



# Washington State 2016 Cascadia Rising Exercise After Action Report Catastrophic Earthquake and Tsunami Scenario



## **Thank You**

The Washington Military Department would like to thank all those from across our state and region – local jurisdictions, tribal members, state government, federal and military who dedicated time, expertise, and resources to the design and conduct of the largest preparedness exercise event in our state’s history – the integrated Cascadia Rising/Vigilant Guard exercise; and toward collecting and analyzing observations to develop valuable lessons learned that will improve our collective preparedness and resilience.

### **Front cover picture descriptions**

Top Left: Medical resupply to responders at Port Roberts, June 9<sup>th</sup>, 2016

Top Right: Hazmat team at University of Washington, June 9<sup>th</sup>, 2016

Bottom Left: State EOC General Staff in action, June 8<sup>th</sup>, 2016

Bottom Right: Joint Operations Center Staff, June 9<sup>th</sup>, 2016

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## Key Terms

### A Catastrophic Disaster

A catastrophe, in comparison to a major disaster, affects more people by several orders of magnitude, impacts the entire built environment, and has a national impact. It exceeds the capacity of our current response procedures and requires operations designed for a high volume of response for a sustained period. It requires an all of community effort and significant political leadership.

### The Cascadia Subduction Zone

Lying mostly offshore, the CSZ plate interface is a giant fault— approximately 700 miles long (1,130 km). The set of tectonic plates to the west is sliding (subducting) beneath the North American Plate. The movement is neither constant nor smooth: the plates are stuck, and the stress will build up until the fault suddenly breaks. This happened in 1700. The result was an earthquake on the order of magnitude 9.0, followed by a large tsunami. Stresses have now been building along for 300 years, and the communities of Cascadia can be certain that another great quake will again shake the region.

The world's largest quakes occur on subduction zones. The magnitude ranges from 8.0 to 9.0+. They include prolonged ground shaking, large tsunamis, and aftershocks. The 2004 Indonesia earthquake and tsunami and the 2011 Japan earthquake and tsunami are recent examples of subduction zone earthquakes.



### The Cascadia Rising Exercise Scenario

On June 7<sup>th</sup>, 2016 at 8am, an earthquake of 9.0 magnitude centered about 95 miles west of Eugene, OR rocked the Pacific Northwest. A complete rupture of the 700-mile CSZ fault line occurred. Fifteen minutes after the quake, the National Tsunami Warning Center issued the first tsunami warning. Communications throughout the area were compromised; roadways scattered with debris due to landslides and liquefaction; most bridges damaged to some degree throughout the region; 20 - 35 percent of all structures in the affected area were damaged to varying degrees; in total – an immense impact on the population.



### Whole Community

The National Preparedness Goal defines the whole community: individuals, families, communities, the private and nonprofit sectors, faith-based organizations, and local, state, tribal, territorial, insular area, and federal governments.



## Introduction

This report outlines the state level findings and lessons learned from the 2016 Cascadia Rising catastrophic response exercise and recommendations to improve preparedness shortfalls.

Cascadia Rising was a national level, functional exercise which integrated several other exercises into a complex, multi-state, multi-agency, exercise event.

The four major components of the Cascadia Rising umbrella were:

- Cascadia Rising Exercise (June 7-10, 2016) – Emergency Operations/Coordination Centers
- Vigilant Guard Exercise (June 5-13, 2016) – National Guard Support to Civil Authority
- Ardent Sentry Exercise (June 7-15, 2016) – National Defense Support to Civil Authority
- Joint Logistics Over the Shore Exercise (June 10-15, 2016) – Disaster Relief by Sea

These component exercises were developed together under one common exercise scenario and timeline into an integrated, full-scale exercise. The overarching purpose of the integrated Cascadia Rising Exercise was to test local, tribal, state, and federal government ability to coordinate and respond cooperatively to a catastrophic disaster related to a Cascadia Subduction Zone (CSZ) M9 earthquake.

Key exercise objectives at the state level included:

- Validate the state multi-agency Comprehensive Emergency Management Plan (CEMP) and the Catastrophic Incident Annex to the CEMP
- Test the Washington National Guard's CSZ Concept Plan (CONPLAN)
- Test the state's CSZ Playbook
- Evaluate the whole community's ability to perform six key core capabilities: Operational Coordination, Operational Communication, Situational Assessment, Mass Care, Public Health and Medical Services, and Critical Transportation.

For these purposes, the State Emergency Operations Center (EOC), as the multi-agency coordination center for the state of Washington, activated to the highest level on Tuesday, June 7<sup>th</sup>, 2016 and remained activated until Friday, June 10<sup>th</sup>, 2016. More than a dozen state agencies with either a primary, coordinating, or supporting role for an Emergency Support Function (ESF) in the state's Comprehensive Emergency Management Plan participated.

The Washington National Guard, with the support of National Guard units from other states, activated and deployed six brigade-level task forces to support civil authorities from June 5<sup>th</sup>, 2016 through June 13<sup>th</sup>, 2016.

Twenty-one counties in Western and Eastern Washington participated with the state at varying levels within the six-day period, with 16 counties activating parts or all of their emergency operations or coordination centers (EOC/ECC).

During the exercise, the impacts of a catastrophic earthquake and tsunami were provided to the participating organizations through simulation, role players, and damage reports based on the Cascadia Rising scenario document which was compiled from scientific and engineering information.

Data taken from several reports and studies was compiled to develop the Cascadia Rising Exercise Scenario Document. The Analytical Baseline Study for the Cascadia Earthquake and Tsunami, a 2011 study commissioned by FEMA Region 10 and conducted by the National Infrastructure Simulation and Analysis Center Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) within the DHS Office of Infrastructure Protection, provides a primary foundation for estimating the impacts of a Cascadia Subduction Zone earthquake. The HITRAC study is based upon a 9.0 magnitude earthquake along the length of the Cascadia Subduction Zone fault as specified by the Cascadia Region Earthquake Workgroup (CREW). From this baseline, Western Washington University Resilience Institute and the members of the exercise Scenario Sub-Working Group developed the exercise scenario document and local jurisdiction and state agency exercise designers provided further refinement by developing a ground truth document and Master Scenario Event List to provide realistic simulation of the damages.

Following the exercise, each agency and jurisdiction that activated an emergency operations or coordination center (EOC/ECC) conducted an after action review at their level to derive specific lessons learned and identify corrective actions specific to their operations. After reviewing more than three dozen jurisdictional and agency reports, along with inputs from individual leaders, evaluators, and subject matter experts, the Washington Military Department derived the state level findings and produced this report. Our state findings were shared with FEMA Region X during the regional AAR process.

# Executive Summary

## Overarching Conclusions

A large magnitude Cascadia Subduction Zone fault earthquake and tsunami is perhaps one of the most complex disaster scenarios we face as emergency management and public safety officials in the Pacific Northwest. Due to this complexity, life-saving and life-sustaining response operations will hinge on the effective coordination and integration of governments at all levels – cities, counties, state agencies, federal departments, the military, and tribal nations – as well as non-governmental organizations and the private sector. It is this joint-operational whole community approach that we worked to enhance and test during the Cascading Rising exercise.

In broad context, Cascadia Rising was not merely a week long exercise held in the second week of June 2016, but a two-year event with many building-block events that contributed to the whole community's (local-state-tribal-federal) analysis, planning, and assumptions about catastrophic preparedness.

Through the two-year ramp-up and the culminating functional and full scale exercises, the following overarching conclusions can be drawn:

### ***There is an urgent need for residents to prepare***

Despite the ongoing public education efforts and community preparedness programs, our families, communities, schools, hospitals, and businesses are not prepared for the catastrophic disaster that a worst-case CSZ earthquake would cause.

### ***There is an urgent need for state and local government – agencies, emergency management, leadership – to complete comprehensive and coordinated response plans***

The professional responders – fire services, law enforcement, public works, public health, and emergency management organizations – among others, have not sufficiently planned and rehearsed for a catastrophic event where they themselves are in the impact zone.

### ***Catastrophic response is fundamentally different than any response we have seen before***

- In the CSZ scenario, *response infrastructure is damaged*. The people, equipment, facilities, power, bulk fuels, and other material resources that would normally be called upon to respond to a typical disaster such as wildfire, winter storms, or flooding will be in the impact-zone which will cover half the states of Washington and Oregon and areas of British Columbia.
- A “Push” response is required. The typical response to incidents and disasters begins at the local level – dispatch, fire, law enforcement, public works, etc. Once the local level and mutual aid is overwhelmed, requests for support are elevated to the county, then state, and if required to the federal level. This is commonly referred to as a “pull” system, here the highest level of government pulls up only requests for support in order to respond. Cascadia Rising proved this approach is grossly inadequate in response to a CSZ earthquake due to the wide spread damage, sense of urgency, and barriers to normal communication and coordination. Prior to the exercise, state, federal, and military logistical planners identified a “pull” approach would likely be inadequate and adjusted procedures to coordinate a more proactive approach. The exercise

reinforced the need for planners at the federal and state levels to develop procedures that facilitate effective “push” operations under appropriate circumstances, manage aid deployment, and establish related accountability standards.

- A *massive* response will be required. The scale of damage to critical infrastructure that would be caused by a full rip of the entire fault line would be massive and affect millions of people from the coast through the I-5 corridor to the Cascades from British Columbia to Northern California.
- While the principal goal of initial response is to sustain the maximum number of survivors until a robust transportation capability is restored, *the clock is ticking to a humanitarian disaster*. Because of the severe damage to the power grid, transportation networks, and drinking water facilities, the first order damage from intense shaking, liquefaction, landslides, and large tsunami will lead to second and third order problems of food and water shortages, sanitation issues, heating issues, and other public health and healthcare related issues.

### Way Ahead

- Publish and present the After Action Report to the Emergency Management Council.
- Brief the Governor’s Office.
- Implement Resilient WA subcabinet.
- Continue to develop the state catastrophic plan with a focus on detailed concepts and appropriate ESF engagement.
- Public Outreach and messaging.



## Strategic Findings

These findings deal with the policy, direction, prioritization, and resourcing of critical state level planning, mitigation, and disaster preparation activities. Strategic areas for improvement fall into the areas of mitigation – long term vulnerability reduction, response – planning and coordination, and recovery.

### Mitigation and Long Term Vulnerability Reduction

1. The state's transportation, communication, and energy networks which are essential to enable a catastrophic response and thus, saving and sustaining lives, are not survivable.

Current scientific and engineering modeling reveals catastrophic damage to the state's critical networks. The four-day exercise confirmed assumptions that the damage to these networks will prolong an organized and capable response.

2. The Resilient Washington recommendations have not been implemented.

A resilient state is one that maintains services and livelihoods after an earthquake. In the event that services and livelihoods are disrupted, recovery occurs rapidly, with minimal social disruption, and results in a new and better condition. Cascadia Rising demonstrated that Washington is not currently a resilient state.

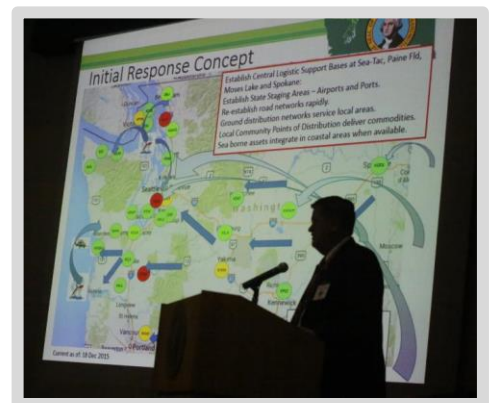
The Resilient Washington State Initiative provides a framework for long-term implementation of seismic risk reduction policies and activities across the state with the goal of making the state resilient within a 50-year timeframe.

### Response Planning and Coordination

3. Current emergency planning is not adequate for catastrophic disasters at the state, state agency, and local jurisdiction levels. The state lacks comprehensive catastrophic incident response plans and the planning efforts to date have identified an extreme response environment demanding state interagency activities well beyond current operational practice.

The exercise gave planners a first chance to test and observe the current plans developed through focused planning efforts since 2008. These efforts included many products produced by the Puget Sound Regional Catastrophic Planning Grant team, establishment of a Statewide Catastrophic Incident Planning Team; multiple studies and scenarios published by the Cascade Regional Earthquake Workshop (CREW); completion of the FEMA HITRAC Study (2011); publication of the Catastrophic Incident Annex to the state CEMP (Nov 1, 2013); and the drafting of both the WANG response plan and the recent State-level CSZ playbook.

Testing and operating from these plans during Cascadia Rising allowed planners to identify several gaps and areas of improvement in our response plans and planning efforts.



The exercise also tested mutual aid arrangements, agency emergency response plans, agency Continuity of Operations Plans (COOP), EOC/ECC SOPs, and jurisdictional CEMPs enabling planners across many sectors in the state to identify areas of improvement.

4. The state's current mindset and approach to disaster response is not suitable to a catastrophic scale incident.
5. The state is at risk for a humanitarian disaster within 10 days following a CSZ rupture.

By day four of the exercise, multiple and persistent problems regarding public health and public safety remained with no immediate fixes available due to damaged transportation networks.

6. Communities in the state rely heavily on the American Red Cross, a volunteer organization, for the essential task of mass sheltering and feeding – these and many similar common disaster response capabilities will be overwhelmed and alternate standards of conducting response must be allowed to facilitate citizen/resident response.
7. The Governor's temporary emergency powers are not adequate or flexible enough to effectively address the spectrum of emergency needs that may arise during a proclaimed state of emergency.

#### **Recovery – Long term and economic**

8. There is no long-term recovery strategy or plan in regards to the catastrophic impacts to the economy, community (housing, schools), and private business continuity.

#### **Recommendations**

1. Government must make emergency preparedness a critical priority.
2. Develop state funding mechanism to support state, state agency and local jurisdiction preparedness activities.
3. Improve mitigation efforts, by accelerating implementation of Resilient Washington and establish a Resilient Washington subcabinet.
4. Resource state agencies to adequately conduct detailed catastrophic disaster planning and implement these plans in response.
5. Review the direction of State Government Continuity of Operations Planning for a catastrophic event and improve the overall continuity of government plan for all three branches of state government. Provide support and assistance to tribes and local jurisdictions to do the same.
6. Resource the development of an interagency mass care (mass evacuation, sheltering, feeding) cadre and establishment of supporting infrastructure.
7. Establish the legal authority for the governor to immediately respond during a proclaimed state of emergency time period by temporarily waiving or suspending the statutory obligations or limitations that are necessary to preserve and maintain life, health, property, or the public peace.

## Operational Findings

These findings deal with the state multiagency coordination system, the state Comprehensive Emergency Management Plan, and the Incident Command Structure practices at the state and local level.

### Operational Coordination

*Demonstrate the ability to establish operational control and coordination structures within the impacted region to include the mobilization, employment, and sustainment of critical internal and external response resources to meet basic survivor needs and stabilize the incident.*

#### Areas of Improvement

1. The roles and responsibilities within the Unified Coordination Group (UCG) need to be clarified.

Analysis:

*Policy and Direction Bodies:* In response to this scenario, the state of Washington established a UCG and a Policy Group at the State Emergency Operations Center (SEOC) at Camp Murray.

The UCG is a small, joint (State – FEMA – Military) group providing direction and disaster management concerned with how federal assets can most effectively be brought to bear to assist the state.

The Policy Group is the larger group of state executives who are looking internal to the state in terms of situational assessment, policy issues, and directing resource prioritization.

The UCG attends Policy Group discussions to maintain situational awareness. *Both groups work from the State EOC policy room which has a total of 19 seats.* There are many policy stakeholders across state government and they also participate through teleconferences and/or special meetings off-site.

*Key Leaders:* In the state of Washington, The Adjutant General (TAG) not only serves as the commander of the Washington National Guard, but also serves as the Governor's Homeland Security Advisor, and as the department head for the Military Department, which includes the Emergency Management Division (EMD). TAG, along with the director of EMD are often mobile during a response, travelling with or assisting the Governor with jurisdictional outreach, support, and damage assessment.

In all activations, the EMD director appoints a disaster manager to manage the multi-agency response from the SEOC. The disaster manager is directly supported by an SEOC Supervisor and the SEOC Command and General Staff. In the event of a large disaster where federal assistance is provided, the TAG appoints a State Coordinating Officer (SCO).

This arrangement –TAG, director of EMD, a disaster manager, and a SCO with overlapping roles, responsibilities, and levels of authority - created some issues for direction and control of the SEOC during the exercise.

Recommendation: Clarify the roles and responsibilities within the UCG.

2. Instill Emergency Operations Centers / Coordination Centers (EOC/ECC) catastrophic mindset and develop, validate and establish procedures to implement catastrophic operations in the State EOC.

Analysis: The CSZ scenario overwhelmed the ability of the State EOC to communicate, coordinate and support local jurisdictions and tribes. This situation has never been experienced or tested through exercise. At the state level, pervasive hazards such as floods, ice storms, wild fire, and landslides have rarely overwhelmed the Emergency Operations Centers ability to collect and process information, receive requests for support and assign resources, and generally communicate, coordinate, and provide support to the local jurisdictions. The result is a level of training and experience suitable for medium to major incidents – but not catastrophic disasters like the potential of a great subduction zone earthquake.

Recommendation: Prepare Emergency Operations Centers / Coordination Centers to initiate the response.

- The “Pull” method must change to “Push” for this scenario.
- The ‘coordination center’ must be proactive and initiate action to support the push approach to resources and information.
- Incident direction and coordination network must be established for a proactive response.

3. A feasible, adequate, and suitable operational framework for state-wide direction, control, and coordination of a wide-area catastrophic incident must be developed.

Analysis: In response to a M9 catastrophic CSZ earthquake, all western county EOC/ECCs will activate, report, and seek assistance. Several more eastern Washington counties will activate in support. More than a dozen state agencies with ESF responsibilities will report to and collaborate with the State EOC in an interagency fashion. Within the state alone, the span of coordination and control will be unprecedented. In the exercise, peak participation was reached on the second and third day with over 15 counties communicating and coordinating with the SEOC and attempting to join the local jurisdictional conference call. The ability of the SEOC to collect and process information and act on it was overwhelmed.

Recommendation: Develop and formalize a state-wide, regional response structure to enable a suitable span of coordination for the SEOC and state agencies - enabling more rapid response.

4. Improve SEOC and JOC integration and the interagency employment of military resources.

Analysis: Barriers to effective civil-military coordination at the state level were identified in the areas of assigning resources, gathering and sharing assessments, controlling the movement of teams and units, and managing air operations.

Recommendations:

- Staff the ESF #20 desk in the State EOC with more experienced staff. Establish a routine operational reporting function from National Guard to the State EOC allowing the SEOC to coordinate overall integration of operations.
- Examine the potential of placing Washington National Guard liaisons within each ESF.
- Increase Guard presence in state resourcing planning.

- Expand WANG knowledge of the Emergency Management Assistance Compact (EMAC) and their capacity to coordinate EMAC resources in concert with the State EOC. Supplement State EMAC processing teams with National Guard plans and logistics personnel.
- Prepare military and National Guard personnel to engage with civilian government organizations during an emergency response.
- Support new FEMA logistics team – the Movement Control Group – to link federal aid delivery to in-state movements and balance mode of travel with state priorities, and to integrate with state transportation task forces, control centers and priority planning processes.

#### 5. Continue progress made to improve energy sector preparedness.

Analysis: The exercise illustrated the value of habitual relationships in the energy sector. Department of Commerce collaborated with U.S. Department of Energy in the lead-up to Cascadia Rising, conducting a large tabletop exercise for the private and public sector. This relationship enabled more effective coordination in the more complex Cascadia Rising exercise.

Coordination among the three states – Washington, Oregon, and Idaho on energy issues was difficult due to the lack of interstate relationships in ESF 12 (Energy) and experience with incidents that cross borders.

The ESF 12 Power Branch experienced delays in determining natural gas, electricity and fuel needs as fast as possible. Only two utilities are hooked up automatically to the state energy sector tracking system. All others required a phone call from staff at the EOC in Olympia which took additional time and was not completely successful.

Recommendations: During emergency, maintain the practice of the lead ESF 12 coordinators contact their counterparts in other affected states for situational awareness and resource recovery. Develop pre-disaster agreements with Oregon and Idaho in regards to ESF 12. Agree to provide updates and collaborate on resources.

Commerce should continue to develop strong relationships with energy utilities and request utilities to allow the state to automatically access their websites to obtain situational awareness immediately as it becomes available and provide the resources to accomplish this.

#### 6. Clarify the Air Operations direction, control, and coordination structure and relationships.

Analysis: Cascadia Rising required the coordination of helicopter and fixed-wing relief aircraft with both degraded air traffic control capability and limited open airfields. In addition to the problem of controlling air traffic for safety and flow, the management – prioritization, assignment, and coordination among dozens of jurisdictions and agencies requesting air support, those conducting assessments and authorized to open airfields, and those providing rotary and/or fixed wing aircraft for a myriad of missions (Search and Rescue, Airborne assessments, transporting relief supplies, transporting evacuees, transporting patients) - overwhelmed our established process and framework.

Recommendation: To clarify relationships and structure for air operations direction and control following a catastrophic earthquake, all air operations stakeholders (SEOC, WANG, Washington Department of Transportation [WSDOT], Search and Rescue [SAR], Federal Aviation Administration [FAA]) need to part of a formally established working group with a designated end state and chair.

- Review and clarify role, responsibilities, staffing, and procedures for an Air Operations Branch as part of the SEOC Operations Section.
  - Where will it be located/Office of Primary Responsibility
  - Staffing/equipment requirements
  - Qualifications and credentialing of staff
  - Establish aviation resource request procedures through SEOC
  - Reporting requirements and information sharing in the SEOC, Joint Operations Center (JOC) and with external partners
- Define how this will synergize with the FEMA X Air Operations Branch operations and goals.
- Coordination with FAA and DOD operations.

## Situational Assessment

*Demonstrate the ability of EOCs at all levels to provide decision-makers and EOC officials with relevant information regarding the extent of disaster damages to critical infrastructures and other facilities, cascading effects, and the status of ongoing response operations and share this information with other EOCs and critical stakeholders.*

## Areas of Improvement

### 1. Situational assessment at the State EOC.

Analysis: Most participating organizations from the local to state level, identified the capability to collect, analyze, and share the critical information in a timely manner in order to provide decision makers the information to prioritize, direct, and request resources, as an area of improvement.

Recommendations: EMD should establish a situational assessment *working group* with a designated goal, stakeholders, and chair. The working group must examine all aspects of situational assessment (below) through the lens of a state-wide framework where jurisdictions, tribes, state agencies, federal agencies, and all operations and coordination centers are working together.

- Determine information *requirement* standards for a catastrophe.
- Determine information *collection* procedures for a catastrophe.
- Determine information *sharing* procedures for a catastrophe.

### 2. Washington needs a Technical (Scientific and Engineering) Clearinghouse.

Analysis: Washington state does not have a formal coordination body, plan, or process among earthquake and tsunami assessment agencies (scientists, engineers, and other professionals) during a disaster response. California, a state with a similar earthquake hazard, has established a coordination body called the “Technical Clearinghouse.”

During a large disaster response, the Unified Coordination Group and State Policy Group must be prepared to prioritize requests and direct the right asset to the right need. The goal of post-earthquake and tsunami assessments should be to answer this basic question: Where is the damage?



However, in the absence of an established, organized body to facilitate the reconnaissance activities and integrate the observations of the individuals, much of the information gathered during the immediate aftermath of a strong seismic event will not be compiled and shared, thereby minimizing the opportunity to enhance our collective understanding of seismic-related processes and impacts. Nor would the information be made available to the State EOC, which coordinates emergency response, damage assessment, and early recovery operations following disastrous earthquakes in the state.

For the state of Washington, DNR is the lead science agency and there is a draft agreement with EMD to support this role. During incident response, its key task is to provide geologists and gather data. According to the DNR Emergency Plan, DNR will dispatch geologists to the State EOC. The State Geologist also dispatches people to be on the ground near the incident or at other key C2 nodes. It should be noted that the Geology Division does not fall cleanly within the traditional DNR role in ESF 4 (Firefighting). For example, during the Oso Slide, the Geology Division worked in both ESF 3 and ESF 4.

Along with DNR, there are several agencies and assets that play key roles in earthquake and tsunami analysis and damage assessment such as USGS, NOAA, PNSN, and NASA, and FEMA through their reach back to NGA satellite imagery. During the response to an earthquake, WSDOT also supports the assessment effort through the data collection of their on-scene work crews.

Today, there is a lot of cross-agency coordination occurring everyday between the state and federal agencies listed above. However, during a disaster response, Washington state does not have a formal coordination plan or process among earthquake and tsunami assessment agencies. In a major disaster such as the scenario presented by a Cascadia Subduction Zone earthquake, managing and coordinating damage assessments without a formal structure and process is problematic.

Recommendation: Resource the establishment of a technical clearinghouse in Washington and practice clearinghouse procedures during regularly scheduled exercises. Following a significant, damaging earthquake in Washington, a clearinghouse operation would be able to:

- Provide a location, real or virtual, where scientists, engineers, and other professionals can become part of a larger, temporary organization (the Clearinghouse) whose primary purpose is to collect and disseminate perishable field data.
- Provide a daily forum where geologists, engineers, researchers, emergency managers, and other practitioners can assemble to share and discuss the observations they have made during their field investigations.
- Provide data collection forms to participants to facilitate systematic gathering, documentation, and dissemination of perishable field data, observations, and findings.
- Track fieldwork progress of investigators to minimize duplication of efforts and maximize examination of the affected area.
- Provide, using geographic information system technology, needed data, imagery, and maps to field investigators and digitally process for electronic dissemination, the data, maps, overlays, and photographs generated by them.
- Compile, synthesize, and quickly pass along critical information collected by field investigators to Emergency Operations Centers, the State Geologist, the U.S. Geological Survey, and other appropriate recipients.

- Accommodate officials from other regions, states, and countries.
- Provide a designated person to handle media representatives who arrive at the Clearinghouse.

## Operational Communication

*Demonstrate the ability of Emergency Operations Centers (EOCs) to establish and sustain voice and data communications with other EOCs and with the public to include basic restoration of communications infrastructure within the impacted area to support response operations and coordinated public messaging.*

### Areas of Improvement

1. Emergency coordination centers are not prepared to operate in a degraded communications environment over an extended period.

Analysis: The exercise placed a focus on operating in a severely degraded communications environment which is expected based on the damages modeled to telephone and web-based infrastructure in Western Washington. Several local jurisdictions and the State EOC operated for a period of time without telephones or web-based communications (email, web pages, cloud services). The results were mixed. Some jurisdiction emergency management agencies are equipped with back-up forms of communication, with sufficiently trained staff, while others identified emergency communications as an area of improvement either due to lack of equipment, procedures, or training. For the State EOC, multiple forms of alternate communications were successfully used but procedures for effective interaction between the radio room and operations floor had to be improvised on the first day of the exercise. At the state level, the successful employment of satellite phones, particularly among key leadership was inconsistent. Amateur radio was successfully employed by many jurisdictions and at the state level on a larger scale than previously experienced in recent exercises. The amateur radio teams are voluntary and their engagement and integration with emergency management offices vary.

### Recommendations:

- Continue training and exercising the professional and volunteer community on alternate communication systems, forms, and procedures.
- Amateur Radio: Emergency management agencies and their amateur radio support teams need to establish a habitual relationship and engage with each other on how ARES/RACES can support in both activations and drills. For a few jurisdictions, this engagement merely needs to be sustained. For most jurisdictions, this is an area of improvement. This engagement can be improved through training and drills (emergency managers need to integrate the ARES/RACES teams and provide the material to be used for radio messages); Support and collaboration on the use of formatted digital messages such as the ISNAP form used effectively by many jurisdictions to transmit reports and resource requests via HF radio during the exercise; conducting assessments of equipment and radios and discussion on ways to achieve effective systems as required.

The state must develop a state-wide operational communications plan as part of the overarching effort to improve catastrophic planning. EMD should also develop an amateur radio SOP and sustain periodic training and exercises to foster amateur radio teamwork across

jurisdictions. Cascadia Rising demonstrated the need for jurisdictions in Western Washington and Eastern Washington to strengthen their capability to communicate effectively via alternate forms of communication (i.e. not telephone, email).

- Interoperability of radio-based systems: We need to continue to work on the communications interoperability between non-federal entities and federal entities.
- Improve assignment, maintaining of Government Emergency Telephone Service/Wireless Priority Service access codes (cards) and Satellite phones.
- Examine the viability of cellular/smart phone network as alternate communication method in immediate aftermath of a catastrophic earthquake.

## 2. Telephonic Emergency Response Teams (TERT) – Expand awareness and contacts for TERT usage.

Analysis: TERT is a team that can be used by mutual aid systems between Public Safety Answering Points (PSAPs) for both intrastate & interstate mutual aid between PSAPs. It is to provide trained PSAP personnel during emergency situations to requesting jurisdictions in need. TERT specifically involves providing qualified communications personnel to work in another PSAP and requires coordination amongst PSAPs, county emergency management, and Washington State Emergency Management during activations. Using EMAC to request a TERT team was successfully executed during the exercise between Washington and Montana, with Washington being the requesting agency.

For this program to be more used on a broader scale, it must be recognized and supported by state, local and tribal Emergency Management. It is imperative that local participating agencies fully support TERT as a key element of public safety response.

Recommendation: Develop and provide a TERT fact sheet to assist PSAPs and governing 9-1-1 authorities with the information required for deploying a standardized Telephonic Emergency Response Team (TERT).

## Mass Care

*Demonstrate the ability to coordinate and deliver life-sustaining services to disaster survivors with a focus on hydration, feeding, emergency sheltering, evacuations, and donations and volunteer management.*

## Area of Improvements

1. Washington state framework (assessment, providers, direction and coordination) for mass care – emergency sheltering and feeding is inadequate in response to a catastrophic event.

Analysis: The fundamental problem facing responders in the wake of a M9 CSZ earthquake is, “How do we take care of 3 million people within a day/week?” This is the number estimated to be in need of food and water within the first few days as their at-home supplies are exhausted, roads are blocked by either damage, debris, or fallen bridges, and power and clean water remain unrestored. In the exercise, the state relied on the traditional mass care providers – non-profit, non-government, volunteer organizations including the American Red Cross, Salvation Army, and churches.

Recommendation: Determine the appropriate state-level provider of mass care resources in wide-area, catastrophic disasters.

2. State-level Mass Care Task Force demonstrated suitability as a way to solve mass care problems.

Analysis: Cascadia Rising demonstrated the need to both provide mass care services and just as importantly, manage and direct these services on a state-wide scale. For Cascadia Rising, the Department of Social and Health Services formed and led an ad-hoc mass care task force consisting of government and non-government agencies to enable close coordination with each other and the ESF 6 desk. The task force operated out of the Initial Operating Facility (expanded State EOC) at Camp Murray. The task force was successful, proving the concept as valuable.

Recommendation: Identify, resource, and train cadre for ESF 6 and a Mass Care Task Force.

3. Interagency planning to integrate evacuations, and mass care movement with other critical movement needs such as patient movement (ESF 8) and resource movement (ESF 7 and ESF 20) was inadequate.

Analysis: The exercise required close interagency collaboration as a number of major efforts will overlap, to include movement and delivery of food/water/other resources, shelter support, controlling public health issues, evacuation (movement from area of no services to area of services), patient evacuation, and support to populations with access and functional needs.

Recommendation: Develop closer ESF 6/Mass Care Task Force, ESF 8, and ESF 1 integration in a catastrophic response (integration of mass sheltering/evacuation/patient movement/available routes and air/sea ports).

## **Critical Transportation**

*Demonstrate the ability of EOCs to coordinate the establishment of access into impacted areas via appropriate ground, air, and maritime transportation corridors to deliver response teams, equipment, and disaster relief supplies to meet the basic needs of disaster survivors and stabilize the incident.*

Transportation infrastructure is the lynchpin of the response as it enables access to impacted areas and delivery of supplies. The Cascadia Rising response highlighted the criticality of east-west and north-south routes, airport assessment and opening, restoration and/or augmentation of ports and maritime support, and restoration of rail.

### **Areas for Improvement:**

1. No direction / priorities on route clearance provided from State EOC Policy Room.

Analysis: During the first two days of the incident, WSDOT focused on determining the extent of damage to its infrastructure due to the earthquake, tsunami, landslides, and liquefaction and determining rough timelines for being able to open routes for response operations. There were instances of frustration being demonstrated from leadership in the State EOC on timeliness of route clearance (see *Area for Improvement 2*); however, no clear direction on which routes were considered a priority for clearance were provided until the end of day two, when FEMA provided this information. Based on the roles and responsibilities of the policy room described in the WA State EOC Emergency Operations Plan (EOP),

WSDOT expected the policy room to provide that direction early in the incident to ensure that it was committing its resources to clearing those priority routes. Due to a lack of direction / priorities from the Policy Room, the WSDOT representative in the Policy Room (the Department Deputy Secretary) called the WSDOT Headquarters EOC Manager and directed WSDOT to focus on getting East to West (Ellensburg to Seattle) and South to North (Oregon border to Canadian border) routes available for emergency response operations until further direction is provided from the other stakeholders in the State EOC Policy Room.

Recommendation: During the initial stages of an incident of this magnitude, the State EOC Policy Room needs to collectively provide state agencies with clear and timely direction on statewide priorities for response operations.

## 2. Expectation management for route clearance.

Analysis: The challenge of managing expectations of the public post-disaster is one of the biggest obstacles that we face as emergency managers, but this exercise demonstrated the need to also manage expectations within our own EOC stakeholder groups. Throughout the exercise there were instances of demonstrated frustration by leadership in the State EOC on the estimated times provided for route clearance by ESF 1 (transportation) representatives. On one occasion WSDOT was instructed that the initial estimate of three days to clear a landslide on I-90 that was larger than the SR 530 slide was considered to be “unacceptable.” WSDOT was also asked if putting more resources (i.e. personnel, heavy equipment) on that site would have allowed the route to be cleared faster. In this particular instance, the location of the landslide limited the amount of personnel and heavy equipment that could be on site removing debris, making it impossible to add additional resources. The timelines for repair were also challenged for several of the collapsed or severely damaged bridges, which would take months to years to repair, especially considering the magnitude of the event. To provide some context, when the Skagit River Bridge collapsed in 2013, WSDOT marshaled the Department’s forces to have a temporary replacement in place within 27 days. It was hailed as a major accomplishment and WSDOT was justly proud of the effort – but it still was a matter of weeks, not days. And it wasn't competing with hundreds of other road, bridge, airport, and ferry terminal repairs. Within our emergency management network, we need to do a better job of managing our own expectations and understand that recovery from a Cascadia-type event will be a marathon, not a sprint.

Recommendation: Through future training and/or exercises, more focus needs to be placed on the reality of recovering from a Cascadia-type incident with Emergency Management stakeholders in order to do a better job of managing expectations post-disaster.

## 3. Understanding the nuances of scope and reporting for ESF 1 (transportation) in Washington state.

Analysis: WSDOT was asked by other state and federal agencies in the SEOC for status updates on pipelines and vehicle assets providing ground evacuation support. These two specific resources do not fall under the responsibility of ESF 1 in the Washington State Comprehensive Emergency Management Plan (CEMP). In Washington, pipeline status is tracked as part of the energy sector by ESF 12 – which is different than the federal ESF alignment (pipelines are tracked by ESF 1 at the federal level). The status of vehicles and ground transport being employed for evacuation would be tracked by the Operations section and other ESFs. As the lead agency for ESF 1 in Washington, WSDOT coordinates with other agencies and organizations who own or operate critical infrastructure in the state - such as non-state airports, and sea ports - to ensure assessments are provided. The assessment and reporting

requirements and relationships among the different primary, coordinating, and supporting organizations and agencies that comprise ESF 1 is not specified in the CEMP and was not clear going into the exercise. The ESF 1 annex to the CEMP is now due to be updated.

Recommendation: a) Train the SEOC Command and General Staff sections and the FEMA Region X IMAT, which maintains a habitual relationship with Washington state, on the nuance of pipeline assessments and coordination falling under ESF 12 vice ESF 1. b) As the lead agency for ESF 1, WSDOT can leverage the opportunity to update the ESF 1 Annex to the CEMP to clarify reporting relationships and requirements among the stakeholders and supporting agencies within ESF 1 – such as jurisdictions and organizations that own non-state airports, sea ports, and rail infrastructure and key assets.

## **Public Health and Medical Services**

*Demonstrate the ability to organize, coordinate, and deliver targeted public health and medical services to disaster survivors to include temporary medical facilities, medical surge operations, and patient evacuation and transport to save lives and reduce the suffering of disaster survivors.*

### **Areas of Improvement**

1. There are statutory barriers to providing “Crisis Standards of Care” during a catastrophe.

Analysis: Establishing “Crisis Standards of Care” was adversely impacted by the Governor’s narrowed authority for waivers, exemptions, and exceptions to statutory requirements during a state of emergency in regards to medical care and facilities.

Recommendation: Work to enact the proposed legislation to restore responsive flexibility of the Governor for establishing policies that meet emergency needs.

2. The state lacks a comprehensive plan and guidelines for managing and reporting large-scale patient movement.

Analysis: The patient movement process was difficult to plan and coordinate. More than 12,000 injuries were reported during the four-day exercise. Movement of patients had to be planned and coordinated within the context of other evacuations and critical movements of resources around the state, all with limited air assets and blocked routes. Initially, agencies were working independently, focused in their own areas but as planning progressed there was a more unified approach.

Recommendation: Form an interagency working group under Department of Health leadership to develop a catastrophic state-wide patient movement plan. Closely coordinate with the Movement Control Group as they will be controlling resource movement into the impact area.

3. Many local jurisdictions lack the capability to conduct disaster fatality management.

Analysis: The Cascadia Rising exercise timeline covered the first four days immediately following the devastating M9 earthquake and tsunami. In this timeframe, Life Safety must be the priority effort. However, in the exercise scenario, more than 9,000 fatalities were reported and, at times throughout the exercise, the effort to appropriately respond to such a large number of fatalities became the operational focus over other efforts which could save lives. In the exercise, lack of roads, morgue facilities, and other medical resources put unique demands on medical services at both the state and



local level to recover, transport, and identify casualties. In the immediate aftermath of a disaster, fatality management is the responsibility of local jurisdictions, but many jurisdictions in the state do not have the capability to meet this need in a catastrophic response. Medical involvement in mass casualty and fatality disasters requires expert planning and preparedness.

Recommendations: The state needs to identify leadership for this planning effort. The Washington State Emergency Management Association (WSEMA) and the Washington Association of Cities and Counties (WACCO) would be the most appropriate organizations to lead this effort. Second, the state needs to develop efforts which will increase knowledge, skills, and capability in fatality management at the local level.

## Planning

### Areas of Improvement

#### 1. Catastrophic disaster plans are inadequate

Analysis: The state's catastrophic plans were inadequate in many areas. Complete and sound state level planning enables a much smoother response.

Recommendation: Develop a comprehensive state catastrophic incident plan which includes:

- Annexes for each ESF
- Annexes for key operational focus areas:
  - Damage Assessments
  - Transportation Restoration
  - Energy Restoration
  - Communications
  - Fuel Allocation Plan (Commerce/ESF 12)
  - Evacuation plan
  - Sheltering Plan
  - Patient Movement
  - Local Casualty Collection Points
  - Logistics (Movement control, staging areas, community points of distribution)
  - Air Operations
  - Type II and Type III IMT placement



#### 2. The ESF 20 (WANG) CSZ CONPLAN needs to be resourced and fully coordinated

Analysis: The ESF 20 CSZ Contingency Plan (National Guard Plan) that was tested in Cascadia Rising proved to be a good start. Areas of improvement were identified, but the exercise confirmed the National Guard is an excellent avenue of access to many types of resources and teams required in a catastrophic response. The National Guard provides access to a large resource pool of National Guard assets nationwide available through Emergency Mutual Aid Compact (EMAC). In the ramp-up to the

exercise and during the 9-day, combined Cascadia Rising and Vigilant Guard exercise, the local communities and emergency management welcomed the National Guard teams, units, and liaisons.

Recommendation: The ESF 20 CSZ CONPLAN must move from concept to reality. Completing the Emergency Management Assistance Compact coordination is a major effort which must be a priority.

### 3. State Agencies must conduct catastrophic incident planning.

Analysis: To support the development of a state-level base plan for a catastrophic incident, state agencies with primary roles in a response will have to develop concepts, and eventual comprehensive plans for their areas of responsibility to address a catastrophic level event. Although the goal will be ESF level plans, the planning development effort will have to be interagency in nature due to the overlapping demand on limited resources.

Recommendation: State Agencies conduct interagency catastrophic event planning in order to produce agency catastrophic plans.



### 4. At the state level, Public Information Operations (PIO) recognized the need for a pre-disaster “Playbook” to facilitate immediate, coordinated public safety messages.

Analysis: During Cascadia Rising, ESF 15 delivered life safety information to the public, advising the public on social media as well as via press release and even news conference what they should do to be safe – where to locate alternate forms of drinking water, how to make sure their food is safe, giving advice on shelter and public safety. The exercise enabled ESF 15 to test or validate several products and concepts in a catastrophic context such as: pre-scripted, pre-approved press releases to enable distribute initial press releases quickly, using amateur radio technology to distribute press releases, and use of social media to push information out. The exercise also provided an opportunity to learn about the military's public communication capability and integrate these resources into a comprehensive effort to keep the public informed in a degraded communications environment. The end result was proof of concept that will enable refinement of processes and products and development of a playbook which will further enhance an effective and quick response following a CSZ earthquake.

Recommendation: Develop a PIO playbook.

## Search and Rescue

### Areas of Improvement

#### 1. Importance of CERT and light rescue teams to Urban Search and Rescue.

Analysis: Most Search and Rescue (SAR) will be conducted by people in the immediate area and community at the time the earthquake occurs.

Recommendations:

- Emphasize Community Emergency Response Teams (CERT) importance to SAR - first 72 hours.
- Develop a program to enhance skills of existing wilderness search and rescue units in state by training them in light urban search and rescue.

## Operational Strengths

The purpose of the exercise was to improve preparedness. Along with identifying gaps in our plans, procedures, and ability to deliver the core capabilities, key strengths that were demonstrated and need to be sustained moving forward are summarized below.

- Developing habitual and working relationships within the whole community – interagency, public-private, local-state-tribal-federal, and civil-military. Because of the overwhelming number of participating organizations, the opportunity to forge critical working relationships was enormous.
- Teamwork and flexibility under crisis among the whole community.
- Operational communications among the whole community.
- Establishing task forces at the state level with the right federal, state and private personnel – most notably, the Mass Care Task Force. Task forces were formed ad hoc as an operational necessity during the exercise because of insufficient plans. The task forces did enable an integrated approach to problem solving. However, a down side of ad hoc formation of multiple task forces was the drain on available personnel in other sections and ESF positions.
- Logistics synergy – interagency teamwork among the SEOC General staff and resource providers.
- WebEOC, the web-based emergency management information sharing system. Once power was restored, the use of WebEOC at the federal, state, and several local jurisdictions, flattened operational communication and improved common understanding of the situation and response activities.
- Policy group - being available on-site to make decisions and/or provide direction.
- New State EOC Standard Operating Procedures (SOP) – updated in 2014-2015 following the SEOC experiences in the SR530 Slide and the unprecedented 2014/2015 Wildfires.
- SEOC Training Program – sustaining a formal training program for EOC staff.
- Limited English Proficiency Program – State –level, established in 2016.

## APPENDIX A: STRATEGIC AND OPERATIONAL IMPROVEMENT PLAN

This IP has been developed specifically for Washington state as a result of Cascadia Rising/Vigilant Guard conducted on June 5-13, 2016.

Summary of Strategic Recommendations		
Core Capability	Issue/Area for Improvement	Recommended Corrective Action
Mitigation	Sustainable Funding	Develop sustainable funding for emergency preparedness
	Resilient Washington	Implement Resilient Washington
		Establish a Resilient Washington sub-cabinet
Planning	Resource Government Emergency Planning	Resource state agencies to complete catastrophic plans
	Continuity of Government	Develop Continuity of Government plans at local, state, and tribal level
	Emergency Powers	Establish legal path for Governor to waive specific statutes to enable life safety following a catastrophic disaster
Mass Care	Task Force Cadre	Develop, establish, train, and exercise a Mass Care Task Force cadre from the public and private sector
Planning	Governor's Emergency Powers	Propose bill to restore flexibility of Governor's emergency powers during a state of emergency

## Summary of Operational Recommendations

Core Capability	Issue/Area for Improvement	Recommended Corrective Action
Operational Coordination	UCG	Clarify roles of key leaders
	Span of Coordination	Reduce span of control to suitable level
	SEOC-JOC Collaboration	Improve collaboration
	Energy Sector	Continue to build on relationships and planning
Situational Assessment	State-level Situational Assessment	Improve all facets of Situational Assessment
	Scientific/Engineering Collaboration	Establish a Washington Technical Clearinghouse
Mass Care	Mass Care Framework	Improve the Mass Care Framework (Catastrophic Disaster)
Critical Transportation	Training and Education	Train/educate state stakeholders on expectations for transportation restoration, nuances of ESF 1 at the state level Clarify reporting relationships among the jurisdictions and agencies that own/operate critical transportation infrastructure (i.e. non-state air/sea ports)
Public Health and Medical Services	Patient Movement	Develop state-wide patient movement planning
	Fatality Management	Assist local jurisdictions to increase fatality management capability
Operational Communications	ARES/RACES	Improve ARES/RACES integration and training with Emergency Management
	GETS/WPS	Review distribution and test codes/train staff
	TERT	Educate jurisdictions on TERT capability
Planning	Catastrophic Plans	Draft State Catastrophic Incident Plan
	ESF 20 Plan	Finalize the concept plan into an operational plan
	State Agency Planning	State Agency Catastrophic Annexes
	PIO Planning	Develop a PIO Playbook
Search and Rescue	Light Rescue	Cross-train Wilderness Light Rescue for Urban Search and Rescue

## APPENDIX B: STATE EOC TACTICAL FINDINGS AND IMPROVEMENT PLAN

The State Emergency Operations Center (SEOC) serves as a single point of contact for the authorizing of state resources or actions in response to and recovery from natural, technological, or human caused emergencies or disasters. It operates following the principles of the National Incident Management System (NIMS) and the Incident Command System (ICS), and includes representation from all appropriate state agencies filling Emergency Support Functions as needed by the nature, size, and complexity of the incident.

The SEOC is a permanent facility located in Building 20 on Camp Murray. Pursuant to RCW 38.52.030, the SEOC will include representation from all appropriate state agencies. A detailed description of SEOC procedures and organization is maintained in the *Washington State Emergency Operations Center Standard Operating Procedures Manual*, published separately.

POETE	Core Capability	Area of Improvement	Recommendation
Plans/SOPs	Planning	Establishing task forces	Re-examine task force establishment, location, and collaboration with each other and SEOC
		Policy Room procedures	Establish policy room procedures for situational awareness of all members and expectations (tasks)
		Update Governor's proclamation procedures	Plan to issue a basic Governor's emergency proclamation immediately - authorizing National Guard and EMAC. Follow-up with more detailed proclamation as information becomes available.
		<u>SEOC Meetings</u> <ul style="list-style-type: none"> <li>• Meetings were too long</li> <li>• Meetings were overcrowded</li> <li>• IMATs have different meeting standards</li> <li>• ESF reps not clear on type of information and level of detail required</li> <li>• SEOC briefings not available via web conferencing</li> </ul>	<ul style="list-style-type: none"> <li>• Establish and enforce a standard format – agenda and information requirements</li> <li>• Establish and enforce standard attendance</li> <li>• Develop a standard for integrated State-FEMA meetings (work with Regional IMAT)</li> <li>• Enable web conferencing for daily operation brief to SEOC vice just audio/phone</li> </ul>



		<p><u>Common Operation Picture</u></p> <ul style="list-style-type: none"> <li>• Currently too many collection/tracking systems</li> <li>• Confusion between Operations, Planning sections on information gathering roles/relationship</li> <li>• Monitoring, analysis of social media data needs to be improved</li> <li>• Continuity between shifts needs to be improved</li> </ul>	<ul style="list-style-type: none"> <li>• Work toward integration of COP systems – ultimate goal of full integration with single point data entry that populates all systems</li> <li>• Review/ update data gathering roles and responsibilities for Operations and Planning holistically in SEOC SOP</li> <li>• Train individual positions regularly and exercise this process quarterly.</li> <li>• Establish procedures for using social media to inform assessments</li> <li>• Protect critical infrastructure information</li> <li>• Establish an SOP for the Heads Up Displays to improve shift continuity</li> <li>• Review the efficacy of the daily SEOC Situation Report</li> </ul>
		WebEOC	<ul style="list-style-type: none"> <li>• Add 'significant event' checkbox for all activity logs</li> <li>• Grant view access to activity logs for all sections</li> <li>• Link boards to ESFs (WSDOT infrastructure board to ESF 1; Mass Care to ESF 6; Build a board for other ESFs)</li> <li>• Add a function to resource tracker to allow alerts for ESFs that need awareness but do not have resources to assign</li> </ul>
		GIS processes	<ul style="list-style-type: none"> <li>• Develop an integrated GIS/Operations Section/Planning Section working group</li> <li>• Create formal process to requests mapping support</li> <li>• Develop prototypes for key specialty maps such as life safety (SAR/Medevac), mass care, critical infrastructure)</li> </ul>
		<p><u>Radio Room Procedures</u></p> <p>SEOC Radio Room developed new procedures during Cascadia Rising to</p>	<p>Capture procedures in an SOP and add as an annex to SEOC SOP.</p>

		process and share reports and requests to the SEOC floor.	
		<u>Clarify ICS 204/215 Procedures</u> In the exercise, likely due to the scope of damage and impact area, the SEOC operations section directed agencies who were utilizing their own assets for internal agency operations to list those assets on daily ICS 204 reports. Agencies reported only the assets used to support resource requests from local jurisdictions or other agencies.	Update the SEOC SOP to reflect that agencies report only the assets used to support resource requests from local jurisdictions or other agencies – not internal assets being used for internal agency operations, even if those operations are related to the incident.
		Mission Assignment Flow SOP	Establish an SOP within the SEOC for which sections and positions will contact local jurisdictions for more specific information on resource requests submitted previously
		<u>IAP Publishing</u> Hardcopies identified as still valuable but booklets require less paper.	Publish IAP as a booklet (2 pages per sheet) versus letter size document.
		Expanded SEOC Staffing/Operations for major disasters -or- use of SEOC/Camp Murray as a joint Initial Operating Facility (IOC)	Review the facilities, offices, terrain, and base resources used in Cascadia Rising for the IOC (bldgs. 20, 20B, 33) and document in an expansion/support plan
		Transition from State EOC to off-site Joint Field Office (JFO) following federal declaration	Review and update SEOC transition to JFO plan
Organization	Operational Coordination	WANG and CEMP ESF structure	Re-examine the most effective way to employ WANG into the CEMP ESF structure
		Private sector/business continuity	Develop a private sector continuity cell and SOP
	Resources	Donations and volunteer management	Examine need and placement of donations and volunteer management positions
	Situational Assessment	Earthquake/Tsunami Mitigation Program Manager	Clarify role of EMD Earthquake Program Manager during earthquake response activations

		Critical Infrastructure Assessments	Clarify relationship and responsibilities of Operations Infrastructure Branch, Planning Section Technical Specialists, and ESFs,
		GIS staffing	Increase GIS staffing in Planning Section (expand number of licenses and GIS support)
Equipment/Facilities	Operational Coordination	Update SEOC pod reference materials	<ul style="list-style-type: none"> <li>Review and update all SEOC distribution lists for SITREP and IAP</li> <li>Review the type of contact rosters available to SEOC staff and then update for both accuracy and completeness (for example – does the State EOC have a complete and accurate Tribal POC roster)</li> </ul>
		Section and pod equipment and references	Develop a checklist for all pod equipment and references – inspect quarterly to ensure all are updated
		<u>Standardized Forms</u> In the exercise, the radio room IC 213 was different than the rest of the floor.	Review all ICS forms used throughout SEOC to ensure they are standard.
		Critical Infrastructure Office (Room 123)	Employ a speaker in Rm 123 so it can be effectively used as an annex office to SEOC
	Operational Communications	Shared drive	Develop process/procedure to ensure all personnel working in the State EOC can access the EMD shared drive
Training	Operational Coordination	ICS skills	Sustain the organizational training program and scheduling/funding for courses that enhance skills and knowledge for SEOC positions
	Planning	State EOC plans and SOP knowledge	Conduct training that improves SEOC staff familiarization with the CEMP and stand-alone state hazard response and/or coordination plans

## APPENDIX C: WASHINGTON STATE PARTICIPANTS

This list identifies the state and local jurisdictions, government agencies, and major private and/or non-profit organizations that participated in the integrated Cascadia Rising/ Vigilant Guard exercise within the window of June 5 – 13, 2016. The list also identifies the federally recognized Tribal Nations located in Washington state that participated in the exercise. For a list of federal participants and organizations from other states refer to the FEMA Region X Cascadia Rising AAR. For a complete list of all public-private participating organizations at the local level, refer to published individual county and city after-action reports.

### **Tribal Nations**

Confederated Tribes of the Chehalis Reservation  
Jamestown S’Klallam Tribe  
Lower Elwha Tribal Community of the Lower Elwha Reservation  
Lummi Tribe of the Lummi Reservation  
Makah Indian Tribe of the Makah Indian Reservation  
Quinault Tribe of the Quinault Reservation  
Shoalwater Bay Tribe of the Shoalwater Bay Indian Reservation  
Skokomish Indian Tribe of the Skokomish Reservation  
Suquamish Indian Tribe of the Port Madison Reservation  
Swinomish Indians of the Swinomish Reservation  
Tulalip Tribes of the Tulalip Reservation

### **Local Jurisdictions**

Benton County  
Clallam County  
Franklin County  
Grays Harbor County

- Grays Harbor Hospital

Homeland Security Region (HSR) 3 Incident Management Team (IMT)  
HSR 4 (Clark, Cowlitz, Skamania, and Wahkiakum Counties)

- Clark County Public Health/Region IV

Island County  
Jefferson County  
King County

- Bloodworks Northwest
- City of Bellevue
- City of Kirkland
- City of Redmond
- City of Sammamish
- City of Shoreline
- Evergreen Health Medical Center
- Group Health Bellevue Ambulatory Surgery Center
- Group Health Capitol Hill Ambulatory Surgery Center
- MultiCare Auburn Medical Center
- City of Auburn
- City of Issaquah
- City of Mercer Island
- City of Renton
- City of Seattle
- City of Tukwila
- Harborview Medical Center
- Highline Medical Center
- MultiCare Auburn Medical Center
- MultiCare Covington Medical Center

- MultiCare Good Samaritan Hospital
- MultiCare Mary Bridge Children's Hospital and Health Center
- Northwest Kidney Center
- Providence Health & Services
- Rainier State School
- Sammamish Plateau Water & Sewer
- St. Elizabeth Hospital
- Swedish Medical Center, Ballard
- Swedish Medical Center, First Hill
- Swedish Medical Center, Redmond
- VA Puget Sound Medical Center (Seattle)
- Vashon Island
- Virginia Mason Medical Center
- Northwest Hospital
- Northwest Kidney Center
- Overlake Hospital Medical Center
- Public Health Seattle & King County
- Sammamish Citizen Corps Council
- Seattle's Children Hospital
- St. Francis Hospital
- Swedish Medical Center, Cherry Hill
- Swedish Medical Center, Issaquah
- UW Medical Center
- Valley Medical Center
- Swedish Edmonds Hospital

#### Kitsap County

- Bainbridge Island
- Harrison Medical Center – Bremerton
- Kitsap County Transit
- City of Poulsbo
- Harrison Medical Center – Silverdale
- West Sound Utility District

#### Lewis County

#### Mason County

#### Northwest Healthcare Response Network (NWHRN)

#### Pacific County

- Ocean Beach Hospital
- Willapa Harbor Hospital

#### Pierce County

- City of DuPont
- City of Lakewood
- City of Puyallup
- City of Sumner
- Group Health Tacoma Ambulatory Surgery Center
- MultiCare Allenmore Hospital
- MultiCare Good Samaritan Hospital
- MultiCare Tacoma General Hospital
- Pierce County Public Works Road Operations Division
- Port of Tacoma
- St. Anthony Hospital
- St. Joseph Medical Center
- VA Puget Sound Medical Center, American Western State Hospital Lake
- City of Fife
- City of Orting
- City of Roy
- City of Tacoma
- Multi-Agency Coordination Center
- MultiCare Covington Medical Center
- MultiCare Mary Bridge Children's Hospital
- Pierce Transit
- Pierce County Jail
- Rainier State School
- St. Clare Hospital
- Tacoma Pierce County Health Department
- Tacoma Public Utilities

#### Region 8 Public Health Region

#### San Juan County

#### Skagit County

#### Snohomish County

- Cascade Valley Hospital
- Community Transit

- Evergreen Health Monroe
- Providence Regional Medical Center Everett
- Swedish Edmonds Hospital
- Port of Everett
- Snohomish Health District
- Swedish Medical Center, Mill Creek

Spokane County

Thurston County

- City of Lacey
- City of Tumwater
- The Evergreen State College
- Thurston County Public Works
- City of Olympia
- St. Peter Hospital
- Thurston County Public Health

Walla Walla County

Whatcom County

- City of Bellingham

### **State Government**

Washington Emergency Management Division (EMD) – Washington State EOC

Washington Commission on Asian-Pacific Affairs (APA)

Washington State Department of Agriculture (WSDA)

Washington Department of Commerce

Washington Department of Ecology

Washington Department of Enterprise Services (DES)

Washington Department of Natural Resources (DNR)

Washington Military Department (MIL)

Washington National Guard (WANG)

WANG Joint Operations Center (JOC)

Washington State Department of Health (DOH)

Washington State Department of Licensing (DOL)

Washington State Department of Social and Health Services (DSHS)

Washington State Gambling Commission (GMB)

Washington State Guard (WSG)

Washington State Labor & Industries (LNI)

Washington State Patrol (WSP)

Washington State Department of Transportation (WSDOT)

Washington Technical Services Department

University of Washington (UW)

Washington State University (WSU)

### **Non-Profit**

American Red Cross

Salvation Army

### **Private Sector**

Amazon

Avista

Intel

Northwest Natural Gas

United Natural Foods, Inc.

Verizon

Amtrack

Comcast

Microsoft

Puget Sound Energy

T-Mobile

Walgreens

Sprint

Foss Maritime

Nintendo

Tropical Shipping

AT&T



## **APPENDIX D: REFERENCES**

### **Cascadia Rising Exercise Documents**

- Scenario Document, Cascadia Rising 2016, December 2014
- Exercise Plan, Cascadia Rising 2016, June 2016
- FEMA Region X After Action Report, Cascadia Rising 2016, September 2016
- WANG After Action Report, Vigilant Guard/Cascadia Rising 2016, October 2016 (Appendix E to this AAR)

### **Key Washington State Preparedness Plans and Documents**

- Washington State Comprehensive Emergency Management Plan, June 2016
- Washington State CSZ Playbook, June 2016
- Resilient Washington, November 2012
- Emergency Management Council 2015 Annual Report, March 2016

### **Cascadia Subduction Zone Information**

- Study commissioned by FEMA Region 10 and conducted by the National Infrastructure Simulation and Analysis Center Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) within the DHS Office of Infrastructure Protection, 2011 (Commonly referred to as the “FEMA HITRAC Study”)
- Cascadia Region Earthquake Working group (CREW) report describing the Cascadia Subduction Zone earthquake scenario, 2013

**APPENDIX E: WASHINGTON NATIONAL GUARD  
AFTER ACTION REPORT FOR VIGILANT GUARD AND  
CASCADIA RISING**



# Cascadia Rising 2016 Exercise

## Vigilant Guard

## Washington State

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After-Action Report

30 September 2016

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## SECTION 1: EXECUTIVE SUMMARY

<b>Exercise Name</b>	Vigilant Guard / Cascadia Rising 2016 Exercise
<b>Exercise Dates</b>	7 June – 12 June 2016
<b>Scope</b>	<p>Vigilant Guard – Washington (VG-WA) 2016 is Washington National Guard's Full Scale component of the Cascadia Rising 2016 (CR16) exercise. VG-WA engaged a large percentage of the Washington National Guard (WANG) and their Federal, State and Local partners while conducting a rehearsal of the Cascadia Subduction Zone response contingency plan (CSZ CONPLAN) across the State of Washington. The WANG employed elements of 10 subordinate Brigade Level command organizations under a single Joint Task Force - Washington (JTF-WA) while utilizing the Dual Status Command (DSC) concept. The general intent of JTF-WA is to provide Command and Control of military forces, both United States Code (USC) Title 10, and Title 32 while supporting local jurisdictions and Incident Commanders (IC) in support of the Governor of the State of Washington. JTF-WA operated from Camp Murray while seven subordinate Geographic Task Forces (GTF) operated in geographically dispersed and pre-identified Homeland Security (HLS) regions across the State. Two Functional Task Forces (FTF) provided aviation (at Gray Army Airfield) and Chemical Biological Radiological and Nuclear (CBRN) capability (at Fairchild Air Force Base) across the state. A Garrison Command operated from Camp Murray to provide life support capability to the State Emergency Operations Center's (SEOC) Initial Operating Facility (IOF) and JTF-WA.</p>
<b>Mission Area(s)</b>	Response and Recovery
<b>Core Capabilities</b>	<ol style="list-style-type: none"> <li>1. Operational Coordination</li> <li>2. Situational Assessment</li> <li>3. Mass Search and Rescue Operations</li> <li>4. Physical Protective Measures</li> <li>5. Intelligence and Information Sharing</li> <li>6. Operational Communication</li> <li>7. Critical Transportation</li> <li>8. Logistics and Supply Chain Management</li> <li>9. Environmental Response / Health and Safety</li> <li>10. Planning</li> </ol>
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. Rehearse CSZ CONPLAN</li> <li>2. Rehearse and validate alert/mobilize/deploy concepts in CSZ CONPLAN</li> </ol>

	<ol style="list-style-type: none"> <li>3. Rehearse and exercise command and control over GTF/FTF construct</li> <li>4. Rehearse Joint Reception Staging Onward-movement Integration (JRSOI)</li> <li>5. Coordinate with ICs and Emergency Managers (EM)</li> <li>6. Rehearse the airspace coordination and aviation employment plan</li> <li>7. Coordinate with State Entities</li> <li>8. Coordinate with National Entities</li> </ol>
<b>Threat or Hazard</b>	Full rupture of the Cascadia Subduction Zone seismic fault
<b>Scenario</b>	<p>Cascadia Rising is a scenario-based exercise incorporating estimated impacts caused by a M9.0 earthquake and resulting tsunami. A rupture of the 800-mile CSZ fault line located 50 to 80 miles off the Pacific Northwest coast, from British Columbia to Northern California, generates the earthquake. Damages affect three states and British Columbia with ground shaking up to 5 minutes, followed by numerous aftershocks, with several at M7.0+. Impact includes significant damage to critical infrastructure, 8 million citizens directly impacted in Washington and Oregon; 14,100 fatalities and 24,000 injured. The Homeland Infrastructure Threat and Risk Analysis Center's (HITRAC) 2011 CSZ study is foundational to the scenario, although modified to achieve targeted training objectives for all exercise participants.</p> <p>OPERATION CASCADIA RISING consists of three major nested exercises: CASCADIA RISING, VIGILANT GUARD, and ARDENT SENTRY. All exercises use the core dates of 7-10 JUN 2016; VIGILANT GUARD continues through 12 JUN 2016. ARDENT SENTRY part A paused during 11-12 JUN 2016, and resumed as part B from 13-16 JUN 2016</p>
<b>Sponsor</b>	The Washington Military Department (WMD), in cooperation with the Federal Emergency Management Agency (FEMA)
<b>Participating Organizations</b>	The Washington Military Department, FEMA, United States Northern Command (USNORTHCOM), numerous Washington State agencies, counties, cities, tribal organizations and port authority jurisdictions.
<b>Point of Contact</b>	<p>Lieutenant Colonel Clayton E. Braun  Deputy Joint Operations Officer (Deputy J-3), WANG  Joint Operations Center, BLDG 17, Camp Murray  Tacoma, WA. 98430-5000  253-512-8366 (office)  253-606-7734 (cell)  clayton.e.braun.mil@mail.mil</p>

## SECTION 2: INFORMATION COLLECTION AND AFTER-ACTION REPORT DEVELOPMENT

The development of this After Action Review (AAR) is a compilation of multiple deliberate efforts to gather actionable information to improve response planning for the CSZ rupture.

Gathered from multiple sources using multiple methods, the information compiled herein provides the most beneficial feedback possible. The following are primary sources:

- 1) The USNORTHCOM J7 (Vigilant Guard) staff observations
- 2) Internally solicited observations from all exercise participants in an Issue, Discussion, Recommendation (IDR) format
- 3) Homeland Security Exercise Evaluation Program (HSEEP) Exercise Evaluation Guides (EEG) completed by each subordinate element (staff and Command) to JTF-WA on pre-determined exercise objectives

This AAR is not all inclusive of the lessons learned during the Vigilant Guard exercise. Many of the 'Sustains' are not shown to save space. Lessons learned from exercise design will publish in a separate 'Exercise Design' AAR.

The format of this AAR document intends to follow the FEMA Homeland Security Exercise and Evaluation Program (HSEEP) guidelines in order to improve sharing of the information.

To assist in sharing and readability Appendix A: Acronyms, contains a listing of every acronym and abbreviation used in this document.

This document specifically represents findings and recommendations from the VIGILANT GUARD-WA exercise, and although some of the data may overlap with findings from the ARDENT SENTRY or CASCADIA RISING exercises, this document does not, necessarily, represent the findings or opinions of the exercise directors for those exercises.

## SECTION 3: STRATEGIC FINDINGS

The VIGILANT GUARD-WA exercise represents the first significant rehearsal of plans developed over three years and involving federal, state, tribal and local planning partners. The strategic findings are:

1. **The CSZ CONPLAN is a good start.** The planning effort is instrumental to a successful execution of a plan. The CSZ CONPLAN is NOT perfect, and leaves much to be improved. It is imperative that this planning effort continue.

2. **All State Emergency Support Functions (ESF) must conduct detailed planning for this disaster.** Planning partners must expend the capital and energy to pre-plan and synchronize their actions for this catastrophic event. State agencies, as organized by ESF, should develop linked plans under the Washington Emergency Management Catastrophic Incident Annex (CIA) and the Washington State CSZ Playbook, for the CSZ response.

3. **Partnerships are critical!** The partnerships and relationships developed in the planning and pre-execution of this exercise enabled the success of the exercise, and enable the success of the response. Continuing to foster and build these relationships is key to a successful response.

4. **We must adopt a “Push” mentality for this disaster!** The National Incident Management System (NIMS) and the National Response Framework (NRF) operate on a ‘Pull’ system that requires Incident Commanders (IC) to place requests based on the specific needs of the response. In a catastrophic disaster that expends precious time in an environment where time is critical, communications are limited, and situational awareness is difficult to achieve. Preplanning the ‘first wave’ of life saving resources and their movement and delivery all the way forward to the IC, absent any request, is key, but is foreign to the NIMS / NRF business model.

5. **The National Guard: The force of choice for domestic disaster response!** The response to a domestic disaster, particularly of the scale of a CSZ rupture, is a team effort and requires all of the nation’s resources. When military forces are used, the Guard has a direct connection to the community, is available to conduct pre-planning, connects to the intent of the Governor, is an “Operational Reserve” of the total force, and is less likely to impact national Mission Assurance requirements. Through Emergency Mutual Aid Compact (EMAC), Guard units and capabilities can be prepared to conduct rapid movement when needed. Although the Guard is the preferred resource for domestic military mission sets, we must always consider speed and capability. The resource that can arrive the quickest with the most capability is essential.

6. **Real time, national level coordination must improve.** This disaster requires a FEMA, USNORTHCOM, USTRANSCOM, NGB, and State representative cell at the national level to rapidly coordinate and solve resourcing and transportation challenges. Newly emerging doctrinal solutions must address the challenges of a multi-state catastrophic event for resourcing and transportation solutions that are rapid enough to prevent additional suffering.



## SECTION 4: ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core capabilities provides a method to evaluate and report preparedness while also conducting trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
OPERATIONAL COORDINATION		X		
SITUATIONAL ASSESSMENT			X	
MASS SEARCH AND RESCUE OPERATIONS			X	
PHYSICAL PROTECTIVE MEASURES				X
INTELLIGENCE AND INFORMATION SHARING		X		
OPERATIONAL COMMUNICATIONS			X	
CRITICAL TRANSPORTATION			X	
LOGISTICS AND SUPPLY CHAIN MANAGEMENT				X
ENVIRONMENTAL RESPONSE / HEALTH AND SAFETY		X		
PLANNING		X		

**Table 1. Summary of Core Capability Performance**

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

## Core Capability 1. Operational Coordination

### Observation 1.1: Sustain: CIV / MIL Cooperation

**Analysis:** The interaction between WANG personnel and their civilian counterparts proved to be highly effective during VG-WA16. Many of the cities and counties expressed a strong desire to continue their interactions and readiness training. GTFs continue to refine planning with civilian counterparts by assigning local service members to build enduring relationships.

**Recommendation:** Continue to engage our local partners in Emergency Preparedness planning, training and exercises. Issue annual training guidance to JTF-WA subordinate elements that directs continued planning and training efforts.



Washington Gov. Jay Inslee provides remarks at the kickoff press conference for Cascadia Rising / Ardent Sentry / Vigilant Guard exercise 2016

### Observation 1.2: Area for Improvement: ICS / NIMS Understanding

**Analysis:** Few Soldiers and Airmen that provide response during emergencies have a solid understanding of the National Response Framework (NRF) or the Incident Command System (ICS) prior to execution. Although the JTF-WA staff and many of the staff of the GTF/FTF complete basic ICS training, few personnel below the staff level conduct this training. This lack of knowledge can hinder and delay the ability of the Washington National Guard to respond effectively.

**Recommendation:** JTF-WA publishes guidance directing specific ICS/NIMS training by position assignment and recommends ICS/NIMS training based on grade for members of the Washington National Guard. Provides recommended ICS/NIMS training levels to EMAC partners.

**Observation 1.3: Area for Improvement: “Push” Asset Request**

**Analysis:** The post CSZ rupture environment will contain severely degraded communications, significantly hampered transportation capability, and be generally chaotic. In this environment, any delay in requesting resources translates into a life expectancy reduction for the victims of the disaster. Pre planning can minimize the time lost in this chaotic environment by scheduling those resources that will most certainly be needed, and pre-coordinating their movement forward, without any requirement for additional requests after the CSZ rupture. This ‘Push’ concept does not comply with the principles of the NRF or NIMS, and is foreign to most Emergency Managers and Incident Commanders. The traditional and universally accepted ‘Pull’ methodology will cost lives in this scenario. A mindset shift is required in order to achieve the least time lost for life saving capabilities.

**Recommendation:** JTF-WA planning continues the effort of pre-identifying first wave of response assets, gaining approval of these recommendations by local Emergency Managers, pre-coordinates necessary EMAC, and develops Time Phased Force Deployment Listing (TPFDL). This effort encompasses the pre-coordination of all first wave EMAC and includes transportation via EMAC air bridge assets to designated Air Points of Debarkation (APOD) within each HLS region. JTF-WA works with WA-EMD and local Emergency Managers to coordinate arrival actions (JRSOI) for arriving response assets.

**Observation 1.4: Area for Improvement: Air Operations Branch (AOB) / Air Operations Task Force (AOTF)**

**Analysis:** The AOB/AOTF mission set is not a typical military mission, and exists at the request of the aviation community in the State of Washington. The intent is to build an ICS-like Air Operations Branch capability and down trace, that is responsive to the SEOC AOB across the multiple HLS regions. This is a joint venture with the aviation community and Washington State Department of Transportation – Aviation Division (WSDOT-AVN), and primarily adds military staff to a civilian mission requirement. The AOB/AOTF concept, as exercised in VG-WA16, is still experiencing significant challenges in the definition of the mission requirements. One aspect that hinders the installation of regional AOTFs is the lack of a civilian entity in each region that an AOTF can augment. (No regional IMTs). The aviation missioning, prioritization, and airfield situational awareness are all valid requirements that lead to the development of an AOB/AOTF within each region, but further analysis and coordination is required.

**Recommendation:** JTF-WA should continue efforts with WSDOT-AVN and the civil aviation community to further define and coordinate this capability. The development of a specific task list for these entities will significantly assist the effort.

**Observation 1.5: Area for Improvement: Liaison Capabilities**

**Analysis:** JTF-WA liaison capability with the multitude of civil entities is critical. Rapidly identifying, prioritizing, and resourcing the liaison requirements is more difficult than initially forecast. The LNOs that JTF-WA provides must be very technically and tactically capable, fully aware of the resources that are available and the employment criteria for those assets. These individuals must be completely informed and understand the Commander’s intent for each echelon of command to include the Adjutant General (TAG), the Director of

Joint Forces (Dual Status Commander), and the regionally assigned Geographic Task Force Commanders (GTF). Additionally, these LNOs are significantly more capable when they have an existing relationship with the civil entities with which they will coordinate.

**Recommendation:**

- 1) Each GTF/FTF should identify and train (Domestic Liaison Operations Course – DLOC) LNOs for all of the significant jurisdictions within their assigned geographic regions. These LNOs should immediately begin to develop connectivity to their assigned civil entity by attending quarterly, semi-annual or annual meetings and/or training events with them.
- 2) JTF-WA should build a competent corps of LNOs that connect directly to the Emergency Support Functions (ESF) and specified state agencies in the SEOC. These LNOs should report directly to the J3 and represent the interests of the specific staff element their ESF or State agency requires. Liaisons should establish connectivity now, and maintain connectivity through periodic training events organized by the Emergency Management Division (WA-EMD).

**Observation 1.6: Area for Improvement: Request for Assistance (RFA) Process**

**Analysis:** The standard resource request process, based on the National Incident Management System (NIMS), requires an Incident Commander (IC) to identify shortfalls or gaps in their required resources, and then input a request. This request normally goes to their local Emergency Coordination or Operations Center (ECC/EOC) at the county, city, port or Tribal level. That ECC/EOC then seeks out the requested resource. If the resource is not available directly to that ECC/EOC via all of the avenues to seek resources that are available to them, then the issue is elevated to the higher ECC/EOC, typically the State Emergency Operations Center (SEOC). The SEOC seeks out the requested resource using the State level resources. If the State level resources cannot fill the identified gap, the SEOC submits a Request for Assistance (RFA) to the Lead Federal Agency (LFA), typically the Federal Emergency Management Agency (FEMA). FEMA then seeks out the requested resource using the 15 identified federal Emergency Support Functions that are comprised of the majority of the Federal Agencies. Upon identification of the fastest, most efficient, or best-suited resource, FEMA issues a Mission Assignment (MA) to the providing agency. That federal agency then provides the resource to the Incident Commander that initiated the request for employment. In Washington State, WebEOC (See Observation 2.1) is the system that manages that process. Unfortunately, not all of the jurisdictions, state agencies, and even FEMA systems are compatible with the WA-SEOC system. In a ‘normal’ disaster, we have some difficulty aligning RFAs for rapid and successful management. In a CSZ environment, delays and confusion in the resource request process could literally cost human lives.

During CR16 we experienced numerous time delays in RFA and resource request processing.

**Recommendation:** See Observation 1.3.

- 1) Contrary to the principles of NIMS, this response requires a shift in mindset from a PULL to a PUSH mentality by numerous Emergency Managers (EM). JTF-WA should coordinate with local Emergency Managers, WA-EMD and state ESFs to socialize the



‘PUSH’ concept. Universal acceptance of the ‘PUSH’ concept is required in order to execute without creating time delaying confusion.

2) The initial push of resources following the rupture of the CSZ MUST occur without any requests from local jurisdictions for initiation. Pre-identification and planning based on damage forecasts and assumptions allow pre-coordination to take place. Immediately after the CSZ rupture these ‘PUSH’ packages mobilize across the country and are delivered to the appropriate, pre-planned destination.

3) The adoption of a single synchronized resource request system that every user accesses is critical. Resource ordering systems at each echelon of response from local to federal should align, communicate, and clearly transmit resource requests, their status of fill, and their current mission status.

#### Observation 1.7: Area for Improvement: SEOC/ESF integration

**Analysis:** JTF-WA Integration with multiple state ESFs suffered due to a lack of assigned, technically competent personnel. The ESF 20 desk in the SEOC is the focal point of ESF coordination actions, typically manned by members of the Washington State Guard (WSG). During CR16, the personnel staffing the ESF 20 desk were not capable of identifying military solutions to identified needs. Two factors caused this issue:

- 1) There were not enough ESF 20 personnel available to assist the multiple ESF representatives simultaneously, and
- 2) The personnel manning the ESF 20 desk were not adequately prepared to speak on behalf of the JTF-WA Commander, were not senior enough to interface with senior SEOC and State Agency Representatives, or did not have a depth of knowledge on DOD resources in general and National Guard resources specifically.



The Washington State Emergency Operations Center (SEOC) main floor during CR 16.

#### Recommendation:

- 1) Staffing for the ESF 20 desk in the SEOC must include a senior member of the JTF-WA J3 staff. This individual must command excellent knowledge of resources in the National

Guard and good knowledge of assets across the DOD inventory. As JTF-WA provides additional LNOs to the individual ESFs, they shall report to the senior JTF-WA J3 representative at the ESF 20 desk in order to verify and vet resource requests for JTF-WA.

2) JTF-WA must provide adequately trained and educated personnel to each ESF to provide educated and competent staffing to solution sets for the ESF specific issues. For example, ESF 8 (Public Health and Mass Care) requires a JTF-WA liaison that is familiar with medical planning and capabilities across the DOD enterprise. JTF-WA must consider technical qualifications when assigning LNOs.

#### Observation 1.8: Area for Improvement: Operationalization of HLS regions

**Analysis:** In order to reduce span of control for military forces assigned to JTF-WA, planning created seven Geographic Task Forces (GTF) arrayed geographically across the state of Washington. Their assigned geographic areas of responsibility correlate to the pre-existing Homeland Security regions (HLS regions). The HLS regions are administrative groupings of jurisdictions at the county level and below that provide mutual aid and assistance. Aligning the GTFs with the HLSs capitalized on the numerous pre-existing relationships in the Emergency Management community and serves to strengthen those relationships by creating training opportunities, furthering planning efforts, and adding resource availability in an All Hazards environment. Incorporation of the GTFs allows the HLS regions to move toward becoming operational. However, in the absence of a civil authority at the regional level, the remaining appearance is that the military headquarters is responsible for allocation of response resources. The GTF headquarters **are not** empowered to prioritize response assets within their assigned regions; that is a civil emergency management function. A lead civil entity at the regional level is required in order to provide regional prioritization of resources and to reduce the span of coordination for the SEOC and response elements in the state of Washington.

**Recommendation:** JTF-WA envisions the need for, and strongly desires the creation of, a civil regional response coordination capability. Response elements operating in the State of Washington cannot adequately respond to 39 counties, 24 federally recognized tribes, and numerous cities and ports simultaneously. Reduction of the span of coordination across the state in a major disaster is necessary for an efficient response.

1) The operationalization of the existing HLS regions appears to be the preferred course of action. Although not necessarily a perfect construct, the HLS regions do exist and represent a 12-year effort in relationship building. To change that system or create a new one will likely delay the ability to move toward operationalization by a significant timeline.

2) The method used to operationalize regionally could be one of several COAs. The creation of regional Unified Area Commands (UAC) using IMT constructs, regional Unified Coordinating Groups (UCG), or regional Emergency Operations Centers are all potential solutions, each bearing its own cost, training and resource requirements. Key to this effort is ensuring that any regional coordinating construct fairly represents all necessary jurisdictions within that region. Ultimately, response efforts achieve more efficiency when standardized regional coordination elements exist. Either way, the Washington Emergency Management Division must champion this effort, as it is a civil emergency management function. JTF-WA should monitor and support this effort.

**Observation 1.9: Sustain:** Title 10/32 Command and Control Structure / JTF-X / JTF-32

**Analysis:** USNORTHCOM established an intermediate headquarters with responsibility of oversight of Title 10 resources employed in support of the response. This responsibility includes the reception and staging of forces not yet called into action, and the oversight of those assets assigned to the DSC. This headquarters, called JTF-X, formed around the nucleus of an existing staff, but required augmentation to sustain the high level of operations required in the CR16 exercise. The JTF-X headquarters formed at the Two Star level, allowing parity with the Adjutant General in each state.

**Recommendation:** The establishment of JTF-X, although not perfect, was a huge success. Allowing the Dual Status Commander to report to a Title 10 Commander that is equal in rank to the Adjutant General prevents any significant rank disparity problems. Additionally, and more importantly, JTF-X relieved the DSC of USNORTHCOM direct reporting requirements. The DSC staff is already near (or exceeding) task saturation; any relief of requirements associated with responding to the staff of a four star command is helpful. The JTF-X liaisons integrated well and provided useful input. Sustain the JTF-X concept, but provide staff augmentation to allow JTF-X to train with the appropriately sized staff for the mission.

An additional observation, as we increase understanding of the magnitude of a response to the CSZ rupture, is a potential need for a Title 32 structure similar to JTF-X in concept, but directly representing NGB. This concept provides a Command / Coordination cell to assume responsibility for coordination, scheduling, and JRSOI of Title 32 rotational forces after the initial push. This cell would represent the NGB requirements across the entire affected area and could stage resources for more responsive employment.

## **Core Capability 2. Situational Assessment**

**Observation 2.1: Area for Improvement:** Synchronization and Knowledge Management (KM) Systems.

**Analysis:** JTF-WA, SEOC, FEMA, and our many partners at the National, State and local levels used different systems during CR16 to synchronize Situational Awareness (SA), capture KM, and request resources. In general, participants reported frustration over the number and variety of these systems, and their lack of integration.

The Washington Information Sharing Environment (WISE) is the WANG's and EMD's primary system for SA. The WISE is a Washington owned and operated system, developed locally, with internal resources. When used properly, this system provides geospatial data and user created overlays as a Common Operating Picture (COP) tool. Generally, military and civilian personnel at the GTF/HLS levels and below were unfamiliar with the tools and functionality the WISE provides. Adding business rules (i.e. access controls, date/name stamp) to the WISE will assist in the hygiene and utilization of the system. The use of the WISE at the local EM level was minimal. Many of the EMs appreciated the capability the WISE provides, but are unfamiliar with electronic systems for SA and operational tracking; EMs are typically a resource consumer and seldom track resources. Most of these EMs use legacy systems for mission tracking (i.e. analog maps, white boards, Excel spreadsheets).

The JTF-WA J2 used DOMOPS Awareness and Assessment Response Tool (DAART) extensively to capture, manipulate, and disseminate Incident Awareness and Assessment (IAA) products. The DAART system worked very well to share and display the IAA products. Unfortunately, these DAART products/feeds were not loaded into the WISE.

WebEOC is a web-based tool commonly used by EMs at the federal to local levels to manage resource requests and tracking. Use of WebEOC across the multiple echelons of government is not standard, and is not capable of sharing data between state and federal entities. The SEOC uses WebEOC extensively, as do most state agencies and county level EMs. JTF-WA is a WebEOC user, but units at the GTF level and below are not required to make entries into this system. Understanding WebEOC and its functionality can aid in the development of SA, and may allow coaching of partner civilian counterparts when necessary.

**Recommendation:** For better operational success, conduct a thorough review of WebEOC training requirements across JTF-WA subordinate units.

- 1) Further evaluation is required for SA, KM and tracking systems in order to identify the current 'best option' for movement forward. Standardization across all echelons of response requires heavy weighting in the decision criteria for that selection. A nationally maintained system that allows access to national, state, and local EMs for SA development, sharing of information, and knowledge management, should receive strong consideration. A current potential solution is the DAART system offered by National Guard Bureau (NGB).
- 2) Quality training conducted well in advance of need makes use of the many systems more efficient and less frustrating. Although time consuming and sometimes costly, training is necessary and will save lives. JTF-WA and GTF/FTF staff should plan and conduct training on WebEOC, WISE/DAART, and JIEE annually.



96<sup>th</sup> Troop Command Commander, COL Dan Dent, provides guidance to the Geographic Task Force #3 Operations Center during CR16.



## Core Capability 3. Mass Search and Rescue Operations

### Observation 3.1: Area for Improvement: Search and Rescue (SAR) Coordination

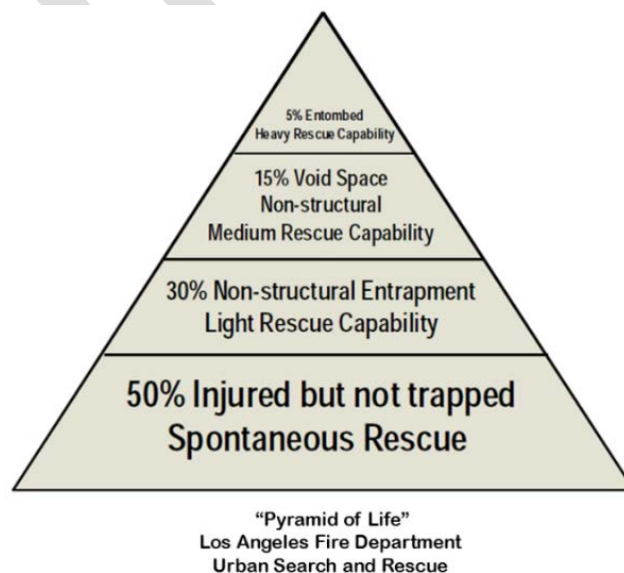
**Analysis:** Although significant pre-planning with all involved entities provided a detailed plan, the plan did not execute as published. Incorporation of new personnel and last minute modification of the existing SAR authority hierarchy created confusion and reduced unity of effort.

Joint Task Force SAR (JTF-SAR) is a newly created entity that is subordinate to the Title 10 military structure at either the USNORTHCOM or JTF-X level. JTF-SAR does not have a dedicated staff that is available to train together on the assigned mission set, and does not exist in day-to-day operations for pre-coordination of SAR effort. This created a “new” SAR player that is not integral to existing plans. As such, JTF-SAR is not included in state level SAR planning efforts. JTF-SAR is a rapidly deployable SAR coordination effort that exists to enable the SAR mission across the affected area, most likely multiple states. This role created some confusion as to the actual responsibilities of JTF-SAR in employment because SAR authority within the boundaries of each state is the responsibility of the state assigned SAR coordinator.

**Recommendation:** The task and purpose of JTF SAR requires reevaluation. If this requirement is valid, its resourcing model must change to provide a viable entity that can train and coordinate for this mission.

### Observation 3.2: Area for Improvement: Non-Technical Rescue

**Analysis:** In accordance with the Los Angeles Fire Department “Pyramid of Life”, the vast majority of life saving SAR occurs without the need for technical rescue. JTF-WA, to date, does not issue guidance to subordinate elements that directs maximum effort toward non-technical rescue.



**Recommendation:** The WANG CSZ CONPLAN should direct a significant amount of Applied Technology Council - 20 (ATC-20, Post Earthquake Safety Evaluation of Buildings) ATC - 21 (Rapid Visual Screening of Buildings for Potential Seismic Hazards) training across the unit formations in order to provide a large-scale understanding of hazardous versus safe structural damage. Additionally, the WANG should emphasize the role of Soldiers and Airmen in immediate lifesaving (SAR) efforts, using non-technical rescue capabilities. Maximum use of Civilian Emergency Response Team (CERT) training across our organizational structures will help achieve this goal.

#### Observation 3.3: Area for Improvement: SAR Aviation Coordination

**Analysis:** Once the response begins to stabilize, the direction of SAR aviation assets to new requirements must be de-conflicted with requests for medevac, logistics movement, personnel movements, etc. The SEOC Air operations Branch (AOB) and subsequent Air Operations Task Force (AOTF) down trace structures do not have a well-defined, coordinated, and rehearsed method for accomplishing this task.

**Recommendation:** The AOB / AOTF concept appears to have merit and ability to provide significant benefit to the response effort. This planning effort should continue to evaluate and define the roles of the AOB and the AOTFs.

## Core Capability 4. Physical Protective Measures

#### Observation 4.1: Area for Improvement: WANG Family Members

**Analysis:** WANG Service Members may be physically capable of providing response and assistance after the CSZ rupture, but due to concern for family members in the affected area, may elect not to report for assignment. Currently the CSZ CONPLAN does not provide specific guidance to WANG members with respect to securing our families.

**Recommendation:** Many of the Active Component planners in the affected area suggest that DOD will likely provide evacuation capability for the families of the Active Component military members in the affected area. This assumes the majority of the military family members have a support structure available at their Home of Record (HOR), and that their HOR is not in the affected area. For members of the WANG, we cannot make the same assumptions. In order to care for the family members of the WANG Soldiers and Airmen we must:

- 1) Encourage every Soldier and Airman to create a Family Care Plan for the CSZ scenario. If support structures exist outside of the affected area, Soldiers and Airmen should plan to evacuate family members to those areas.
- 2) Strongly encourage every Soldier and Airman in the WANG to plan to be resilient after the CSZ rupture. Clear guidance on survival methods, emergency medical capability, house, office, and car preparations, etc., will go a long way to ensure the survival and resiliency of our workforce.

- 3) Encourage Soldiers and Airmen to provide response capability as soon as possible after the response, but inform them that failure to respond due to family care requirements is not a punishable offense.

#### Observation 4.2: Area for Improvement: CSZ Facility Instructions

**Analysis:** In a CSZ event, WANG Service Members will assemble at their nearest WANG armory/facility. These personnel may be junior in grade or unfamiliar with the CSZ CONPLAN.

**Recommendation:** Recommend that each WANG facility have a mounted Emergency CSZ instructions box external to each facility. This box contains a checklist of what to do in a CSZ event and provides directions on how to communicate/report to the JOC/JTF-WA.

#### Observation 4.3: Area for Improvement: Garrison C2

**Analysis:** FTF Garrison (Life support on Camp Murray for the Initial Operating Facility / SEOC and JTF-WA) added another layer of responsibility for C2 under JTF-WA. This element, although critically important, is a role that is dis-similar to the maneuver role of the other JTF-WA subordinate elements, and serves to extend the span of control for the JTF-WA Commander.

**Recommendation:** Assign operational control of FTF Garrison as a separate command under HQ - WANG, while JTF-WA provides assets and resources in support. FTF Garrison should coordinate closely with the 194<sup>th</sup> Wing (GTF #5 Commander) to align appropriate resources for life support and security on Camp Murray. Together these entities should conduct detailed planning to refine Garrison capabilities and authorities to manage Camp Murray.



Disaster Relief Beddown System (DRBS) established on North Fort Lewis, simulates a Mass Care shelter facility for approximately 700 pax during CR16

**Observation 4.4: Area for Improvement: Facility Assessment**

**Analysis:** Currently the CSZ CONPLAN does not provide guidance on WANG facility assessment, reporting criteria, or priorities of work to re-establish capabilities. The CSZ CONPLAN does give priority to securing the facilities, particularly securing the Armaments, Ammunition, and Explosives (AA&E) that might be contained therein.

**Recommendation:**

- 1) Build into plan assessment criteria for usability of facilities and report mechanisms (priorities of work).
- 2) Emphasize ATC-20 and ATC - 21 training to members of every unit. Typically, these are 1 to 2 day exportable courses.

**Observation 4.5: Area for Improvement: Ammunition**

**Analysis:** Although the topic of arming Guard Soldiers and Airmen is unsavory, it requires preparations. Current stock levels of ammunition and explosives (Class V) is extremely limited. In fact, other than small amounts of security ammunition, the Guard does not have access to a standing stockpile of Class V. In the post CSZ environment the Guard will likely conduct security missions, may conduct law enforcement missions in support of local law enforcement agencies, and may provide engineering demolitions support to state agencies.

**Recommendation:** Identify local storage locations for Class V; enter into MOA/MOU with owners of local Ammunition Supply Points (ASP) and Ammunition Holding Areas (AHA) to gain access to Class V after the CSZ rupture. Develop logistical Class V draw, handling, and distribution plan for the post-CSZ environment. Develop priorities for distribution.

**Observation 4.6: Area for Improvement: Legal Policy for the CSZ Environment**

**Analysis:** The extreme emergency nature of the post CSZ environment will require exceptions to several existing policies, and development of several new ones. A dedicated planning effort focused on all the legal impacts of the CSZ to the WANG and JTF-WA is required.

**Recommendation:** Develop a legal planning team to conduct policy review, creation and modification in support of the CSZ CONPLAN. This team must identify all of the legal planning requirements, but some of the initial requirements are:

- 1) Review the standing Rules for Use of Force (RUF) established in the JTF-WA All Hazards Plan (Evergreen Guardian).
- 2) Review the policy governing civilian use of WANG facilities.
- 3) Create any required policy affecting WANG Soldiers and Airmen engaging in Law Enforcement activities.

## Core Capability 5. Intelligence and Information Sharing

**Observation 5.1: Area for Improvement:** Gathering, Handling and Disseminating Incident Awareness and Assessment (IAA)

**Analysis:** JTF-WA does not have the appropriate level of staffing to perform the IAA mission. The gathering of IAA data by military systems is a critical task that affects the entire response. Although in Cascadia Rising the J2 performed very well in this role, augmentation from several sources allowed the success. With the large amount of military resource that is capable of conducting IAA, JTF-WA may assume the IAA coordination mission for the state. This assumption makes sense due to interoperability requirements for most military systems capable of gathering IAA. Once gathered, this data must be accessible by all echelons of the response.

**Recommendation:**

- 1) Resource and train an enduring IAA cell. This requires external augmentation and will incur significant turnover. To combat the turnover, we must identify a standardized Program of Instruction (POI) and standard Tactics, Techniques and Procedures (TTPs).
- 2) Develop preferred tasking methodology and capability assignment. This effort will make resource selection after the CSZ rupture easier and faster. For example, this effort would discern the preferred asset to receive tasking between rotary wing and fixed wing assets.
- 3) Conduct more detailed pre-planning for IAA requirements. The creation of specific Named Areas of Interest (NAIs) on behalf of local EMs and State Agencies will allow faster tasking and gathering of data. To allow regional prioritization of missions, the IAA cell should arrange NAIs by HLS region.
- 4) JTF-WA must add an Operations and Information (O&I) synchronization meeting to its operational rhythm due to the large number of assets that are likely to become available to the IAA cell. At a minimum the J2 and J3 should attend the O&I Sync, others as required.

## Core Capability 6. Operational Communication

**Observation 6.1: Sustain:** Army Battle Command Systems (ABCS) and Joint Incident Site Communications Capability (JISCC)

**Analysis:** Unit equipped with ABCS systems attempted to employ them in CR16. For those units, the ABCS worked well. Unfortunately, not all units are equipped with the ABCS suite of systems. With the myriad of resources that are required to respond to the CSZ rupture, it is unlikely that ABCS connectivity across all of the disparate units will occur. This reality makes our ability to operate on civilian frequencies and in the civilian domain more important in domestic operations. Currently the Joint Incident Site Communications Capability (JISCC) allows this connectivity to occur. CR16 employed 14 JISCCs; making CR16 the largest JISCC exercise on record. JTF-WA experienced unprecedented success while employing JISCC operators and equipment across the exercise area.



**Recommendation:** Satellite bandwidth for the JISCC systems should increase. An individual system only provides a fraction of the bandwidth required to establish a functional Emergency Operations Center. The normal mode bandwidth of a block III JISCC is approximately 1.5Mb up/down. When compared to the normal bandwidth of a Cell on Light Truck (COLT) for a cellular provider that is approximately 25 Mb up/down, and is capable of increasing to 40 Mb up/down, the JISCC is a temporary fix at best. The JISCC ability to transport via rotary wing make it an early entry capability that is critical to the initiation of communications across the affected area, but satellite bandwidth when multiple JISCCs are employed becomes an issue, and should therefore also be increased.

**Observation 6.2: Area for Improvement:** Communications Equipment Operational Readiness

**Analysis:** Some units found their communications equipment operational readiness lower than forecast. Additionally, operators lacked appropriate training in more technical equipment like the PRC-150 and the PRC-117.

**Recommendation:** Unit Commanders should place greater command emphasis on the operational readiness of unit communication packages and training, to ensure appropriate levels of preparedness for the CSZ rupture. Emphasis is on satellite and HF radio capabilities, although line of sight resources are also critically required.

**Observation 6.3: Area for Improvement:** Primary, Alternate, Contingency, and Emergency (P.A.C.E.) Communications Planning

**Analysis:** Cascadia Rising provided significant opportunity to exercise alternate and contingency communications plans. Unfortunately, we did not take advantage of every opportunity. The JTF-WA initial net call experienced less success than desired, due to the severely degraded communications networks and unfamiliarity with the post CSZ environment. Heavy reliance on high frequency communications capability did not initially consider relative proximity and the need for systems to relay communications.

**Recommendation:** Relook communication PACE plan by HLS and disseminate to all regions. Conduct annual training and rehearsal of a full net call simulating the variety of systems available in early stages of CSZ event.

**Observation 6.4: Area for Improvement:** JTF-WA JOC Devolution

**Analysis:** JTF-WA JOC did not conduct full devolution in CR16 due to previous exercise efforts in Evergreen Tremor. Still, it is clear that further coordination, training, and rehearsals are required to ensure minimal loss of continuity and time after the CSZ rupture.

**Recommendation:** We must ensure GTF-East has the ability to replicate all functions of JTF-WA, including C2, communications, Common Operational Picture (COP), and KM until recovery from devolution is complete. This requires JTF-East to be technically proficient in all SA systems (i.e. WISE, WebEOC, etc.). JTF-WA should conduct a robust exercise program semi-annually to rehearse the transition to devolution.

**Observation 6.5: Area for Improvement: Long Haul Emergency Communications (HAM and Satellite Based Radio Systems and Techniques)**

**Analysis:** Currently the emergency management community places a high level of requirements and confidence in the civilian HAM radio networks due to the forecast that other systems are non-functional, post CSZ. This assumption permeates the JTF-WA planning as well. Although some discussion, training, and exercise efforts focused on the use of non-terrestrial based communications (satellite), this was limited. When analyzing the surviving communications infrastructure, using a PACE oriented architecture by communications echelon, is required.

**Recommendation:** Communications are critical in the response, which is no surprise. Effectively using the few surviving systems as efficiently as possible is clearly a critical desire at every echelon, and enables much of the response. To operate effectively and efficiently, the following are recommendations:

- 1) Clearly assigning roles of communication capability by response echelon assists in frequency / spectrum management, allows greater bandwidth, and increased use of digital communications at the appropriate echelons. Specifically, use HF and HAM radio assets at echelons below the county Emergency Managers. From the county EMs, and through higher echelons, the primary method of communications should be via satellite based systems, and digital whenever possible. These systems are costly, and take time to procure. Until the civilian community achieves this goal, the military should allocate these systems to each county EOC. Prepositioning equipment is the optimal solution, although unlikely due to logistical constraints. JTF-WA, SEOC, and county EMs should rehearse this communications construct annually.
- 2) To save bandwidth on limited radio frequencies JTF-WA must create brevity line reports for the GTF/FTF as SOP items. This requires a complete relook of the required reporting within JTF-WA. All reporting must be capable of transmission via the least capable source, or levels of reporting developed based on which method of communication is available.
- 3) JTF-WA must increase training and utilization of HF and HAM networks for WANG operators.
- 4) JTF-WA and subordinate GTF/FTF HQs must develop TTPs for procedures required when passing information over HAM radio nets to inform digital COP(s).

**Core Capability 7. Critical Transportation****Observation 7.1: Area for Improvement: Movement Control Group (MCG) Integration**

**Analysis:** The state and national CSZ response planning efforts resulted in the creation of a movement control plan. Cascadia Rising saw the first attempt at exercising this new plan. Contained within this plan are requirements for movement control entities at the national level and in each affected state. At the national level, FEMA forms the Movement Control

Cell (MCC) with representatives from multiple agencies. In the state, the MCG forms within the Initial Operating Facility (IOF), and has representatives from all required players within the state. In tandem, these entities determine movement priorities, methods and routes. Due to the recent creation of the MCG, it is not yet well developed, and not represented in many planning efforts.

**Recommendation:** Continue to develop familiarity with MCG requirements and add into the CSZ CONPLAN its roles and responsibilities. Detail how JTF-WA interfaces with the MCG, to include providing transportation support and responding to priorities established by the MCG.



US Army Reserve and Washington National Guard Soldiers establish Tiered Base on Vashon Island, conduct beach landing with JLOTS resources during CR16.

**Observation 7.2: Area for Improvement:** Reception and In-processing Planning (RIP), and Joint Reception, Staging, Onward movement, and Integration (JRSOI)

**Analysis:** CR16 did not significantly exercise RIP/JRSOI despite the significant pre-planning effort. RIP/JRSOI exercises were limited to GTF/FTF rehearsals of their assigned tasks, and did not include wholesale reception of out-of-state entities, either civilian (RIP), Title 10 or Title 32 (EMAC) military forces (JRSOI). The CSZ CONPLAN directs implementation by GTF East of the “Team RSOI” mission. Team RSOI is a very small portion of the larger RIP/JRSOI mission and only accounts for reception of lead elements at key locations across the State of Washington. Successful RIP/JRSOI of inbound resources is critical to efficient and effective employment of those resources by the Incident Commanders.

**Recommendation:** Due to the criticality of RIP/JRSOI, and the complexity of the mission set, we recommend the following actions:

- 1) Assign a specific RIP/JRSOI planning team to identify all resources available to conduct this mission set, its availability, and its deployable status. Resources are required at the



FEMA Incident Staging Base (ISB), the Title 10 Base Support Installation (BSI), and multiple National Guard Logistics Staging Bases (NGLSB). Additional resources are required at each forward response base (Tiered Base) that is operating as an APOD.

- 2) Clearly define which agency/entity is responsible for RIP/JRSOI at each location; i.e. Title 10 at the BSI, FEMA at the ISB, State at the APODs. Standardize RIP/JRSOI products and key tasks across all agencies to ensure each inbound resource receives the same data.
- 3) Exercise RIP/JRSOI deliberately and as a separate function until planning is complete. This exercise effort should receive a very high priority in overall CSZ planning. This planning should culminate with a RIP/JRSOI validation exercise.
- 4) Conduct detailed analysis for use of GTF-East's RSOI teams; what are their needs, training requirements, resourcing, and sustainment.

#### Observation 7.3: Area for Improvement: Lines of Communication Analysis (LOC)

**Analysis:** Transportation across the affected area is the single largest hindrance to the response. Gaining SA on the traffic-ability of the LOCs is a stated high priority for the SEOC. Up-to-date information on usability of different LOCs will greatly enhance the JTF-WA ability to provide relief to the residents of the State of Washington. Washington's ESF-1 (Washington State Department of Transportation (WSDOT)), is the designated manager for transportation in the response. WSDOT did not link directly to the IAA resources provided by JTF-WA for updates on the LOCs.

**Recommendation:** Develop direct linkage to WSDOT LOC assessment capability in order to provide constant updates to WSDOT from JTF-WA tasked IAA assets.

#### Observation 7.4: Area for Improvement: C2 of Aviation Resources at the GTF Level

**Analysis:** FTF Aviation is responsible for receiving, sustaining and missioning all assigned (OPCON/TACON) military intra-theater aviation assets. The FTF Commander is empowered to create the aviation support plan for resources operating in the State of Washington. Due, assumedly, to OPTEMPO and span of control, some of the GTF headquarters experienced delays in receiving requested aviation support, even though that support was available.



UH60 from the WANG 66<sup>th</sup> Theater Aviation Command conducts sling load operations during CR16

**Recommendation:** FTF Aviation should plan to create aviation task forces and assign them under tactical control (TACON) to each HLS regions GTF. This relieves the FTF Commander and staff of the specific mission assignment and tracking responsibility, places that responsibility on a Battalion level Commander and staff, and provides a more rapid reaction to each request. Ultimately, this allows the FTF Aviation Commander to focus on force structure across the affected area and the re-allocation of low density, high priority assets as required. FTF Aviation must ensure the effectiveness of the array of aviation and maintenance resources across the affected area.

**Observation 7.5: Area for Improvement:** Aviation Operations Standardization

**Analysis:** The CSZ response will rely heavily, at least initially, on rotary-wing sling load operations. Units tend to develop specific tactics, techniques and procedures (TTPs). FTF Aviation Commander must accept risk for all aviation operations conducted in support of JTF-WA, regardless of where the resources came from or which TTPs they are practicing.

**Recommendation:** In order to standardize aviation operations, specifically sling load operations, and potentially other hazardous aviation operations like 'Hot Refuel', FTF Aviation should create a simple Standard Operating Procedures (SOP) guide for incoming units. This SOP should focus on tasks that are required in the CSZ response, and should be pre-printed and ready for distribution. These SOPs should undergo a bi-annual review for accuracy. Any local Airspace Control Plans (ACP) should include this SOP as an annex and be issued to incoming forces during disasters in Washington State.

**Observation 7.6: Area for Improvement:** Airborne Operations

**Analysis:** In the post-CSZ environment, whole communities are isolated due to infrastructure damage. Heavy reliance on rotary wing assets for commodity delivery creates a large demand for aviation fuel. Moving fuel is difficult and hazardous. For large-scale commodities airdrop appears to be a significant solution that saves time, fuel, and very limited functioning airport ramp space.

**Recommendation:** The inclusion of airborne operations in outlying areas may be a viable option for delivering personnel and supplies into areas otherwise cut off from all other lines of communication or serviceable airfields. JTF-WA planning team should investigate the airdrop options for inclusion in RFA/MA planning.

## **Core Capability 8. Logistics and Supply Chain Management**

**Observation 8.1: Area for Improvement:** Preplanning for HLS Community Points of Distribution (CPOD)

**Analysis:** During Cascadia Rising there was significant confusion concerning the location of CPODs within each HLS region. This confusion caused some delays in directing relief supplies to their final points for distribution. Identifying and selecting the location for a given CPOD is the responsibility of the owning Emergency Manager.



56<sup>th</sup> IO Group (GTF #1) conducts medical supply distribution in conjunction with 66<sup>th</sup> TAC and civilian agencies during CR16

**Recommendation:** JTF-WA subordinate GTFs should conduct preplanning with each county and city emergency manager to pre-identify CPOD locations based on population density. GTFs must conduct detailed planning with civilian counterparts to analyze CPODs planned within their locations to confirm / deny usability based on basic criteria like HLZ potential, etc. JTF-WA should collate this data and provide it to the SEOC for reference in the response. This level of detail greatly enhances the ability to initiate relief efforts.

**Observation 8.2: Area for Improvement:** Tiered Base Tasks, Purposes, and Footprints

**Analysis:** JTF-WA will create a multitude of Tiered Bases across the State of Washington. These bases have varying levels of requirements, and differing tasks they must accomplish. These Tiered Bases are all dual tasked as either a State Staging Area (SSA), a Federal Staging Area (FSA), a National Guard Logistics Staging Base (NGLSB), or even an Incident Staging Base (ISB) or Base Support Installation (BSI).

**Recommendation:** Conduct a thorough assessment of tiered bases to identify operational footprint requirements. Identify specific tasks that each base must complete. Although this level of planning is well underway, Tiered Base expectations must synchronize at the local, State and Federal levels.

## Core Capability 9. Environmental Response

**Observation 9.1: Area for Improvement:** HLS Needs

**Analysis:** FTF CBRN (Chemical, Biological, Radiological, and Nuclear) will possess significant resource due to analysis of HAZMAT requirements across the affected area as forecast by the HITRAC study. A detailed analysis to allow development of a time phased force deployment list (TPFDL) for the resources provided to FTF CBRN is not complete. Prioritization of resources to preselected response areas is not determined.



Airmen from the 194<sup>th</sup> Wing conduct casualty triage, treatment and evacuation during CR16

**Recommendation:** Conduct analysis of predicted needs, by HLS, to pre-plan and direct CBRN response elements. This planning effort will validate initial planning efforts based on the HITRAC study.

- 1) FTF CBRN should conduct detailed planning with each HLS region, to determine optimal use for their assigned response capabilities, with consideration to regional priorities and resource distribution. This planning team must include representation from WA EMD and ESF 10 (Hazardous Materials Response), and may include ESF 11 (Agriculture and Natural Resources).
- 2) The culmination of this planning effort may also inform the stationing of existing JTF-WA resources in the State of Washington.

## Core Capability 10. Planning and Coordination

### Observation 10.1: Sustain: TAG Guidance

**Analysis:** Clear guidance from TAG-WA directing the CSZ planning effort and exercise preparations allowed the Joint and Service Components to establish priorities for success.

**Recommendation:** Publish updated TAG guidance for continued CSZ planning and exercise expectations.

### Observation 10.2: Area for Improvement: Title 32, 502f (2) Request Process

**Analysis:** A national disaster of the scope and scale of the CSZ rupture will certainly warrant approval of Title 32, 502f (2) mobilizations across the nation. There is currently no clearly published request process for this type of mobilization, nor are clear thresholds described that would authorize these types of mobilizations.

**Recommendation:** Continue to work with our Federal partners to refine the 502f (2) process.



**Observation 10.3: Area for Improvement: Definition of GTF Requirements**

**Analysis:** Response to the CSZ rupture is non-standard and uses non-standard organizational structures to accomplish many required missions. Key to success is defining requirements in pre-planning in order to seek adequate resources to fulfill these requirements. The GTF headquarters each have responsibility for elements that are equal or greater in size than a standard Army Brigade. Damages incurred by the CSZ rupture will significantly inhibit the ability of the WANG to mobilize units. Clearly defining each GTF HQs specific mission requirements, and seeking appropriate resources to enable success, is critical.

**Recommendation:** JTF-WA should initiate a planning effort to define the operational requirements for each GTF headquarters. Once defined, the planning team should identify the likely percentage of available staff and the amount of augmentation required by each GTF headquarters. This planning effort allows identification of EMAC available assets to fill mission requirements.

**Observation 10.4: Area for Improvement: EMAC Process**

**Analysis:** Most of the JTF-WA Staff are unfamiliar with the EMAC process. This contributed to slow outcomes and confusion generated while attempting to coordinate resources.

**Recommendation:** Conduct value stream mapping for this process to streamline it further. Publish the refined method in the WANG All Hazards response plan (Evergreen Guardian) in order to inform the staff during any emergency.

**Observation 10.5: Area for Improvement: CSZ CONPLAN Annexes and Appendices**

**Analysis:** The current published version of the CSZ CONPLAN is a 'Final Draft'. The document requires significant effort to allow it to be executable. Several of the areas that require significant additional work include EMAC coordination, Protection Annex, Engineering Annex, Alert/Assemble/Report procedures, Medical Annex, etc.

**Recommendation:** Reorganize and reenergize the CSZ planning team to create an executable "Final" product that can publish in the near future. This document does not need to be 100 percent complete and correct, but must be executable. The CSZ planning effort must continue to refine the plan and improve the planning until it is either a perfect product or the earthquake begins.

## APPENDIX A: LIST OF ACRONYMS

Acronym	Term
<b>AA&amp;E</b>	Arms Ammunition and Explosives
<b>AAR</b>	After Action Report
<b>ABCS</b>	Army Battle Command System
<b>ACP</b>	Air Control Plan
<b>AHA</b>	Ammunition Holding Area
<b>AN/PRC</b>	Army Navy / Portable Radio Communications
<b>AO</b>	Area of Operations
<b>AOB</b>	Air Operations Branch
<b>AOTF</b>	Air Operations Task Force
<b>APOD</b>	Air Port of Debarkation
<b>ASP</b>	Ammunition Supply Point
<b>ATC-20</b>	Applied Technology Council – 20 (Post-EQ Safety Eval of Bldgs)
<b>ATC-21</b>	Applied Technology Council – 21 (Rapid Vis Screen for Seismic Haz)
<b>AVN</b>	Aviation
<b>BN</b>	Battalion
<b>BSI</b>	Base Support Installation
<b>C2</b>	Command and Control
<b>CBRN</b>	Chemical Biological Radiological Nuclear
<b>CERT</b>	Community Emergency Response Team
<b>CIA</b>	Catastrophic Incident Annex
<b>CIV</b>	Civilian
<b>Class V</b>	Fifth military classification of supply (Ammunition)
<b>COA</b>	Course of Action
<b>COLT</b>	Cell On Light Truck
<b>CONPLAN</b>	Contingency Plan
<b>COP</b>	Common Operating Picture

<b>CPOD</b>	Community Point Of Distribution
<b>CR16</b>	Cascadia Rising 2016
<b>CSZ</b>	Cascadia Subduction Zone
<b>DAART</b>	Domestic Awareness and Assessment Response Tool
<b>DLOC</b>	Domestic Liaison Officer Course
<b>DOD</b>	Department of Defense
<b>DOMOPS</b>	Domestic Operations
<b>DSC</b>	Dual Status Commander
<b>DOH</b>	Department of Health
<b>EEG</b>	Exercise Evaluation Guide
<b>EMAC</b>	Emergency Mutual Assistance Compact
<b>EOC</b>	Emergency Operations Center
<b>ECC</b>	Emergency Coordination Center
<b>EM</b>	Emergency Manager
<b>EMD</b>	Emergency Management Division
<b>ESF</b>	Emergency Support Function
<b>FEMA</b>	Federal Emergency Management Agency
<b>FSA</b>	Federal Staging Area
<b>FTF</b>	Functional Task Force
<b>GTD</b>	Ground Truth Document
<b>GTF</b>	Geographic Task Force
<b>HAM</b>	Amateur Radio Network
<b>HAZMAT</b>	Hazardous Materials
<b>HITRAC</b>	Homeland Infrastructure Threat and Risk Analysis Center
<b>HLS</b>	Homeland Security Region
<b>HOR</b>	Home of Record
<b>HQ</b>	Headquarters
<b>HSEEP</b>	Homeland Security Exercise Evaluation Program
<b>IAA</b>	Incident Awareness and Assessment

<b>IC</b>	Incident Commander
<b>ICS</b>	Incident Command System
<b>IMT</b>	Incident Management Team
<b>IOF</b>	Initial Operating Facility
<b>ISB</b>	Incident Staging Base
<b>J2</b>	Intelligence Section of Joint Staff
<b>J3</b>	Operations Section of Joint Staff
<b>JIEE</b>	Joint Information Exchange Environment
<b>JISCC</b>	Joint Incident Site Communications Capability
<b>JOC</b>	Joint Operations Center
<b>JRSOI</b>	Joint Reception, Staging, Onward movement, and Integration
<b>JRMPO</b>	Joint Regional Medical Plans Officer
<b>JTF-32</b>	Joint Task Force - Title 32 USC
<b>JTF-SAR</b>	Joint Task Force - Search and Rescue
<b>JTF-WA</b>	Joint Task Force – Washington
<b>JTF-X</b>	Joint Task Force – X (Title 10 USC)
<b>KM</b>	Knowledge Management
<b>LFA</b>	Lead Federal Agency
<b>LNO</b>	Liaison Officer
<b>LOC</b>	Line Of Communication
<b>MA</b>	Mission Assignment
<b>Mb</b>	Megabyte
<b>MCC</b>	Movement Control Cell
<b>MCG</b>	Movement Control Group
<b>MIL</b>	Military
<b>MOA/MOU</b>	Memorandum of Agreement / Memorandum of Understanding
<b>N-NC</b>	NORAD & US Northern Command
<b>NAI</b>	Named Area of Interest
<b>NGB</b>	National Guard Bureau



<b>NGLSB</b>	National Guard Logistics Staging Base
<b>NIMS</b>	National Incident Management System
<b>NRF</b>	National Response Framework
<b>O&amp;I</b>	Operations and Information
<b>OPCON</b>	Operational Control
<b>OPTEMPO</b>	Operational Tempo
<b>PACE</b>	Primary, Alternate, Contingency, Emergency
<b>POI</b>	Program of Instruction
<b>RIP</b>	Reception and In-Processing
<b>RFA</b>	Request For Assistance
<b>RUF</b>	Rules for Use of Force
<b>SA</b>	Situational Awareness
<b>SAR</b>	Search and Rescue
<b>SEOC</b>	State Emergency Operations Center
<b>SOP</b>	Standard Operating Procedures
<b>SSA</b>	State Staging Area
<b>TACON</b>	Tactical Control
<b>TAG</b>	The Adjutant General
<b>TF</b>	Task Force
<b>TPFDL</b>	Time Phased Force Deployment List
<b>TTP</b>	Tactics, Techniques, and Procedures
<b>UAC</b>	Unified Area Command
<b>UCG</b>	Unified Coordinating Group
<b>USC</b>	United States Code
<b>USNORTHCOM</b>	United States Northern Command
<b>USTRANSCOM</b>	United States Transportation Command
<b>VGWA-16</b>	Vigilant Guard Washington 2016
<b>WA-EMD</b>	Washington Emergency Management Division
<b>WANG</b>	Washington National Guard

<b>WA-DOH</b>	Washington Department of Health
<b>WebEOC</b>	Web based Emergency Operations Center software
<b>WISE</b>	Washington Information Sharing Environment
<b>WMD</b>	Washington Military Department
<b>WSDOT</b>	Washington State Department of Transportation
<b>WSG</b>	Washington State Guard

## APPENDIX B: CORRECTIVE ACTION PLAN

This Corrective Action Plan (CAP) directs the Washington National Guard Joint Staff to conduct action to improve the CSZ response planning effort. Table B.1 provides an overview of the annotated recommendations in this report, the responsible element, and the required completion date.

For more detail on each action listed, see the “capability / observation” paragraph referenced in Section 4 (Analysis of Core Capabilities) of the CR/VG-WA16 AAR.

Table B.1 Corrective Action Plan Matrix

Capability / Observation	Recommendation	Action	Responsible Element	Completion Date
Operational Coordination				
1.1.a	Sustain CIV / MIL Cooperation	Continue to engage our local partners in Emergency Preparedness planning, training and exercises.		
1.1.b	Sustain CIV / MIL Cooperation	Issue annual training guidance to JTF-WA subordinate elements that directs continued planning and training efforts.		
1.2.a	ICS / NIMS Understanding	Publishes guidance directing specific ICS/NIMS training by position assignment and recommend ICS/NIMS training based on grade for members of the Washington National Guard.		
1.2.b	ICS / NIMS Understanding	Provide recommended ICS/NIMS training levels to EMAC partners.		
1.3	Improve “Push” Asset Request	JTF-WA planning continues the effort of pre-identifying first wave of response assets, gaining approval of these recommendations by local Emergency Managers, pre-coordinates necessary EMAC, and develops Time Phased Force Deployment Listing (TPFDL).		
1.4	AOB/AOTF improvement	JTF-WA continues efforts with WSDOT-AVN and the civil aviation community to further define and coordinate this capability. The development of a specific task list these entities will action, will significantly assist the effort.		
1.5.a	Improve Liaison Capabilities	Identify and train (Domestic Liaison Operations Course – DLOC) LNOs for all of the significant jurisdictions within assigned geographic regions.		
1.5.b	Improve Liaison Capabilities	Build a competent corps of LNOs that connect directly to the Emergency Support Functions (ESF) and specified state agencies in the SEOC.		
1.6	Request for Assistance Process	Pre-identification and planning based on damage forecasts and assumptions allow pre-coordination to take place. Coordinate with local Emergency Managers. Reference observations 1.3 and 1.6.		
1.7.a	SEOC/ESF Integration	Identify staffing for the ESF 20 desk in the SEOC, to include a senior member of the JTF-WA J3 staff.		
1.7.b	SEOC/ESF Integration	Identify staffing for the ESF 20 desk in the SEOC. Consisting of adequately trained and educated personnel for each ESF, to provide competent support of solution sets for ESF specific issues.		

1.8	Operationalize HLS Regions	Coordinate with WA EMD to assist in development of a civil regional response coordination capability.		
1.9.a	T10/32 C2 JTF-X / JTF-32	Coordinate with USNORTHCOM to sustain the JTF-X concept, and provide staff augmentation to allow JTF-X to train with the appropriately sized staff for the mission.		
1.9.b	T10/32 C2 JTF-X / JTF-32	Coordinate with NGB to develop a Title 32 version of JTF-X, designed to provide coordination, scheduling, and JRSOI of Title 32 rotational forces after the initial push.		
<b>Situational Assessment</b>				
2.1.a	Sync and KM Systems	Conduct a thorough review of WebEOC training requirements across JTF-WA subordinate units.		
2.1.b	Sync and KM Systems	Evaluate SA, KM and tracking systems in order to identify the current 'best option' for movement forward.		
2.1.c	Sync and KM Systems	Plan and conduct training on WebEOC, WISE/DAART, and JIEE annually.		
<b>Mass Search And Rescue Operations</b>				
3.1	Search and Rescue (SAR) Coordination	Reevaluate the task and purpose of JTF SAR to confirm validity of requirement and adjust resourcing of current model.		
3.2	Non-Technical Rescue	Update WA NG CSZ CONPLAN to direct a significant amount of ATC 20 and ATC 21 (immediate structural assessment) training across the unit formations in order to provide a large-scale understanding of hazardous versus safe structural damage.		
3.3	SAR Aviation Coordination	Continue to evaluate the AOB / AOTF concept and define the roles of the AOB and AOTFs.		
<b>Physical Protective Measures</b>				
4.1.a	WANG Family Members	Encourage every Soldier and Airmen to create a Family Care Plan for the CSZ scenario.		
4.1.b	WANG Family Members	Publish clear guidance on survival methods, emergency medical capability, house, office, and car preparations, etc., to ensure the survival and resiliency of our workforce.		
4.2	CSZ Facility Instructions	Each WANG facility to have a mounted Emergency CSZ instructions box external to each facility. This box contains a checklist of what to do in a CSZ event and provides directions on how to communicate/report to the JOC/JTF-WA.		
4.3	Garrison C2	Assign operational control of FTF Garrison as a separate command under HQ - WA NG, while JTF-WA provides assets and resources in support		
4.4.a	Facility Assessment	Build into WA NG CONPLAN assessment criteria for usability of facilities and report mechanisms (priorities of work).		
4.4.b	Facility Assessment	Emphasize Applied Technology Council – 20 (ATC-20) (Post Earthquake Safety Evaluation of Buildings) and ATC – 21 (Rapid Visual Screening of Buildings for Potential Seismic Hazards) training to members of every unit		

4.5	Ammunition	Identify local storage locations for Class V; enter into MOA/MOU with owners of local Ammunition Supply Points (ASP) and Ammunition Holding Areas (AHA) to gain access to Class V after the CSZ rupture. Develop logistical Class V draw, handling, and distribution plan for the post-CSZ environment. Develop priorities for distribution.		
4.6	Legal Policy	Develop a legal planning team to conduct policy review, creation and modification in support of the CSZ CONPLAN. This team must identify all of the legal planning requirements.		
<b>Intelligence and Information Sharing</b>				
5.1.a	IAA	Resource and train an enduring IAA cell.		
5.1.b	IAA	Develop preferred tasking methodology and capability assignment.		
5.1.c	IAA	Conduct more detailed pre-planning for IAA requirements.		
5.1.c	IAA	Add an O&I synchronization meeting to JTF-WA operational rhythm.		
<b>Operational Communications</b>				
6.1	ABCS/JISCC	Satellite bandwidth for the JISCC systems should increase to account for when multiple JISCCs are employed.		
6.2	Communications equipment Operational Readiness	Unit Commanders should place greater command emphasis on the operational readiness of unit communication packages and training, to ensure appropriate levels of preparedness for the CSZ rupture.		
6.3	P.A.C.E. Comms Planning	Relook communication PACE plan by HLS and disseminate to all regions. Conduct annual training and rehearsal of a full net call simulating the variety of systems available in early stages of CSZ event.		
6.4	JTF-WA JOC Devolution	Ensure GTF-East has the ability to replicate all functions of JTF-WA, including C2, communications, Common Operational Picture (COP), and KM until recovery from devolution is complete.		
6.5.a	Long haul communications	Clearly assigning roles of communication capability by response echelon.		
6.5.b	Long haul communications	Create brevity line reports for the GTF/FTF as SOP items.		
6.5.c	Long haul communications	Increase training and utilization of HF and HAM networks for WANG operators.		
6.5.d	Long haul communications	Develop TTPs for procedures required when passing information over HAM radio nets to inform digital COP(s).		
<b>Critical Transportation</b>				
7.1	MCG Integration	Continue to develop familiarity with movement control group (MCG) requirements and add into the CSZ CONPLAN their roles and responsibilities.		
7.2.a	RIP/JRSOI	Assign a specific RIP/JRSOI planning team to identify all resources available to conduct this mission set, their availability, and their deployable status.		

7.2.b	RIP/JRSOI	Clearly define which agency/entity is responsible for RIP/JRSOI at each location; standardize RIP/JRSOI products and key tasks across all agencies.		
7.2.c	RIP/JRSOI	Exercise RIP/JRSOI deliberately and as a separate function until planning is complete.		
7.2.d	RIP/JRSOI	Conduct detailed analysis for use of GTF-East's RSOI teams; what are their needs, training requirements, resourcing, and sustainment.		
7.3	Lines of Communication Analysis	Develop direct linkage to WSDOT LOC assessment capability in order to provide constant updates to WSDOT from JTF-WA tasked IAA assets.		
7.4	C2 of Aviation Resources	Create aviation task forces and assign them (TACON) by HLS region.		
7.5	Aviation Operations Standardization	In order to standardize aviation operations, develop a simple Standard Operating Procedures (SOP) guide for incoming units.		
7.6	Airborne Operations	Research and analyze viability of airdrop options, for inclusion in RFA/MA planning.		
<b>Logistics and Supply Chain Management</b>				
8.1	CPOD Planning	Conduct preplanning with each county and city emergency manager to pre-identify CPOD locations based on population density		
8.2	Tiered Base Tasks, Purposes, and Footprints	Conduct a thorough assessment of tiered bases to identify operational footprint requirements. Identify specific tasks that each base must complete.		
<b>Environmental Response / Health and Safety</b>				
9.1	HLS Needs	Conduct detailed analysis and planning with each HLS region, to predict needs and determine optimal use for their assigned response capabilities, with consideration to regional priorities and resource distribution.		
<b>Planning</b>				
10.1	TAG Guidance	Publish updated TAG guidance for continued CSZ planning and exercise expectations.		
10.2	Title 32, 502f (2) Request Process	Continue to work with our Federal partners to refine the 502f (2) process.		
10.3	Definition of Geographic Task Force Requirements	Initiate a planning effort to define the operational requirements for each GTF headquarters. Once defined, identify the likely percentage of available staff and the amount of augmentation required by each GTF headquarters		
10.4	EMAC Process	Conduct value stream mapping for the EMAC process to streamline it further. Publish the refined method in the WA NG All Hazards response plan (Evergreen Guardian) in order to inform the staff during any emergency.		
10.5	CSZ CONPLAN Annexes and Appendices	Develop / finalize WA CSZ CONPLAN annexes/appendices; EMAC coordination, Protection Annex, Engineering Annex, Alert/Assemble/Report procedures, Medical Annex, etc.		

## APPENDIX F: UNDERSTANDING THE EXERCISE THROUGH MEDIA COVERAGE

Cascadia Rising and Vigilant Guard was a large exercise with thousands of participants. Organizations conducted activities appropriate for their geographic locations and level of response. While the state after action report provides the reader with the lessons learned to drive improvements in preparedness, it does not provide a sense of the depth and breadth of the exercise experience. This annex provides a snapshot of media stories on exercise preparations, conduct, and impressions from a variety of perspectives – local, state, and national.

Within a week after the exercise conclusion, a Google search presented hundreds of articles on Cascadia Rising. These include both the danger presented by the Cascadia Subduction Fault itself, and the full-scale exercise conducted in the Pacific Northwest to test preparedness.

### Pre-exercise

The majority of media information was either pre-exercise or coverage during the actual event itself. The days prior to the start of the exercise showed worldwide interest in Cascadia Rising. Not only was the attraction for the sheer size of the operations, but also for the relevance to so many other locations around the world. Catastrophe knows no bounds.

1. At the forefront of a media blitz was an article in the New Yorker magazine in 2015. Labeled as “the worst natural disaster in the history of the continent,” it painted a very bleak picture of the aftermath. This article sparked worldwide interest and conversation about the hazard and the upcoming exercise.

<http://www.newyorker.com/magazine/2015/07/20/the-really-big-one>



The next full-margin rupture of the Cascadia subduction zone will spell the worst natural disaster in the history of the continent. Credit Illustration by Christoph Niemann; Map by Ziggymaj / Getty



2. In April of 2016, FEMA posted a website that highlighted several facets of Cascadia Rising. It covered exercise partners, resources, public and media resources, FAQs, and social media shareables and timelines. It was a valuable one-stop tool to get a feel for the upcoming exercise.  
<https://www.fema.gov/cascadia-rising-2016>
3. At the local and state level, many media outlets covered how their local jurisdictions were going to participate in Cascadia Rising. Stories were in print media, on radio, and televised. They covered basic governmental responses and how the community could be involved. A consistent theme throughout the coverage was how the exercise would test emergency response and preparedness of both government agencies and the civilian population. Below are some examples:
  - a. DailyWorld.com Grays Harbor  
<http://thedailyworld.com/news/local/cascadia-rising-get-ready-rumbling>
  - b. Bellingham Herald - Whatcom County - Highlights 7 things to know about Cascadia Rising  
<http://www.bellinghamherald.com/news/local/news-columns-blogs/dean-kahn/article81696002.html>
  - c. Spokane Inlander Weekly gave a good overview of the exercise and threat  
<http://www.inlander.com/Bloglander/archives/2016/06/06/responders-prep-this-week-for-the-big-one-during-cascadia-rising-2016>
  - d. KING 5 Television did a story on the upcoming exercise describing it as “the most complex disaster this area has ever seen.”  
<http://www.king5.com/news/local/cascadia-rising-disaster-drill-this-week/233979316>
  - e. KPLU radio aired a story about Northwest readiness for “The Big One.”  
<http://www.kplu.org/post/cascadia-rising-earthquake-drill-will-test-northwest-readiness-big-one>



Lt. Col. Clayton Braun, of the Washington State Army National Guard, at Camp Murray in Washington State in front of a slide showing areas that would be vulnerable to tsunamis after a massive earthquake. *Ted S. Warren / AP Photo*

4. Across the nation several media outlets either wrote their own story or picked up on a widely circulated AP Wire story on Cascadia Rising.

- a. ABC/FOX in Missoula MT ran a story about eastern Washington leaders planning their response.

<http://www.abcfoxmontana.com/story/32178435/cascadia-rising-local-leaders-take-part-in-round-table-to-discuss-eastern-wa-response-to-big-earthquake>



- b. The Denver Post <http://www.denverpost.com/2016/06/04/massive-rehearsal-planned-for-northwest-mega-quake-tsunami/>; New Jersey Herald <http://www.njherald.com/article/20160607/AP/306079934#>; Detroit News.com <http://www.detroitnews.com/story/news/nation/2016/06/03/doomsday-drill/85348692/>; and the Hastings Tribune in Hastings, NE [http://www.hastingstribune.com/rehearsal-for-mega-quake-catastrophe-starts-in-northwest/article\\_00d4247c-a30c-5ab9-bebb-802f7dabd9df.html](http://www.hastingstribune.com/rehearsal-for-mega-quake-catastrophe-starts-in-northwest/article_00d4247c-a30c-5ab9-bebb-802f7dabd9df.html), all published the AP story to their readers.

- c. Although not shared in this annex, the other states participating, Oregon and Idaho, ran numerous media stories within their jurisdictions as well.

5. International media that ran stories on Cascadia Rising.

- a. Himalayan Times

<https://thehimalayantimes.com/science-technology/massive-rehearsal-planned-northwest-mega-quake-tsunami/>

- b. Japan Times

<http://www.japantimes.co.jp/news/2016/06/06/world/ready-to-rumble-massive-rehearsal-planned-for-u-s-northwest-mega-quake-tsunami/#.V3v2q01TG70>

- c. As a co-player, British Columbia saw its press run stories as well  
<http://www.cbc.ca/news/canada/british-columbia/cascadia-rising-earthquake-drill-1.3616078>

### Exercise Conduct

During the actual exercise, stories focused on the amount of effort being put into the exercise activities. Following is a sampling of media stories published during the exercise.

1. KPLU radio aired a story focusing on Vashon Island and how they would be sustained during a CSZ event. As there is no bridge to the island, bringing in supplies by water was a high visibility part of the exercise.

<http://www.kplu.org/post/vashon-island-prepares-big-one-cascadia-rising-earthquake-drill>



Landing at Jensen Point



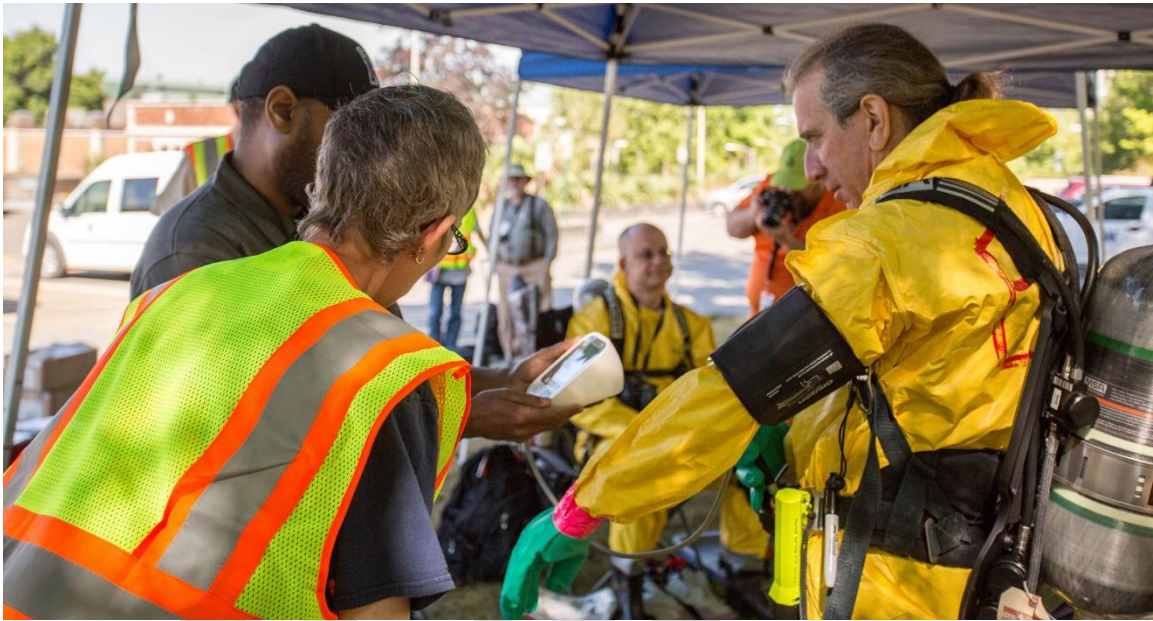


Disembarking the barge onto Jensen Point



Voice of Vashon, the low powered FM station broadcast earthquake emergency safety advisories during the exercise.

2. Smithsonian Magazine published an article during the exercise, calling it, “The mother of all disaster drills for what could be the worst disaster in American History.”  
<http://www.smithsonianmag.com/smart-news/heres-how-pacific-nw-preparing-big-one-180959354/?no-ist>
3. In an ever-expanding list of participants, the University of Washington was an active player, both at their level and in assisting the Washington State EOC with exercise evaluation.  
<https://facilities.uw.edu/blog/posts/2016/06/08/cascadia-rising-uw>



Emergency response teams at the University of Washington gear up in hazmat suits and other personal protective equipment for the Cascadia Rising earthquake drill.



Campus engineers **Tom Pittsford** and **Jim Morin**, both members of the University’s ATC-20 team, fill out paperwork after inspecting the RR wing of the University of Washington Medical Center/Magnuson Health Sciences Building.



4. One of the strengths of the Cascadia Rising exercise was its reach to as many locales and agencies as possible. Even a small, isolated pocket of the United States that seems like it should be in Canada, was not forgotten. The community newspaper in Point Roberts kept their citizens apprised of exercise events.

<http://www.allpointbulletin.com/2016/06/10/cascadia-rising-drill-brings-blackhawk-to-point-roberts/>



Simulation of medical supplies being dropped at Port Roberts.

5. A very important event, directly related to the CSZ Tsunami threat that occurred simultaneously with Cascadia Rising was the opening of the Ocosta School in Westport on June 11, 2016. This is the first tsunami resistant school built in the United States. Its design and function have drawn world-wide attention.

<http://www.seattletimes.com/seattle-news/it-will-happen-here-westport-school-builds-nations-first-tsunami-refuge/>



Paula Akerlund, superintendent of the Ocosta School District on the Washington Coast, was instrumental in turning the dream of a safe-from-tsunami Ocosta Elementary School building into reality. She is standing on the gym rooftop, which can be a haven for at least 2,000 people. (Ellen M. Banner/The Seattle Times)





A military helicopter participates in a rescue demonstration during the June 11 dedication ceremony of the Ocosta Elementary School gym and rooftop tsunami shelter in Westport. (Ellen M. Banner/The Seattle Times)

## Post Exercise

One of the goals of Cascadia Rising was to identify areas of improvement in response and to identify lessons learned. Post exercise stories focused on how the exercise results will help agencies going forward. Additionally, there were stories about smaller communities' participation, and of specialized support tasks such as amateur radio operators.

1. Prior to, and during the exercise, Washington State Department of Transportation spent considerable time identifying, assessing, prioritizing, and responding to, bridges and highways that were believed to be damaged by a Cascadia earthquake. They worked closely with multiple jurisdictions and agencies to help identify trouble spots and coordinate exercise ground truth.  
<http://wsdotblog.blogspot.com/2016/06/cascadia-rising-were-working-hard-to.html>



We activated Emergency Operation Centers in Olympia as well as all our regions and several divisions during the Cascadia Rising drill. Here, the Headquarters EOC staff marshalled staff from across the agency to respond to damage reports, lining up resources and mapping the damage and closures.

2. As one of the areas expected to be hardest hit and affected by a Cascadia Subduction earthquake, Grays Harbor County jumped in with both feet. They looked long and hard at the impact of the exercise on their community.  
<http://thedailyworld.com/opinion/columnist/what-cascadia-rising-results-mean-our-communities>



3. Specialty skills such as Ham Radio operators gained significant exposure during the exercise. It is widely accepted that communication systems will suffer significant degradation during the early phases of a catastrophe. San Juan County, knowing that they will be cut off beyond just communications, recognized their Ham Operators for all they do.  
<http://www.islandssounder.com/news/383915101.html#>
4. In a twist from most other jurisdictions, Mercer Island used the Cascadia Rising exercise to discuss civility and helping each other on their island community in the case of disaster.  
<http://www.mi-reporter.com/opinion/383998611.html#>
5. Port Townsend viewed the exercise as an opportunity to see first-hand how relief supplies could reach their community with DoD and Navy assistance.  
[http://www.ptleader.com/news/cascadia-rising-sharpens-military-for-relief-effort/article\\_489a067c-3285-11e6-b7b5-075dc1b13fd5.html](http://www.ptleader.com/news/cascadia-rising-sharpens-military-for-relief-effort/article_489a067c-3285-11e6-b7b5-075dc1b13fd5.html)



The 951-ft USNS Bob Hope is kept in reserve in San Diego, ready to be loaded with cargo needed to set up a camp and bring material directly from ship to shore, without needing a pier or docks. Photo by Patrick J. Sullivan

6. Mega-weather network Accuweather did a story on the CSZ dangers and how the Pacific Northwest is preparing for such a disaster. Contrasting CSZ with the 2011 Japan subduction quake and tsunami, they laid out a good overview.  
<http://www.accuweather.com/en/weather-news/cascadia-rising-fema-pacific-northwest-prepare-for-megathrust-earthquake-tsunami-catastrophic-damage/58601881>



In 2011, an earthquake generated a devastating tsunami that was observed across the Pacific and caused tremendous local devastation in Japan. (Photo/Shunichi Koshimura)

7. For an inside view of the workings of the Washington State Emergency Operations Center, the blog by Johanna Nielson gives great insight and photos.  
<https://emscholar.wordpress.com/2016/06/20/the-people-of-cascadia-rising/>

#### Additional Media Resources:

<https://www.dvidshub.net/feature/cascadiarising16>

Coverage of DoD Cascadia Rising activities and efforts.

<http://www.peninsuladailynews.com/article/20160702/NEWS/307029995>

Jefferson County newspaper story

[http://www.svherald.com/opinion/update-on-amateur-radio/article\\_6035f5f0-3e5d-11e6-8111-1b718eecb9e8.html](http://www.svherald.com/opinion/update-on-amateur-radio/article_6035f5f0-3e5d-11e6-8111-1b718eecb9e8.html)

Amateur radio story from Sierra Vista Herald

<http://www.keypennews.com/index.php/component/k2/item/505-countywide-earthquake-drill-stresses-self-reliance>

Key Peninsula follow up story

<http://www.konp.com/local/11674>

Radio story on lessons learned by Clallam County

<http://www.kplu.org/post/authorities-tallying-lessons-learned-cascadia-rising-exercises>

Lessons Learned (Features GH County)

<http://www.kxro.com/cascadia-rising-proves-great-teaching-platform/>

Aberdeen radio story

<http://www.spokesman.com/stories/2016/jun/07/cascadia-rising-practicing-for-the-big-one/>  
Spokane paper

<http://www.eham.net/articles/36840>  
Online article for ham radio participants

<http://www.spokesman.com/stories/2016/jun/08/cascadia-rising-a-massive-response-by-sea-for-a-ca/>  
Spokane story about Indian Island

<http://q13fox.com/2016/06/06/preparing-for-the-big-one-cascadia-rising-2016-getting-underway/>  
Q13 TV story as exercise started

<http://komonews.com/news/videos/cascadia-rising-earthquake-emergency-preparedness>  
KOMO story during the exercise

<http://www.thenewstribune.com/news/local/article82240452.html>  
TNT news story during the exercise

<http://www.statesmanjournal.com/story/news/2016/06/10/responders-hone-parachuting-other-skills-cascadia-rising/85689662/>  
Spokane newspaper article

<http://www.bothell-reporter.com/news/382301081.html>  
Bothell Newspaper article

[http://www.chronline.com/crime/cascadia-rising-days-after-quake-military-aid-would-arrive-by/article\\_75ecdb52-2f80-11e6-a6ec-57a42e91b125.html](http://www.chronline.com/crime/cascadia-rising-days-after-quake-military-aid-would-arrive-by/article_75ecdb52-2f80-11e6-a6ec-57a42e91b125.html)  
Centralia online newspaper article about CSZ

<http://komonews.com/news/local/emergency-crews-practice-life-saving-techniques-for-when-disaster-strikes>  
KOMO story on Seattle participants

<http://edmdigest.com/opinion/why-cascadia-rising-matters/>  
Opinion on CR

[http://www.ifiberonenewsradio.com/news/local\\_news/governor-visits-cascadia-rising-drill-in-shelton/youtube\\_8321661c-2dd2-11e6-b073-f7a13358c31b.html](http://www.ifiberonenewsradio.com/news/local_news/governor-visits-cascadia-rising-drill-in-shelton/youtube_8321661c-2dd2-11e6-b073-f7a13358c31b.html)  
Radio story on Governor visit during exercise