportation • Environmental Response/Health and Safety • Infrastructure Systems • Logistics and Supply Chain Management • Mass Search and Rescue Operations • Operational Communications • Operational Coordination • Public and Private Services and Resources • Public Health, Healthcare, and Emergency Medical Services • Situational Assessment	• 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15

C.2.Tab.22.9 References

- CSZ Annex X, Execution Matrix, Search and Rescue Tab
- *CISAR Addendum to the NSS*
- DOD Support to Civil SAR, DOD Directive (DODD) 3003.01 (Sep 26, 2011)
- *National SAR Plan* (NSP)
- *National SAR Supplement* (NSS)
- Pre-Scripted Mission Assignments (PSMAs) Catalog (December 2020)
- Security and Protective Services Guidance, USAR General Memorandum (Aug 22, 2019)

Tab 23 to Appendix C-2: Sheltering Operations

Purpose: Support sheltering operations for impacted populations.

C.2.Tab.23.1 Intermediate Objectives

Intermediate Objectives					End State
23a	23b	23c	23d	23e	
Validate shelter support requests and needs.	Coordinate with stakeholders on the ordering and delivery of requested shelter resources.	Provide requested sheltering and wraparound services.	Determine shortfalls and surpluses and reassess sheltering requirements.	Determine transition to housing or demobilization of sheltering operations.	Federal assistance is no longer required to support sheltering.

C.2.Tab.23.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.23.2.1 Primary Agencies

Organization	Roles and Responsibilities
Emergency Support Function (ESF) #6 / FEMA Mass Care Emergency Assistance, Housing and Human Services	• Through ESF #6, coordinates and provides federal life-sustaining resources when the needs of disaster survivors exceed state, local, tribal, and territorial (SLTT) capabilities. • Through ESF #7, integrates whole-community logistics incident planning and support. • Activates and deploys mass care assessment teams, planning teams, and liaisons to Emergency Operations Centers (EOCs). • American Red Cross (Red Cross) ○ Serves as co-lead for shelter operations and is the first line of support for sheltering survivors following an incident.

C.2.Tab.23.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #2 / FEMA Communications	• Employs procedures to establish communications between Region 10, FEMA Headquarters (HQ), and ESF #6. • Establishes a tactical communication capability that will support mass care operations within and outside the impacted areas.

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Identifies and prioritizes shelters and other mass care facilities that require emergency power.
ESF #4 / Department of Agriculture/Forest Service (Firefighting)	• In coordination with ESF #5, ESF #6, ESF #8, and ESF #13, works with cities and counties to ensure that fire protection, law enforcement, and emergency medical services (EMS) are available to operational shelters.
ESF #5 / FEMA Information and Planning	• Assesses and reevaluates standard outreach roles of Disaster Survivor Assistance Teams (DSAT) in the initial response due to austere conditions, limited transportation, limited communications, lack of infrastructure, life-sustaining capability, and lack of logistical support in the initial week(s) of the events. • Decides whether to activate the Individual Assistance Technical Assistance Contracts (IA-TAC) and/or the USACE Housing Planning and Response Teams (PRT), based on requests received and information from ESF #6. • Ensures coordination with state and tribal governments, ESF #6, and Voluntary Organizations Active in Disaster (VOADs). • In coordination with states and ESF #6, designate Priority Response Areas and develop the Regional Support Plan.
ESF #8 / U.S. Department of Health and Human Services (HHS)	• Through the Health and Social Services (H&SS) Recovery Support Function (RSF), coordinates with disaster survivors to provide access to public health services, human services, and essential social services.
ESF #12 / U.S. Department of Energy (DOE)	• Adapts plan for providing fuel and power to shelters, as required, based on the incident.
ESF #13 / U.S. Department of Justice (DOJ)	• In coordination with and in support of the states, addresses the needs of institutionalized/incarcerated survivors.
ESF #14 / Cross Sector Business and Infrastructure	• Coordinates with hotels and other private sector entities for shelter options.
ESF # 15 / FEMA External Affairs	• In coordination with ESF #6, voluntary agencies, and states, develops or refines public messaging on life-sustaining information to include evacuation routes, shelter locations, and survivor collection points etc., and continually update/ refine.
U.S. Department of Housing and Urban Development (HUD)	• Through the Housing RSF, coordinates and facilitates the transition of survivors from shelters to temporary and long-term housing solutions.
U.S. Department of Defense (DOD)	• Provides water purification capability, shelf stable meals, logistics support, and support staffing.
U.S. Department of Agriculture (USDA) – Animal and Plant Health Inspection Service (APHIS)	• Through ESF #11, coordinates and provides support to rescue, care, shelter, and essential needs of pets prior to, during, and following a major disaster or emergency.

C.2.Tab.23.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
23a. Validate shelter support requests and needs as well as pet/animal/livestock shelter support requirements.	• Number of shelter requests received	• ESF #6
23b. Coordinate with stakeholders on the ordering and delivery of requested shelter resources.	• Number of shelter resources ordered • Locations of shelters and resources • Urgency of need	• ESF #6 • ESF #7
23c. Provide requested sheltering and wraparound services.	• Sheltering support within an unspecified number of days, post-incident, for an unspecified number of people	• ESF #6
23d. Determine shortfalls and surpluses and reassess sheltering requirements.	• Shelter support for an unspecified number of people for an unspecified number of days	• ESF #6
23e. Determine transition to housing or demobilization of sheltering operations.	• Provision of temporary and long-term housing to a certain percentage of the sheltering population within a specified number of days, post-incident	• Housing Task Force (TF) • ESF #6

C.2.Tab.23.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:
  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.23.4.1 Planning Factors

- Sheltering options will be required for approximately 1 million displaced survivors and 600,000 pets.
- National Shelter System (NSS) Facilities: In Oregon and Washington, schools and shelters listed in the NSS database receive moderate to complete damage and are unavailable for sheltering.
- Parks: A significant percentage of displaced populations will choose to stay on or close to their properties by camping in parks, RVs, or trucks in parking lots and other open spaces. They will require sanitation, feeding and medical support.
- Fairgrounds: There are 293 convention centers and fairgrounds in Washington and Oregon that may serve as open air shelters for displaced residents. However, a significant number of these venues, particularly in the Coastal and I-5 Corridor/Inland Geographic Reference Areas (GRAs), may be damaged and/or inaccessible.
- Major Sports Venues (e.g., stadiums/arenas): There are 21 major sports venues in Washington and Oregon that may support mega-shelter operations. However, a significant number of these venues, particularly in the Coastal and I-5 Corridor/Inland GRAs, may be damaged and/or inaccessible.

C.2.Tab.23.4.2 Priorities

- Assess capabilities post-incident.
- Assess the status of socially vulnerable populations (reference: National Risk Overview – elderly, disabled, and access and functional needs) within the impact area.
- Evacuate isolated communities.
- Implement sheltering in impacted branches.

C.2.Tab.23.4.3 Facts

- General
    - Thirty-six percent of Oregon and 42% of Washington coastal county populations live in the inundation zone.
    - Forty-six percent of shelters will have moderate damage or less (22% in Oregon, 63% in Washington).
    - Fifty-four percent of shelters will receive complete or severe damage (78% in Oregon, 37% in Washington).
    - Almost all coastal shelters in both Oregon and Washington experience complete damage.
    - Animal damage assessments, animal feeding missions, loose animal capturing, and carcass disposal for pets and other animals will need to be considered.
    - Evacuation of displaced survivors from impacted communities will be required.
    - Feeding and hydration support for up to 2.5 million survivors, 1.5 million pets, 3,750 service animals, and 32,000 livestock in the Coastal and I-5/Inland GRAs.

- In Oregon and Washington, 3,297 schools and shelters listed in the NSS database receive moderate to complete damage and are unavailable for sheltering.
- Livestock and other large animals will be displaced and may need food and water. Displaced survivors may bring livestock if they evacuate, and may not leave homes if they cannot bring livestock, pets, or other animals.
- No single agency or organization will be able to satisfy all emergency resource requests.
- Non-traditional types of shelter units (i.e., convention centers, fair grounds, camp sites, etc.) should be considered in heavily impacted and isolated areas.
- Shelter will be needed for up to 1 million displaced survivors, 600,000 displaced pets, 1,500 service animals, and 13,000 heads of livestock.
- There will be a requirement for pet sheltering (stand-alone, collocated, and cohabitated) for all small and large animals that will include not just pets or assistance animals but also livestock and exotic animals.
- There will be a shortage of approved shelters and qualified staffing.

- State of Oregon
  - In Oregon, 1,848 shelters will receive moderate to complete damage.
  - There will be 5,598 displaced people with access and functional needs in Oregon coastal counties.
- State of Washington
  - In Washington, 1,449 shelters will receive moderate to complete damage.
  - There will be 1,874 displaced people with access and functional needs in Washington coastal counties.

C.2.Tab.23.4.4 Assumptions

- A significant percentage of the displaced population will choose to stay on or close to their properties by camping in parks, RVs, or trucks in parking lots and other open spaces; they will require sanitation, feeding, and medical support.
- A small percentage of the rural population is self-sufficient for a short period of time, but the larger more metropolitan populations are not.
- Aftershocks further damage structures with minimal initial damage.
- Coordination with Search and Rescue (SAR) will be necessary to ensure rescued survivors are provided food, water, and shelter.
- Damage to transportation systems will disrupt the flow of food and basic needs commodities to the affected region.
- Displaced residents will bring their household pets and service animals to shelters.
- Disruption or catastrophic destruction to drinking water infrastructure will require establishing drinking water supply stations and a massive construction effort to restore drinking water systems.

- Disruptions to water and electrical power systems, combined with damage to the sewage treatment infrastructure, require establishing an extensive network of temporary sanitation stations to manage human and pet wastes.
- Emergency routes are established, enabling a significant outmigration of people who require emergency housing and support at their destinations.
- Emergency shelter sites will also serve as fixed feeding and bulk distribution locations for people sheltering in place in neighborhoods or staying in nearby open spaces.
- Emergency shelters must be equipped and capable of providing a broad range of services to meet the needs of the affected populations including the following:
    - People of diverse cultures, races, and nations of origin
    - People who don't read, have limited English proficiency, or are non-English speaking
    - People who are living in institutionalized settings-this includes individuals who live in the community and individuals who live in institutions or facilities
    - Older adults with or without disabilities
    - People with pharmacological dependency
    - People with developmental, intellectual or physical disabilities
    - People with chronic health conditions
    - People with injuries caused during the disaster
    - Children
    - People in late-stage pregnancy
    - People of low income
    - People experiencing homelessness and/or transportation disadvantage
- Emergency shelters require substantial mental health staff to minimize stress induced by the disaster and abnormal living conditions.
- Fires or aftershocks may require the relocation of shelters that become threatened
- Government, private, general public, and volunteer organizations need to be self-sufficient for a minimum of 3 days, and probably at least 2 or 3 weeks.
- Impacts to transportation systems and geography isolate neighborhood communities.
- Local sheltering effort varies in capability; most may not be sustainable for more than 3 days without outside resupply
- Local sheltering will be limited due to facility damage and lack of available personnel.
- Many pre-designated facilities suffer significant non-structural damage and must be cleaned and repaired before being utilized as evacuation centers or emergency shelters.
- Mobile kitchens need access to working utilities or portable systems for power, potable water, wastewater, and trash.
- Potential for disease increases due to dead bodies and animal carcasses.

- Pre-disaster homeless will lose access to support services and require shelter, feeding, and other mass care support.
- Private sector, voluntary organizations, and state and federal support are needed to augment limited local sheltering requirement.
- Public messaging directing survivors to support areas requires creativity due to damage to communications infrastructure and to accommodate languages other than English.
- Some disaster survivors arrive at evacuation centers with minor injuries, pre-existing chronic or contagious diseases, or other medical conditions that require evaluation and treatment, isolation or quarantine, or referral.
- Some individuals who require assistance with their daily living tasks arrive at emergency shelters without their caregivers, creating an additional burden for the shelter staff.
- State resources are mission-tasked to respond to meet field needs as identified and requested by the affected jurisdictions.
- Survivors from coastal communities may not be able to self-evacuate.
- The affected areas, the Coastal and I-5/Inland GRAs will compete for scarce resources.
- The damage and threat to population greatly exceeds local capabilities necessitating emergency re-supply for lifesaving and life-threatening conditions.
- The support provided to shelter operations by roads, shelter safety and security, power, and lines of communication are essential to continue shelter operations; without them, there will be additional evacuation requirements.
- The surviving population is scattered in isolated pockets along the coast of Washington and Oregon, most without emergency kits or supplies.
- There is a shortage of building inspectors to initially examine potential shelter sites. Those sites might require multiple re-inspections due to aftershocks.
- There is be a shortage of emergency response personnel, sheltering management and support staff, auxiliary fire, police, SAR, emergency medical, transit, public works, utilities, and health support personnel.
- Tourists and visitors staying in hotels or other accommodations that become uninhabitable utilize evacuation centers until transportation systems can support their evacuations.
- Transitional sheltering augmentation assistance will be required.
- Transportation is greatly diminished, forcing many to evacuate on foot.
- Transportation issues will result in significant delays in the arrival of food and drinking water resources.
- U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) is the lead agency in support of ESF #6 to provide emergency food.

- USDA FNS: In exceptional circumstances, states can request approval from FNS to operate a disaster household distribution. Upon FNS approval, emergency feeding organizations can distribute USDA Foods in smaller sizes to individual households for preparation and consumption at home. Households cannot receive both disaster SNAP benefits and disaster USDA Food household food packages at the same time.
- USDA FNS: To support congregate feeding, FNS supplies USDA Foods to disaster relief organizations such as the Red Cross and The Salvation Army. Emergency feeding organizations request this food through state agencies; states, in turn, notify USDA of the types and quantities of food needed. USDA Foods intended for the National School Lunch Program (NSLP) are most often used for mass feeding.
- USDA Foods include a variety of non-perishable fruits, vegetables, meat, poultry, and whole grain products. In disasters, states may use existing inventories of USDA Foods stored at state, local, and school warehouses intended for the NSLP, The Emergency Food Assistance Program (TEFAP), and other USDA nutrition assistance programs. USDA does not set aside or pre-position food specifically for disasters.
- Urban and rural homeless populations require sheltering.
- Urban populations do not have sufficient food supplies to sustain them until mass feeding locations are established.
- Very limited communications are available. Using Operational Area Satellite Information System (OASIS) may be required.

C.2.Tab.23.4.5 Shortfalls/Limiting Factors

- Ability to communicate with survivors in multiple languages and let them know that shelters are open is a limited.
- Pre-planning should occur between all levels of SLTT government to prepare to receive displaced survivors at known safe havens (e.g., fire station, police and sheriff stations, grocery store parking lots, schools, churches, and Red Cross offices) post incident.
- Crisis counseling and mental health support are necessary to support the mental health of survivors within the shelter.
- Facilities being retrofitted to meet ADA compliance may be used in good faith to care for survivors after a catastrophic event.
- There is a lack of buildings deemed structurally safe to shelter people.
- There is a lack of food, water, and other critical life-sustaining commodities, including medications, medical equipment, and supplies.
- There is a lack of qualified shelter management staff and medical staff to meet requirements.
- There is a lack of resources to support household pets and service animals (e.g., transportation, appropriate vehicles, cages, food, and veterinary care).
- There is a lack of shelters and other temporary housing options, including accessible housing.

- There is a lack of tents or other non-traditional type of shelter units to support people who congregate toward open spaces to avoid buildings.
- Local capability to support populations trapped in isolated areas of the coast is limited.
- Many pre-designated shelters will not be useable due to damage and accessibility.
- Overwhelming volume of local, state, tribal, federal, non-governmental, and private-sector organizations supporting mass care service activities creates a significant coordination challenge and requiring the creation of multi-agency taskforces.
- People not staying at the shelter need resources available at the shelters.
- There is minimal pre-event coordination of veterinarian services for injured and ill pets.
- There is a limited ability to support the prescreening of communicable diseases for shelter populations.
- Public buildings designated for use as emergency shelters lack full back-up power required to operate lighting and ventilation systems and require portable generators to safely function as an emergency shelter.
- There is a lack of qualified inspectors for building evaluation and rapid needs assessments.
- Security is needed in shelters for gang activity, sex offenders, criminal activity, and crowd control.
- There is a severe shortage of material for immediate repair of damaged facilities.
- Shelters operating on a local level with capabilities vary widely (state CONOPS is for the state to act primarily as a logistical support function).
- Sheltering operations need to tie into EMS and mortuary services.
- Some facilities are not fully ADA-accessible; required modifications to make them usable as emergency shelters are not immediately possible due to lack of material and personnel resources.
- Some impacted communities have an initial significant shortfall of trained and experienced shelter management personnel.
- Sustained disruptions to surface transportation cause shortages of basic food and other critical life sustaining commodities, including medications and related medical equipment and supplies.
- Informing the public of predetermined evacuation sites through pre-disaster installed signage, messaging via local government, or inserts in utility bills reminding people where to go in case of an emergency is needed.

C.2.Tab.23.4.6 Critical Considerations

- Annex D:
  - RSOI
  - Priority logistics nodes

- Priority routes

C.2.Tab.23.4.7 Task Force(s)

- Shelter Operations
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs.

C.2.Tab.23.5 Order of Priority of Housing Assistance in Region 10

Program	Summary Description	State Consideration	Comments
Rental Assistance	Financial assistance to individuals and families for rental of temporary housing	N/A	Priority for interim housing in Region 10
Transitional Sheltering Assistance (TSA) (Hotel and Motel Program)	Temporary housing for individuals and families who are unable to return to their pre-disaster dwellings and must transition from congregate shelters or other types of temporary housing	Requires state request (25% cost-share by state)	Most appropriate for urban or suburban areas with available hotel and motel rooms; rooms may be acquired in locations other than within the state where the disaster occurred
Rapid Temporary Repair Program	Temporary emergency repairs to doors and windows to enable access to and habitation of a private dwelling	Requires state request (25% cost-share by state)	Allows residents to return to their homes and prevents their ongoing reliance on financial support
Direct Leasing	Direct payments by FEMA to landlords on behalf of disaster survivors	Requires state request	Must be approved by FEMA HQ; program is similar to rental assistance but eliminates requirement for survivors to pay landlords
Multi-Family Repair Program	Renovation of and repairs to vacant multi-family homes in which FEMA places survivors	Requires state request	Must be approved by FEMA HQ; multi-unit apartments repaired and placed into service for survivors

Program	Summary Description	State Consideration	Comments
Non-Congregate Facilities	Facilities that provide private or semi-private accommodation but are not considered temporary housing solutions (e.g., tent cities, military installations, school dormitories, modified nursing homes)	Public Assistance (PA) program staff should be consulted for potential cost reimbursement	Used as an interim housing solution until more appropriate, longer-term solutions become available
Direct Housing Operations	Provision of temporary units, usually factory-built; this option only used when other housing resources are not available; units must be appropriate to the community's needs and be fully accessible	Requires state request	Program for use only when other options exhausted or rejected
Transportation Assistance	Assistance with relocating individuals and households to locations outside the disaster area that have short- or long-term housing resources; may also include assistance with returning disaster survivors to their pre-disaster locations	Must be eligible for temporary housing assistance and express a need for assistance; must have been evacuated more than 60 miles away either (1) by FEMA or the state or (2) under a mandatory evacuation order	Program for use only when other options exhausted or rejected
Permanent Housing Construction – New and Repair	Direct assistance for the repair or construction of permanent or semi-permanent housing for individuals and families	Requires state request	Most likely implemented as part of Housing RSF activities
Disaster-Specific Housing/ Atypical Solutions	Housing solutions developed for use in a specific disaster	N/A	Example: Sheltering and Temporary Essential Power (STEP) Pilot Program for Hurricane Sandy (2012) or Voluntary Agencies Leading and Organizing Repairs (VALOR) for Hurricane Maria (2017)

C.2.Tab.23.6 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.23.7 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
CNCS PSMA ESF #6 – 6	Field Deployment: Corporation for National and Community Service (CNCS)	
CNCS PSMA ESF #6 – 8	Field Deployment: Corporation for National and Community Service (CNCS)	DFA
DLA PSMA ESF #7 – 30	Plastic Sheeting (Construction & Equipment Supply Chain)	FOS/ DFA
DOD PSMA ESF #7 – 96	Bulk Water - Potable	FOS/ DFA
DOT PSMA ESF #7 – 143	Vessel Transportation: Maritime Administration (MARAD) Cargo Ships FOS	
GSA PSMA ESF # 7 - 166	Activation: GSA	
HHS PSMA ESF # 8 - 17	Activation: HHS	
HHS PSMA ESF #8 – 72	Medical Care & Support	DFA
HHS PSMA ESF #8 172	TBD	
HHS PSMA ESF #8 – 242	Veterinary Medical Support (non-National Disaster Medical System [NDMS]) Team(s)	DFA
USDA PSMA ESF 11 - 364	Activation: USDA	
NA	Individual Assistance – Technical Assistance Contract (IA-TAC)	
NA	Plastic Sheeting	
NA	Mission Planning Team	

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.23.8 Execution Checklist

See RRCC-Planning Section-CSZ 2022-CSZ Execution Checklist

Note: The hyperlink above takes you to the CSZ 2022 folder located within the RRCC Planning Section. The most current Annex X: Execution Checklist can be found in the Annex X: Execution Checklist subfolder. Annex X can be sorted by Community Lifeline, LOE, Core Capability, and ESF. You may access a consolidated list of tasks for all LOEs using the first tab of the file once opened. The consolidated tab will require sorting if you desire to see all tasks. You may also access the data specific to your LOE of interest as it has been pre-sorted. Please refer to the tabs along the bottom of the file once it has been opened.

C.2.Tab.23.9 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• All	• All	• Public and Private Services and Resources	• 6, 7
• Communications	• Alerts, Warnings and Messages	• Mass Care Services	• 2
• Food, Water, Shelter	• Food • Water • Shelter	• Environmental Response/Health and Safety • Infrastructure Systems • Logistics and Supply Chain Management • Mass Care Services • Mass Search and Rescue Operations • Public and Private Services and Resources • Public Health, Healthcare, and Emergency Medical Services • Public Information and Warning • Situational Assessment	• 2, 3, 5, 6, 7, 8, 11, 12, 15
• Health and Medical	• All	• Public Health, Healthcare, and Emergency Medical Services	• 8

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Safety and Security	• Community Safety • Fire Service • Government Service • Law Enforcement Security	• Mass Care Services • Public and Private Services and Resources	• 4, 6, 13
• Transportation	• All	• Critical Transportation • Mass Care Services	• 6, 7

C.2.Tab.23.10 References

- *2009 Disaster Housing Plan,* FEMA
- *Catastrophic Housing Annex to the Federal Interagency Operational Plan – Hurricane,* (Aug 2012)
- CSZ Annex X, Execution Matrix, Sheltering Operations Tab
- Environmental and Historic Preservation Fact Sheet: Temporary Housing Group Sites, FEMA (Nov 2012)
- FEMA Commonly Used Sheltering Items and Service Listing (CUSI-SL) Catalog (2011/updated 2019)
- FEMA Draft Recovery Directorate Disaster Survivor Assistance Concept of Operations (2013)
- FEMA Recovery Program Guidance: Sheltering and Temporary Essential Power (STEP) Pilot Program (Nov 2012)
- FEMA Region I Draft Multi-Agency Shelter Support Group Standard Operating Procedures (2011)
- *Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters,* FEMA (Nov 2010)
- *Household Disaster Feeding Operational Procedure – A State Template* (Jul 10, 2012)
- *National Response Framework (NRF) ESF #6 Annex* (Mass Care, Emergency Assistance, Temporary Housing, and Human Services) (Jun 2016)
- Pets Evacuation and Transportation Standards Act (PETS) (Pub. Law 109-308)
- Pre-Scripted Mission Assignments (PSMAs) Catalog (December 2020)
- USACE Temporary Housing and Critical Public Facilities Information Paper (2012)

Tab 24 to Appendix C-2: Temporary Emergency Power

Purpose: Implement temporary emergency power generation to support mission-essential operations and critical facilities.

C.2.Tab.24.1 Intermediate Objectives

Intermediate Objectives					End State
24a	24b	24c	24d	24e	
Scope mission; conduct analysis with stakeholders and Emergency Support Functions (ESFs).	Develop temporary emergency power plan (prioritize sites, install power facilities, and initiate wraparound services).	Conduct temporary power operations; respond to requests.	Reassess and determine continued need for power resources.	Demobilize power resources.	Utility power and/or facility generation has been restored to critical infrastructure; systems and services are available to the community; emergency spot generation is no longer needed.

C.2.Tab.24.2 Key Line of Effort (LOE) Organizations and Their Roles/Responsibilities

C.2.Tab.24.2.1 Primary Agencies

Organization	Roles and Responsibilities
Federal Emergency Management Agency (FEMA)	• Warehouses and deploys FEMA generators. • Activates the national fuel contract. • Coordinates the issuance of regulatory waivers and exemptions for fuel delivery.

Organization	Roles and Responsibilities
ESF #3 / U.S. Army Corps of Engineers (USACE)	• Provides technical expertise/assistance before, during, and after an event up through complete management of an emergency power mission. • Assets include pre-awarded contract vehicles to install, maintain, and uninstall generators, Emergency Power Planning and Response Teams (PRTs) to manage USACE contracts, elements of the U.S. Army 249th Engineer Battalion "Prime Power," and the USACE Deployable Tactical Operations System (DTOS) for communications. • Technical assistance can include but is not limited to: ○ Assessing emergency power requirements at facilities; ○ Assessing conditions and capabilities of existing emergency power generation equipment; ○ Troubleshooting and repairing emergency power generation/distribution equipment; ○ Installing, operating, fueling, and maintaining emergency power generation equipment; ○ Conducting all-hazards emergency power planning; and ○ Procuring and/or leasing generators, which can be performed through a USACE contracting team with pre-established contracting tools.
ESF #12 / U.S. Department of Energy (DOE)	• Provides results of the Predictive Commercial Power Outage Assessment Model to estimate impacts to critical infrastructure based on incident-specific variables. • Assesses the potential effects of the damage on an energy system in one geographic region to the energy supplies, systems, and components of other regions. • Provides information, in cooperation with federal and local, state, tribal, and territorial (SLTT) governments and energy industry officials, regarding energy supply and demand conditions and the requirements for and availability of materials and services critical to energy supply systems.

C.2.Tab.24.2.2 Supporting Agencies

Organization	Roles and Responsibilities
ESF #7 / FEMA Logistics	• Defense Logistics Agency (DLA) ○ Provides the U.S. Department of Defense (DOD) and other government agencies with comprehensive energy solutions in the most effective and efficient manner possible, including bulk petroleum services and direct delivery fuels/commercial specification fuels. ○ Provides leased generators through existing contracting capabilities, upon request. • U.S. General Services Administration (GSA) ○ Provides leased generators through existing contracting capabilities, upon request.

Organization	Roles and Responsibilities
ESF #5 / FEMA Information and Planning	• Coordinates with SLTT jurisdictions to assess and prioritize temporary emergency power needs. • Determines the quantity, type, and kind of resources needed at Federal Staging Area (FSAs). • Provides request for Logistics Section to mobilize and stage temporary power resources.

C.2.Tab.24.3 Operational Assessment

Intermediate Objective	Key Indicator(s)	Source(s) of Indicator
24a. Scope mission; conduct analysis with stakeholders and ESFs.	• Identified resource requirements • Resource Request Form (RRF) approval process	• To Be Determined (TBD)
24b. Develop temporary emergency power plan (prioritize sites, install power facilities, and initiate wraparound services).	• Time required to request, mobilize, and stage temporary power resources • Amount of needed generator resources appropriate to meet anticipated demand	• TBD
24c. Conduct temporary power operations; respond to requests.	• Time required to assess and install a single generator or a specified number of generators that can be installed each operational period • Time required to fulfill all generator requests or a specified number of outstanding requests	• TBD
24d. Reassess and determine continued need for power resources.	• Time required to assess grid status and continued temporary power requirements in a given jurisdiction • Time required to assess grid status and continued temporary power requirements for the entire impact area	• TBD
24e. Demobilize power resources.	• Time required to uninstall and retrograde a single generator or a specified number of generators that can be uninstalled and retrograded each operational period • Time required to uninstall and retrograde all temporary power resources for the entire operation	• TBD

C.2.Tab.24.4 Operational Considerations

- Review applicable state profiles/tribal annexes for information regarding weather, critical infrastructure, natural and cultural considerations:

  - Alaska State Profile
  - Idaho State Profile
  - Oregon State Profile
  - Washington State Profile
  - R10 Tribal Nations Annex
- Additionally, tabs have been developed to address the cascading impacts and considerations for Alaska and Idaho specifically during a Cascadia Subduction Zone (CSZ) incident.
  - Tab 1 to Appendix B-1: State of Alaska
  - Tab 2 to Appendix B-1: State of Idaho

C.2.Tab.24.4.1 Planning Factors

- On Day 1, 88,288 households will be without power.
- Nine out of 81 power facilities will sustain damage.
- Generator support will be insufficient to meet demand.
- Cascading effects of power outages will affect other lifeline stabilization efforts.

C.2.Tab.24.4.2 Priorities

- Facilitate restoration of life saving by reestablishment of energy/infrastructure systems.
- Prioritize restoration of natural gas and water services.
- Establish electrical functionality east of cascades to create islands of supply.
- Debris clearance limit's ability to reestablish electrical infrastructure.
- Fuel for priority emergency generation
- Prioritize fuel for logistics nodes (e.g., ISBs, FSAs, APODs, SSAs, and PODs).
- Prioritize fuel for shelters.

C.2.Tab.24.4.3 Facts

- Along the I-5/Inland Geographic Reference Area (GRA), the large food distribution centers will need adequate electricity for full operations.
- Considerations will need to be made for electricity-dependent and durable medical and assistive equipment and devices, such as ventilators, which are essential for many users to maintain independent living.
- Critical infrastructure sectors including, but not limited to, water treatment, wastewater treatment, communications, natural gas, hospitals, fire, emergency medical services, gas stations, grocery stores, financial institutions, etc. are dependent on power to fully function.
- Impacts to utilities may affect organizations from sufficiently executing their emergency operations and business continuity plans

- Multiple natural gas storage facilities are located within the earthquake impact zones. Damage to the pipeline infrastructure (transmission and distribution), compressor stations, loss of power, etc. will affect the likely impact and the use of this resource until repairs can be made.
- The majority of infrastructure sectors depend on electric power to function fully.
- Communications
    - Communications infrastructure is significantly degraded immediately following the event and continues to deteriorate over the next 3 days, due to the nature of backup power systems at communications towers and wire centers and the inability to refuel and repair generators.
    - The majority of communications facilities in the I-5 corridor and westward will suffer moderate to severe damage from the earthquake. Any facilities that escape damage may be inoperable due to power loss.

C.2.Tab.24.4.4 Assumptions

- Need to identify private sector operational capabilities specifically targeting material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation.
- Private sector infrastructure (e.g., material handling, cold storage, temporary power, debris removal, financial infrastructure, and transportation systems) will be significantly impacted.
- Infrastructure interdependencies (power, fuel, transportation, and communications) demand a synchronized approach to restoring capacity.
- Government and emergency service functions may degrade due to loss of electric power and communications. Emergency operation centers (EOCs) at all levels within the earthquake impact zones will be limited in their response capabilities, initially, as a result of power and communication outages, injuries, and road damage.
- Energy
    - Fuel requirements for damage assessment, life safety missions, and critical infrastructure restoration exceed local capabilities.
    - The initial earthquake causes an immediate Region-wide power outage that lasts for months in affected areas along the I-5 corridor of Oregon and Washington and longer in the coastal areas of both states. Recovery may take months or years to complete.
    - Damaged gas-fired power plants, which normally provide valuable reserve capacity, could pose a threat to the reliable operation of the power grid in the Pacific Northwest.
- State of Oregon
    - Some of Oregon's investor-owned energy utilities have backup operations facilities (Portland General Electric, and NW Natural Gas). Bonneville Power

Agency (BPA), and Pacific Power have grid operations located outside of the earthquake impact zones

C.2.Tab.24.4.5 Shortfalls/Limiting Factors

- Cities need water for fire suppression. Steam power generation also requires water.
- Aerial assessments will be heavily relied upon for initial damage assessments of the power grid that is visible and will be limited by the lack of telemetry data collection capabilities.
- State of Oregon
    - Debris removal resource shortfalls will include chainsaws, trucks, blades, fuel, and power company personnel to ensure downed lines are de-energized, and strike teams.
- State of Washington
    - Cities need water for fire suppression. Steam power generation also requires water. Some Seattle hospitals use steam for power, heat, and sterilization.
    - There is limited capability/capacity to conduct damage assessment and restoration of the energy sector (electrical power gas and petroleum).

C.2.Tab.24.4.6 Critical Considerations

- Damage to transportation infrastructure will pose challenges in generator hauling, maintenance, and fueling.
- Identify facilities that require temporary power and task USACE to install and maintain generators.
- Generators will not be installed on structurally damaged facilities.
- How will access to fuel for vehicles and equipment be established for responding power/critical infrastructure personnel?
- All major seaports along the Pacific Coast are at risk of sustaining complete damage, while seaports along Puget Sound and the Columbia River are at risk of significant damage. Crane ships may be necessary to facilitate movement of assets, but if the port is without power, crane ships will not be able to operate.
- Utility ownership (co-op versus for-profit) (e.g., Tennessee utilities are 94% co-op)
- State-defined critical facilities
- Emergency alternative temporary power options (state contract versus federal resources)

C.2.Tab.24.4.7 Task Force(s)

- Temporary Power
- For more information about which Task Forces are associated with which LOEs, see section C.3.3.2 Task Forces and LOEs

C.2.Tab.24.5 Resources

See RRCC-Planning Section-CSZ 2022- CSZ Resource Phasing Plan

Note: The Resource Phasing Plan (RPP) identifies resources associated with all ESFs. The RPP can be sorted by Community Lifeline, LOE, core-capability, and ESF. To identify the potential list of resources associated with your desired ESF, Community Lifeline, or LOE, please find the associated column, click the drop down and identify the ESF, Community Lifeline, or LOE of interest. The RPP contains at minimum the following information regarding resources: a force description, unit description, item description, branch priority, capability data, Level 1–5 data, origin of resource, and proposed precoordinated destination. The RPP also houses tabs that contain the resource movement table. This table identifies the day a resource will arrive and the branch it will be employed. The document can be sorted but cannot be modified, as it is password protected.

C.2.Tab.24.6 Pre-Scripted Mission Assignments (PSMAs)

PSMA ID	PSMA Title	Type*
DLA PSMA ESF #7 – 16	Generators and Transformers (Construction & Equipment Supply Chain)	FOS/ DFA
DLA PSMA ESF #7 – 36	Provide & Distribute Fuel (DLA Energy Supply Chain)	FOS/ DFA
DOD PSMA ESF #7 – 40	Staging: Incident Support Base (ISB), FSA, or Federal Team Staging Facility (FTSF)	FOS
DOE PSMA ESF #12 – 112	Activation: DOE	FOS
USACE PSMA ESF #3 – 251	Temporary Emergency Power Team: Pre-position	FOS
USACE PSMA ESF #3 – 258	Temporary Emergency Power: Execution	DFA
USCG PSMA ESF #7 – 330	Fixed-wing Air Transportation for Logistics Support	FOS/ DFA

*FOS = Federal Operations Support; DFA = Direct Federal Assistance

C.2.Tab.24.7 Linkages

Community Lifelines	Community Lifelines Sub-Components	Core Capabilities	ESFs
• Energy	• All	• Critical Transportation • Infrastructure Systems • Logistics and Supply Chain Management • Operational Communications • Public Health, Healthcare, and Emergency Medical Services • Public Information and Warning • Situational Assessment	• 2, 3, 5, 7, 12
• Transportation	• Aviation • Highway/ Roadway/ Motor Vehicle • Maritime • Railway	• Critical Transportation	• 1, 12

C.2.Tab.24.8 References

- CSZ Annex X, Execution Matrix, Temporary Power Tab
- *ESF #3 Field Guide* (2019)
- *National Disaster Recovery Framework* (NDRF) Infrastructure Systems RSF
- *National Response Framework* (NRF) *ESF #3 Annex* (Public Works and Engineering) (Jan 2008)
- Pre-Scripted Mission Assignments (PSMAs) Catalog (December 2020)
- *Region 10 All-Hazards Plan* (AHP), Annex D (Logistics and Supply Chain Management)

Annex D: Logistics

D.1 Situation

See Base Plan.

D.1.1 Purpose

This annex provides information on the actions required to ensure the delivery of lifesaving and life-sustaining resources to support Cascadia Subduction Zone (CSZ) response operations.

D.1.2 Planning Assumptions

- State partners will provide information to FEMA about the level of capability and capacity as well as distribution shortfalls and limiting factors for State Staging Areas (SSAs) and Commodity Points of Distribution (CPODs).
- Post-incident assessments, debris clearance, traffic management, and repairs commence as soon as possible at priority airports, ports, and ground routes identified in the Base Plan.
- All responding agencies will deploy personnel with the necessary equipment and the appropriate training to perform their duties.
- Personal protective equipment (PPE), including cold weather equipment, is issued by responding agencies for their personnel who will spend a majority of their time outside performing their duties. Responding agencies that cannot supply their personnel with appropriate PPE will face Reception, Staging, Onward Movement, and Integration (RSOI)/Personnel Mobilization Center (PMC) delays.
- PMCs are outside of the impacted area.
- FEMA Logistics provides wraparound support services for response personnel deploying to the impacted area.
- Additional planning assumptions not specific to logistics operations are included in the Base Plan.

D.1.3 Limiting Factors

- Resource requirements will exceed transportation capabilities. Atypical acquisition solutions and collaboration with a wide range of response partners are necessary to meet these requirements.
- Physical damage and debris will significantly degrade air, ground, and marine transportation capabilities. Many facilities may remain closed or partially closed until assessments and necessary repairs are made to these modes of transportation.
- Access to numerous coastal and isolated communities will be limited to air and/or marine transportation for much of the response.
- Damage to ground transportation networks surrounding airports within the impacted area could hinder the distribution of resources and could result in backlogs.

- The communication network is expected to be significantly degraded. Arriving response partners will need to deploy with self-sustaining communication equipment.
- The majority of Oregon's fuel products are refined in Washington and transported via pipeline. A catastrophic event of this magnitude would likely halt all operations within the region while damage and status of critical infrastructure are assessed and restored at refineries and to pipelines.
- Replacing middle-mile fuel distribution with large semi-trailer tankers because of pipeline damage and/or shutdown would be considerably difficult because of the sheer number and volume of products. Additionally, the largest impact to the fuel distribution network will be damage to the ground transportation network until assessments and necessary repairs are made to this mode of transportation.
- Functional lodging facilities in the impacted area are expected to be inundated with survivors. Responders will require alternate lodging facilities such as Responder Support Camps (RSCs) and other atypical solutions. RSC facilities will require full wraparound services and sustainment support, such as power, fuel, sanitation, and food.
- A second order effect and limiting factor that should be considered are the impacts on the Alaska supply chain. Approximately 90% of Alaska's total imports travel through the Port of Alaska in Anchorage. The majority of inbound imports originate or are transported through Washington and Oregon. A catastrophic event of this magnitude will disrupt or close Pacific Northwest Ports for an unpronounced period of time. It has been determined that Alaska has approximately one week worth of food and fuel supplies on hand before there is disruption to the state's supply chain.

D.2 Mission

See Base Plan.

D.2.1 Senior Leaders' Intent

See Base Plan.

D.2.2 Key Logistics Tasks

- Provide movement management and priority deconfliction of air, land, and maritime resources to FEMA Region 10 states and tribes.
- Support operational objectives in the movement of supplies and resources needed to repair airfields, ports, roads, and bridges.
- Establish field sites to support Unified Coordination Group (UCG) response operations.
- Rapidly establish and sustain staging areas to provide timely delivery of lifesaving and life-sustaining resources.
- Manage the flow of resources entering FEMA Region 10 states and then west of Cascade Range to ensure that arriving resources are delivered to the right destination at the right time to support impacted communities.
- Develop atypical solutions for moving resources throughout the logistics system.

- Provide sustainment support for federal responder facilities.
- Establish, sustain, and increase the capabilities of the supply chain.
- Manage the ordering, procurement, delivery, and tracking of resources.

D.3 Execution

D.3.1 Logistics Concept of Operations (CONOPs)

The CONOPs (See Annex C) maximizes the ability to push resources into each state by incorporating a combination of both hub and spoke as well as point to point distribution methods. This combination of distribution methods enables the prioritized, rapid, and sustained support of FEMA Region 10 states and tribes. This is accomplished by anticipating those requirements across Community Lifelines and Geographic Reference Areas (GRAs), establishing priority logistical nodes, and pushing critical and time-phased resources into the impacted area. This robust logistics and distribution network enables the following actions:

- Immediately deploy capabilities and resources to inspect and establish logistics nodes within impacted GRAs.
- Initiate the deployment of capabilities to establish and support lifesaving operations to the I-5/Inland GRA.
- Initiate coordination of federal maritime assets capable of providing life-sustaining support to the Coastal GRA.
- Establish pre-identified and prioritized logistics nodes and avenues of approach.
- Deploy response capabilities to sustain lifesaving and life-sustaining capabilities within impacted GRAs.
- Employ lifesaving and life-sustaining capabilities as they arrive in the impacted area.
- Establish supply routes to facilitate operations and logistics requirements based on state priorities/objectives and situational assessments.

D.3.2 Logistics Concept of Support

FEMA Logistics has established a Concept of Support that enables the forward movement and progression of enabling, lifesaving, life-sustaining, and stabilization across GRAs and Operational Phases.

The following figures (Figure D-1, Figure D-2, and Figure D-3) depict the employed lines of efforts during each operational phase. It is assumed and illustrated as though each line of effort remains employed in the respective GRA through the transition of each operational phase.

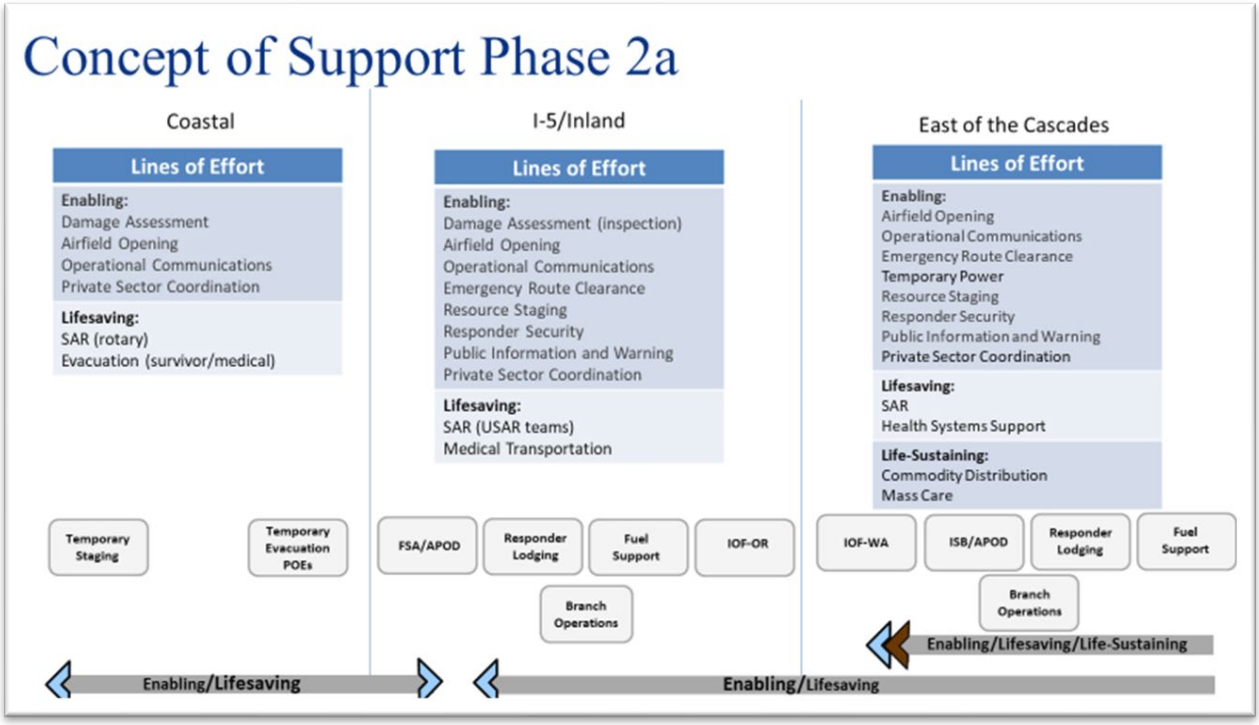


Figure D-1: Concept of Support Phase 2a

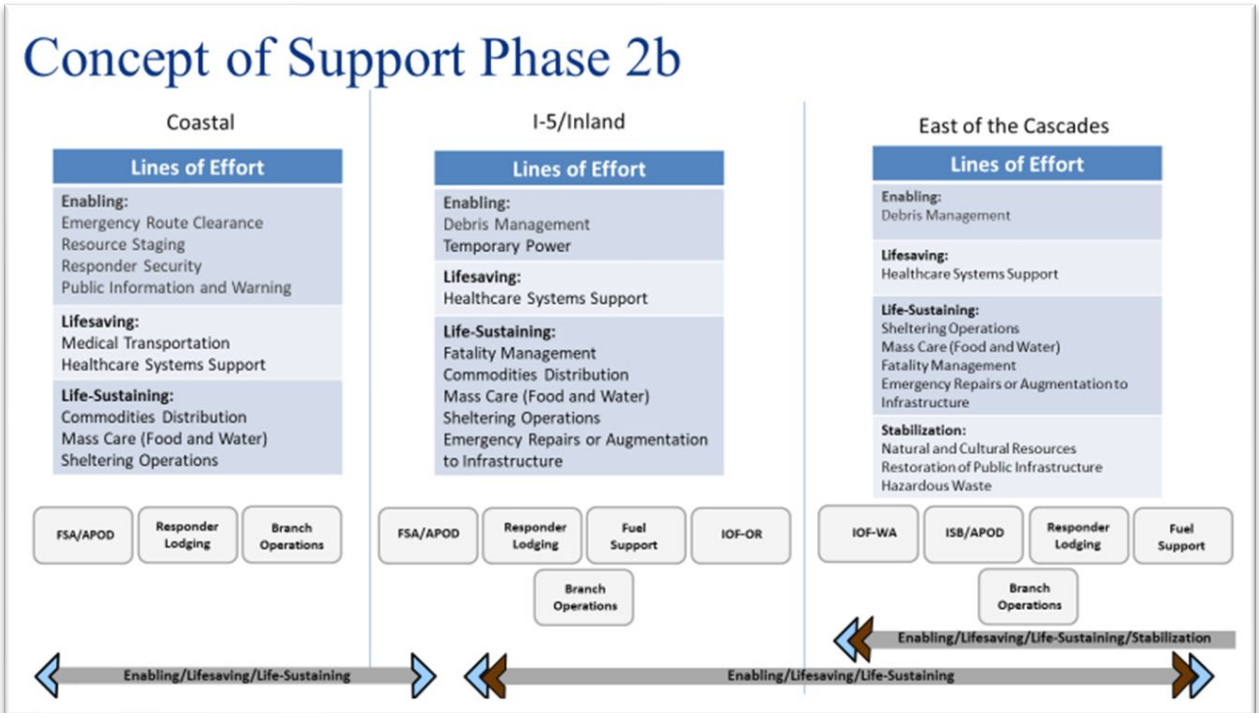


Figure D-2: Concept of Support Phase 2b

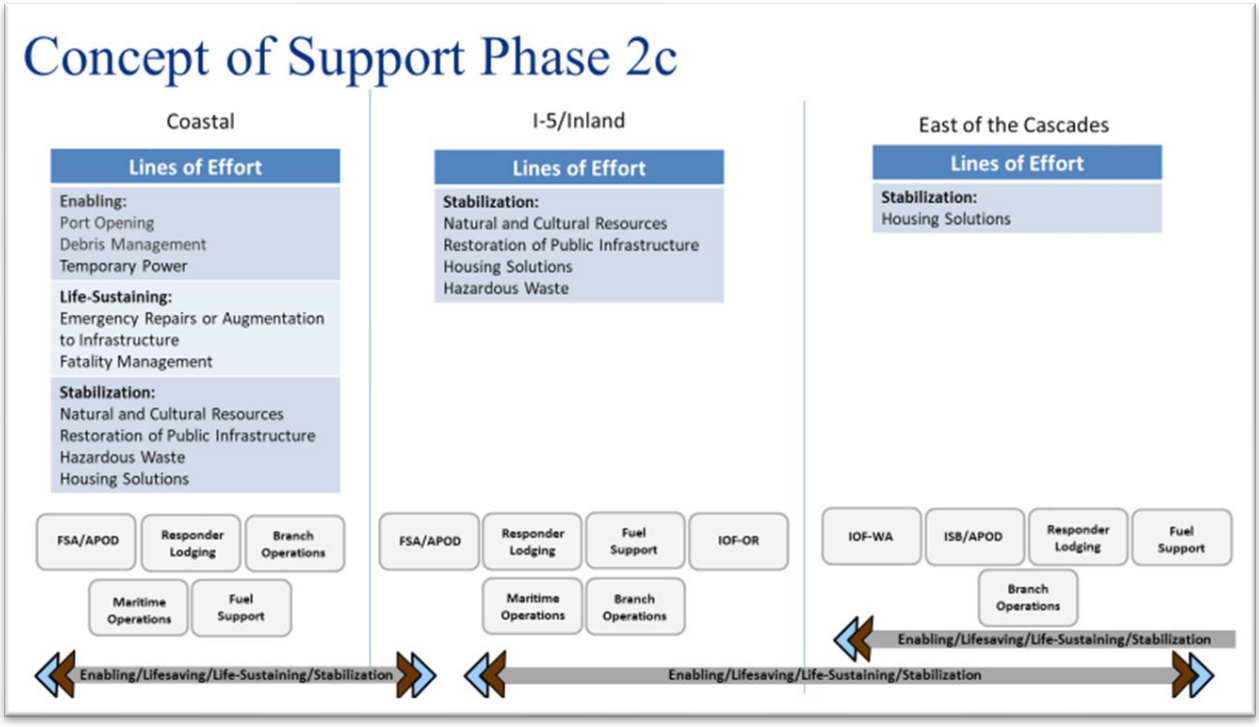


Figure D-3: Concept of Support Phase 2c

D.3.2.1 Resource Deployment

FEMA Logistics will establish Federal Staging Areas (FSAs) and Incident Support Bases (ISBs) to enable, expand, and sustain the flow of resources to impacted communities within each GRA.[1]

Resources can be deployed to either an FSA or an ISB in either Oregon or Washington from outside the impacted area. An additional ISB will also be activated in Boise, Idaho, to support the overflow of resources at any one ISB within Oregon and/or Washington.

FSAs will establish channels for immediate lifesaving and enabling resources out to the Coastal GRA, I-5/Inland GRA, as well as to Isolated Communities. Enabling/life-saving resources can also be deployed directly to identified Aerial Ports of Debarkation (APODs).

Atypical solutions will be required to move resources that are normally transported via air, ground, or maritime assets. The delivery of these resources from receiving FSAs/ISBs to other logistics nodes will require creative problem solving since ground routes around many airports will be damaged.

[1] In the previous version of this plan, all aerial nodes were identified as FSAs. This version acknowledges that it is not feasible to fully staff every node as an FSA. Major nodes are now designated as an FSA or ISB with the remaining nodes identified as Aerial Ports of Debarkation (APODs). Unlike FSAs/ISBs these APODs can be staffed with a small federal footprint (e.g., Staging Management Team or Other Federal Agency [OFA] Short Staging Team). As soon as resources are delivered, these APODs distribute and employ these resources and their capabilities. Depending on the actual effects of the situation the region may look at redesignating some of these APODs as FSAs.

Movement control is vital at the beginning of the response phase to prioritize, deconflict, and sequence resources moving through the limited logistics pipeline. Given these realities, a Movement Control Task Force (MCTF) should be established within each Joint Field Office (JFO) to coordinate the flow of resources into either state via air, land, or sea. The MCTF will communicate with the Movement Coordination Center (MCC) within the National Response Coordination Center (NRCC), Regional Response Coordination Center (RRCC), and staging area(s) outside of the impacted area to ensure that the necessary resources are delivered at the right time to prevent overloading the supply chain.

D.3.2.2 Lifesaving Resource Deployment

Lifesaving resources (Urban Search and Rescue [US&R], Disaster Medical Assistance Team [DMAT], etc.) will deploy as expeditiously as possible to priority logistics nodes within each GRA to immediately begin supporting response operations.

Initial lifesaving response assets from across the continental United States will be initially deployed via air with follow-on support being deployed via ground. This is due to the damage-constrained logistics pipeline and limited aircraft/airlift availability.

D.3.2.3 Life-Sustaining Resource Deployment

After the initial response, life-sustaining resources (shelters, feeding/hydration, etc.) will then deploy first to FSAs/ISBs, where they will then be staged, and will then be sent, in order of priority, to either an APOD or an SSA and then on to their final destinations through a hub-and-spoke method. The hubs in this case are FSAs/ISBs and the spokes are other APODs/FSAs or state or community staging areas within each geographic branch.

Resources that are sent to FSAs/ISBs should align with time-phased deployment priorities since throughput into local staging areas will be extremely limited, especially during the initial response.

The movement of life-sustaining resources to FEMA-established FSAs/ISBs will provide for the orderly flow of resources. Through this process, a centrally managed interagency logistics support team directs and synchronizes the flow of resources and personnel to ports, airfields, and ground transportation terminals for further movement to APODs/SSAs via air, ground, and maritime assets.

This logistics supply chain is designed to meet the requirements of the response and not to overwhelm staging and throughput capabilities. A Resource Phasing Plan (See Tab 1 to Appendix D-2) will be put in place to facilitate the logistics planning process.

As the response progresses, transportation networks will expand, and air operations will increase capacity through the repair of fixed-wing and rotary-wing facilities. Ground routes between logistics nodes are expected to open with limited capacity within days or weeks, although large ground transportation infrastructure repairs are likely to take months or years. Ground transportation to northern Washington through Canada will require cooperation between the U.S. Department of State and the Canadian government.

A robust fuel distribution network is essential to support transportation operations. The fuel supply and distribution infrastructure will be severely impacted, and repairs will take weeks or months. The U.S. Department of Defense (DOD) and the Defense Logistics Agency (DLA) will support the establishment of an emergency fuel distribution network. Given the enormity of the

challenge, whole-community stakeholders must be engaged. Pre-identifying needed components and locations for the fuel distribution system will be critical for a successful response.

D.3.2.4 Reception, Staging, Onward Movement, and Integration (RSOI)

See Appendix D-1.

D.3.2.5 Summary of Logistics Nodes (ISBs, FSAs, APODs, and SSAs)

In coordination with federal and state partners, the following logistics nodes (Table D-1, Table D- 2, and Table D-3) were prioritized based on the need to deploy initial lifesaving operations and to enable logistical footholds to support both lifesaving and life-sustaining operations. These logistics nodes are the foundation upon which the emergency transportation network will grow.

Washington Logistics Nodes

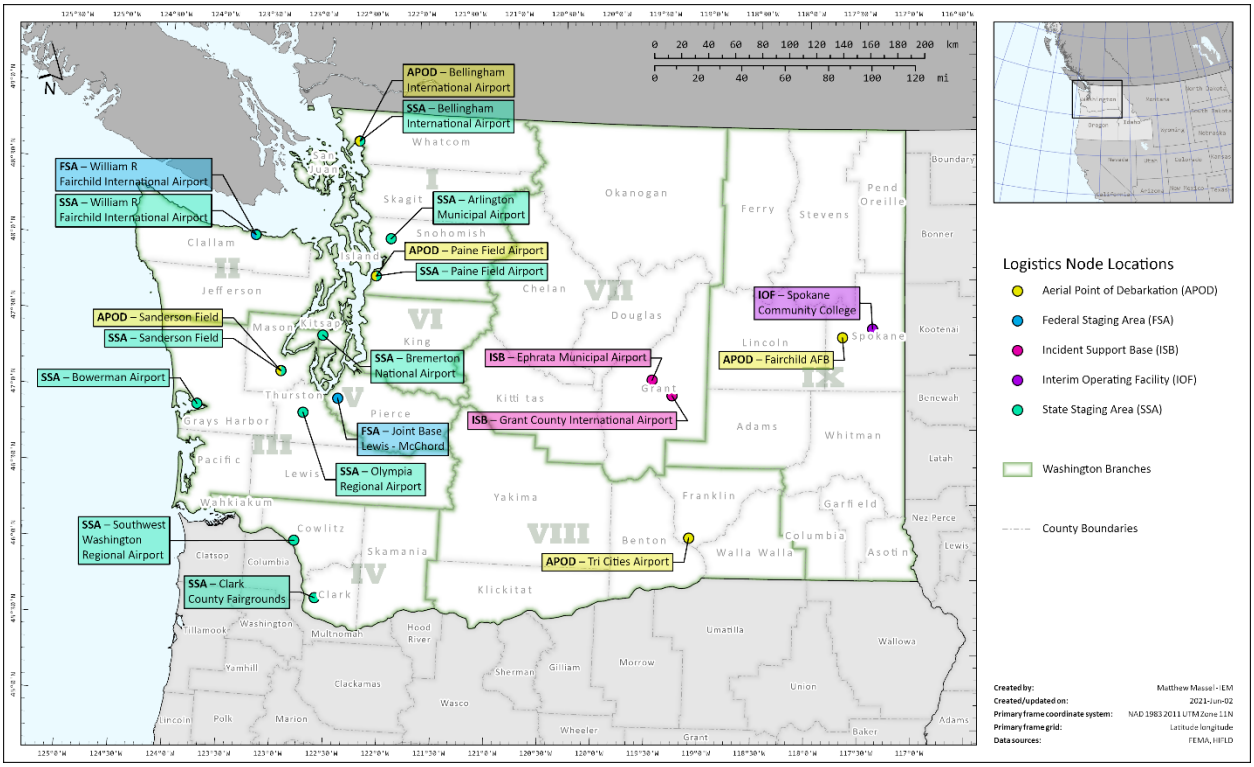


Figure D-4: Washington Logistics Nodes

This page is intentionally left blank.

Table D-1: Washington Logistics Nodes

Name	State	GRA	Function	Acreage	Use	Suitability	MOG	Use Agreement	Notes
Joint Base Lewis McChord (JBLM)	Washington	I-5/ Inland Corridor	FSA	UKN	Air & Ground	C130, C17, C5	UKN	Mission Assigned	
Grant County International Airport	Washington	Eastern	ISB	22 Paved, 115 Unimproved	Air & Ground	C130, C17, C5	4 Contingency, 2 Parking	Memorandum of Agreement	MHE: (1) 5K Forklift, (1) 15K Forklift Potential RSC
Ephrata Municipal Airport	Washington	Eastern	ISB	78 Paved, 14 Unimproved	Ground	N/A	N/A	Memorandum of Agreement	This logistics node will serve as an intermediate ground location in support of Grant County International Airport.
William R. Fairchild International Airport	Washington	Coastal	FSA/SSA	48 Paved	Air & Ground	WBC Required for C130	9 Working	Memorandum of Agreement	De-Icing: 5 Aircraft Per Hour
Sanderson Field	Washington	Coastal	APOD/SSA	19.5 Paved	Air & Ground	WBC Required for C130	UKN	Memorandum of Agreement	
Paine Field Airport	Washington	I-5/ Inland Corridor	APOD/SSA	UKN	Air & Ground	C130, C17, C5	2 Working, 2 Parking	None	MHE: (1) 12K Forklift, (1) 6K Forklift Boeing MHE: (7) 15K Forklift, (10) 10K Forklift, (15) 6K Forklift
Seattle-Tacoma International Airport	Washington	I-5/ Inland Corridor	Unassigned	UKN	Air	UKN	UKN	None	Pending on the effects and the damage sustained at this logistics node, this node could be used as either an Aeromedical Staging Area and/or a commercial hub to support the private sector.

Name	State	GRA	Function	Acreage	Use	Suitability	MOG	Use Agreement	Notes
Bellingham International Airport	Washington	Coastal	APOD/SSA	UKN	Air & Ground	C130, C17	8 Working	None	MHE: (1) 4K Forklift, (1) 13K Forklift, (2) Tugs De-Icing: 4 Aircraft Per Hour
Clark County Fairgrounds	Washington	I-5/ Inland Corridor	SSA	25 Paved	Ground	N/A	N/A	Memorandum of Agreement	Potential RSC
Southwest Washington Regional Airport	Washington	I-5/ Inland Corridor	SSA	UKN	Air & Ground	WBC Required for C130	UKN	None	
Arlington Municipal Airport	Washington	I-5/ Inland Corridor	SSA	UKN	Air & Ground	C130, C17	UKN	None	De-Icing: None
Bowerman Airport	Washington	Coastal	SSA	UKN	Air & Ground	C130, C17	2 Parking	None	
Olympia Regional Airport	Washington	I-5/ Inland Corridor	SSA	UKN	Air & Ground	WBC Required for C130	UKN	None	MHE: None De-Icing: None
Bremerton National Airport	Washington	Coastal	SSA	UKN	Air & Ground	C130, C17	UKN	Memorandum of Agreement	
Tri Cities Airport	Washington	Eastern	APOD	4 Paved	Air& Ground	C130, C17, C5	2 Working, 2 Parking	None	

Name	State	GRA	Function	Acreage	Use	Suitability	MOG	Use Agreement	Notes
Fairchild Air Force Base (AFB)	Washington	Eastern	APOD	UKN	Air & Ground	C130, C17, C5	UKN	Mission Assigned	

This page is intentionally left blank.

Oregon Logistics Nodes

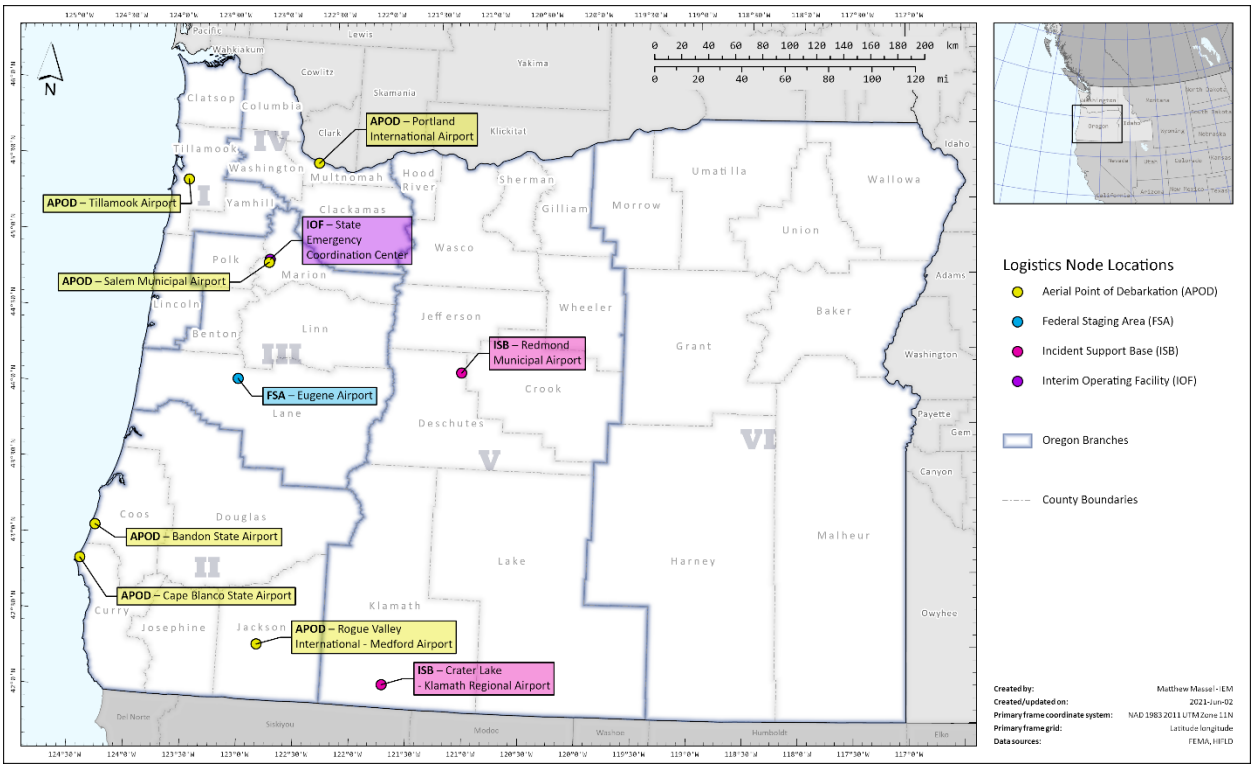


Figure D-5: Oregon Logistics Nodes

This page is intentionally left blank.

Table D- 2: Oregon Logistics Nodes

Name	State	GRA	Function	Acreage	Use	Suitability	MOG	Use Agreement	Notes
Eugene Airport	Oregon	I-5/ Inland Corridor	FSA	UKN	Air & Ground	C130, C17	2 Parking	Memorandum of Agreement	MHE: (1) 5K Forklift De-Icing: 4 Aircraft Per Hour
Portland International Airport	Oregon	I-5/ Inland Corridor	APOD	UKN	Air & Ground	C130, C17, C5	UKN	None	
Salem Municipal Airport	Oregon	I-5/Inland Corridor	APOD	UKN	Air & Ground	C130, C17	2 Working, 5 Parking	None	MHE: None
Rogue Valley International-Medford Airport	Oregon	I-5/ Inland Corridor	APOD	UKN	Air & Ground	C130, C17, C5	10 Contingency 3 Parking	None	MHE: (1) 6K Forklift (1) 8K Forklift
Crater Lake-Klamath Regional Airport	Oregon	Eastern	ISB	25 Paved	Air & Ground	C130, C17, C5	2 Working, 5 Contingency, 5 Parking	Memorandum of Agreement	De-Icing: None Approximately 5% of this usable area will be reserved to support CSZ response operations in FEMA R9.
Redmond Municipal Airport	Oregon	Eastern	ISB	UKN	Air	C130, C17	4 Organic, 8 Contingency	None	
Deschutes County Fairgrounds	Oregon	Eastern	ISB	100 Improved	Ground	N/A	N/A	Memorandum of Agreement (Pending)	This logistics node will serve as an intermediate ground location in support of Redmond Municipal Airport.
Tillamook Airport	Oregon	Coastal	APOD	UKN	Air & Ground	C130	UKN	Memorandum of Agreement	

Name	State	GRA	Function	Acreage	Use	Suitability	MOG	Use Agreement	Notes
Cape Blanco State Airport	Oregon	Coastal	APOD	UKN	Air & Ground	C130	UKN	Memorandum of Agreement	
Bandon State Airport	Oregon	Coastal	APOD	UKN	Air	WBC Required for C130	UKN	None	

Idaho Logistics Nodes

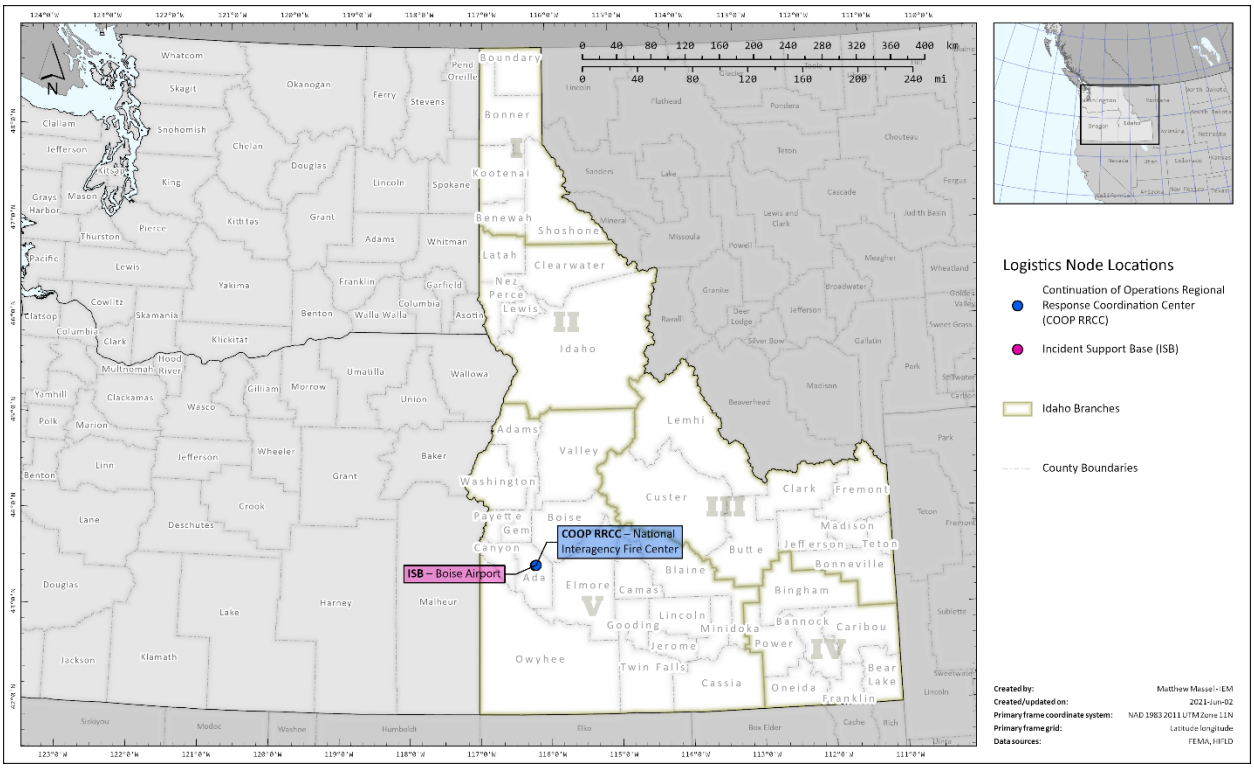


Figure D-6: Idaho Logistics Nodes

This page is intentionally left blank.

Table D-3: Idaho Logistics Nodes

Name	State	GRA	Function	Acreage	Use	Suitability	MOG*	Use Agreement	Notes
Boise Airport RWY 9/27	Idaho	Eastern	ISB	20 Paved	Ground	N/A	N/A	Yes	Located off of Boise Airport, this logistics node will serve as an intermediate and overflow ground location in support of those ISBs located in Washington and Oregon.

This page is intentionally left blank.

Strategic Nodes:

Grant County International/Ephrata Municipal Airport

The Grant County International Airport and Ephrata Municipal Airport are listed as ISBs. Ephrata Municipal Airport is approximately 17 miles from the Grant County International Airport, the intent is that they are considered as one large ISB with the Ephrata Municipal Airport supporting ground transportation operations and Grant County International Airport supporting air transportation operations.

Redmond Airport/Deschutes County Fairgrounds

The Redmond Airport is also listed as an ISB, with the Deschutes County Fairgrounds adjacent to the airport. the intent is that they are considered as one large ISB with the Deschutes County Fairgrounds supporting ground transportation operations and Redmond Airport supporting air transportation operations.

D.3.3 Operational Phases

See Annex C.

D.3.4 Logistics Critical Information Requirements (CIRs)

- Status of air, ground, and maritime resources en route to the impact area at the time of the event
- Condition of airfields in impact areas and alternate airfields throughout the impacted area
- Condition and status of airfields, roads, and ground access for establishing FSAs/ISBs
- Condition of key bridges
- Status of port facilities
- Status and availability of air, ground, rail, and marine routes for moving resources
- Current locations of railroad assets
- Operational status of key roads, railways, airfields, ports, and bridges, by geographic branch
- Status of repair operations for key roads, railways, airfields, ports, and bridges
- Arrival times and commodity flow volumes via air, ground, and marine assets
- Acquisition procedures and locations of potential transportation assets, such as cars, tour buses, school buses, and light commercial vehicles

D.4 Administration, Resources, and Funding

See Base Plan.

D.5 Oversight, Coordinating Instructions, and Communications

See Base Plan.

Appendices

Appendix D-1: Reception, Staging, Onward Movement, and Integration (RSOI)

Appendix D-2: Logistics Throughput (Transportation Feasibility Analysis)

Tab 1 to Appendix D-2: CSZ TFA Resource Phasing Plan

Tab 2 to Appendix D-2: CSZ TFA Out-Brief

Appendix D-1: Reception, Staging, Onward Movement, and Integration (RSOI)

D.1.1 Overview

This appendix is intended to serve as a supplement to the FEMA Personnel Mobilization Center (PMC) Guide by including interagency partners and addressing Cascadia Subduction Zone (CSZ)–specific items. At the time of writing, the FEMA PMC Guide provides guidance on the processing of FEMA employees and U.S. Department of Homeland Security (DHS) surge staffing. After a catastrophic event such as the CSZ earthquake and tsunami, the Reception, Staging, Onward Movement, and Integration (RSOI) process will be paramount and will need to include interagency partners and other organizations deploying resources to ensure that the Unified Coordination Group (UCG) provides adequate personnel support and that resources deployed to the field do not overwhelm the response organization's ability to receive, support, and sustain them. The ability to billet and sustain responders will be a crucial element in determining the number and type of responders deployed, and the flow of responders will need to be monitored carefully. The level of coordination required for a whole-community response will therefore be significant.

D.1.1.1 Reception

D.1.1.1.1 Personnel

The intent is to establish a PMC outside the affected area. The Region will defer to FEMA Headquarters (HQ) to determine the appropriate location of a PMC. The PMC should be in an area where airlift will not be affected by the catastrophic event. This facility should also be in an area with ample and available lodging and conference space. The PMC should be situated near an airport that can support either U.S. Department of Defense (DOD) or commercial aircraft. Previously utilized PMCs in the Dallas/Fort Worth area may be suitable to support this response.

D.1.1.1.2 Equipment

Federal or other partner agencies with equipment, vehicles, or other supplies requiring air shipment will be required to coordinate through the Movement Coordination Center (MCC) within the National Response Coordination Center (NRCC) and be prepared to deliver their equipment to a designated node. Potential nodes would be strategic airlift bases such as Joint Base Dix Lakehurst McGuire, Travis Air Force Base (AFB), and other DOD and civilian installations capable of supporting heavy airlift. Agencies will also be responsible for providing staff to help prepare their equipment for transport, which includes preparations to accommodate the specific mode of travel (air, ground, and/or marine).

D.1.1.2 Staging

Staging is a process whereby personnel and equipment are temporarily held in place in preparation for being employed in disaster response. For personnel, staging before employment allows for last-minute preparations and training for operating within the impacted area as well as for the updating of credentials and issuance of FEMA equipment, such as laptops. Staging also allows for the final preparations for shipment, such as palletizing before Joint Inspection (JI) procedures.

D.1.1.2.1 Personnel

Personnel deploying to the impacted area will be required to receive, at a minimum, the training in the following areas during the staging process, in addition to the standard training established within the PMC Guide:

- Safety briefing, to include information on operating in current weather conditions
- Cultural Awareness/Tribal Awareness briefing
- Requirement for traveling by government aircraft
- In-theater billeting and feeding procedures/requirements

D.1.1.2.2 Equipment

It is the responsibility of the deploying agency to ensure its personnel are issued the equipment necessary to do their duties upon arrival to the impacted area. Mission Assigned Agencies will need to track all purchases of equipment made under their Mission Assignment (MA) and ensure that all purchased equipment is turned in to FEMA under MA guidelines upon deactivation/demobilization.

All cargo and equipment will be required to undergo a JI per Defense Transportation Regulation, Part III, Appendix O, before being accepted aboard any DOD aircraft. This JI procedure can consist of the removal or mitigation of hazardous materials (e.g., gasoline, diesel, lithium batteries). All cargo and equipment will also be measured and weighed to support load planning. The deploying agency will also be responsible for providing trained staff who are capable of correcting issues to those pieces of cargo and equipment that were determined to be frustrated and not airworthy.

D.1.1.3 Onward Movement

Personnel and equipment will be scheduled and transported to the impacted area using a priority-based system. Prioritization will be determined at the UCG and will be based on the most immediate response needs. Key limiting factors in the movement of personnel and equipment include the weight-bearing capacity (WBC) and suitability of aircraft for the respective runway, maximum-on-ground (MOG) limitations for aircraft, and the extremely constrained billeting and sustainment capability surrounding the respective logistics node. Reference the FEMA Air Operations Guide and the FEMA Movement Coordination Guide for additional information.

D.1.1.3.1 UCG Coordination

Throughput limitations after a CSZ earthquake and tsunami along with the lack of billeting and other sustainment support for responders will dramatically limit the flow of personnel in-theater and will represent a major resource shortfall until full wraparound services can be established. Another major consideration for the UCG is prioritizing the many agency requests competing for the extremely limited airlift and for the on-the-ground support needed once airframes arrive.

The UCG must be kept informed of the numbers of personnel and equipment that are ready to deploy to establish the priorities for the response mission; this includes not only disaster responders and their equipment but also applies to the support mechanisms/enablers (personnel and equipment) necessary for receiving and off-loading aircraft and vessels.

The flow of personnel and cargo will be closely monitored and metered by FEMA Air Operations and the MCC to ensure that resource movement is balanced among the necessary operations and is not overwhelming the field's capability to receive, process, and house responding personnel. A Liaison Officer (LNO) from FEMA's Office of the Chief Administrative Officer (OCAO) Responder Lodging and Disaster Leasing Branch will need to be deployed to the field to establish and coordinate billeting solutions. A Movement Coordination Team (MCT), along with an Air Operations cell, will also need to deploy to coordinate and meter personnel movements.

D.1.1.3.2 State Intent for Responder Transportation

If there are temporary flight restrictions (TFRs) in place and no commercial flights are available, the state might request federal assistance for the movement of responders from the continental Unites States to the impacted area. Some federal resources and personnel can be moved by FEMA on its authority. Difficulties may arise, however, in the movement of non-federal personnel on government aircraft, such as the following:

- Private sector essential service providers
- Emergency Management Assistance Compact (EMAC)-supported civilian personnel
- EMAC-supported National Guard units
- Voluntary Organizations Active in Disaster (VOADs)/non-governmental organizations (NGOs)

Non-federal travelers will only be allowed to fly on government-operated aircraft in limited situations.[1] The Office of Response and Recovery (ORR)/Response and Office of the Chief Counsel (OCC), both out of FEMA Headquarters (HQ), must approve all non-federal employee travel.

D.1.1.4 Integration

Integration is the transfer of operational responsibility for a responder to the team to which the individual is assigned. Integration applies to the active assimilation of newly arriving personnel into the daily operations of the assigned job. The base plan does not add any additional integration requirements over the standard agency requirements.

D.1.1.5 Interagency RSOI

Interagency organizations using the FEMA PMC process to conduct RSOI for their deployed personnel will need to provide staffing support to FEMA PMC personnel to assist with effective processing of non-FEMA responders. Each agency/entity would need to provide, at a minimum, three to four people for processing their staff and to provide any needed HR support as well as one staff position to coordinate with PMC staff, response field personnel, the Regional Response Coordination Center (RRCC), and the NRCC on response resource prioritization. Depending on the number of responders deployed by an agency/entity, more support staff could be required.

[1] OMB Circular A-126 (https://www.gsa.gov/cdnstatic/OMB_Circular_A-126.pdf) and FEMA HQ Air Operations on Non-Federal Traveler authorizations

D.1.1.5.1 Other Federal Agencies (OFAs) Under Mission Assignment

A vast majority of OFAs are unable to conduct their own RSOI functions nor establish their own RSOI facilities. In most cases it would be inefficient for them to establish these ROSI functions and facilities. Staff that are mission assigned to an OFA should articulate their RSOI and PMC requirements.

D.1.1.5.2 Department of Defense

DOD personnel will conduct RSOI utilizing their own processes.

D.1.1.5.3 Emergency Management Assistance Compact (EMAC)

Civilian: There is a possibility that the affected states may request RSOI for non-federal civilian employees who deploy under EMAC. This civilian RSOI will require additional personnel from FEMA or DHS surge staffing to help process civilian personnel deployed via EMAC once the request is approved.

Title 32 (T32) National Guard: It is anticipated that T32 RSOI will be conducted through the DOD process.

D.1.1.5.4 Private Sector Essential Service Providers

There is a possibility that the affected states may request assistance in support for private sector entities that may be declared as "essential service providers." These providers will include non-federal/non-EMAC communications, natural gas, and electricity/power service providers as well as providers of other critical services. The resource request form (RRF) may request support that includes RSOI, transport, billeting, and/or other responder support resources. Significant OCC and Associate Administrator for the ORR involvement and approval will be necessary to evaluate legal and policy guidelines and determine the permissibility of supporting "essential service providers." (For instance, non-federal personnel are restricted from flying on government or federal aircraft without OCC and ORR Associate Administrator approval).

D.1.1.5.5 American Red Cross (Red Cross)

The Red Cross, as the co-lead agency for ESF #6 (Mass Care) has a memorandum of agreement (MOA) with FEMA that specifically addresses access to FEMA facilities. The Red Cross will be required to provide its own staff to receive responders.

D.1.1.5.6 Voluntary Organizations Active in Disaster (VOADs)

Some VOADs maintain MOAs with FEMA but their status in terms of receiving Direct Federal Assistance (DFA) from FEMA must be determined on a case-by-case basis. Typically, invitational travel has been issued to certain VOADs conducting operations in support of the federal mission, for instance. However, in an actual event response, a DFA determination would need to be made on an individual basis via guidance from the OCC and ORR.

Appendix D-2: Logistics Throughput (Transportation Feasibility Analysis)

D.2.1 Transportation Feasibility Analysis (TFA)

The purpose of the Transportation Feasibility Analysis (TFA) was to review the transportation feasibility and suitability of those capabilities and resources captured within this plan with those assumptions and facts identified during the Critical Capacity Workshop (CCW).

The objective was to determine or reach a consensus of those assumptions and facts identified within the CCW and to develop a Resource Phasing Plan (RPP) (see Tab 1) that optimizes the multimodal movement within the transportation network.

In conjunction with U.S. Northern Command (USNORTHCOM) and U.S. Transportation Command (USTRANSCOM), FEMA Region 10 developed an RPP that incorporates those critical capabilities and resources required to ensure operational lifesaving and life-sustaining support. Please note that although similar to a U.S. Department of Defense (DOD) Time-Phased Force Deployment Data (TPFDD), the RPP is not executable and is only meant to articulate federal and state priorities in a modeled and phased approach.

Key TFA Takeaways

- After reassessing the notes from the CCW, reviewing the Oregon Transportation Regional Resiliency Assessment Program (RRAP), and reviewing Hazards-United States (HAZUS) information, the decision was made to remove Astoria Regional Airport because of its high susceptibility to soil liquefaction and tsunami inundation and Newport Municipal Airport because of its high susceptibility to landslide, medium susceptibility to soil liquefaction, and medium susceptibility to tsunami inundation of surrounding areas from planning considerations.
- The TFA validated the CONOPS (see Annex C) and its attempt to maximize the ability to push resources into each state by incorporating a combination of both hub and spoke as well as point to point distribution methods. Specifically, it demonstrated the importance of resource phasing as not to overwhelm any one mode of transportation.
- The TFA modeled varying conditions and thruputs that could impact the Concept of Support (see Tab 2).

D.2.1.1 Critical Capacity Planning Factors

Critical capacity planning factors reflect those capacity assumptions and facts that were used during modeling. In coordination with each state, these assumptions and facts were identified during the CCW of the TFA.

Unfortunately, because of limited information at the time of the CCW, both maritime and rail were not modeled in this TFA. Further discussion is required with various federal, state, and private sector partners to determine the availability of these modes of transportation as well as their predictive thruput.

Contraflow modeling was also not modeled in this TFA. Further discussion with each state is required to determine the flow of medical and mass care evacuation.

D.2.1.1.1 Air

- All Coastal Geographic Reference Area (GRA) and I-5/Inland GRA logistic nodes will require airfield assessments.
- There are only four Air Mobility Command (AMC) Airfield Assessment Teams potentially available. One of those four units is a National Guard Unit and will require a longer lead time before it can be activated.
- Upon airfield opening, AMC aerial port personnel and equipment will be necessary to augment airfield operations to increase aircraft working maximum (aircraft) on the ground (WMOG).
- Several airports will require weight-bearing capacity waivers before certain DOD airframes can be utilized.
- There is potential to lose one or more pre-identified logistic nodes due to initial damage or to aftershocks.
- Although there is no guarantee on how many DOD airframes will be made available, USNORTHCOM and USTRANSCOM did assume how many and what type of airframes could be available leading into and through the start of this incident based on current mission requirements.
- AMC will provide airlift for bulk, oversized, and outsized cargo as well as personnel until commercial airlift becomes available.
- FEMA will contract commercial airlift to support personnel movement from Personnel Mobilization Centers (PMCs) to the impacted area.
- Although airdrops are not out of the question, there are no identified Commodity Points of Distribution (CPODS) and/or Drop Zones (DZs) to directly deliver commodities/resources to communities using this form of distribution. Additionally, a further discussion between DOD, federal, state, and municipalities will be required to discuss the requirement to establish a DZ, the deployment and recovery of assets, as well as the recovery, safeguarding, and distribution of commodities/resources.

D.2.1.1.2 Ground

- Military and self-deployed vehicles were modeled as being able to travel 10 hours a day at 40 mph for a maximum of 400 miles a day.
- Commercial vehicles were modeled as being to travel 20 hours a day at 48 mph for a maximum of 960 miles a day.

D.2.1.1.3 Responder Support Capacity

- Tab 1 depicts the estimated number of responder lodging that can be supported based on the ability to find buildings of opportunity and/or other billeting options. The hotel supply chain scale was used to determine the number of rooms per hotel.
- Additional responder support capacity was added to modeling estimates as additional billeting capability was determined to be delivered from the continental United States

(CONUS) (e.g., National Guard [NG] Disaster Relief Bed-Down System [DRBS] equipment, contracted Responder Support Camps [RSCs], etc.).

D.2.1.1.4 Maritime

- (Maritime was not modeled in this TFA because of the lack of available information at the time of the CCW.)

D.2.1.1.5 Rail

- (Rail was not modeled in this TFA because of the lack of available information at the time of the CCW.)

D.2.1.2 Analysis

D.2.1.2.1 Resource Movement Tables

See Tab 1.

D.2.1.2.2 Billeting

Although Tab 1 depicts the estimated number of responder lodging that can be supported based on the ability to find buildings of opportunity and/or other billeting options, it is suggested that additional analysis be conducted by FEMA Logistics to determine the available lodging surrounding every identified logistics node.

Tabs

Tab 1 to Appendix D-2: CSZ TFA Resource Phasing Plan

Tab 2 to Appendix D-2: CSZ TFA Out-Brief

This page is intentionally left blank.

Tab 1 to Appendix D-2: CSZ TFA Resource Phasing Plan (RPP)

The link below will redirect personnel to a SharePoint site containing the Cascadia Subduction Zone (CSZ) Transportation Feasibility Analysis (TFA) Resource Phasing Plan (RPP). The RPP is a Microsoft Excel product meant to articulate federal and state priorities in a modeled and phased approach. Similar to a U.S. Department of Defense (DOD) Time-Phased Force Deployment Data (TPFDD), it contains a series of data or information of various critical capabilities and resources. Specifically, this data contains a variety of information that includes but is not limited to the number of personnel, quantities of equipment, dimensions of the equipment, as well as the mode of transportation that these capabilities and resources could use to depart from their respective origin to transport to their desired destination.

The CSZ TFA RPP is designed by FEMA Region 10 Logistics in such a way as to support the Movement Coordination Center (MCC) within the National Response Coordination Center (NRCC) to quickly filter and sort through data to determine initial movement requirements.

The CSZ TFA RPP is managed by FEMA Region 10 Logistics. FEMA Region 10 Logistics is responsible for maintaining this living product. Specifically, FEMA Region 10 Logistics will update all data and information for all resources identified within the RPP as they become available.

The RPP consists of multiple tabs or sheets that provide different products. These products include the following:

- **Data and Information for All Resources**
- **Personnel and Shipping Tons (STONs) Pivot Table** (This table illustrates the total number of personnel and STONs of cargo and equipment by day based on the Required Delivery Day [RDD] to the destination.)
- **Point of Embarkation (POE) Pivot Table** (This table illustrates the total number of personnel and STONs of cargo and equipment by day based on the Available to Load Day [ALD] from the POE.)
- **Point of Debarkation (POD) Pivot Table** (This table illustrates the total number of personnel and STONs of cargo and equipment by day based on the Earliest Available Day [EAD] to the POD.)
- **Destination Pivot Table** (This table illustrates the total number of personnel and STONs of cargo and equipment by day based on the Required Delivery Day [RDD] to the destination.)
- **Washington Geographic Branch Pivot Table** (This table illustrates the total number of personnel and STONs of cargo and equipment as well as additional information by day based on the Required Delivery Day [RDD] to the destination in the selected geographic branch.)
- **Oregon Geographic Branch Pivot Table** (This table illustrates the total number of personnel and STONs of cargo and equipment as well as additional information by day

based on the Required Delivery Day [RDD] to the destination in the selected geographic branch.)

- **Idaho Geographic Branch Pivot Table** (This table illustrates the total number of personnel and STONs of cargo and equipment as well as additional information by day based on the Required Delivery Day [RDD] to the destination in the selected geographic branch.)

Each of these tabs or sheets can be easily manipulated by personnel to determine a specific set of information. Specifically, personnel can use the slicers or the buttons in each tab or sheet to quickly filter information in the pivot tables to acquire a specific dataset needed to determine initial movement requirements.

Attached Link: CSZ TFA Resource Phasing Plan (RPP)

Tab 2 to Appendix D-2: CSZ TFA Out-Brief

The link below will redirect personnel to a SharePoint site containing the Cascadia Subduction Zone (CSZ) Transportation Feasibility Analysis (TFA) Out-Brief. The TFA Out-Brief was developed in conjunction with U.S. Northern Command (USNORTHCOM), U.S. Transportation Command (USTRANSCOM), and FEMA Region 10.

This product illustrates the transportation feasibility and suitability of those capabilities and resources captured within the Resource Phasing Plan (RPP) with those assumptions and facts identified during the Critical Capacity Workshop (CCW). The TFA Out-Brief also illustrates the results and findings of those capabilities and resources captured within the RPP under varying weather conditions and transportation thruputs.

Attached Link: CSZ TFA Out-Brief

This page is intentionally left blank.

Annex F: External Affairs

F.1 Purpose

The purpose of this annex is to describe the roles, responsibilities, and protocols for Emergency Support Function (ESF) #15 External Affairs (EA), which is led by FEMA Region 10 EA staff.

During all phases of emergency response and recovery, ESF #15 facilitates communication and messaging through coordination with stakeholders. Effective public messaging is timely, precise, and actionable and targeted for the affected communities. The goals of public messaging are to:

- Inform the public about the incident-specific threat;
- Educate the public on how to prepare for an emergency;
- Maintain public confidence and trust;
- Create strategies to set expectations, address rumors, and correct inaccurate information to ensure an informed public;
- Inspire collaboration and preparation through integrated external communications efforts;
- Facilitate communications efforts in coordination with state, local, tribal, and territorial (SLTT) entities, the private sector, and non-governmental organization (NGO) stakeholders; and
- Provide a solid foundation of incident response and recovery information upon which future actions can be based.

F.2 Assumptions

The assumptions presented in the Base Plan of this *Region 10 Cascadia Subduction Zone (CSZ) Earthquake and Tsunami Response Plan* apply to this annex. In addition, the following assumptions are specific to this annex:

- Messaging will be delivered in a variety of formats, focused on reducing barriers and increasing access to FEMA information and programs. This includes creating messaging specific to the community or audience and making that messaging accessible, especially for those with limited English proficiency (LEP), individuals with disabilities, and others with access and functional needs.
- Social media will be used extensively for information dissemination and to correct misinformation.
- Messaging must be shared in a variety of ways and on a variety of platforms.
- Some survivors will either fail to receive messages or will ignore them.
- Organizations will inadvertently send inaccurate or conflicting messages out to the affected public.
- Rumors and misinformation will begin to circulate immediately after an incident; timely and effective rumor control is crucial to public confidence.

- Local public information officers (PIOs) and other public information staff may be personally affected by the incident and be unable to report to their posts for duty. Damage to transportation infrastructure and systems may further affect the ability for such staff to respond in a timely manner.
- Broadcasting towers and other facilities and structures used by media may be affected, disrupting communications, media operations, and normal means of broadcasting of emergency information.
- The incident will generate sustained media attention at the local, and possibly national, level, potentially overwhelming local public information resources and necessitating significant state and federal involvement.

F.3 ESF #15 Operational Information

All information regarding ESF #15 operations and actions in Region 10 can be found in the two documents described below.

- ESF #15 Region 10 Job Aid

  This job aid identifies the functions and procedures used for ESF #15 in the Region 10 Regional Response Coordination Center (RRCC). The ESF #15 Region 10 Job Aid is frequently updated after every training and activation. The document contains the following sections:
    - Key contacts
    - Initial Joint Information Center (JIC) actions
    - Key functions
        - External Affairs Advisor
        - External Affairs Specialist (traditional media and social media)
        - Tribal Affairs
        - Intergovernmental Affairs
        - Congressional Affairs
        - Private Sector
        - Regional Disability Integration Specialist
        - Limited English proficiency support
    - EA/Incident Management Assistance Team (IMAT) coordination
    - Meeting agendas and operational tempo
    - Organizational charts
    - ESF #15 materials
- ESF #15 National Standard Operating Procedure

This SOP establishes procedures and protocols for ESF #15 support of federal domestic incident management during an incident that requires a coordinated federal response. ESF #15 coordinates the activities of the EA components of Congressional Affairs, Intergovernmental Affairs, Planning and Products (external and internal communications strategies and products),

and the private sector. Another component, the JIC ensures the coordinated release of information under ESF #15. The document contains the following sections:

- Base Plan
- Annex A: Interagency Organization, Staffing, and Operations
- Annex B: Governmental Affairs (Intergovernmental Affairs and Congressional Affairs)
- Annex C: Joint Information Center
- Annex F: Private Sector
- Annex G: Planning and Products
- Annex H: Cybersecurity
- Annex I: Military Support
- Annex J: Federal Law Enforcement
- Annex K: Energy
- Annex L: Public Health and Medical
- Annex M: Environmental
- Annex N: Radiological
- Annex O: National Transportation Safety Board (NTSB) Transportation Investigations
- Annex P: Agriculture and Food
- Annex Q: Staffing and Deployments
- Annex R: Digital and Social Media
- Annex X: Administration and Logistics
- Annex Y: Training

Specific information related to EA-related Lines of Effort (LOEs) can be found in the following tabs to Appendix C-2 (Operations Lines of Effort) of this plan:

- Tab 13 to Appendix C-2: Private Sector Coordination
- Tab 14 to Appendix C-2: Public Information and Warning

This page is intentionally left blank.

Annex K: Operational Communications

K.1 Situation

K.1.1 Purpose

This annex outlines the response organization that oversees communications activities following a Cascadia Subduction Zone (CSZ) Earthquake, as led by FEMA's Disaster Emergency Communications (DEC) Branch as well as Emergency Support Function (ESF) #2 Communications. The annex also describes the key operational communications activities after the occurrence of an event. ESF #2 helps to facilitate communications between federal, state, and local first responders, non-governmental disaster responders, and private industry partners. ESF #2 also supports the re-establishment of public warning systems and the repair and restoration of critical public and private/commercial communications infrastructure in order to support lifesaving and life-sustaining activities and to set the conditions for recovery.

K.1.2 Background

The following impacts are expected following a catastrophic earthquake and tsunami event along the Cascadia Subduction Zone:

- All typical forms of communication will be severely compromised or disabled in the impact area.
- Limited communications capabilities for search and rescue (SAR), situational assessment, and operational coordination will delay the response and will require Regional, national, and Emergency Management Assistance Compact (EMAC) assets.
- Interdependencies among communications, power, and transportation infrastructure will affect timelines for response and restoration.
- In heavily impacted areas, only radio frequency (RF) communications capabilities will be possible, including ham radio networks, marine radio, satellite phones, and mobile and handheld radios.
- Coastal communities will suffer severe damage and will be isolated for an extended period of time because of damage to transportation and communications systems.
- Other communities in the I-5/inland Geographic Reference Area (GRA) may also become isolated due to damage of limited access routes and communications infrastructure.
- Damaged to offshore fiber optic cables, cable landing sites, and data centers in the impacted areas may create cascading communications impacts in other areas of the United States and internationally.
- Communications infrastructure will be significantly degraded immediately following the event and will continue to deteriorate for days afterward due to the failure of uninterruptable power supply (UPS) units, depletion of batteries, inability to access and repair communications infrastructure, and exhaustion of fuel supplies powering backup generators at communications towers, wire centers, and other communications facilities.

K.1.3 Authorities and References

The following authorities and references pertain to coordination, communications, and computer system operations during the emergency response:

- Communications Act of 1934, 47 U.S. Code (U.S.C.), Sections 151-615b
- National Response Framework (NRF), Fourth Edition (October 2019)
- National Incident Management System (NIMS)
- Homeland Security Act of 2002 (Pub. Law 107-296), as amended
- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) (Pub. Law 93-288), as amended
- Post-Katrina Emergency Management Reform Act (PKEMRA)
- Sandy Recovery Improvement Act of 2013 (Pub. Law 113-2) (January 29, 2013)
- Executive Order 12472 – Assignment of National Security and Emergency Preparedness Telecommunications Functions
- Executive Order 12656 – Assignment of Emergency Preparedness Responsibilities
- Homeland Security Presidential Directive 5 (HSPD-5) – Management of Domestic Incidents (February 8, 2003)
- HSPD – Critical Infrastructure Identification, Prioritization, and Protection (December 17, 2003)
- Presidential Policy Directive 8 (PPD-8) – National Preparedness (March 30, 2011)
- HSPD-20/National Security Presidential Directive 51 (NSPD-51) – National Continuity Policy (2007)

K.1.4 Critical Considerations

- Commercial companies provide the bulk of communications capabilities in Region 10. Coordination of communications restoration priorities, repair schedules, repair crew billeting, transportation, and security, as well as support requirements among communications service providers, will be challenging.
- Logistical movement of communications repair equipment and crews must be a high priority during response operations since operable communications systems enable all other response capabilities.
- Efforts to repair communications infrastructure should be coordinated with the repair of other utility systems, including those for power and transportation, to optimize synergies of effort.
- Requirements must be met that enable the Operational Communications Core Capability, including:
    - Access – Badging, placards, and/or protocols that allow crew access into restricted areas to perform restoration activities;

  - Transportation – Vehicles for deploying communications personnel and work crews and equipment;
  - Debris Clearance – Clearance of debris from roadways and trails to allow crews to access communications infrastructure;
  - Fuel – Access to fuel within the affected area;
  - Security – Protection via security forces to safeguard equipment, supplies, and personnel during the infrastructure repair process; and
  - Life Support – Ability to lodge and feed response personnel.
- Restoration of maritime and aviation communications systems is required in order to facilitate transportation system functionality.
- The FEMA DEC Branch in the Joint Field Offices (JFOs) may become the principal facilitators for interoperability and spectrum management among disparate communications systems operating within the impact area, including those of out-of-state response organizations such as EMAC agencies and those of the National Guard, ESF #13, and whole community entities.
- Private sector communications providers require crews, equipment, and repair materials to be brought into the impacted areas.

K.1.5 Planning Assumptions

- FEMA communications assumptions for catastrophic events include the following:
  - Trunked radio systems in the impact area are degraded or are inoperable due to failures with backhaul to zone controllers, and/or loss of commercial power.
  - Worst-case impacts are assumed; radios are mainly used point-to-point; existing repeaters and networks in the impact area are non-functioning.
- Local communications staff will be personally affected by the event and may not be available to support response efforts due to family emergencies, death, and damage to transportation infrastructure and systems, etc.
- Single points of failure, particularly in remote areas and connecting “last mile” of routes will cause localized extended outages.
- All federal operational locations (e.g., staging area[s], aerial ports of debarkation [APODs], Interim Operating Facility [IOF], JFOs, and geographic branch offices) require support from deployable federal communications assets.
- The response is impacted by changing environmental conditions, additional seismic-related events, and degraded emergency response organizations.

K.1.6 Limiting Factors

The factors listed below may limit the ability for responders to meet increased communications demands and the restoration of communications infrastructure:

- A significant amount of communications infrastructure depends on commercial heating, ventilation and air-conditioning (HVAC), and power to operate, none of which are expected to be available following the event.
- Loss of commercial power dramatically reduces cell phone, voice-over-internet protocol (VoIP), digital subscriber line (DSL), and commercial radio/TV capabilities.
- Failure of backup power systems for towers and wire centers causes significant degradation to communications capabilities following the event.
- For several days, responders have limited information about surviving communications infrastructure as well as assets that require restoration.
- Transportation access for the repair and assessment of communications facilities is limited.
- Instant loss of communications and power infrastructure inhibits local situational awareness via traditional channels, such as email, telephone, and internet.
- Local communications staff are personally affected by the event and may not be available to support response efforts due to family emergencies, damage to transportation infrastructure and systems, etc.
- Local communications system repair crews are impacted, and critical replacement parts are damaged or destroyed. Crews are overwhelmed, and supplies are quickly exhausted.
- Deployed communications infrastructure repair crews from outside of the impacted areas are hampered by a lack of local knowledge and may be adversely affected by climate and weather conditions.
- Crews to repair damaged commercial communications infrastructure have been tentatively identified in owner/operator plans but rely upon either federally established Responder Support Camps (RSCs) or owner/operator- or individual responder-provided billeting and have difficulty accessing damaged infrastructure due to damaged transportation systems.
- Lack of sufficient quantities of generator fuel and parts, as well as inability to access sites to repair/refuel generators.
- Lack of transportation and access to facilities to conduct assessment, repair, and refueling operations.
- Insufficient availability of aerial platforms needed for visual assessments and transportation of teams.

K.2 Mission

See Base Plan.

K.2.1 Mission-Essential Tasks

- Ensure communications capabilities are in place between and among the emergency response community and affected populations.

- Establish voice and data communications capabilities among federal, state, local, non-profit, and private sector emergency responders.
- Re-establish sufficient communications infrastructure (mostly owned by the private sector) within affected areas to support lifesaving and life-sustaining activities and a transition to recovery.

K.2.2 Objectives

1. Rapidly re-establish sufficient communications infrastructure within affected areas to support initial lifesaving efforts and ongoing life-sustaining activities.
2. Restore the capacity to communicate among and between the emergency response community; establish interoperable voice and data communications capabilities between federal agencies, state agencies, local jurisdictions, and first responders.
3. Support the development of a shared situational picture (SitPic) to support communications response operations.
4. Restore the ability of public safety communications officials and authorities to issue alerts, warnings, and public messaging.
5. Ensure that the public is able to access 911, and that public safety answering points, and dispatch centers are able to dispatch appropriate resources.
6. Restore the communications capability to allow for basic financial transactions and trade to occur.

K.3 Execution

K.3.1 Senior Leaders' Intent

See Base Plan.

K.3.2 Concept of Operations

FEMA Region 10 gathers and assesses information from the impact area, alerts personnel, identifies appropriate resources and implements measures outlined in this plan to support communications response activities in the impacted areas. As support and restoration operations progress, the DEC function transitions to the Unified Coordination Staff (UCS) of the Unified Coordination Group (UCG), as deemed appropriate by the command authority.

K.3.3 Communications Response Organization

The communications response organization will be scaled to address incident needs. Not all positions outlined in the organization chart in Figure K-1 below may be individually staffed, and additional task force members/functions may be implemented depending the size and scale of the disaster.

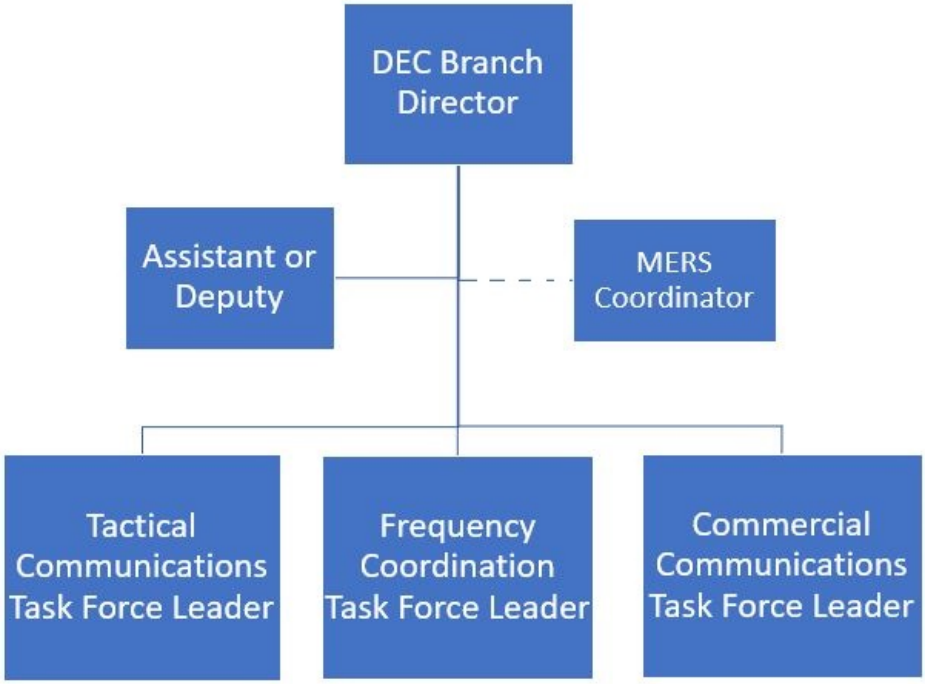


Figure K-1: DEC Branch Organization

The Tactical Communications Task Force focuses on assisting state, local, tribal, and territorial (SLTT) public safety agencies in the restoration of life safety communications systems and on establishing and maintaining communications within and between deployed federal resources.

The Frequency Coordination Task Force provides overall frequency coordination for federal responders and assists with Special Temporary Authorities from the Federal Communications Commission (FCC) and/or the National Telecommunications and Information Administration (NTIA).

The Commercial Communications Task Force focuses on assisting commercial communications providers in restoring services, serving as a conduit for information sharing, and coordinating the prioritization of government and private sector communications services support.

K.3.4 Operational Phases

For detailed information on operational phases, see Annex C of this plan.

K.3.4.1 Phase 1 – Pre-Incident

Phase 1 activities begin pre-incident, with coordination among private, non-profit, local, state, and federal stakeholders undertaking preparedness measures for a potential catastrophic event.

Activities in this phase are defined in Annex K of the *Region 10 All-Hazards Plan* (AHP).

Phase 1 ends at the time the earthquake occurs.

K.3.4.2 Phase 2a – Activation and Immediate Response

Phase 2a begins at the time of the incident, upon receipt of validated notification by the U.S. Geological Survey (USGS) of a major earthquake along the Cascadia Subduction Zone.

Key Phase 2a Activities

The priorities for communications restoration are as follows:

- Restore communications with state, tribal, and local EOCs.
- Establish or restore first-responder two-way radio communications (firefighters, emergency medical services [EMS], police, and dispatch).
- Establish or restore public alert and warning capability.

Phase 2a ends when the UCS/UCG are operational.

Phase 2a Tasks

- ESF #2 – Communications
    - Activate damage assessment and restoration teams and deploy to the Federal Staging Area (FSA) for further movement to each geographic branch, according to the Resource Phasing Plan (RPP).
    - Prepare deployment of communications personnel and equipment (including support equipment, such as generators). Deploy personnel and resources from staging areas in the impact area to assist in establishing emergency communications capabilities.
    - Assess the status and capacity of commercial and public safety communications infrastructure in the impact area and determine the potential cascading effects outside the impact area.
    - Assess lines of communication from outside the impact area to the RRCC, MERS Operations Centers (MOCs), and EOCs in the impact area.
    - In coordination with Cybersecurity and Infrastructure Security Agency (CISA) / National Coordinating Center for Telecommunications (NCC) request activation of the Disaster Information Reporting System (DIRS), as appropriate.
    - Provide assistance to private industry in restoring the communications infrastructure by facilitating access and security procedures with state authorities.
- ESF #3 – Public Works and Engineering
    - Mobilize Deployable Tactical Operations Systems (DTOS) to support mission execution, as required.
    - Provide a detailed assessment of water supply capabilities to key communications facilities.

- ESF # 4 – Firefighting
    - Deploy ESF #4 communications resources—National Interagency Fire Center (NIFC)—to identified staging locations in support of emergency communications efforts.
- ESF #7 – Logistics
    - Provide supplies, sheltering, staging, and transportation resources for out-of-state governmental and private sector communications response personnel.
- ESF #8 – Public Health and Medical Services
    - In coordination with Mobile Emergency Response Support (MERS), identify supplemental communications support requirements for Disaster Medical Assistance Team (DMAT), Disaster Mortuary Operational Response Team (DMORT), and other medical teams.
- ESF #9 – Search and Rescue (SAR)
    - In coordination with MERS, identify supplemental communications support requirements for SAR.
- ESF #12 – Energy
    - Provide a detailed assessment of power disruptions and outages.
- ESF #13 – Safety and Security
    - Federal ESF #13 may be required to support the protection and security of ESF #2 (federal, state, and private industry) assets.
- DEC/Regional Emergency Communications Coordinator (RECC)
    - Activate tactical communication capabilities and resources, as required, to meet the operational requirements of the Incident Management Assistance Team (IMAT)/UCS at the IOF and JFO.
    - Issue Mission Assignments (MAs) to other federal department and agency partners for communications assets that cannot be supplied by FEMA.
    - Mission-assign Department of Defense (DOD) assistance for land-mobile radio (LMR) transportable systems and transport of communications assets into the impact area.
    - Direct the forward movement of deployed FEMA communications assets to provide shared situational awareness once the safety of personnel in the impact area can be confirmed.
    - Provide communications support to other ESFs operating within the UCS and within the geographic branches.
    - Direct and deconflict DEC response activities with whole community stakeholders, local and state response organizations, other Department of Homeland Security (DHS) components, ESFs, and the FCC, NTIA, and DOD.
    - Determine communications support requirements in the impact area for disaster response leadership, federal facilities and field teams, and state and local emergency operations centers (EOCs).

- Prioritize and adjudicate communications resource requests to meet operational objectives, to include IOF, JFO, and geographic branch emergency management requirements.
- Deploy sufficient personnel to support the operational tempo and the development of an Incident Support Plan (ISP) by the UCS and geographic branch staffs.
- Activate standard operating procedures (SOPs) to initiate deployment of DEC personnel and resources to pre-determined locations, in accordance with the RPP, to provide communications support to incident leadership and response operations.
- RECC activates and deploys ESF #2 personnel to the RRCC, IOF/JFOs, and other operational coordination locations to provide communications planning expertise and support to federal organizational structures and first responders.
- Assess and report on the status and capacity of tactical communications systems and the communications infrastructure in the impact area and determine the potential cascading effects outside the impact area.
- Ensure spectrum coordination and deconfliction among federal, DOD, and state responders deploying to the impact areas as well as in the staging area locations.
- Support the establishment of the IOFs and JFOs.

K.3.4.3 Phase 2b – Community Stabilization

Phase 2b begins once the UCG is operational and staging areas are prepared to receive resources to support the response.

During this phase, the NRCC and UCG staffs ensure that communications resources and support are provided for all response teams, communications repair and restoration teams, and communications facilities. FEMA communications support is also established at staging areas, APODs, aerial ports of embarkation (APOEs), and local EOCs to establish incident management emergency communications. Tactical communications and restoration teams that have deployed to staging areas are tasked with supporting state, local, and private sector communications restoration efforts. The UCS formally initiates and implements all tactical communications Pre-Scripted Mission Assignments (PSMAs) and prioritizes the restoration of communications in support of Branch Director requirements.

Phase 2b ends when lifesaving activities have been completed.

Phase 2b Tasks

- Tasks Common to All
  - Report all communications outages, workarounds, successes, failures, requirements, and newfound resources to the DEC.
  - Request tactical communications support through the DEC in the UCG.
- ESF #2 – Communications
  - Establish whole community communications networks and restore the communications infrastructure to support voice and data interchange between responders statewide and within the impact area.

  - Restore voice and data interface capabilities to facilitate the sharing of public information.
  - Restore private communications systems to facilitate a return to normal voice and data capabilities.
  - Direct and deconflict activities for the restoration of local communications infrastructure with appropriate departments, agencies, and industry partners.
  - Support repair efforts, based on state priorities, to restore communications in heavily populated areas, key transportation corridors, and isolated communities.
  - Assess and identify power generation and fueling requirements to support and maintain communications in each geographic branch.
  - Work with the private sector to support permanent restoration of state and local emergency communications capabilities.

- ESF #4 – Firefighting
  - Provide engineers, technicians, and liaison staff to assist the DEC, as needed, for user training and operator maintenance staff onboarding.
  - Provide National Interagency Radio Support Cache (NIRSC) systems for use by damage reconnaissance teams and other applications.
- ESF #5 – Emergency Management
  - Identify command and control communications shortfalls in each geographic branch and prioritize support requirements.
- ESF #7 – Logistics
  - Coordinate the procurement of communications equipment and services.
- DEC
  - Support federal departments and agencies with the procurement and coordination of communications services and other needed resources.
  - Employ mobile communications capabilities to isolated communities based upon state priorities.
  - Request the provisioning of additional bandwidth, as required.
  - Identify and assess communications requirements for the JFOs (or IOFs) and geographic branches; monitor and report the effects on the quality and availability of communications capabilities.
  - Deploy FCC and NTIA frequency managers to coordinate frequency usage and DOD frequency assignments for the JFOs (or IOFs); coordinate with the Statewide Interoperability Coordinators (SWICs) and others, as appropriate.
  - Establish interoperable voice and data communications capabilities between local, state, and federal first responders.
  - Provide communications support to ESF #8 response teams, FEMA Urban Search and Rescue (US&R) teams, staging areas, and other federal response entities.
  - Establish tactical radio networks to support field operations and to enable interoperability between systems, as required.

- Direct and maintain coordination of aviation communications with all communications partners, including the DOD and Civil Air Patrol (CAP).

K.3.4.4 Phase 2c – Sustained Operations

Phase 2c begins with the completion of lifesaving operations.

During Phase 2c, the priority of effort is to expand support for the permanent restoration of the communications infrastructure as well as for the provision of services to isolated communities. As operations transition to recovery, requirements and priorities are re-evaluated and resources and capabilities are demobilized or reassigned to address remaining communications needs. A key goal is to support the re-establishment of private sector communications infrastructure in order to support a transition to long-term recovery.

Phase 2c ends when all response operations have been completed and the conditions are set for a transition to long-term recovery.

K.3.5 Key Federal Roles and Responsibilities

The FEMA DEC is tasked with assisting the public and private sectors in restoring the communications infrastructure, assisting state and local governments with emergency communications capabilities, restoring public safety communications systems, and establishing first responder networks. In addition, FEMA provides communications support to JFO operations and other recovery facilities and designates personnel to support tactical communications functions.

K.3.6 Key Federal Decisions

- How do communications resources fit into the prioritized list of critical resources flowing into the impacted areas outlined in the RPP?
- What is the appropriate timing of deployments and the location of response communications resources, including FEMA communications assets?
- What are the communication priorities? When will those priorities be approved and how will they be implemented?

K.3.7 Essential Elements of Information (EEIs)

- Operational status of commercial communications systems:
  - Public Switched Telephone Network (PSTN): cellular, broadband, and long-haul cable systems (transoceanic cables)
  - Broadcast providers: radio, television, cable, and satellite
- Status of public safety alert and command and control communications systems:
  - Public safety radio networks (police, fire)
  - Public Safety Answering Points (PSAPs) (911, dispatch centers)
  - Emergency Alert Systems (EASs)
    - State and local EAS

        - State and Local Relay Networks National Weather Service - All-Hazard Alert Broadcast (AHAB)
      - National Warning System (NAWAS)
      - Integrated Public Alert & Warning System (IPAWS)
      - Commercial Mobile Alert System (CMAS)
      - Wireless Emergency Alert (WEA)
- Activation status of emergency RF communications networks:
  - FEMA National Radio System (FNARS) national and regional networks
  - Amateur Radio based systems: Auxcomm, Amateur Radio Emergency Services (ARES), Radio Amateur Civil Emergency Services (RACES), etc.
  - Military Auxiliary Radio System (MARS)
  - SHAred RESources High Frequency Radio Program (SHARES)
- Status of tactical response communications assets to support response operations
- Status of local, state, and tribal government emergency communications capabilities at EOCs
- Status of available teams for communications repair and restoration
- Status of current communications repair and restoration efforts, by location
- Status of power and transportation infrastructure for response operations
- Status of space weather and atmospherics as they relate to RF and satellite communications
- Status of Wireless Priority Service (WPS) capability
- Status of Government Emergency Telecommunications Service (GETS) capability

K.4 Administration, Resources, and Funding

K.4.1 Administration

See Base Plan and Annex K of the Region 10 AHP.

K.4.2 Resources

K.4.2.1 Federal Resources

Personnel

- Personnel to establish a DEC component in the IMAT or UCG: FCC (2), FEMA Spectrum (2), NTIA (2), RF (2), CISA Emergency Communications Division (ECD) (2)
- Personnel at the NRCC, FEMA Headquarters (HQ), CISA/SHARES, DEC, Federal Regional Center (FRC), MOC, and/or the state EOC (SEOC) that use high-frequency (HF) radio, satellite phones, landlines, and/or cellular phones to establish communications from inside and outside the impact area

- DEC personnel at all operational coordination and staging area facilities, including the JFOs, branch EOCs, other active SEOCs, FSAs, or APODs

Equipment

- Mobile command, control, and communications assets from MERS (or other supporting federal agency) to support federal responders including IMATs, DMATs, DMORTs, USAR, ISBs, FSAs, and other federal response facilities (JFOs, IOFs, etc.)
- Satellite phone or portable HF radio (with operator) for each isolated community
- Staging, transportation support, and wraparound services for commercial communications repair crews

K.4.2.2 State and Local Resources

- The States of Oregon and Washington Communications Interoperability Plans and Tactical Interoperable Communications Field Operations Guides are a source of local communications information.
- EMAC provides an additional source for communications assets that are available to the states upon request.
- Several areas have mobile command posts and communications vehicles to serve as backup EOCs.

K.4.2.3 Private Sector Resources

- Amateur radio organizations have extensive communications networks, equipment, and operators. Many are associated and activated through local and state emergency management.
    - Amateur radio has WinLink email capability (email forwarding via HF & VHF frequencies).
    - There are over 75,000 licensed amateur radio operators in Region 10.
- Private sector communications firms deploy their own emergency response teams and can supply deployable communications assets to provide temporary network capacity in affected areas.
- Commercial communications providers have limited capacity on hand to generate emergency power but have assessed their own power restoration requirements. (This information is considered proprietary but will be made available during an emergency response.)

K.4.3 Funding

See the CSZ Base Plan and Annex K of the Region 10 AHP.

K.5 Oversight, Coordinating Instructions, and Communications

K.5.1 Oversight

While FEMA, through ESF #5, is responsible for oversight and management of the overall federal response, the DEC Branch and ESF #2 direct all federal emergency communications response efforts.

K.5.2 Coordinating Instructions

The DEC and ESF #2 coordinate with other federal partners, including CISA, FCC, USCG, Department of Interior (DOI), U.S. Forest Service (USFS), DOD, NTIA, ECD, NRCC, and the U.S. General Services Administration (GSA). Federal partner coordination is typically conducted through MAs when the RRCC, IMAT, and/or UCG are activated and when other federal resources are needed.

DEC/ESF #2 partners, operating out of FEMA Region 10, coordinate federal actions that support emergency communications capabilities and the restoration of public safety communications systems and networks and assist the private sector in restoring the communications infrastructure in the impact area. ESF #2 serves as the primary communications restoration component, focusing on restoration of the public safety communications infrastructure and the communications infrastructure that serves the general public.

Region 10 DEC/ESF #2 will facilitate communications and coordination between the commercial communications carriers; supporting utilities (i.e., power); and state, local and tribal governments, in efforts to restore communications services as quickly as possible to the public.

Annex X: Execution Checklist

The Execution Checklist provides a list of activities or tasks to be performed during the response to a catastrophic event. Tasks are listed by phase, Community Lifeline, Line of Effort (LOE), Core Capability, Emergency Support Function (ESF)/Recovery Support Function (RSF), and lead element or responsible agency. ESFs/RSFs and planning partners support the development and refinement of detailed resource requirements to support the tasks outlined in the Execution Checklist.

The Execution Checklist can be found on the Region 10 SharePoint site. The FEMA SharePoint site is only accessible behind the FEMA firewall. For access to documents on the site, contact the FEMA Region 10 Regional Response Coordination Center (RRCC).

This page is intentionally left blank.

Annex Y: Acronyms and Abbreviations

Acronym	Expanded Name
AABB	American Association of Blood Banks
AAR	After-Action Report
ACS	Alternative care sites
ACS	American Community Survey
ADA	Americans with Disabilities Act
AFB	Air Force Base
AFN	Access and functional needs
AFO	Area Field Office
AHAB	All-Hazard Alert Broadcast
AHJ	Authority having jurisdiction
AHP	All Hazards Plan
ALRT	Advance Logistics Reception Team
AMC	Air Mobility Command
ANG	Air National Guard
ANS	Air Navigation System
AO	Area of operations
APHIS	Animal and Plant Health Inspection Service
APHT	Applied Public Health Team
APM	Accountable Property Manager
APO	Accountable Property Officer
APOD	Aerial Port of Debarkation
APOE	Aerial Port of Embarkation
ARES	Amateur Radio Emergency Services
ARP	Alaska Response Plan
ASPR	Assistant Secretary for Preparedness and Response
AT	Access Tandem
ATC	Air Traffic Control
ATF	Bureau of Alcohol, Tobacco, Firearms, and Explosives
AVMA	American Veterinary Medical Association
AWA	Animal Welfare Act
AWIPS	Advanced Weather Interactive Processing System
BIA	Bureau of Indian Affairs
BNN	Breaking News Network
BOP	Bureau of Prisons

Acronym	Expanded Name
BPA	Blanket purchase agreements
CA	Congressional Affairs
CAIS	Civil Authority Information Support
CAP	Civil Air Patrol
CAT	Communication Action Team
CBP	U.S. Customs and Border Protection
CBRFC	Colorado Basin River Forecast Center
CBRN	Chemical, biological, radiological, and nuclear
CDC	U.S. Centers for Disease Control and Prevention
CDP	Center for Domestic Preparedness
CEMP	Comprehensive Emergency Management Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CI	Critical Infrastructure
CIKR	Critical infrastructure and key resources
CIR	Critical Information Requirement
CISA	Cybersecurity and Infrastructure Security Agency
CIWG	Continuous Improvement Working Group
CMAS	Commercial Mobile Alert System
CMS	Consumable medical supplies
CMS	Crisis Management System
CNCS	Corporation for National and Community Service
CNRFC	California Nevada River Forecast Center
COA	Course of Action
CODEL	Congressional Delegation
CONOPS	Concept of Operations
CONUS	Continental United States (48 contiguous states)
COOP	Continuity of operations
COTP	Captain of the Port
COW	Communications on Wheels
C-POD	Community point of distribution
CPOD	Commodity Point of Distribution
CREW	Cascadia Region Earthquake Workgroup
CS&C	Cyber Security and Communications
CSZ	Cascadia Subduction Zone
CUSI-SL	Commonly Used Sheltering Items and Service Listing

Acronym	Expanded Name
CWA	Clean Water Act
DC	Distribution Center
DCE	Defense Coordinating Element
DCO	Defense Coordinating Officer
DDXX	DLA Distribution Expeditionary Team
DEA	Drug Enforcement Administration
DEBD	Disaster Emergency Communications Branch Director
DEC	Disaster Emergency Communications
DFA	Direct Federal Assistance
DHAT	Disaster Housing Assessment Team
DHS	U.S. Department of Homeland Security
DIRS	Disaster Information Reporting System
DISC	Disaster Information Systems Clearinghouse
DLA	Defense Logistics Agency
DMAT	Disaster Medical Assistance Team
DME	Durable medical equipment
DMORT	Disaster Mortuary Operational Response Team
DOC	Department Operations Center
DOD	U.S. Department of Defense
DODD	DOD Directive
DOE	U.S. Department of Energy
DOGAMI	Department of Geology and Mineral Industries
DOH	Department of Health
DOI	U.S. Department of the Interior
DOJ	U.S. Department of Justice
DOJ FCC	U.S. Department of Justice Field Coordination Center
DOS	U.S. Department of State
DOT	U.S. Department of Transportation
DRC	Disaster Recovery Center
DRF	Disaster Relief Fund
DSAT	Disaster Survivor Assistance Team
DSCA	Defense Support of Civil Authorities
DSL	Digital subscriber line
D-SNAP	Disaster Supplemental Nutrition Assistance Program
DSS-WISE	Decision Support System for Water Infrastructure Security
DST	Decision Support Tool
DTOS	Deployable Tactical Operations System

Acronym	Expanded Name
DTS	Deployment Tracking System
EA	External affairs
Eagle-I	Environment for Analysis of Geo-Located Energy Information
EAO	External Affairs Officer
EAS	Emergency Alert System
ECD	Emergency Communications Division
ECW	Extreme cold weather
EDA	Economic Development Administration
EEI	Essential Element of Information
EHP	Environmental and Historic Preservation
EHS	Extremely Hazardous Substances
EMAC	Emergency Management Assistance Compact
EMD	Emergency Management Division
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ENS	Emergency Notification System
EO	End Offices
EOC	Emergency operations center
EOP	Emergency operations plan
EPA	U.S. Environmental Protection Agency
EPAP	Emergency Prescription Assistance Program
EPLO	Emergency Preparedness Liaison Officer
ERT	Environmental Response Team
ESBD	Emergency Services Branch Director
ESF	Emergency Support Function
EXSUM	Executive Summary
FAA	Federal Aviation Administration
FAMS	Federal Air Marshal Service
FBI	Federal Bureau of Investigations
FCC	Federal Communications Commission
FCC	Federal Coordinating Center
FCO	Federal Coordinating Officer
FCR	Federal Regional Center
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIOP	Federal Interagency Operational Plan
FLEO	Federal Law Enforcement Officer

Acronym	Expanded Name
FMCSA	Federal Motor Carrier Safety Administration
FMS	Federal Medical Station
FMV	Full-motion video
FNARS	FEMA National Radio System
FNS	Food and Nutrition Service
FOB	Forward Operating Base
FOD	Field Operations Directorate
FOG	Field Operations Guide
FOPM	FEMA Operational Planning Manual
FOS	Field Operations Support
FOSA	Federal Operational/Operations Staging Area
FOSC	Federal On-Scene Coordinator
FPOD	Fuel Point of Distribution
FPS	Federal Protective Service
FRA	Federal Railroad Association
FRC	Federal Regional Center
FRP	Facility Response Plan
FSA	Farm Service Agency
FSA	Federal Staging Area
FSARCG	Federal Search and Rescue Coordination Group
FSIS	Food Safety and Inspection Service
FST	Field Support Team
FTSF	Federal Teams Staging Facility
GAR	Governor's Authorized Representative
GEOINT	Geospatial intelligence
GETS	Government Emergency Telecommunications Service
GIS	Geographic information systems
GISP	Geospatial Information System Specialist
GIU	Geospatial Information Systems Unit
GIUL	Geospatial Information System Unit Leader
GMRS	General mobile radio services
GRA	Geographic Reference Area
GSA	General Services Administration
H&SS	Health and Social Services
HAZMAT	Hazardous materials
HAZUS	Hazards-United States
HEC-RAS	Hydraulic Engineering Center River Analysis System

Acronym	Expanded Name
HENTF	Heritage Emergency National Task Force
HF	High frequency
HHS	U.S. Department of Health & Human Services
HHW	Household hazardous waste
HIFLD	Homeland Infrastructure Foundation-Level Data
HITRAC	Homeland Infrastructure Threat and Risk Analysis Center
HQ	Headquarters
HQ LMD	FEMA Headquarters Logistics Management Directorate
HSIN	Homeland Security Information Network
HSPD	Homeland Security Presidential Directives
HTF	Housing Task Force
HUD	U.S. Department of Housing and Urban Development
IA	Individual Assistance
IAA	Interagency agreement
IAB	Information Analysis Brief
IAP	Incident Action Plan
IA-TAC	Individual Assistance-Technical Assistance Contract
ICE	U.S. Immigration and Customs Enforcement
ICP	Information Collection Plan
ICP	Incident Command Post
ICS	Incident Command System
IDP	Internally displaced person
IGA	Intergovernmental Affairs
IHP	Individuals and Households Program
IL	Infrastructure Liaison
ILEC	Incumbent Local Exchange Carrier
IM	Incident Management
IMAT	Incident Management Assistance Team
IMPA	Incident Management & Preparedness Advisor
IMT	Incident Management Team
IOF	Interim Operating Facility
IP	Improvement Plan
IP	Infrastructure protection
IPAWS	Integrated Public Alert & Warning System
IRCT	Incident Response Coordination Team
IRR	Initial Response Requests
IS	Incident Support

Acronym	Expanded Name
ISB	Incident Support Base
IST	Incident Support Team
IT	Information technology
IWM	Incident Workforce Management
IXP	Internet Exchange Point
JBLM	Joint Base Lewis McChord
JFO	Joint Field Office
JIC	Joint Information Center
JIS	Joint Information System
JOC	Joint Operations Center
JRSOI	Joint Reception, Staging, Onward Movement, and Integration
JTTF	Joint Terrorism Task Forces
KI	Key Indicator
KLD	Key Leader Decision
KLQ	Key Leader Question
LE	Law enforcement
LE-MACC	Law Enforcement Multi-Agency Coordination Center
LEO	Law Enforcement Officer
LEP	Limited English proficiency
LFA	Lead Federal Agency
LiDAR	Light and detection ranging
LL-CIP	Lessons Learned and Continuous Improvement Program
LMD	Logistics Management Directorate
LMR	Land-Mobile Radio
LNO	Law Enforcement Liaison
LNO	Liaison Officer
LOE	Line of Effort
LOS	Line of sight
Lower 48	Continental United States
LSAR	Land Search and Rescue
LSCMS	Logistics Supply Chain Management System
LT	Local Tandem
M	Magnitude
MA	Mission Assignment
MAA	Mutual aid agreement
MAC	Multi-Agency Coordination
MACC	Multi-Agency Coordination Center

Acronym	Expanded Name
MARAD	Maritime Administration
MATO	Mission Assignment Task Order
MAUL	Mission Assignment Unit Leader
MCC	Movement Coordination Center
MCG	Movement Control Group
MCTF	Movement Control Task Force
ME	Medical examiner
MERRT	Medical Emergency Radiological Response Team
MERS	Mobile Emergency Response Support
MHE	Material handling equipment
MHU	Manufactured Housing Unit
MLRP	Multi-family Lease and Repair Program
MM/MMI	Modified Mercalli
MOA	Memorandum of agreement
MOC	MERS Operations Center
MoDI	Model and Data Inventory
MODIS	Moderate Resolution Spectroradiometer
MOG	Maximum on ground
MOU	Memorandum of understanding
M-PODS	Medical points of dispensing
MTS	Maritime Transportation System
MTSRU	Maritime Transportation System Recovery Unit
NARSC	National Animal Rescue and Sheltering Coalition
NASA	National Aeronautics Space Administration
NAWAS	National Warning System
NBEOC	National Business Emergency Operations Center
NCC	National Coordinating Center for Telecommunications
NCEI	National Centers for Environmental Information
NCP	National Continuity Program
NCR	Natural and Cultural Resources
NCS	National Communications System
NDHS	National Disaster Housing Strategy
NDMS	National Disaster Medical System
NDRF	National Disaster Recovery Framework
NECP	National Emergency Communications Plan
NEMIS	National Emergency Management Information System
NFIP	National Flood Insurance Program

Acronym	Expanded Name
NGA	National Geospatial Intelligence Agency
NGB	National Guard Bureau
NGO	Non-governmental organization
NHD	National Hydrography Dataset
NICC	National Infrastructure Coordinating Center
NIFC	National Interagency Fire Center
NIMS	National Incident Management System
NIRSC	National Interagency Radio Support Cache
NMETS	National Mass Evacuation Tracking System
NNSA	National Nuclear Security Administration
NOAA	National Oceanic and Atmospheric Administration
NOC	National Operations Center
NORTHCOM	United States Northern Command
NPD	National Preparedness Division
NPS	National Park Service
NRCC	National Response Coordination Center
NRCS	National Response Coordination Staff
NRF	National Response Framework
NSF	National Strike Force
NSLP	National School Lunch Program
NSPD	National Security Presidential Directive
NSS	National Shelter System
NTIA	National Telecommunications and Information Administration
NTSB	National Transportation Safety Board
NVOAD	National Voluntary Organizations Active in Disaster
NVRT	National Veterinary Response Team
NWR	NOAA Weather Radio
NWRFC	Northwest River Forecast Center
NWS	National Weather Service
OASIS	Operational Area Satellite Information System
OCAO	Office of the Chief Administrative Officer
OCC	Office of the Chief Counsel
OCFO	Office of the Chief Financial Officer
ODOT	Oregon Department of Transportation
ODT	Other duty travel
OEC	Office of Emergency Communications
OEM	Office of Emergency Management

Acronym	Expanded Name
OFA	Other federal agency
OFDA	Office of Foreign Disaster Assistance
OIB	Operations Integration Branch
OIP	Office of Information Policy
OIP	Office of Infrastructure Protection
OLE/FAMS	Office of Law Enforcement/Federal Air Marshals
ONA	Other Needs Assistance
OPORD	Operations Order
OPSUM	Operational Summary
OR	Oregon
ORR	Office of Response and Recovery
OSC	On-Scene Coordinator
OSC	Operations Section Chief
OSHA	Occupational Safety and Health Administration
OSTP	Office of Science and Technology Policy
Outside	Any location not within Alaska
PA	Public Assistance
PAGER	Prompt Assessment of Global Earthquakes for Response
PAHPA	Pandemic and All-Hazards Preparedness Act
PDA	Preliminary Damage Assessment
PETS	Pets Evacuation and Transportation Standards
PHMSA	Pipeline and Hazardous Materials Safety Administration
PICCL	Private Sector Incident Communications Conference Line
PIO	Public Information Officer
PIW	Public Information and Warning
PKEMRA	Post-Katrina Emergency Management Reform Act
PM	Patient movement
PM	Personnel mobilization
PMC	Personnel Mobilization Center
POA	Port of Alaska
POC	Point of contact
POD	Point of distribution
POTUS	President of the United States
PPD	Presidential Policy Directive
PPE	Personal protective equipment
PPP	Public-private partnerships
PRT	Planning and Response Team

Acronym	Expanded Name
PSA	Protective Security Advisor
PSAP	Public Safety Answering Points
PSM	Public Service Message
PSMA	Pre-Scripted Mission Assignment
PSS	Planning Support Section
PSTN	Public Switched Telephone Network
QRG	Quick map graphics
QRT	Quick Response Team
RA	Regional Administrator
RACES	Radio Amateur Civil Emergency Services
RAMCC	Regional Air Movement Control Center
RCO	Regional Coordinating Officer
RCRA	Resource Conservation and Recovery Act
REAA	Regional Educational Attendance Area
RECC	Regional Emergency Communications Coordinator
Red Cross	American Red Cross
REM	Remote Switch
RETCO	Regional Emergency Transportation Coordinator
RF	Radio frequency
RFA	Request for assistance
RFI	Request for Information
RGC	Regional GIS Coordinator
RMG	Resource Management Group
RNA	Rapid Needs Assessment
RNAT	Rapid Needs Assessment Team
ROE	Rules of engagement
RPM	Response Risk Management Plan
RPP	Resource Phasing Plan
RRAP	Regional Resiliency Assessment Program
RRCC	Regional Response Coordination Center
RRCS	Regional Response Coordination Staff
RRF	Resource Request Form
RSC	Responder Support Camp
RSF	Recovery Support Function
RSOE	Radio Distress-Signaling and Infocommunications
RSOI	Reception, Staging, Onward Movement, and Integration
RSP	Regional Support Plan

Acronym	Expanded Name
RSS	Recovery Support Strategy
RSSC	Resource Support Section Chief
RUACG	Regional Unified Area Coordination Group
RWC	Regional Watch Center
SAR	Search and Rescue
SAT	Service Access Team
SBA	Small Business Administration
SCO	State Coordinating Officer
SEOC	State Emergency Operations Center
SEOP	State Emergency Operations Plan
SHARES	Shared Resources High Frequency Radio Program
SIR	Specific Information Required
SIST	SAR Incident Support Team
SITL	Situation Unit Leader
SitPic	(Shared) situational picture
SITREP	Situation Report
SLB	Senior Leadership Brief
SLTT	State, local, tribal, and territorial
SME	Subject matter expert
SNAP	Supplemental Nutrition Assistance Program
SNS	Strategic National Stockpile
SOP	Standard operating procedure
SPOC	Staffing Point of Contact
SPOTREP	Spot Report
SPR	Stakeholder Preparedness Review
SSA	Sector-Specific Agencies
SSA	State Staging Area
STEP	Sheltering and Temporary Essential Power
StS	Structural Specialist
SWIC	Statewide Interoperability Coordinator
TCC	Transportable Communications Center
TCO	Tribal Coordinating Officer
TEFAP	The Emergency Food Assistance Program
TF	Task force
TFR	Temporary Flight Restriction
THIRA	Threat Hazard Identification & Risk Assessment
THU	Temporary Housing Unit

Acronym	Expanded Name
TOA	Transition of Operational Authority
TOC	Tactical Operations Center
TRANSCOM	U.S. Transportation Command
TRI	Toxic Release Inventory
TSA	Transitional Sheltering Assistance
TSA	Transportation Security Administration
TSAT	Transportation Security Advance Team
TSCA	Toxic Substances Control Act
TSFT	Transportation Security Forward Team
TVA	Tennessee Valley Authority
UAC	Unified Area Command
UAS	Unmanned aerial system
UAV	Unmanned aerial vehicles
UC	Unified Command
UCG	Unified Coordination Group
UCS	Unified Coordination Staff
UFRA	Unified Federal Review Advisor
UHF	Ultra-high frequency
UPS	Uninterruptable power supply
URM	Unreinforced masonry
US&R	Urban Search and Rescue
USACE	U.S. Army Corps of Engineers
USAID	U.S. Agency for International Development
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDA/APHIS	U.S. Department of Agriculture/Animal and Plant Health Inspection Service
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USNG	U.S. National Grid
USPS	U.S. Postal Service
VA	U.S. Department of Veterans Affairs
VAL	Voluntary Agency Liaison
VALOR	Voluntary Agencies Leading and Organizing Repairs
VDCT	Volunteer and Donations Coordination Team
VFR	Visual flight rules
VHF	Very high frequency

Acronym	Expanded Name
VIC	Victim Identification Center
VIIRS	Visible Infrared Imaging Radiometer Suite
VMAT	Veterinary Medical Assistance Teams
VOAD	Voluntary Organization Active in Disasters
VoIP	Voice-over-internet protocol
VOLAG	Voluntary agency
VSR	Virtual Situation Room
WA	Washington
WBC	Weight-bearing capacity
WEA	Wireless Emergency Alert
WHO	World Health Organization
WMD	Workforce Management Division
WPS	Wireless Priority Service
WRCC	Western Regional Climate Center

Annex Z: Distribution and Plan Updates

Z.1 Distribution

Information contained in the FEMA *Region 10 Cascadia Subduction Zone (CSZ) Earthquake and Tsunami Response Plan* is sensitive in nature and should be treated with discretion. To ensure the proper protection of the information found in the CSZ Response Plan, distribution is authorized only for federal interagency partners and for state emergency officials that are deemed appropriate by the Region 10 Regional Administrator.

Distribution, transmission, and destruction of this plan will be in accordance with DHS Management Directive 11042.1, which is publicly available.

Z.2 Update Process

The Region 10 CSZ Response Plan is considered a "living" document and contains information that is subject to change over time. This plan, along with its supporting documents, will undergo an annual review. The following areas are identified as requiring additional development and refinement:

Z.2.1 Section-Specific Areas

1. Base Plan
    a. Consider condensing purpose.
    b. Consider rounding numbers to nearest 100 to convey they are estimates.
    c. Additional analysis of facts and assumptions by subject matter experts (SMEs) and state, local, tribal, and territorial (SLTT) partners to further refine data, reflect mitigation that has occurred since last update, and ensure information is appropriately prioritized.
    d. Review Community Lifelines and End States with SMEs and SLTT partners to determine if adjustments are needed within context of CSZ.
2. Annex A (Task Organization)
3. Annex B (Intelligence)
    a. Geographic Information Systems (GIS)
        i. Map Critical Infrastructure and Transportation Routes.
        ii. Identify the DHS Immigration and Customs Enforcement (ICE) facilities in the impacted areas.
        iii. Incorporate state GIS / Hazards-United States (HAZUS) analysis once complete (i.e., Washington State's county-by-county runs).
4. Annex C
    a. Compare Key Decisions Table from Base Plan with Decision Support Matrix in Appendix C-1 to determine if the content can be consolidated in one place.

5. Lines of Effort (LOEs): Enhance tabs with in-depth analysis from SMEs and SLTT partners.
    a. Review Key LOE Organizations and Their Roles/Responsibilities to ensure all agencies are represented and responsibilities are specific to CSZ event.
    b. Review Operational Considerations to ensure each category is complete, comprehensive, and accurate for the needs of the LOE.
    c. Fill in any areas marked TBD with content based on SME and SLTT input.
    d. Review Linkages table for potential updates to content and structure that may be more functional for SMEs and SLTT partners.
6. Annex D
    a. Concept of Support
        i. Update the concept of support, Phase 2a, to address evacuation of communities within I-5/Inland GRA but west of the I-5.
        ii. Update the concept of support, Phase 2b, with the results of analysis regarding resource/capability shortfalls. Requirements and shortfalls should be built into the draft resource phasing plan and analyzed through a transportation feasibility analysis.

Z.2.2 Subject-Specific Areas

1. General
    a. Full identification of memorandum of understanding (MOU) and Emergency Management Assistance Compact (EMAC) considerations applicable to a CSZ event has not been completed.
    b. Reception, Staging, Onward Movement, and Integration (RSOI)
        i. Analyze the effects of conducting RSOI within the impacted state and the degradation of the ability to provide wraparound services at the logistical nodes and to responder base camps.
        ii. Consider developing a Field Operations Guide (FOG) for cold weather response to Idaho, Oregon, and Washington
            1) Responder self-sustainment considerations need to be established.
            2) What equipment and/or clothing is provided for responders?
2. Alaska
    a. Conduct additional analysis on the tsunami impacts to the State of Alaska.
        i. Conduct HAZUS Run for southeast Alaska.
    b. What is the capability of the terrestrial communications cables supporting the state of Alaska?
        i. Undersea cables

ii. Canadian supported

3. Idaho
    a. Analysis is needed to determine numbers of survivors arriving in Idaho from Washington and Oregon following a CSZ event.
    b. How will the Isolated Communities east of the Cascades impact Idaho?
4. Energy (Power/Fuel)
    a. What are the power/fuel restoration priorities within each geographic reference area (GRA)?
    b. Identify the interdependencies between infrastructure (i.e., no power disrupts water treatment and distribution; no power and no water will significantly disrupt hospitals' ability to provide care).
    c. What resources are available to support communications between responding power/critical infrastructure personnel?
    d. Determine fuel requirements based on vehicle and response equipment operations (burn rate) for 96 hours.
    e. Determine available fueling options for responding critical infrastructure personnel (i.e., communication, energy [power/fuel], water/wastewater, transportation).
5. Hazardous Materials
    a. Continue to refine analysis to further quantify impacts, from earthquake and tsunami, to hazardous materials (HAZMAT) facilities/pipeline by geographic branch.
6. Logistics
    a. Perform additional analysis regarding the use of other locations for logistic nodes based on the potential for losing one or more designated logistic nodes (loss due to initial earthquake damage, aftershocks, or cascading effects).
    b. Commodities
        i. Commodity Points of Distribution (C-PODs) are not identified for either Washington or Oregon, which prevents "last mile" planning.
        ii. Multiple agencies are involved in airfield inspections, the completion of which affects both logistics and the Transportation Community Lifeline. The inspection process needs to be better coordinated amongst agencies and/or waivers need to be applied.
        iii. Phase timing/syncing considerations for commodity resource availability and ramp-up rates at logistics nodes are not established.
    c. Additional contra-flow modeling should be conducted to determine route capacity requirements or alternative solutions to ground transportation. Contra-flow modeling will not be performed for this iteration of the plan.

d. Identify medical facilities that are expected to be overwhelmed and/or will require evacuation. Identified facilities will help determine aeromedical staging locations.

e. Identify private sector resource requirements necessary to stabilize private sector community lifelines. Use information to perform analysis needed to aid Oregon and Washington Operations in their pre-planning and to produce necessary federal Pre-Scripted Mission Assignments (PSMAs).

f. Continue to identify resource requirements and capabilities of other federal agencies (OFAs) and Voluntary Organization Active in Disasters (VOADs).

7. Mass Care

   a. Integrate mass care requirements identified by state planning initiatives.

   b. Conduct a more thorough analysis of mass care to acquire data not addressed as part of the 2021 planning effort.

   c. What support can be provided to temporary survivor camps?

   d. Communities west of I-5 may be incapable of establishing food and water distribution and evacuation may be the only option.

   e. Identify the mass care infrastructure east of the Cascades. Analyze the mass care infrastructure and determine when communities will exceed capacity to support survivors.

8. Private Sector

   a. Finalize the process by which the private sector will communicate with government partners post-incident.

9. Safety and Security

   a. Continue to develop and socialize the access control methodology for response to a CSZ event.

   b. Establish criteria for temporary restoration of wastewater facilities.

   c. Identify the U.S. Department of Homeland Security (DHS) Immigration and Customs Enforcement (ICE) facilities in the impacted areas. Validate their evacuation plans through tabletops or functional exercise.

   d. Exercise the Department of Corrections' evacuation/mass care plan for prisoners to further validate the 2021 CSZ Response Plan.

10. Search and Rescue

    a. Perform additional analysis to acquire the following information by branch and/or division:

       i. Population

       ii. Houses

       iii. Apartment buildings

       iv. Hotels/Motels

v. RV parks
vi. Schools
vii. Hospitals
viii. Critical care facilities
ix. Businesses
x. Overpasses
xi. Miles of passenger rail
xii. Miles of road at risk of landslide

11. Social Vulnerability
    a. Analyze impact area to determine where socially vulnerable populations may be present, including but not limited to the following:
        i. Female headed households
        ii. Elderly
        iii. Low income/high poverty
        iv. Renters
        v. Ethnic/racial/language minorities
        vi. Children/youth
        vii. Access and Functional Needs individuals/households
        viii. Areas where a combination of the above categories are present
    b. Determine how operations need to be updated to address the needs of the above populations.
12. Transportation
    a. Continue discussion on maritime temporary and permanent restoration of the ferry system, and boat launches.
        i. Support Emergency Support Function (ESF) #12 analysis for post CSZ power repair/augmentation/restoration.
        ii. Ports outside of Region 10 have implemented a micro-grid concept which appears to be a viable solution.
    b. Due to the expected shortage of rotary-wing aircraft, are there other capabilities that can used to fill the shortfall?
    c. Validate the number and type of SLTT transportation assets, the asset capability, and fuel requirements of each.
    d. Identify last mile (C-POD) transportation requirements (emergency route clearance, temp repairs, etc.).

e. Address priority route concerns. Maximize ability to reopen routes to greatest extent possible.

   i. Determine alternative requirements (temp bridging, temp repairs, secondary/tertiary routes).

Z.2.3 Additional Areas

Mid-term (by the end of calendar 2023) and future CSZ planning priorities include the following topics and products:

1. Updated/enhanced tsunami geospatial products (e.g., HAZUS).
2. In collaboration with Region 10 Planning and Assessment Branch, update the Region 10 Earthquake Profile. The earthquake profile and earthquake fact sheet will be linked to Annex B, B.1.2.2 Hazard/Impact Information. This section will also include planning factors, and impact narratives that will be incorporated into the earthquake profile during a mid-term update.
3. Annex X, Execution Checklist
   a. Continue to identify PSMAs per task.
   b. Identify intermediate objectives and key indicators per task.
   c. Analyze tasks associated with damage assessment and create subcategories of tasks as follows: port infrastructure, road and bridge, and buildings.
   d. Update Lifeline categories so that only official Lifelines are listed.
      i. Add columns for Lifeline Components/Sub-Components to account for Logistics, Operational Coordination, Private Sector Coordination, Public Information and Warning, Search and Rescue, and Situational Assessment.
4. Resource Phasing Plan (RPP)
   a. Add Lines of Effort and crosswalk each resource/capability in future RPP.
   b. Build CSZ RPP into a comprehensive RPP associated with all Region 10 deliberate plans.