
STATE OF WASHINGTON

INTEGRATED FIXED FACILITY RADIOLOGICAL AND CHEMICAL PROTECTION PLAN



2008

Emergency Management Division
Washington State Military Department
Camp Murray, Washington

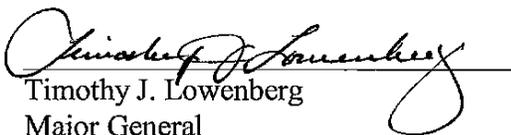
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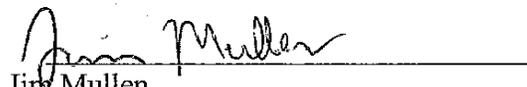
FOREWORD

The Washington State Military Department sincerely appreciates the cooperation and support from those agencies, departments, and local jurisdictions which have contributed to the development and ultimate publication of change six to the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

The Plan provides a one-source document for the various fixed facilities, six Washington counties, and multiple state and federal agencies that are directly involved in emergency planning for these facilities. The Plan supports the *National Response Framework (National Response Plan)*, *Emergency Support Functions*, and primary document in implementing for the *National Incident Management System (NIMS)*. It should be appended to Emergency Support Function 10, Hazardous Materials, of the *Washington State Comprehensive Emergency Management Plan*.

The *Integrated Fixed Facility Radiological and Chemical Protection Plan* is one of the many efforts to be better prepared for emergencies or disasters. It moves the state one step closer to being able to minimize the impacts of emergencies and disasters on people, property, the economy, and the environment of Washington State.


Timothy J. Lowenberg
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RECORD OF REVISIONS

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|-----------------|---------------------|--|-----------------|
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| 4 | May 21, 2001 | Replace page iv | JL |
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| | | Replace Appendix 2, entirely | JL |
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WASHINGTON STATE
INTEGRATED FIXED FACILITY
RADIOLOGICAL AND CHEMICAL PROTECTION PLAN

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INTEGRATED FIXED FACILITY

RADIOLOGICAL AND CHEMICAL PROTECTION PLAN

BASIC PLAN

PRIMARY AGENCY: Washington State Military Department
Emergency Management Division

SUPPORT AGENCIES: Washington State Department of Agriculture
Washington State Department of Community, Trade and Economic
Development & Energy Facility Site Evaluation Council
Washington State Department of Ecology
Washington State Department of Fish and Wildlife
Washington State Department of Health
Washington State Department of Labor and Industries
Washington State Military Department
Washington State Parks and Recreation
Washington State Patrol
Washington State Department of Transportation
Governor's Office of Indian Affairs
Adams County
Benton County
Franklin County
Grant County
Kitsap County
Kittitas County
Klickitat County
Snohomish County
Walla Walla County
Yakima County
State of Oregon
Umatilla Chemical Depot
United States Coast Guard
United States Department of Energy-Hanford Site
Naval Station Everett
Puget Sound Naval Shipyard & Intermediate Maintenance Facility
Submarine Group NINE in Bangor
Energy Northwest, Columbia Generating Station
American Red Cross
Federal Emergency Management Agency
Nuclear Regulatory Commission
Volunteer Organizations

I. INTRODUCTION

A. Mission

To protect people, property, environment, and the economy in Washington State from the adverse impacts of the Energy Northwest's Columbia Generating Station, the United States Department of Energy (USDOE) Hanford Site facilities, U.S. naval nuclear-powered ships of Puget Sound Naval Shipyard (PSNS)/Naval Station Bremerton, Submarine Base Bangor, and Naval Station Everett, or the United States Army's Umatilla Chemical Depot (UMCD) emergencies or disasters.

B. Purpose

The purpose of this Plan is to establish authoritative policies in the event of a radiological or chemical emergency in Washington State. The policies will include coordinating response and recovery actions with state agencies and local governments with plans for such emergencies. Five facilities in or near Washington State are required to maintain plans in the event of an emergency that could cause the release of material from their respective sites. These facilities are: Columbia Generating Station and Hanford Site, located near Richland, Washington, U.S. naval nuclear-powered ships at Naval Base Kitsap, Naval Station Everett, and the UMCD, located in Umatilla, Oregon. The state implements this Plan, in the event of any fixed facility radiological or chemical emergency. However, the use of the concepts and procedures described in this Plan is not limited to these five fixed facilities.

C. Scope

1. This Plan describes the various categories of emergencies likely to occur in the Hanford-Umatilla and the Puget Sound areas. This Plan further provides conceptual information for disseminating warnings, coordinating response, and for determining, assessing, and reporting the severity and magnitude of such incidents or accidents. In addition, this Plan, its Annexes and Appendices, and supporting agency implementing procedures, present the concepts under which the state and its counties will operate in response to radiological or chemical agent emergencies, and:
 - a. Define the responsibilities of elected and appointed officials.
 - b. Define the emergency roles and functions of state and county agencies, private industries, volunteer organizations, and civic organizations.
 - c. Create a framework for the effective and coordinated use of state and local government resources.
 - d. Integration and use of government, private sector, and volunteer resources within the National Incident Management System/National Response Framework (NIMS/NRF) structure and guidance. This integration requires effective emergency management coordination processes and procedures be

established between coordinating elements at the federal, state, tribal, county, and local levels

2. This Plan serves as a one-source plan to support the *Washington State Comprehensive Emergency Management Plan (CEMP)* and Emergency Support Function (ESF) #10 Hazardous Materials.

D. Organization

1. Washington State and county emergency management organizations are responsible for performing the mitigation, preparedness, response, and recovery activities. Functions include: command and control, warning, notification, communications, public information, accident assessment, public health and sanitation, social services, fire and rescue, traffic control, emergency medical services, law enforcement, medical transportation, mass transportation, protective response, radiological food control, and food and lodging assistance.

Figure 1 is an Emergency Management Organizational Chart and Figure 2 is an Emergency Management Operational Chart in Washington State. Table 1 is an Agency Functional Responsibility Matrix. These figures and tables are located on pages 41-44.

2. Federal agencies, nongovernmental organizations, and individuals also provide assistance in case of an emergency, when available and requested. Managing emergent volunteers and spectators will be necessary.
3. In the event of an emergency, the affected facility, the lead federal agency, and the Federal Emergency Management Agency (FEMA) can expect to be asked to send representatives to the state Emergency Operations Center (EOC) to assist in coordinating the response to the emergency. These representatives will have access to communication and computer equipment/programs, and limited administrative support. The state EOC can accommodate two representatives from each of these agencies, if necessary. Federal agencies will be expected to provide their own transportation support. Requests for local area support will be handled on a case-by-case basis.

II. POLICIES

A. Authorities

1. Chapter 38.52 Revised Code of Washington (RCW), Emergency Management
2. Chapter 43.06.222 RCW – Governor’s Proclamation Order
3. Chapters 43.06.270, 43.43.030, 47.48.031, and 70.136 RCW, Washington State Patrol
4. Chapter 47 RCW, Public Highways and Transportation

5. Chapter 69.04 RCW, Embargoes
6. Chapter 70.98 RCW, Department of Health
7. Chapter 70.105 RCW, Department of Ecology
8. Chapter 70.105 RCW, Department of Ecology
9. Washington Administrative Code (WAC) Chapter 118.30
10. Homeland Security Presidential Directive S-5 & 8
11. Public Law 99-145, Chemical Weapons Stockpile
12. 10 CFR 50, Appendix E (Emergency Plans for Production and Utilization Facilities)
13. 44 CFR 350, Federal Emergency Management Agency (FEMA)
14. Nuclear Regulatory Commission Guidance (NUREG) Document 0654/FEMA Radiological Emergency Preparedness (REP) 1
15. National Planning Guidance, 2008, (National Response Framework)
16. Chemical Accident/Incident Response and Assistance (CAIRA)
17. Plan for the Army
18. US Department Army, Chemical Surety Program, Army Regulation 50-6.

B. Plan Reviews and Updates

1. The state and county fixed facility emergency plans and implementing procedures require an annual review. The state's review is verified in the annual letter of certification to the FEMA Region X (the PR-1 Report) and the Chemical Stockpile Emergency Preparedness Plan (CSEPP) Semi-Annual Report. These reviews are performed to ensure compatibility and compliance among the concepts and commitments stated in the state and county plans, federally recommended criteria, and state regulatory requirements. Items requiring correction will be handled during the next scheduled revision, or immediately, depending on the seriousness of the item. Updated demographic data and programs will be incorporated into these plans in the year following their availability. Notification lists are to be kept current as changes occur, but updated not less than quarterly. The telephone lists are kept separate from the plans and procedures.

2. Plan revisions may be made at any time to correct deficiencies identified during training, drills, graded exercises, real events or review cycle. Revised pages are to be dated and the text marked change uses gray coloring to show where changes have been made. Revisions will be available on EMD's website to all plan holders.
3. Letters of agreement among program participants are to be reviewed annually and updated every six years or as required.

C. Assignment of Responsibilities

1. Agency responsibilities are assigned in the state CEMP.
2. This Plan outlines state, local jurisdiction, and facility responsibilities.
3. Agency and organization's representatives are responsible for updating the appropriated plans and associated documents.

D. Limitations

1. The State's goal is to mitigate and prepare for the consequences of hazards and respond and recover in the event of an emergency or disaster. However, state resources and systems may be overwhelmed.
2. It is neither implied nor should it be inferred that this plan guarantees a perfect emergency or disaster response will be practical or possible. No plan can shield individuals from all events. This plan only can be fulfilled if the situation, information exchange and extent of actual capabilities are available at the time of the incident.

III. SITUATION

A. Emergency/Disaster Conditions and Hazards

A significant natural or technological event may cause the release of hazardous radiological or chemical material from a facility, creating immediate life-threatening situations requiring prompt protective actions. Depending on the type and amount of material released, emergencies could create undesirable long-term health effects, property damage, and contaminate animals and food products above established health standards. The following facilities represent known, potentially, hazardous sites:

1. Umatilla Chemical Depot

- a. The UMCD is located near Umatilla, Oregon, and approximately five miles south of the Columbia River. It is on the boundary between Umatilla and Morrow Counties and six miles south of Benton County, Washington. UMCD operates under the jurisdiction of the U.S. Army. Quantities of the nerve agent-VX are stored in earth-covered reinforced concrete bunkers called igloos.

- b. Material in the igloos are stored in several configurations including land mines, artillery and mortar shells, and bombs.. These munitions were moved into the bunkers following 9/11 from the secured field areas. All M-55 rockets and spray tanks have been destroyed. The ordnance was shipped to the UMCD for storage during the period between 1962 and 1968. This material is in the form of military chemical munitions. Destruction by incineration began September 8, 2004 and is projected to continue until 2012. No chemical agent has been manufactured on the depot. No chemical agent or ordnance has been tested onsite.

2. United States Department of Energy- Hanford Site

The Hanford Site is located in the southeastern area of the state of Washington, bordered by Benton, Franklin, and Grant Counties. It covers approximately 560 square miles (1,456 square kilometers), generally characterized as an area of arid grassland. The Columbia River runs across the northern half of the Hanford Site, then, flows south, creating part of the eastern boundary of the Site. State Highway 240 runs diagonally across the western half of the Site. The Tri-Cities area, made up of the cities of Richland, Kennewick, and Pasco, lies to the southeast of the Site boundary. The Hanford Site contains several types of complex facilities, including nuclear reactors, chemical processing facilities, nuclear waste storage tanks, and research laboratories. It also has an infrastructure of utilities and transportation necessary to support testing, decommissioning, remediation, and clean-up operations.

3. Energy Northwest, Columbia Generating Station

Energy Northwest-Columbia Generating Station is a 1,180-megawatt boiling water nuclear reactor managed by Energy Northwest. It is constructed on land leased from USDOE on the eastern side of the Hanford Site, near the Columbia River. The Columbia Generating Station facility is operated according to U.S. Nuclear Regulatory Commission (NRC) licensing requirements and regulations. Energy Northwest maintains a certificate issued by the Washington State Energy Facility Site Evaluation Council (EFSEC). The potential hazard with offsite impacts is a release of radioactive materials into the atmosphere, which could have an effect on the population and the extensive agricultural industry.

4. Other Hanford Area Facilities

- a. A low-level radioactive waste disposal site is located near the center of the Hanford Site, on land the state has leased from the federal government. U.S. Ecology (a private company) commercially operates this facility according to state and federal licenses and permits.

- b. The AREVA NP, Inc. facility is a commercial fuel fabrication facility, licensed under the NRC and the Washington State Department of Health (hereafter referred to as Health). In addition, the Washington State Department of Ecology has permit authority with AREVA NP, Inc. The worst case radiological hazard to the public is not expected to exceed EPA-400 Protective Action Guides (PAGs) beyond the site boundary.
- c. Perma-Fix NW is a Radioactive Waste Volume Reduction facility. Perma-Fix NW Hanford uses various processes in the segregation, decontamination, and volume reduction of radioactive materials and wastes, as well as providing interim storage facilities for radioactive materials. The worst case radiological hazard to the public is not expected to exceed EPA-400 Protective Action Guides (PAGs) beyond the site boundary.

5. Puget Sound Naval Shipyard (PSNS) & Naval Station Bremerton

Puget Sound Naval Shipyard (PSNS) and Intermediate Maintenance Facility (PSNP&IMF) is located at Naval Base Kitsap Bremerton on the north side of Sinclair Inlet. Sinclair Inlet is reached from Puget Sound by passing through Rich Passage and the waters of Port Orchard. PSNS Bremerton is a large facility. The site is the Pacific Northwest's largest naval shore facility and one of Washington State's largest industrial installations. It has nine piers with a total of 12,310 ft of deep water mooring space. The PSNS shipyard has six dry docks and one dry dock of the US Navy.

6. Naval Base Kitsap Bangor

Bangor is located on the Kitsap Peninsula on the eastern shores of Hood Canal. The base includes 7,676 acres of woodland, near Silverdale, Washington. Its primary mission from 1940s to 1973 was to store and process ship's munitions. In 1977 the facility was reconfigured as a submarine base. Bangor is the headquarters for the Commander, Navy Region Northwest and serves as one of two homeports to the Navy's Trident ballistic missile submarine fleets. Bangor is the homeport to eight nuclear submarines.

7. Naval Station Everett

Naval Station Everett is located next to the marina area of the city of Everett. The Navy support complex is located between Marysville and Arlington, Washington. NAVSTA Everett, Washington, is 25 miles north of Seattle. The Navy Support complex is located between Marysville and Arlington. NAVSTA Everett is homeport for a US Navy Battle group including one nuclear powered aircraft carrier

8. Trojan Nuclear Plant

The Trojan Nuclear Plant was located on the west bank of the Columbia River in Columbia County, Oregon. It is approximately five miles south of the city of Kelso and three miles northwest of the city of Kalama, and Cowlitz County, Washington.

As of September 30, 1993, the NRC approved the Trojan facility as a non-fueled and decommissioned nuclear plant. The requirement for offsite emergency planning is limited to notifications to Washington and Oregon of an emergency condition called Alert. An "Alert" emergency classification is expected to be the highest level of potential emergency for Trojan's decommissioned status.

B. Terrorism

A terrorism incident could occur at any time and/or location in the state of Washington, causing significant human suffering, injury, death, damage to public and private property, demolishing infrastructure, environmental degradation, loss of essential social services, economic hardship, and disruption to federal, state, local, and tribal governments.

The events of September 11, 2001, in New York City, Washington D.C., and Pennsylvania and the subsequent anthrax mailing heightened American concern, awareness, and security. Airports, nuclear power facilities, businesses, border crossings, and governmental, military, and private facilities have implemented or enhanced security. Additional measures have been taken to ensure increased terrorism mitigation and preparedness is implemented nationwide.

C. Planning Assumptions

1. Releases of radioactive or other hazardous materials from fixed facilities such as the Hanford Site and Columbia Generating Station, US naval nuclear-powered ships at Puget Sound Naval Shipyard (PSNS)/ Naval Station Bremerton, Submarine Base Banger, and Naval Station Everett or chemicals from UMCD will occur and could greatly affect the public health, property, environment, and economy of Washington State.
2. The plume exposure pathway or Emergency Planning Zone (EPZ) for each nuclear facility will not exceed a radius of 10 statute miles from the facilities. Because of differences in design and operations, EPZs are not applicable to naval nuclear propulsion plants. Instead, a 0.5 statute miles Area of Planning Attention (APA) from the ship has been established in place of the 10-mile plume exposure pathway EPZ. The CSEPP Immediate Response Zone (IRZ) extends approximately 6 to 9 miles from the chemical event location. (Annex A, Appendix 1 for CSEPP; Annex A, Appendix 2 for Columbia Generating Station; and Annex A, Appendix 3 for Hanford Site.)

3. The ingestion exposure pathway EPZ for each nuclear facility will not exceed 50 statute miles in radius from the facility. Columbia Generating Station and Hanford Site share a common ingestion exposure pathway EPZ. Because of differences in design and operation of nuclear-powered warships, the ingestion exposure pathway EPZ does not apply to Naval Nuclear Propulsion Program sites. This EPZ encompasses a 360-degree area, with a radius of approximately 50 statute miles centered on the Columbia Generating Station reactor site. The CSEPP Protective Action Zone (PAZ) extends to a radius of 10 to 30 miles from the potential chemical event location.
4. To assist the state and local authorities in assessing the need for any preplanning in the vicinity of naval bases or shipyards where nuclear power vessels are berthed, the Naval Nuclear Propulsion Program has designated Areas of Planning Attention (APA). The APA extends 0.5 miles around every location where nuclear powered vessels are normally berthed. The 0.5 mile distance is based on detailed, conservative analysis or worst-case, but credible scenarios—the actual radius of impacted downwind area will most likely be smaller. A more detailed description of the Area of Planning Attention is located in appendix 4 to Annex A of this plan. Because of the differences in design and operation of nuclear-powered warships, the ingestion exposure pathway EPZ does not apply to Naval Nuclear Propulsion Program sites.

IV. CONCEPT OF OPERATIONS

A. General

1. Washington State Emergency Management Division will use the National Incident Management System, commonly referred as NIMS to manage to all disasters, events, and exercises. NIMS standardizes the principles and methods of emergency response into five basic functions:
 - a. Coordinates the response efforts into five basic Operational Areas of Emergency Management Organizations-Operations, Planning, Logistics, Finance & Administration, and Public Information.
 - b. Standardizes training for emergency responders,
 - c. Centralizes intelligence and requests into one area of the operations.
2. A facility experiencing an emergency will immediately notify the affected local political jurisdiction(s), and the state through the Washington Military Department, Emergency Management Division (EMD) State Emergency Operations Officer (SEOO). The SEOO will verify the message if received through alternate communication methods. Each affected county will warn its potentially affected resident and transient population of the situation and advise them of what immediate protective actions should be taken. Sheltering or evacuation may be required as initial actions.

3. The Governor is responsible for providing direction and control of all state activities in response to the effects of a disaster or emergency (RCW 38.52 and 43.06). This includes issuing a Proclamation of Emergency, when appropriate. Authority to coordinate response activities is assigned to the Director of the Washington State Military Department (The Adjutant General). This authority is subsequently delegated to the Director of the Emergency Management Division (EMD).
4. Washington State agency(s) will respond according to this Plan, the state Emergency Operation Plan (EOP) and the CEMP. The response, re-entry and recovery activities will be carried out upon signing of the Proclamation of Emergency by the Governor. Notification of these activities will be through the state and local EOCs and the Joint Information Center (JIC) to the media.
5. Once immediate emergency actions are underway to protect the population, action will be initiated to further protect property, the economy, and environment.
6. Residents and businesses in the affected area(s) will be allowed to resume normal activities when their areas are shown to be safe by monitoring and analysis.
7. Residents and/or businesses experiencing fiscal damage due to the emergency may submit claims for economic relief.
8. A recovery and restoration process will be established by the state.

B. Response Support Structure

1. State-Level Response Support Structure
 - a. The Governor, or a designated alternate, will represent the state in interactions with the facilities, FEMA, the NRC, USDOE, and the Department of Defense (DOD).
 - b. EMD will operate from the state EOC and provide for 24-hour per day notification, communication and activation of a State/local response network. An alternate EOC will be established if necessary. Response by appropriate state agencies will be in accordance to the plans and procedures developed for that facility. EMD liaisons will be dispatched to Benton and Franklin Counties or other facilities, upon request for the Columbia Generating Station, UMCD, and Hanford events; to the Grant County EOC for Hanford events. Kitsap County EOC for Navy Base Kitsap events; and Snohomish County EOC for Everett Naval Station events, as well as to other affected county EOCs, as required or requested.
 - c. For emergencies involving this plan, the state EOC Executive Section has the following members:
 - (1) Washington State Military Department, EMD

- (2) Washington State Department of Health (hereafter referred to as Health) (Radiation Protection, and/or Toxic Substances)
 - (3) Washington State Department of Ecology (Ecology) (For Hanford Site and UMCD events)
 - (4) Washington State Department of Agriculture (WSDA)
 - (5) Washington State Patrol (WSP)
- d. State agency representatives can expect to operate from the state EOC during the early phase and much of the intermediate phase of the emergency.
- e. A Public Information Officer (PIO) will be dispatched to the Joint Information Center (JIC) of the facility experiencing an emergency when the decision to activate a JIC is made. This PIO will normally come from EMD, but other agencies may be asked to provide this person.
- (1) Columbia Generating Station – JIC
3000 George Washington Way
Richland, WA 99352
Contact: JIC Manager
 - (2) CSEPP – JIC
4700 – Northwest Pioneer Place
Pendleton, OR 97801
Contact: JIC Manager
 - (3) Hanford Site – JIC
825 – Jadwin Avenue
Richland, WA 99352
Contact: JIC Manager
 - (4) Kitsap County – JIC,
1200 NW Fairgrounds Road or 911 Carver
Bremerton, WA 98311
Contact: JIC Manager
 - (5) Snohomish County – JIC
3509 109th Street. NW
Everett, WA 98204
Contact: JIC Manager

2. A State Agency Liaison (SAL) will be identified by the state EOC Decision Manager and dispatched to Columbia Generating Station, PSNS & IMF or the Hanford Site in the event of an Alert classification or higher. The SAL will coordinate the state's emergency response activities with those of the facility. The SL may come from the Departments of Health, Agriculture or the Military Department, EMD.
3. Technical personnel from Health and/or Ecology also will be dispatched to the facility, as required.
4. County-Level Response Support Structure
 - a. County emergency response plans will be carried out under the direction of the county emergency management agency.
 - b. The county Chief Elected Official (CEO), or a designated alternate, of each affected county, will represent the county in interactions with the state, other counties, FEMA, NRC, DOD, Hanford Site, and the facilities.
 - c. Each affected county will coordinate its response and information activities from its EOC.
5. Facility-Level Response Support Structure
 - a. Facilities will respond and accomplish onsite emergency activities from an appropriate operations facility.
 - b. Facilities will provide timely status updates of the radiological and chemical hazards and actions taken by internal protection systems to the state EOC.
 - c. Each facility will coordinate its response activities and provide information and recommendations to states and local jurisdictions from an Emergency Operations Facility (EOF), or equivalent.
 - d. Technical representatives from the affected facility (Columbia Generating Station, Puget Sound Naval Shipyard and Intermediate Maintenance Facility, or Hanford Site) will be provided to the state EOC and the immediately affected county EOCs.
 - e. The Energy Northwest Headquarters Building (3000 George Washington Way, Richland, Washington) has been designated as the location for the Federal Response Center (FRC) or Joint Field Office (JFO) for emergencies at Columbia Generating Station. This selection is by means of a Memorandum of Understanding (MOU) between Energy Northwest and FEMA Region X. All federal agencies providing non-radiological support to the state under the Nuclear/Radiological Incident Annex are expected to collocate at the FRC/JFO.

- f. For emergencies at Naval Nuclear Propulsion Program facilities in Kitsap County, the Federal Emergency Response Center (FERC) will be established at Naval Base Kitsap.
- g. For emergencies at Naval Station Everett. The FERC will be established at the Naval Station or at a location chosen by FEMA and state/local authorities.

C. Notification

- 1. The facility notifies the immediately affected local jurisdictions and EMD by dedicated telephone system and a Classification Notification Form (CNF) are used for Columbia Generating Station, Hanford Emergency Notification Form, and a Umatilla Depot Activity Emergency Notification for UMCD. The Navy and the Naval Nuclear Propulsion Program facilities will notify the immediately affected local jurisdictions and state EMD by phone.
- 2. Immediately affected local jurisdictions activate local emergency response personnel, warn residents, and recommend protective actions to affected citizens.
- 3. EMD notifies federal and state agencies, and surrounding local jurisdictions, including Oregon, by telephone, fax or alternate means, using the EMD State Emergency Operations Officer's Procedures.
- 4. For an event originating at the Columbia Generating Station (CGS), CGS will notify the U.S. Department of Energy (USDOE) who will, in turn, notify all of the USDOE-owned or operated facilities on the Hanford Site. If the event originated at a USDOE-owned or operated facility, USDOE will notify CGS of the event.
- 5. Requests for Federal radiological assets will be handled by one of the federal Coordinating Agencies (DOE, DOD, NRC, or EPA) as detailed in the Nuclear/Radiological Incident Annex of the National Response Framework. However, the Washington State Department of Health may request federal radiological assistance directly or in coordination with the appropriate Coordinating Agency.
- 6. In the unlikely event of a radiological incident involving Naval Nuclear Propulsion Program (NNPP) facilities, the NNPP notifies FRMAC.

V. RESPONSE ACTIONS (See Annex A for Response Management.)

A. Early Phase Actions (actions taken just before and during a release)

- 1. Facilities provide emergency classification information to state and local jurisdictions and activate an emergency response facility to coordinate initial plan actions, to include, but not limited to:
 - a. Emergency notification--safeguarding facility and onsite workers.

- b. Changes in emergency classifications and/or protective action recommendations to local, state, and federal government.
 - c. Activate initial emergency response resources.
 - d. Provide dose projection and assessment to the state and affected county(ies).
 - e. Provide JIC facilities.
 - 1) Identify a designated spokesperson with access to all necessary information.
 - 2) Keep the public and media informed.
 - 3) Coordinate rumor control.
2. Plume exposure pathway EPZ and IRZ counties activate EOCs upon notification of specified emergency classification levels (see Figure 4) from the facility and/or state EOC and take initial planned actions to include:
- a. Confirm occurrence of a chemical/radiological emergency.
 - b. Notify selected emergency response personnel to report to the EOC.
 - c. Assume protective action decision-making authority.
 - d. Establish communications with emergency facilities/state EOC.
 - e. Activate initial response and resource requirements.
 - f. Activate system to warn residents of emergency.
 - g. Decide upon and implement protective actions.
 - h. Forward response/resource requirements to the state EOC.
 - i. Open appropriate Emergency Worker/Assistance Centers (EWACs).
3. Ingestion exposure pathway EPZ county EOCs are placed on stand-by.
4. County health and agricultural authorities should consider issuing an agricultural advisory to advise the agricultural community to take steps to protect their animals and sources of food and water. In the event of a chemical agent release from the UMCD, no agricultural advisory should be released during the response phase that would interfere with the implementation of the protective action decision. The priority during a CSEPP response is to assure that the public is protected by taking immediate action to either shelter in place or evacuate. Health effects stemming from contact with a chemical warfare agent can have a rapid and dangerous onset. The radiological dosage that could be encountered off the reservation appears to pose

only an increased risk of cancer in the distant future. Potential casualties of CSEPP incident should not be directed to consider livestock health and safety issues at the risk of their own safety.

5. EOC State actions focus on the following basic activities:
 - a. Confirm occurrence of a chemical/radiological emergency with facilities.
 - b. Activate the state EOC, if appropriate, using emergency notification levels and agency notifications. (See Table 2.)
 - c. EMD State Emergency Operations Officer (SEOO) will notify required agencies to staff the state EOC. Their assistance includes technical advice and information, activating agency resources to commit to response actions and other assistance, as warranted.
 - d. Establish communications with facility, EPZ and IRZ, counties, and other states.
 - e. Confirm federal, state, and county agencies have been notified.
 - f. In coordination with the county(ies) and the facility, identify initial response and resource requirements.
 - g. Coordinate and provide information to the public, government agencies, and the media – including activating the Emergency Alert System (EAS), if a county is unable to activate the system. If incomplete, inaccurate, or ambiguous information is detected in the monitored broadcast, then a correction is broadcast as soon as possible, and PIOs and rumor control personnel are notified of the problem.
 - h. Recommend use of protective drugs for offsite emergency workers for radiological events.
 - i. Establish radiological exposure tracking system for radiological event.

B. Intermediate Phase Actions (actions taken after a release has stopped)

1. State actions expand upon events begun during the early phase.
 - a. Assume protective action decision-making authority.
 - b. For radiological events identify the affected area(s) through field team monitoring, sampling, and computer projections. A Hanford Site Aerial Monitoring System flyover also can be used, if available. Field team monitoring and sampling for a chemical event will be done by the Service Response Force (US Army) with verification by the Washington Department of Ecology.

- c. Coordinate with the county(ies) to establish geopolitical boundaries for relocation and Food Control Area(s) (FCA).
 - d. Carry out food control measures (Annex C).
 - e. Authorize re-entry to restricted/relocation areas for essential services.
 - f. Authorize return of residents and workers to areas determined to be unaffected or cleared.
 - g. Initiate re-entry and recovery activities.
2. County actions expand upon early phase actions, and:
 - a. Establish Traffic Control Points (TCPs) and Access Control Points (ACPs).
 - b. Propose geopolitical boundaries for relocation and food control area(s) based upon Health and facility projections and recommendations.
 - c. Establish or reposition Traffic Control Points (TCPs) and Access Control Points (ACPs).
 - d. Continue to advise the public about the status of the event.
 3. Facility actions include both onsite and offsite activities.
 - a. Assist state and county activities.
 - b. Initiate long-term onsite repair actions.
 - c. Respond to needs of employees.

C. Late Phase Actions (Recovery and Restoration activities)

1. The specific type of emergency and the quantity and type of material released will determine recovery actions following a facility emergency.
2. Washington State Governor's Recovery and Restoration Task Force (RRTF) will be convened or requested by the Director of state EMD. This group will make recovery and restoration recommendations relating to Washington State agencies and counties. Membership and specific responsibilities of the task force are described in CEMP.
3. The RRTF will determine the extent of economic, social, psychological, and physiological impacts on the citizens and serve as a guidance group to the Governor on a program of continued recovery. The RRTF will determine if active protective measures require extension or relaxation.

VI. PARTICIPATING AGENCIES (Common Responsibilities)

- A. Prepare plans and procedures to carry out the responsibilities outlined in this Plan and train staff to be proficient in the use of those procedures.
- B. Prepare, coordinate, and maintain annexes with primary responsibilities, as detailed at Table 1.
- C. Respond to emergencies involving releases from UMCD, Columbia Generating Station, Puget Sound Naval Shipyard, Submarine Base Bangor, Naval Station Everett, and the Hanford Site, following this plan, the State CEMP, and appropriate agency and local jurisdiction plans and procedures.
- D. In coordination with WSDA, each county should be prepared to expeditiously assemble and issue agricultural advisories to protect the agricultural community in a radiological event.

VII. PARTICIPATING AGENCIES (Specific Responsibilities)

A. Washington State Department of Agriculture

- 1. Provide a liaison to the State EOC policy room.
- 2. Provide support by sending liaisons to the Benton County EOC, the State EOC, and the affected facility, and staff to the WSDA Pasco Field Office, and the field to implement appropriate protective actions, if needed.
- 3. Provide current information on farms, food crops, food processors and distributors, and other agricultural data under WSDA's authority.
- 4. Support the state public information function at the JIC and the Washington Emergency Information Center (WEIC), as needed.
- 5. Assist in coordinating, through the state EOC Executive Section and the Federal Food and Drug Administration, interstate and international food safety activities, as appropriate.
- 6. Prepare and maintain the WSDA Chemical and Radiological Emergency Response Procedures.
- 7. Provide a representative for the RRTF.
- 8. Implement food control measures in coordination with other agencies.
- 9. Function as a principal radiological response organization.

B. Washington State Department of Community, Trade and Economic Development

1. Provide a representative for the RRTF.
2. Provide public information support to the state EOC.
3. Energy Facility Site Evaluation Council (for radiological emergencies)
 - a. Provide information to support the state EOC policy room during fixed nuclear events.
 - b. Support the development of Protective Action Recommendations (PARs) and Protective Action Decisions (PADs).
 - c. Support the Nuclear Regulatory Commission (NRC) Liaison Officer, when requested.
 - d. Support the development of public information.
 - e. Is a member of the RRTF for Columbia Generating Station events.

C. Washington State Department of Ecology

1. Serve as the state lead for offsite cleanup of hazardous materials or wastes, including mixed wastes, following a release from the Hanford Site, UMCD, Naval Base Kitsap or Naval Station Everett.
2. Participate as a member of the state EOC policy room for the Hanford Site and UMCD, Puget Sound Naval Shipyard, Submarine Base Bangor or Naval Station Everett emergencies.
3. Measure ambient air concentrations for particulate materials, carbon monoxide, sulfur dioxide, and other contaminants in support of Hanford Site
4. Coordinate with, and assist Health and WSDA in developing and implementing procedures for sampling food crops, waterways, and other environmental media that may be contaminated by a release from the Hanford Site, UMCD, Naval Base Kitsap or Naval Station Everett.
5. Provide public information support to the state EOC.
6. Provide field teams, as staff levels allow.
7. Provide staff support to the state EOC and the Hanford Site, as necessary.
8. Provide a representative for the RRTF.

D. Washington State Department of Fish and Wildlife

1. Provide a liaison to the state EOC during an Alert, Site Area Emergency, or General Emergency classification level.
2. Provide information to the state EOC policy room on the impact of the emergency on fish, aquatic food resources, fish and wildlife habitat, hunting and fishing seasons, and the Department's resources. Make recommendations for preventing public consumption of contaminated food from fisheries or wildlife habitats.
3. Provide support to affected counties.
4. Provide evacuation verification of department-controlled lands lying within the plume exposure pathway EPZ of a fixed nuclear facility.
5. Provide law enforcement support to the WSP or the Washington State Department of Transportation (WSDOT).
6. Provide air transportation for selected state personnel, and/or samples for laboratory analysis, upon request.
7. Provide public information personnel to support state emergency public information activities as directed by the Governor's Communication Director, or the JIC Officer.
8. Support the functional role of the Department of Fish and Wildlife as outlined in the CEMP.
9. Support the RRTF activities.

E. Washington State Department of Health

1. Conduct those actions necessary to preserve the public health:
 - a. Office of Radiation Protection
 - 1) Office Director represents Health in the state EOC Executive Section for radiological emergencies.
 - 2) Assess and minimize the impact to Public Health from the effects of radiological emergencies.
 - 3) Reviews and develops protective actions recommendation to minimize the impact on Public Health from a radiological emergency.

- a) Office of Toxic Substances
 - (1) Office Director represents Health in the state EOC Executive Section for the Office of Environmental Health Assessments.
 - (2) Assess the impacts to Public Health from the effects of chemical and biological emergencies.
 - (3) Reviews and develops protective actions recommendation to minimize the impact on Public Health from a chemical or biological emergency.
2. Provide technical expertise for:
 - a. Dose projection and dose assessment.
 - b. Assess data and recommend protective actions for public safety.
 - c. Hazard mitigation.
 - d. Monitoring.
 - e. Take environmental samples.
 - f. Sample agricultural products.
 - g. Analyze samples at the Washington State Public Health Laboratory and assess data.
3. Set up food control measures in coordination with other participating agencies and local jurisdictions.
4. Provide technical basis for establishing and reducing food control and relocation areas.
5. Conduct Health portion of Emergency Workers Assistance Center (EWAC) operations when requested by a county.
6. Provide technical consultation on radiological issues to other agencies--federal, state, local, and facilities.
7. Determine requirements for re-entry into affected area(s).
8. Certify food as "safe for human consumption" for subsequent release by WSDA.
9. Assist with determining levels of contamination in air, soil, water, and crops.

10. The Director, Office of Radiation Protection, in coordination with the state EOC Executive Section, is responsible for requesting specialized monitoring and assessment support through the Nuclear/Radiological Incident Annex in a radiological event.
11. Prepare and maintain response procedures for radiological emergencies.
12. Function as a principal radiological response organization.
13. Provide a representative to the RRTF.

F. Washington State Department of Labor and Industries

1. Provide worker safety support according to agency plans.
2. Provide specific support in terms of certifying personal protective equipment as such equipment becomes available for use by state and local jurisdictions.
3. Provide a representative to the RRTF.

G. Washington State Military Department

1. Emergency Management Division

- a. Serves as the primary state agency for the development and implementation of this Plan.
- b. The Director of EMD is responsible for staffing and using the National Incident Management System (NIMS) when operating the state EOC to coordinate the state's response to emergencies.
- c. The Director of EMD has general authority and responsibility for fixed facility radiological and chemical agent emergency planning.
- d. The Director of EMD, and Health Officer in coordination with the state EOC policy room, is responsible for requesting federal assistance according to the National Planning Guidance and Nuclear/Radiological Incident Annex.
- e. The Director of EMD is responsible for assuring 24-hour emergency response and manning of communication links and the continuity of resources--technical, administrative, and material - to support 24-hour operations for a protracted period.
- f. EMD EOC will draft the Governor's Proclamation packet.
- g. Appoints a Fixed Nuclear Facility (FNF) planner and a CSEPP planner with responsibility for the development and updating of fixed facility emergency plans and the coordination of the plans with other organizations. Certify plan

currency on an annual basis for radiological emergency preparedness. For CSEPP, provide for an annual review following a cycle of drills and exercises and coordinate the Umatilla CSEPP Community Closeout Plan.

- h. Provides training for the individuals responsible for planning.
- i. Assists other agencies and local jurisdictions with preparation of plans and procedures as needed.
- j. Facilitates decisions about notification, sheltering, evacuation, establishment, and reduction of relocation and food control areas, return, restoration and recovery.
- k. Prepares and carries out Washington State plans and procedures to ensure that public health and safety are maintained.
- l. Prepares and carries out procedures and coordinates the actions of the Washington State RRTF

2. National Guard

- a. Provides limited air, land, and water transport of personnel and equipment.
- b. Assists state and local jurisdictions by providing supplementary security forces to patrol damaged areas, establishes roadblocks, and directs traffic for the preservation of law and order.
- c. Supplements state communications systems, within capabilities.
- d. Provides aerial reconnaissance, photographic missions, and radiological and/or chemical monitoring, as requested and within capabilities.
- e. Provides radiological and chemical agent data from military and mobilization sites, as requested and within capabilities.
- f. Coordinates military support to civil authorities (CEMP ESF-20, Military Support to Civil Authorities).
- g. Provides a RRTF representative.

H. Washington State Parks and Recreation Commission

1. Makes state park facilities available to support evacuation or relocation.
2. Provides public information to state EOC, in areas of expertise.
3. Assists WSP with traffic control activities.

4. Supports RRTF activities, when the affected area(s) include state parks and recreation areas.

I. Washington State Patrol

1. The WSP provides support and assistance to local, state, and federal agencies when the WSP's law enforcement commitment is not jeopardized. This support and assistance includes, but is not limited to, the following:
 - a. Law enforcement.
 - b. Traffic and access control.
 - c. Communications.
 - d. Coordination of transportation issues with the Military Department and WSDOT.
 - e. Personnel to support the state EOC.
 - f. Coordination of sample transfers with Health (not CSEPP).
 - g. Provides liaison to local jurisdictions, as necessary.
 - h. Provides public information personnel to support public information activities.
 - i. Supports DOH and WSDA at Food Control Points.
 - j. Provides a representative to the RRTF.

J. Washington State Department of Transportation

1. The WSDOT will coordinate with WSP for traffic control on appropriate state routes, provided WSDOT's resources are not exposed to the hazard. Upon request from local jurisdictions, the WSDOT, in coordination with WSP, will provide available resources to supplement local jurisdiction requirements for traffic control on local roads, provided the WSDOT's resources are not exposed to the hazard. WSDOT duties are primarily in support of other agencies.
2. Coordinates with WSP and local jurisdictions:
 - a. Traffic control to support evacuations.
 - b. Traffic control on the Washington State Transportation System to prevent entrance of unauthorized persons into sheltered/evacuated areas.
 - c. Assists in promptly identifying and removing impediments to any evacuation effort.

- d. Provides barricades, road signs, and highway rerouting information necessary to redirect traffic from relocation and food control areas, provided resources are available.
3. Coordinates with WSP in rerouting vehicle traffic.
4. Provides a liaison to the state EOC to coordinate WSDOT resources, as requested.
5. Assesses any damage to the Washington State Transportation System.
6. Coordinates transportation missions, except those items that are the responsibility of the Logistics Chief of the state EOC.
7. Provides public information personnel, if available, to support emergency public information activities, as requested.
8. Provides a representative to the RRTF.

K. Governor's Office of Indian Affairs

1. Provides coordination by state agencies and counties with Indian governments that may be impacted by the emergency.
2. Ensures actions taken to protect cultural resources of the Indian Nations and their members.

L. Other State Agencies

1. The chief executives of other state agencies will provide representation to the state EOC, as required. The responsibilities of the chief executive(s) of these other agencies may include the provision of personnel and resource support to responding agencies and assignment of public information personnel to support state emergency public information activities.
2. Each Washington State agency will provide a single point for coordinating requests for support, resources, and information exchange concerning emergency response, restoration, and recovery activities. The authorities under which these other agencies will act are their respective Washington State statutes and Chapter 38.52 RCW. The procedures for these state agencies support the Washington State CEMP.

M. Adams County

1. Prepares a contingency plan for the release of radioactive or other hazardous materials from Columbia Generating Station and/or the Hanford Site.
2. Provides information and education to the public.

3. Supports other jurisdictions when there is an offsite threat that does not threaten Adams County.
4. Recommends and implements appropriate protective actions to the public when there is an offsite release that affects the county.
5. Sets up an Agricultural Control System to contain contaminated products.
6. Establishes and maintains an EOC.
7. Establishes and maintains an Emergency Communications System to include Alert and Warning.
8. Recommends geopolitical boundaries for Food Control Areas (FCAs).

N. Benton County

1. Prepares a contingency plan for the release of chemical, radiological or other hazardous materials from Columbia Generating Station, Hanford Site, and UMCD.
2. Provides information and education to the public.
3. Supports other jurisdictions when there is an offsite threat that does not threaten Benton County.
4. Recommends to the public protective actions to be taken when there is an offsite release that affects the county.
5. Sets up an Agricultural Control System to contain contaminated products.
6. Establishes and maintains an EOC.
7. Establishes and maintains an Emergency Communications System to include Alert and Warning.
8. Recommends geopolitical boundaries for relocation and Food Control Areas FCAs in a radiological event.
9. Coordinate with adjacent county(ies) in the development of Relocation and (FCAs).
10. Projects traffic capacities of evacuation routes under emergency conditions when Energy Northwest periodically updates the evacuation time studies.
11. Develops a means to control access to evacuated areas and identify the organizations responsible for access control in a radiological event.

12. Identifies means to deal with potential impediments to the use of evacuation routes, and calculates time estimates for evacuation.
13. Provides evacuation assistance to facilities (Hanford Site, Columbia Generating Station, and UMCD) and prepares to coordinate with other organizations to expedite evacuation of onsite personnel.
14. Establishes Emergency Worker Assistance Centers (EWACs) in a radiological event.
15. Identifies in the county CSEPP Plan the responsible UMCD on-post individuals, and their alternates, authorized to communicate information to the off-post officials.
16. Describes in detail the circumstances under which the government of Benton County authorizes the UMCD to initiate off-post-protective actions and the activities the UMCD will perform.
17. References in the county fixed facility hazard plan all necessary letters of agreement or Memoranda of Understanding (MOU) between local officials and other public or private groups.
18. Functions as a principal radiological response organization in a radiological event.

O. Franklin County

1. Prepares a contingency plan for the release of radioactive or other hazardous materials from Columbia Generating Station and/or Hanford Site.
2. Provides information and education to the public.
3. Supports other jurisdictions when there is an offsite threat that does not threaten Franklin County.
4. Recommends to the public protective actions to be taken when there is an offsite release that affects the county.
5. Sets up an Agricultural Control System to contain contaminated products
6. Establishes and maintains an EOC.
7. Establishes and maintains an Emergency Communications System to include Alert and Warning.
8. Recommends geopolitical boundaries for relocation and FCAs in a radiological event.

9. Develops a means for conducting relocation actions.
10. Projects traffic capacities of evacuation routes under emergency conditions.
11. Develops a means to control access to evacuated areas and identifies the organizations responsible for access control.
12. Identifies means to deal with potential impediments to the use of evacuation routes, and calculates time estimates for evacuation.
13. Provides evacuation assistance to facilities and prepares to coordinate with other organizations to expedite evacuation of onsite personnel.
14. Establishes EWACs in a radiological event.
15. Functions as a principal radiological response organization during a radiological event.

P. Grant County

1. Prepares a contingency plan for the release of radiological or other hazardous materials from Columbia Generating Station and/or the Hanford Site.
2. Provides information and education to the public.
3. Supports other jurisdictions when there is an offsite threat that does not threaten Grant County.
4. Recommends to the public protective actions to be taken when there is an offsite release that affects the county.
5. Sets up an Agricultural Control System to contain contaminated products.
6. Establishes and maintains an EOC.
7. Establishes and maintains an Emergency Communications System to include Alert and Warning.
8. Recommends geopolitical boundaries for relocation/food control areas.
9. Develops a means for conducting relocation actions.
10. Projects traffic capacities of evacuation routes under emergency conditions.
11. Develops a means to control access to evacuated areas and identifies the organizations responsible for access control.

12. Identifies means to deal with potential impediments to the use of evacuation routes, and calculates time estimates for evacuation.
13. Establish EWACs.
14. Provides evacuation assistance to facilities and coordinates with other organizations to expedite evacuation of onsite personnel.
15. Functions as a principal radiological response organization.

Q. Kitsap County

1. Establish a Joint Operation Center (JOC).
2. Coordinate with state of Washington and Naval Nuclear Propulsion Program radiological response personnel.
3. Coordinate with Naval Nuclear Propulsion Program personnel to provide information to the public in the event of a potential or actual release of radioactivity.
4. Recommends and implements appropriate protective actions to the public, if necessary, when there is an offsite release from a Naval Nuclear Propulsion Program facility that affects the county.

R. Kittitas County

1. Be prepared to receive information and/or protective action decisions from the state or surrounding jurisdictions on hazards resulting from an emergency at the Columbia Generating Station, Hanford Site or UMCD.

S. Klickitat County

1. Be prepared to receive information and/or protective action decisions from the state or surrounding jurisdictions on hazards resulting from an emergency at the Columbia Generating Station, Hanford Site or UMCD.

T. Snohomish County

1. Establish an EOC.
2. Coordinate with state of Washington Naval Station Everett.
3. Coordinate with Naval Station Everett personnel to provide information to the public in the event of an incident or emergency.

4. Recommends and implements appropriate protective actions to the public, if necessary, when there is an offsite release from a Naval Station Everett that affects the county.

U. Walla Walla County

1. Prepares a contingency plan for the release of radioactive or other hazardous materials from Columbia Generating Station, Hanford Site, and/or UMCD.
2. Provides information and education to the public.
3. Supports other jurisdictions when there is an offsite threat that does not threaten Walla Walla County.
4. Recommends to the public protective actions to be taken when there is an offsite release that affects the county.
5. Sets up an Agricultural Control System to contain contaminated products.
6. Establishes and maintains an EOC.
7. Establishes and maintains an Emergency Communications System to include Alert and Warning.
8. Recommends geopolitical boundaries for FCAs.

V. Yakima County

1. Prepare a contingency plan for the release of radioactive or other hazardous materials from Columbia Generating Station and/or the Hanford Site.
2. Provides information and education to the public.
3. Supports other jurisdictions when there is an offsite threat that does not threaten Yakima County.
4. Recommends to the public protective actions to be taken when there is an offsite release that affects the county.
5. Sets up an Agricultural Control System to contain contaminated products.
6. Establishes and maintains an EOC.
7. Establishes and maintains an Emergency Communications System to include Alert and Warning.
8. Recommends geopolitical boundaries for FCAs.

W. State of Oregon

1. Notifies the affected county's' EOCs and the Washington State EOC.
2. Coordinates response activities in an emergency to minimize conflicting instruction to the public.
3. Coordinates evacuation routes, checkpoints, and emergency services.
4. Coordinates re-entry and recovery activities.
5. Coordinates public information with all jurisdictions to ensure consistent messages are provided to the public.

X. Umatilla Chemical Depot

1. Develops and maintains emergency plans and procedures to provide for the safety of the public and onsite personnel.
2. Maintains an operational status and provides PARs to protect the population from hazards originating from the UMCD.
3. Provides information to the states and local jurisdictions on the status of hazards and actions being taken onsite.

Y. United States Department of Energy – Hanford Site

1. Develops and maintains emergency plans and procedures to provide for the safety of the public and onsite personnel.
2. Maintains MOUs with federal, state, and local response organizations.
3. Trains and exercises personnel, plans, procedures, and equipment essential for emergency response.
4. Mitigates potential consequences to workers, the public, and the environment. Take necessary actions to recover from an emergency.
5. Functions as a primary radiological response organization for a Hanford Site event.
6. Coordinates requests for federal radiological response assets. See Annex B, Appendix 1.

Z. Energy Northwest, Columbia Generating Station

1. Develops and maintains emergency plans and procedures to provide for the safety of the public and onsite personnel.

2. Maintains MOUs with federal, state, and local response organizations.
3. Meets preparedness requirements of their site certification agreement.
4. Makes provisions for evacuation routes and transportation for onsite individuals to some suitable offsite location, including alternatives for inclement weather, high traffic density, and specific radiological conditions.
5. Assesses the nature and extent of the incident or emergency at the affected Energy Northwest facility and make appropriate emergency classifications and notifications of counties and states.

AA. Puget Sound Naval Shipyard

1. Develop and maintain emergency plans and procedures.
2. Train and exercise personnel, plans, procedures, and equipment essential for emergency response.
3. Mitigate potential consequences to workers and the environment by taking necessary actions to recover from an emergency.
4. Lead organization for radiological emergency planning at Naval Station Bremerton, Submarine Base Bangor, and Naval Station Everett.
5. Function as the primary radiological response organization inside the shipyard/Naval Station Bremerton, Submarine Base Bangor, and Naval Station Everett. In addition, dispatch teams to offsite locations to conduct radiological monitoring until relieved by State or Federal monitoring teams.
6. Function as the primary Naval Nuclear Propulsion Program radiological response organization to assist State and local responders at the site of an offsite transportation accident involving a shipment of Naval Nuclear Propulsion Program or other radioactive materials in the State of Washington. Provide radiological personnel and equipment assets upon request from State or County agencies in accordance with the National Response Framework.

BB. Naval Nuclear Propulsion Program

1. Radiological regulatory authority for Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF), Naval Station Bremerton, Submarine Base Bangor, and Naval Station Everett.
2. Serves as the lead federal Agency under the Federal Radiological Emergency Response Plan for radiological emergencies at Naval Base Kitsap, and Naval Station Everett.

CC. American Red Cross

1. Operates assistance centers in coordination with other agencies and local jurisdictions.
2. Provides support to victims and workers.

DD. Federal Emergency Management Agency

1. Reviews and evaluates plans and procedures for Columbia Generating Station.
2. Evaluates ability of facilities and offsite agencies to carry out plans and procedures for Columbia Generating Station and UMCD.
3. Evaluates, tests, and approves alert/notification systems for Columbia Generating Station and UMCD.
4. Evaluates and assesses state and local performance for planning and preparedness; training, drills, public education and information programs for Columbia Generating Station.
5. Coordinates the federal agencies providing non-radiological response to peacetime radiological emergencies.
6. Participates as part of the federal response in accordance with the Federal Radiological Program (FRP) and Federal Radiological Monitoring and Assessment center (FRMAC).

EE. Nuclear Regulatory Commission (NRC)

1. Provides assistance to the states and Energy Northwest following NRC directives.
2. Evaluates the ability of the Energy Northwest to carry out its plans and procedures.
3. Participates as part of the federal response in accordance with the National Response Framework (NRF).

FF. United States Coast Guard

The United States Coast Guard, Captains of the Port of Seattle and/or Portland, are responsible for enforcing maritime laws, river access, river traffic control, river evacuation, and river evacuation verification on the affected navigable waterways, and:

1. Direction and control of waterway traffic.
2. Evacuates navigable waterways as recommended.

3. Maintains access control to affected navigable waterways.
4. Assists in public notification on and along affected navigable waterways.
5. Provides search and rescue services on, and along the affected navigable waterway, seeking local assistance when required.

GG. Service Response Force (SRF)

1. The SRF Commander is appointed by Headquarters, Department of the Army to represent the Department of the Army to command and operationally control all Department of Defense (DOD) response elements to a Chemical Incident/Accident (CAI).
2. The SRF assumes On-Scene Coordinator responsibilities cited in 40 CFR, Part 300 (*National Contingency Plan*), to establish control and direct all facets of the Chemical Accident or Incident Response and Assistance (CAIRA) mission.
3. The CAIRA mission involves those actions taken to save life; preserve health and safety; secure a chemical agent; protect property; prevent further damage and remediate the environment; and help maintain public confidence by providing:
 - a. Advice and assistance in restoration planning.
 - b. Claims service to finalize all of the Chemical Accident Incident (CAI) claims.
 - c. Advice and assistance to the On Scene Commander (OSC) on environmental issues.
 - d. Explosive Ordnance Disposal (EOD) support, security augmentation, and logistical support upon request.
 - e. Emergency medical technicians.
 - f. Specialized medical support in such areas as toxicology, veterinary medicine and management of chemical casualties.
 - g. Monitoring and chemical deposition cleanup.
 - h. Communications augmentation, automated data processing, satellite access, and transportable communication.
 - i. Laboratory support as required.

HH. Advisory Team for Environment, Food, and Health

1. Provides direct support to the Coordinating Agency on matters dealing with the environment, food, and health and usually co-locates with the FRMAC. If there is

no FRMAC the functions may be accomplished in the LFA response facility in Washington, DC.

2. Consists of representatives from the Environmental Protection Agency (EPA), Human Health Services (HHS), and the United States Department of Agriculture (USDA).
3. The primary role of the Advisory Team is to provide a mechanism for timely, interagency coordination of advice to the Coordinating Agency, states, and other federal agencies concerning matters related to the following areas:
 - a. Environmental assessments (field monitoring) required for developing recommendations.
 - b. Protective Action Guides (PAGs) and their application to the emergency.
 - c. Protective Action Recommendations (PARs) using data and assessment from the FRMAC.
 - d. Protective actions to prevent or minimize contamination of milk, food, and water and to prevent or minimize exposure through ingestion.
 - e. Recommendations for minimizing losses of agricultural resources from radiation effects.
 - f. Availability of food, animal feed, and water supply inspection programs to assure wholesomeness.
 - g. Relocation, re-entry, and other radiation protection measures prior to recovery.
 - h. Recommendations for recovery, return, and cleanup issues.
 - i. Health and safety advice or information for the public and for workers.
 - j. Estimate effects of radioactive releases on human health and the environment.
 - k. Guidance on the use of radio-protective substances (e.g., thyroid blocking agents), including dosage and projected radiation doses that warrant the use of such drugs.
 - l. Other matters, as requested by the Coordinating Agency.

II. Volunteer Organizations

1. May be requested to participate in the state EOC activities to coordinate the activities of their organization in each affected jurisdiction.

2. The state EOC will make every effort to provide the volunteer support required by responding local governments.

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TABLE I
AGENCY FUNCTIONAL RESPONSIBILITY MATRIX

| | NIMS CC | PP | W | NC | PI | AA | PH | SS | FS | SR | TC | EM | LE | TR | PR | RF | TN | ED | MC | HZ |
|---------------------------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|
| Governor | P | S | S | | P | | | | | | | | | | P | P3 | | | | |
| State EMD | C | P | P | C | CS | | C | C | C | C | | | | C | C | C | CP3 | P3 | | S |
| Health | S | S | S | | S | P3 | P | | | | | | | | S | P3 | S | | S | P |
| WSDA | S | S | S | | S | | S | | | | | | S | | S | P3 | S | S | S | |
| Ecology | | S | S | S | S | P3 | S | | | | | | S | | S | S | S | S | S | P |
| WDFW | | S | S | S | S | | S | | S | S | S | | S | | S | S | S | S | | S |
| WSP | | S | S | S | S | | | | | S | P | S | P | S | | | S | | | S |
| National Guard | | S | | S | S | | | | | S | S | S | S | S | | | S | | S | S |
| WSDOT | | S | | | S | | | | | | S | | | P | | | | | | S |
| Other State Agencies (WA) | | S | S | S | S | S | S | S | S | S | S | S | S | S | S | P3S | S | S | S | S |
| Other Organizations | | S | | | | | | | | | | P | | S | | | S | S | S | S |
| Local Government | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P3 | P3 | P1 | S |
| Facility | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P3 | P3 | | A |
| Federal Organizations | | A | A | A | A | A | A | A | | | | | | | | A | A | A | A | A |
| Naval Facilities | P2 | P2 | P3 | P2 | P3 | P2 | | | P2 | | P2 | P2 | P2 | P2 | P2S | | P2 | P2 | | P2 |

LEGEND

- A = Assistance
- C = Coordination
- P = Primary State Level
- S = Support
- P1 = Primary Local Level
- P2 = Primary Facility Level
- P3 = Primary Shared
- AA = Accident Assessment
- CC = Command/Control
- ED = Education
- EM = Emergency Medical Services
- FS = Fire Services
- HZ = Hazards
- LE = Law Enforcement
- MC = Mass Care
- NC = Notification Communication
- PH = Public Health
- PI = Public Information
- PP = Preparation & Preparedness Planning
- PR = Protective Responses
- RF = Radiological Flood Control
- SR = Search & Rescue
- SS = Social Service
- TC = Traffic Control
- TN = Training
- TR = Transportation
- W = Warning

TABLE 2
EMERGENCY CLASSIFICATION LEVELS AND AGENCY NOTIFICATIONS

| | CGS | | | | USDOE – Hanford | | | | CSEPP | | | | | NAVAL | | | |
|--|--|---|-----|----|-----------------|-------|-----|----|--|----|-----|-----|----|--|-------|-----|----|
| | None | Alert | SAE | GE | AE | Alert | SAE | GE | NSE | RL | LAE | POE | CE | UE | Alert | SAE | GE |
| Governor | I | A | A | A | I | A | A | A | I | I | I | A | A | I | A | A | A |
| EMD | I | A | A | A | I | A | A | A | I | I | A | A | A | I | A | A | A |
| DOH | I | A | A | A | I | A | A | A | I | I | I | A | A | I | A | A | A |
| WSDA | I | A | A | A | I | A | A | A | I | I | I | A | A | I | A | A | A |
| WSP | N | A | A | A | N | A | A | A | I | I | A | A | A | N | A | A | A |
| WSDOT | N | A | A | A | N | A | A | A | I | I | I | A | A | N | A | A | A |
| Ecology | I | I | I | A | N | A | A | A | I | I | I | A | A | N | A | A | A |
| WNG | N | A | A | A | N | A | A | A | I | I | I | A | A | I | I | A | A |
| EFSEC | I | A | A | A | I | I | A | A | N | N | N | N | N | N | N | N | N |
| State Counties Plume EPZ Ingestion EPZ | I | A | A | A | I | A | A | A | | | | | | I | A | A | A |
| IRZ | | | | | | | | | | | | | | N | N | N | N |
| PAZ | | | | | | | | | N | N | N | A | A | N | N | N | N |
| Other State Agencies | N | S | A | A | I | S | A | A | N | N | N | I | A | N | S | A | A |
| | UE —Unusual Event Alert —Alert SAE —Site Area Emergency GE —General Emergency | AE —Abnormal Event Alert —Alert SAE —Site Area Emergency GE —General Emergency | | | | | | | NSN —Non-Surety Event RL —Routine Leaker LAE —Limited Area Emergency POE —Post Only Emergency CE —Community Emergency | | | | | UE —Unusual Event Alert —Alert SAE —Site Area Emergency GE —General Emergency | | | |

I = Information only, no further action necessary
 S = Place organization on stand-by and wait for further instructions
 A = Activate organization response as necessary
 N = Not applicable

**FIGURE 1
EMERGENCY MANAGEMENT ORGANIZATIONAL CHART**

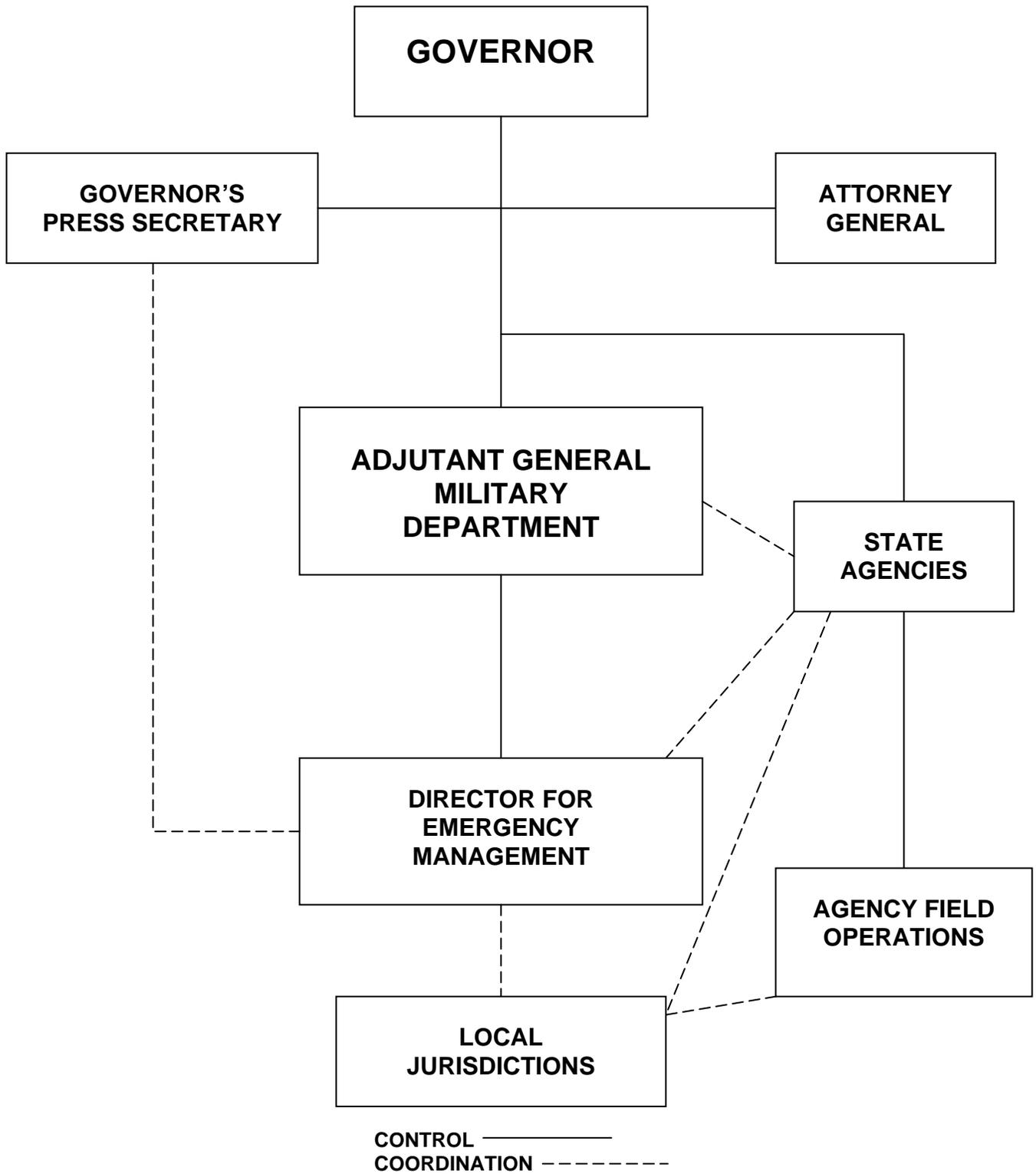
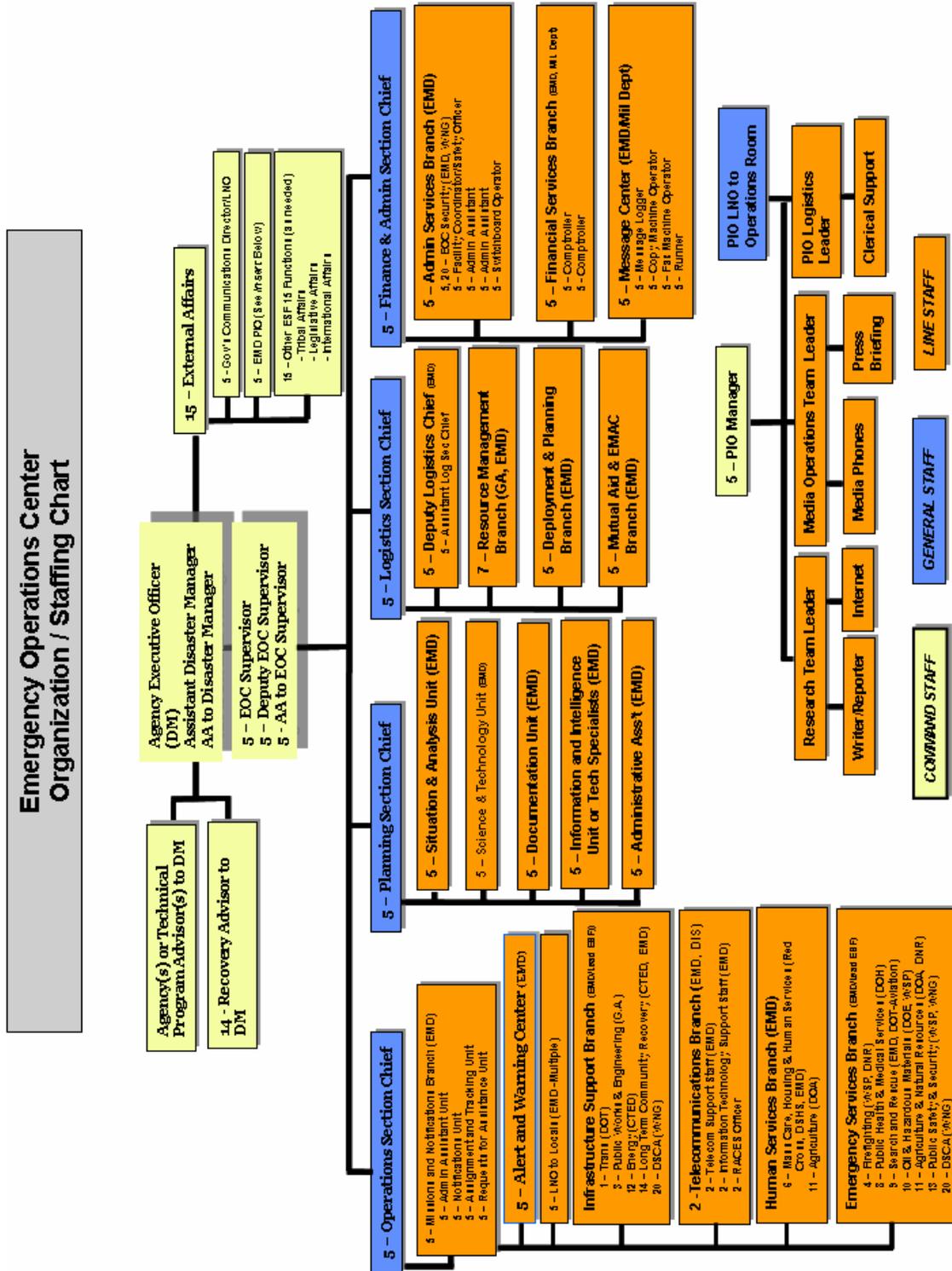


Figure 2
Emergency Management Organizational Chart



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ANNEX A

EMERGENCY RESPONSE MANAGEMENT

I. INTRODUCTION

A. Purpose

The purpose of this Annex is to describe effective response management to emergencies at the Umatilla Chemical Depot (UMCD), Energy Northwest, Columbia Generating Station and the United States Department of Energy-Hanford Site facilities, Puget Sound Naval Shipyard and Intermediate Maintenance Facility, Naval Base Kitsap, and Naval Station Everett facilities.

B. Scope

Response actions following emergencies will be determined by the classification of the emergency at the facility concerned. This Annex covers the full range of responses.

II. POLICIES

See the Basic Plan, Section II, of the Integrated Fixed Facility Radiological and Chemical Protection Plan.

III. SITUATION

A. Emergency/Disaster Conditions and Hazards

See the Basic Plan, Section III A., of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

B. Planning Assumptions

See the Basic Plan, Section III B., of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

IV. CONCEPT OF OPERATIONS

A. General

1. Emergency management organizations of Washington State, the federal government, and the facilities will respond to facility accidents/emergencies. Agencies of each county within the plume and ingestion exposure pathway Emergency Planning Zones (EPZs) are expected to respond to such emergencies according to the county's *Comprehensive Emergency Management Plan*. It is

presumed that each affected county government will elect to respond to facility emergencies. If, however, a county is unable to adequately respond to a facility emergency, the state will act in the interest of public health and safety.

2. The Governor of Washington State will receive notification from the Washington State Military Department, Emergency Management Division (EMD) of an emergency at a facility and will determine whether conditions exist, or are likely to exist, which justify proclaiming a state of emergency. After a Proclamation of Emergency has been issued, the support of state and private sector resources will be made available to each county within the plume and ingestion EPZs of a facility.
3. The state's response to an emergency is coordinated from the state Emergency Operations Center (EOC).
4. During an emergency, the state and counties will coordinate their public information functions to ensure residents and transient populations are informed of the necessary protective actions to take. The Joint Information Center (JIC) is the primary point for the coordination and release of public information. The county serves as the familiar and authoritative contact for the local area, while the state is responsible for media coverage at the state and national levels. Issuers of public information must be able to monitor the broadcast of official information messages at the EOC or JIC. If incomplete, inaccurate, or ambiguous information is detected in the monitored broadcast, then a correction is broadcast as soon as possible and Public Information Officers (PIOs) and rumor control personnel are notified of the problem.

B. Umatilla Chemical Depot Emergencies

1. There is a Multi-Agency Coordination (MAC) organization between emergency services agencies, state /local jurisdictions and the Umatilla CSEPP community. This forum serves to develop plans and procedures for coordination; review and discuss matters of mutual interest; respond expeditiously; provide public information; and utilize critical resources to protect the public if an incident were to occur at the Umatilla Depot.
2. Benton County is the only county in Washington State within the Umatilla Chemical Depot's Immediate Response Zone (IRZ). The county's emergency response procedures are based on criteria such as current weather conditions, wind direction, time, amount, type of release, and potential for an agent traveling off-post. Implementing procedures will be developed for a wide range of circumstances. The appropriate response will be selected based on current conditions and implemented by the designated response agency in Benton County to provide protective action for the people in the IRZ during an agent release. There are two protective action strategies for people in the IRZ during an event: evacuation, or sheltering-in-place. The state's primary role is to

support Benton County, and to be prepared for other actions, as the emergency requires.

C. Columbia Generating Station

Large parts of eight counties in Washington State--Adams, Benton, Franklin, Grant, Kittitas, Klickitat, Walla Walla, Yakima, and portions of two Oregon counties--Umatilla and Morrow, are included within the ingestion exposure pathway EPZ of Columbia Generating Station and the Hanford Site. County emergency response procedures are based upon criteria established by NUREG 0654/FEMA REP-1, for the plan, and local requirements. The two primary protective action strategies for people in the plume exposure pathway EPZ are evacuation and sheltering-in-place. People will be asked to relocate from areas contaminated above Protective Action Guides (PAGs). The agricultural community will be advised to take precautionary measures to protect their animals and to be prepared for possible further actions, such as suspending crop harvesting, stopping the pick up and transport of milk, and halting the production of food.

D. United States Department of Energy Hanford- Emergencies

Benton, Franklin, Grant, Counties are included in the Hanford plume and Klickitat and Kittitas Counties are included in ingestion exposure pathway EPZ for DOE-RL. County emergency response procedures parallel the Columbia Generating Station because of the facilities proximity. The two primary protective action strategies for people in the plume EPZ is evacuation or shelter-in-place.

E. Puget Sound Naval Shipyard (PSNS), Submarine Base Bangor, and Naval Station Everett Emergencies

EPZ's established by NUREG 0654/FEMA REP-1 are not applicable to naval nuclear propulsion plants. Because of differences in the design and operation of naval nuclear propulsion plants when compared to commercial nuclear power plants, the exposure to the public would be localized and not severe in the highly unlikely event of a release of radioactivity from a ship. Therefore, there is no need for the Kitsap and Snohomish Counties to have special emergency response plans as are required for the counties where commercial nuclear power plants are located. To assist state and local authorities in assessing the need for any preplanning in the vicinity of naval bases or shipyard where nuclear powered vessels are berthed, the Naval Propulsion Program has designated Areas of Planning Attention (APA). The APA extends 0.5-miles around every location where nuclear-powered vessels are normally berthed (i.e. from the actual dock or pier, not the shipyard or naval base property boundary). The 0.5-mile distance is based on detailed, conservative analysis of worst-case, but credible scenarios, the actual radius of the impacted downwind area will most likely be smaller. For

Naval Base Kitsap-Bremerton and Naval Station Everett, only small portions (i.e., a few city blocks) of the impacted downwind area of the APA cross over the federal property boundaries. For Naval Base Kitsap-Bangor, the APA is completely within federal property boundaries. (See maps in Appendix 6 in this annex)

F. Notification

Specific notification information not covered in the above paragraphs is covered in the procedures supporting this plan.

V. RESPONSIBILITIES

See the Basic Plan, Section V, of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

VI. REFERENCES

See the Basic Plan, Section II A., of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

See the *CSEPP Community MAC-G Plan, 2007*.

ANNEX A, APPENDIX 1
CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM
EMERGENCY PLANNING ZONES
EMERGENCY CLASSIFICATION LEVELS AND
WASHINGTON STATE EOC OPERATIONAL PHASES

I. CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM
EMERGENCY PLANNING ZONES

A. Immediate Response Zone

The Immediate Response Zone (IRZ) extends approximately six to nine miles from the chemical event location. This area would be the first location to be affected by an accidental release of chemical agent and would receive the heaviest agent concentrations. This zone encompasses an area where an agent release under stable weather conditions would arrive in lethal concentrations in one hour. In Washington State, the IRZ falls entirely within Benton County.

B. Protective Action Zone

The Protective Action Zone (PAZ) extends beyond the IRZ to a radius of 10 to 30 miles from the potential chemical event location. The primary emergency response is evacuation, because it is anticipated there will be sufficient time to allow an orderly and complete evacuation. The distance from Umatilla Chemical Depot (UMCD) to the PAZ boundary is based on the maximum distance for fatalities for most chemical event releases during the on-post chemical weapons disposal phase.

C. Precautionary Zone

The Precautionary Zone (PZ) is the outermost Emergency Planning Zone (EPZ) and extends from the PAZ outer boundary to a distance where the risk of adverse impacts to humans is negligible. The distance will vary substantially based upon the circumstances and must be determined for each chemical event. For worst-case accidents, which may have lethal affects beyond the PAZ, sufficient warning and response time is available to execute effective protective actions. The possibility of a release extending into the PZ is considered to be extremely remote. Therefore, the outer PZ boundary is not set prior to an actual chemical event. The primary function of the jurisdictions in the PZ is to provide support to the IRZ and PAZ jurisdictions and the population in the Marine Safety Zone (MSZ) during the course of a chemical release.

D. Marine Safety Zone

The MSZ is the Columbia River extending from mile marker 262, west of Crow Butte State Park on the Washington State side of the River, to mile marker 305, east of Juniper Canyon on the Oregon side of the River. The area includes all parks

immediately adjacent to the River within the identified mile markers and all islands between the identified mile markers. In Washington State, the MSZ is considered to be the zone most vulnerable to affects from a release of chemical agent from UMCD because of its proximity to the UMCD, the vulnerability of people in boats on the River, and the vulnerability of workers at the McNary Dam.

NOTE: Washington State is responsible for warning within the MSZ.

II. CSEPP EMERGENCY CLASSIFICATION LEVELS AND PHASES

A. Non-Surety Event-Washington State EOC Operational Phase I

1. Description

A Non-Surety Event is a situation which is in progress or has occurred at UMCD and which indicates a potential degradation of the level of safety on-post. It is an event, which is likely to occur, or has occurred, that may be perceived as an emergency, or that may be of general public interest, but which poses no chemical hazard to on-post personnel or the off-post public. The UMCD shall adjust the emergency classification to the appropriate level as the emergency develops. Examples of Non-Surety Events are:

- a. A brush fire on-post.
- b. An unauthorized person on-site.
- c. Accidental detonation of a non chemical munitions outside of the chemical storage area.

2. Actions

Notify appropriate state and county agencies. Current information on the event is provided. Systematic handling of information and decision-making is applied.

3. Release Potential

No releases of a chemical agent that would require emergency monitoring on the part of any government agency are expected unless further degradation of UMCD's safety systems occurs.

B. Limited Area Emergency-Washington State EOC Operational Phase II

1. Description

Events that are likely to occur or have occurred that involve an actual or potential release of a chemical agent with effects expected to be confined to the area

immediately around the release. The release does not have the potential of going beyond the UMCD boundaries.

2. Actions

Notify appropriate state and local agencies. Activate the Washington State and Benton County EOCs. Provide current information on the event. If at any time the event becomes stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

C. Post Only Emergency-Washington State EOC Operational Phase III

1. Description

Events that are likely to occur or have occurred that involve an actual or potential release of chemical agent with effects beyond the immediate area surrounding a chemical event. Releases are not expected to present a danger to the off-post public. This level will be declared when the predicted chemical agent no-effect dosage extends beyond the immediate area of the chemical release, but does not, and is not likely to, extend beyond the UMCD boundary.

2. Actions

Notify appropriate state and county agencies. Activate the Washington State and Benton County EOCs. Provide current information on the event. Initiate automatic protective actions and dispatch emergency workers. If at any time the event becomes stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

D. Community Emergency-Washington State EOC Operational Phase III

1. Description

Events that are imminent or have occurred that can be expected to present a danger to the public beyond the UMCD boundary. This level will be declared when a sufficient quantity of chemical agent capable of causing negative health effects to the general public has been released and extends or has the potential to extend beyond the installation boundary.

2. Actions

Notify appropriate state and county agencies. Activate the Washington State EOC, Benton County and PZ EOCs. Provide current information on the event. Initiate automatic protective actions, dispatch emergency workers, and prepare for relocation and food control measures. If at any time the event becomes

stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

E. Acute Exposure Guideline Levels (AEGL)

- 1. AEGL-1** is the airborne concentration of a substance above which (i.e. between AEGL-1 and AEGL-2; expressed in parts per million [ppm] or milligram/meter cubed) it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic, non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.
- 2. AEGL-2** is the airborne concentration of a substance above which (i.e. between AEGL-2 and AEGL-3) it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects, or an impaired ability to escape.
- 3. AEGL-3** is the airborne concentration of a substance above which it is predicted that the general population, including susceptible individual, could experience life-threatening health effects or death.

**ANNEX A, APPENDIX 2
COLUMBIA GENERATING STATION
EMERGENCY PLANNING ZONES
EMERGENCY CLASSIFICATION LEVELS AND
WASHINGTON STATE EOC OPERATIONAL PHASES**

I. COLUMBIA GENERATING STATION EMERGENCY PLANNING ZONES

A. Plume Exposure Pathway Emergency Planning Zone

1. The plume exposure pathway Emergency Planning Zone (EPZ) extends approximately 10 miles in all directions from the facility. The principal danger is whole body external exposure to gamma radiation resulting from radioactive materials from a plume. Additionally, exposure as a result of inhaling radioactive materials from a passing plume released during a facility emergency is also possible. Each county whose jurisdiction falls within the plume exposure EPZ is responsible for developing emergency response procedures, making Protective Action Decisions (PADs), and implementing appropriate protective measures to protect persons within its jurisdiction, but outside of the facility's boundary. The Washington State role in the plume exposure EPZ is to assist the county through technological assessment of the incident, making recommendations for protective measures and other emergency response assistance when requested by the county.
2. The plume exposure pathway EPZ counties for Energy Northwest Columbia Generating Station are Benton and Franklin Counties. Both Benton and Franklin Counties will implement county plans to respond to emergencies at Columbia Generating Station. These plans establish the response and support the counties expect to receive in event of a radiological emergency. The EPZ map for the CGS Plume is located in Annex A-Appendix 6; page A-6-2.

B. Ingestion Exposure Pathway Emergency Planning Zone

1. The ingestion exposure pathway EPZ extends approximately 50 miles in all directions from Columbia Generating Station. The principal danger to human beings would result from the ingestion of water or food that has become adulterated. Washington State has the responsibility making PADs and implementing protective measures for the ingestion exposure pathway EPZ. Washington State counties and cities in the ingestion exposure pathway EPZ are responsible for supporting Washington State's implementation of ingestion exposure protective measures. Ingestion zone counties will develop and update plans and procedures to execute these responsibilities.
2. The ingestion exposure pathway EPZ for Columbia Generating Station includes the following Washington State counties: Adams, Benton, Franklin, Grant, Walla Walla, parts of Yakima, and small portions of Kittitas and Klickitat Counties. However, due to limited agricultural land use and limited number of permanent

residents in Kittitas and Klickitat Counties, no formal county response plans are required. Therefore, the state has assumed the primary responsibility for ingestion planning for these two counties. Washington State is also responsible for ensuring that the other counties mentioned above have prepared contingency plans for an emergency at Columbia Generating Station. Portions of two Oregon State counties--Umatilla and Morrow--are also within this EPZ. The EPZ map for the CGS Ingestion e is located in Annex A-Appendix 6; page A-6-3.

II. ENERGY NORTHWEST, COLUMBIA GENERATING STATION EMERGENCY CLASSIFICATION LEVELS

A. Notification of Unusual Event-Washington State Emergency Operations Center (EOC) Operational Phase I

1. Description

Notification of an Unusual Event indicates events are in process or have occurred that indicate a potential degradation in the level of plant safety. No releases of radioactive material requiring offsite response or monitoring are expected, unless further degradation of safety systems occurs.

2. Action

Notify appropriate state and county agencies. Current information on the event is provided.

B. Alert-Washington State EOC Operational Phase II

1. Description

An Alert emergency classification indicates events are in process or have occurred that involve an actual or potential substantial degradation in the level of plant safety. Releases are expected to be limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guides (PAGs) exposure levels.

2. Action

Notify appropriate state and county agencies. Activate the Washington State EOC and plume exposure pathway county EOCs. Provide current information on the event. If at any time the event becomes stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

C. Site Area Emergency-Washington State EOC Operational Phase III

1. Description

A Site Area Emergency (SAE) classification indicates events are in process or have occurred that involve actual or likely major failures in the plant functions needed for protecting the public. Releases are not expected to exceed the EPA PAG exposure levels, except near the site boundary.

2. Action

Notify appropriate state and county agencies. Activate the Washington State EOC and the plume and ingestion county EOCs. Provide current information on the event. Initiate automatic protective actions and dispatch emergency workers. State EOC drafts a Governor's Proclamation. If at any time the event becomes stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

D. General Emergency-Washington State EOC Operational Phase III

1. Description

A General Emergency indicates events are in process or have occurred that involve actual or imminent substantial core degradation or melting, with potential for loss of containment integrity. Releases can reasonably be expected to exceed EPA PAG exposure levels offsite, beyond the immediate site area.

2. Action

Notify appropriate state and county agencies. Activate the Washington State EOC and the plume and ingestion county EOCs. Provide current information on the event, initiate automatic protective actions, dispatch of emergency workers, and prepare for relocation and food control measures. If at any time the event becomes stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

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ANNEX A, APPENDIX 3
UNITED STATES DEPARTMENT OF ENERGY-HANFORD SITE
EMERGENCY PLANNING ZONES
EMERGENCY CLASSIFICATION LEVELS AND
WASHINGTON STATE EOC OPERATIONAL PHASES

I. UNITED STATES DEPARTMENT OF ENERGY- HANFORD SITE
EMERGENCY PLANNING ZONES

A. Plume Exposure Pathway Emergency Planning Zone

The various facilities on the United States Department of Energy--Hanford Site each have its own plume exposure pathway Emergency Planning Zone (EPZ). They are shown at Appendix 6 to this Annex. The counties involved include Benton, Franklin, and Grant.

B. Ingestion Exposure Pathway Emergency Planning Zone

The ingestion exposure pathway EPZ for the United States Department of Energy-Hanford Site is the same 50-mile circle used for Columbia Generating Station. It is also shown on the map on page A-6-3. The ingestion counties include Adams, Benton, Franklin, Grant, Kittitas, Klickitat, Walla Walla, and Yakima.

II. UNITED STATES DEPARTMENT OF ENERGY-HANFORD SITE
OPERATIONS EMERGENCY CLASSIFICATIONS

These emergency classifications apply to Hanford Site reactors, and other onsite facilities, nuclear and non-nuclear, involved with radiological and/or hazardous materials. Unlike commercial nuclear power plants, such as the Columbia Generating Station, the Hanford Site does not include the Notification of Unusual Event.

A. Alert-Washington State EOC Operational Phase III

1. Description

An Alert represents that events are in progress or have occurred that involve an actual or a potential substantial degradation of the level of safety at a facility. Any environmental releases of hazardous materials are expected to be limited to fractions of the appropriate Protective Action Guide (PAG) or Emergency Response Planning Guideline (ERPG) at the facility boundary.

2. Action

Notify appropriate state and county agencies. Activate the Washington State (EOC) and plume county EOCs. Provide current information on the event.

B. Site Area Emergency-Washington State EOC Operational Phase III

1. Description

A Site Area Emergency (SAE) represents events are in progress or have occurred that involve actual or likely major failure(s) of facility safety or safeguard systems needed for the protection of onsite personnel, the public health and safety, the environment, or national security. Any environmental release of hazardous materials are expected to exceed the appropriate PAG or ERPG exposure levels at the facility boundary, but is expected to be less than these values at the Hanford Site boundary.

2. Action

Notify appropriate state and county agencies. Activate the Washington State EOC and the plume and ingestion county EOCs. Provide current information on the event, initiate automatic protective actions, and dispatch emergency workers.

If at any time the event becomes stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

C. General Emergency-Washington State EOC Operational Phase III

1. Description

A General Emergency (GE) represents events that are in progress or have occurred that involve actual or imminent catastrophic failure of facility safety systems with potential for loss of confinement integrity, catastrophic degradation of facility protection systems threatening the integrity of a weapon or test device, which could lead to substantial offsite impacts. Any environmental releases of hazardous materials can reasonably be expected to exceed the appropriate PAG or ERPG exposure levels at or beyond the Hanford Site boundary.

2. Action

Notify appropriate state and county agencies. Activate the Washington State EOC and the plume and ingestion county EOCs. Provide current information on the event, initiate automatic protective actions, dispatch emergency workers, and prepare for relocation and food control measures. If at any time the event becomes stabilized, the state Disaster Manager and/or EOC Supervisor can make the decision to reduce the EOC Activation Phase if the situation warrants it.

ANNEX A, APPENDIX 4
ENERGY NORTHWEST, COLUMBIA GENERATING STATION
AND
UNITED STATES DEPARTMENT OF ENERGY-HANFORD SITE
EMERGENCY
AND
NAVAL NUCLEAR PROPULSION RESPONSE PHASES

I. EARLY PHASE

The early phase (response) describes actions taken before or during a release of hazardous material from a facility. Immediate emergency measures are necessary to prevent or minimize direct exposure or inhalation of hazardous materials. During the early phase of the emergency response, the plume exposure Emergency Planning Zones (EPZ) counties and Areas of Planning Attention counties for Naval Nuclear Propulsion Program facilities are responsible for making protective action decisions. Health provides support and professional health physics expertise to the counties.

II. INTERMEDIATE PHASE

The intermediate phase describes actions taken after the release of hazardous material has terminated. Intermediate phase responses focus on minimizing exposure to material deposited on the ground and controlling the consumption of potentially adulterated food and water. During this phase, the state takes the lead in the consensus decision-making process, with input from the affected counties and facilities.

III. LATE PHASE

Late phase (recovery) actions include the long-term emergency response activities necessary to restore the affected area to its pre-emergency condition. The state leads this decision process through the Washington State Recovery and Restoration Task Force (RRTF) described in the *State Comprehensive Emergency Management Plan (CEMP)*, Emergency Support Function (ESF) 21 Recovery.

IV. ACTIONS AND PHASES

A. Although specific actions are described for each of the three distinct emergency response phases, the operational actions and decisions for the phases overlap. The phases are based on a series of interrelated activities for responding to the immediate needs while anticipating the resource and decision requirements as the emergency progresses. Protective actions to be taken will be those recommended by the facility, the counties, the state, or jointly by the county, state, and facility. Procedures for carrying out these protective actions should be consistent with the recommended actions, taking into consideration offsite conditions at the time of the emergency.

- B.** A declared facility emergency requires automatic actions. Upon receiving emergency notification of an Alert, SAE, or GE from the facility, the affected county within the plume exposure pathway EPZ and, the appropriate officials of Kitsap county within the Area of Planning Attention will implement the county's emergency response procedures, activate its EOC, take appropriate protective actions, and consider proclaiming a state of emergency for the county. The Washington State Emergency Management Division (EMD) will activate the state EOC and assemble the appropriate state agency officials to evaluate the situation and provide technical support, personnel, and equipment resources to each county to protect the public health and safety. The state may request a variety of federal assistance (e.g., equipment, temporary housing, and support for dose assessment).
- C.** The state will provide continual updates and escalating or deescalating notifications. Public information to local county residents will be provided by the county EOC periodically, as necessary, to prevent undue alarm. Consultation with the Joint Information Center (JIC) will ensure correct and coordinated information is provided to the public in each affected county.
- D.** Technical personnel from the facilities and the Washington State Department of Health, Office of Radiation Protection (Health), jointly perform the accident analysis and dose calculations /assessment as they relate to the need for relocation and food control measures. This activity takes place in the Hanford Site EOC/Unified Dose Assessment Center (UDAC), Puget Sound Naval Shipyard (PSNS) & IMF Emergency Control Center (ECC), or in the Columbia Generating Station Meteorological and Unified Dose Assessment Center (MUDAC). Initial and updated dose projections and assessments, plume footprints, radiological data, and other technical assessments of the hazard are routinely transmitted to the affected state(s) and county EOCs. During the intermediate phase, technical Protective Action Recommendations (PARs) from the MUDAC, with geopolitical boundaries recommended by the affected counties, are the basis for all Protective Action Decisions (PADs) issued through the state EOC Executive Section.
- E.** Health is responsible for determining the type and amount of radiation, present or projected offsite. The Executive Section at the state EOC, in consultation and coordination with the executives of the affected counties, will coordinate the development of the Relocation Area and Food Control Area (FCA) boundaries and agreeing on what protective actions must be accomplished to prevent or limit the amount of hazardous material in the food chain. A Governor's Order will be prepared to approve the FCA boundaries and to authorize law enforcement agencies to stop the transport of food grown and produced within the FCAs. When the Governor approves the boundaries, the state EOC relays the Order to the Washington State Departments of Agriculture (WSDA) and Health, the Washington State Patrol (WSP), and to the affected counties for implementation. WSDA will implement the food control protective actions for licensed dairies, food producers, processors, and haulers, while the affected counties' extension agents will provide for the implementation of the PADs of others (e.g., small producers, home producers/user).

Actions can range from protecting cattle feed, ceasing harvesting, maintaining farm animals on stored feed and water, to embargoing food. Health and the Department of Ecology (Ecology) are responsible for implementing control over public drinking water sources. Actions can range from the conservation of water, to stopping use of a source, to changing to a covered source. In addition, the WSP, the Military Department, and the Washington State Department of Transportation (WSDOT) provide support to ensure the protective actions are implemented. After the early and intermediate phases of the accident have been terminated, the state will utilize all its resources to prevent the possible consumption of adulterated food by the public.

- F.** The Emergency Alert System (EAS) will ensure the broadest coverage when providing immediate, life safety information to the general public. Normal media communication outlets should be used for non-emergency public information

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ANNEX A, APPENDIX 5
NAVAL NUCLEAR PROPULSION PROGRAM
AREAS OF PLANNING ATTENTION
EMERGENCY CLASSIFICATION LEVELS
AND
WASHINGTON STATE EOC OPERATIONAL PHASES

I. NAVAL NUCLEAR PROPULSION PROGRAM AREAS OF PLANNING ATTENTION

EPZ's established by NUREG 0654/FEMA REP-1 are not applicable to naval nuclear propulsion plants. Because of differences in the design and operation of naval nuclear propulsion plants when compared to commercial nuclear power plants, the exposure to the public would be localized and not severe in the highly unlikely event of a release of radioactivity from a ship. Therefore, there is no need for the Kitsap and Snohomish Counties to have special emergency response plans as are required for the counties where commercial nuclear power plants are located.

To assist state and local authorities in assessing the need for any preplanning in the vicinity of naval bases or shipyard where nuclear powered vessels are berthed the Naval Nuclear Propulsion Program has designated the Areas of Planning Attention (APA). The areas of APA extend 0.5-miles around the location where nuclear powered vessels are normally berthed (i.e. from the actual dock or pier, not the shipyard or naval base property boundary). The 0.5-mile distance is based on detailed, conservative analysis of worst-case, but credible scenarios, the actual radius of the impacted downwind area will most likely be smaller.

For Naval Base Kitsap-Bremerton and Naval Station Everett, only small portions (i.e., a few city blocks) of the APA cross over the federal property boundaries. For Naval Base Kitsap-Bangor, the APA is completely within federal property boundaries except for areas in the Hood Canal. (See maps in Appendix 6 in this annex). The counties are responsible for making Protection Action Decisions (PADs) and implementing appropriate protective measures to protect person(s) within its jurisdiction, but outside of the Naval Nuclear Propulsion Program facility's boundary. The Washington State role is to assist the county through technological assessment of the incidents, making recommendations for protective measures and other emergency response assistance when requested by the county.

II. NAVAL NUCLEAR PROPULSION PROGRAM DOSE BASE EVENT CLASSIFICATION METHODOLOGY

The Naval Nuclear Propulsion Program uses the four classes of Emergency Action Levels (EALs) specified in NUREGS-0654/FEMA REP-1, criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in the support of nuclear power plants. While the Naval Nuclear Propulsion Program used the same four classes as commercial nuclear power plants, the EAL's are different. Because of the

differences in the design and operation of Naval Nuclear Propulsion Program nuclear propulsion plants, the NRC/FEMA guidance is not applicable to the Naval nuclear propulsion plants EALs are normally classified based on a conservative estimate of total radiation exposure to a hypothetical member of the public located near the federal government property boundary (or nearest public residence) in terms of dose to the whole body or to the thyroid during the plume phase. The Naval Nuclear Propulsion Program used the Protective Action/Guides (PAGs) specified by the EPA 400-R-92-001 of October 1991, Manual of Protective Action Guides and Protective Actions (1 Rem TEDE, 5 Rem Committed Dose Equivalent (CDE) thyroid). The dose thresholds for the lower tier event classes (i.e., Site Area Emergency, Alert, and Unusual Event) were then established using fractions of the EPA PAGs.

| <u>Event Classification</u> | <u>Radiation Dose</u> | <u>Radioiodine Dose</u> |
|-----------------------------|-----------------------|-------------------------|
| Unusual Event | <0.01 Rem | <0.05 Rem |
| Alert | >0.01 to <0.1 Rem | >0.05 to <0.5 Rem |
| Site Area Emergency | >0.1 to <1.0 Rem | >0.5 to <5.0 Rem |
| General Emergency | > 1.0 Rem | > 5.0 Rem |

Normally based on exposure levels of a hypothetical person located at the Federal Government property boundary or the nearest public residence.

The dose estimates are made, using actual field survey data taken near the federal facility property boundary and a two-hour release is assumed if the duration of the release is unknown. Since field survey data will not be immediately available, the Naval Nuclear Propulsion Program will normally assign an initial event classification of “Alert” if an event involves actual or potential for reactor core damage and there is an actual or potential for a release to the environment. An initial event classification of “Unusual Event” will be normally assigned if a reactor core is not involved (e.g. facility fire involving radioactive materials), and a release to the environment has occurred with potential for measurable dose to a hypothetical member of the public near federal property boundary.

III. NAVAL NUCLEAR PROPULSION PROGRAM EMERGENCY CLASSIFICATION LEVELS

A. Unusual Event-Washington State Emergency Operation Center (EOC) Operational Phase I

1. Description

Unusual Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No release of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

2. Action

Immediately notify appropriate state and local authorities and provide current information of the event. Confirm that no specific action by civil authorities or the public is required. Dispatch facility offsite monitoring personnel if appropriate.

B. Alert-Washington State EOC Operational Phase II

1. Description

Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action guideline exposure levels near the federal property boundary.

2. Action

Immediately notify appropriate state and local authorities to stand by and provide current information on the event. Confirm that no specific protective actions are required at this time for the public. Dispatch facility offsite monitoring personnel.

C. Site Area Emergency-Washington State EOC Operational Phase III

1. Description

Events are in progress or have occurred which involve actual or likely major failure or plan functions needed for protection of the public. Any releases are not expected to exceed EPA Protective Action guideline exposure levels beyond the federal property boundary.

2. Action

Immediately notify appropriate state and local authorities and provide current information on the event. Recommend steps be taken to control access and warn the general public. Recommend preparatory steps be taken for directing the general public in specific sectors to evacuate or take shelter. Dispatch facility offsite monitoring personnel.

D. General Emergency-Washington State EOC Operational Phase IV

1. Description

Unusual events are progressing or have occurred, which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be expected to exceed EPA Protective Action guidelines exposure levels near the federal property boundary.

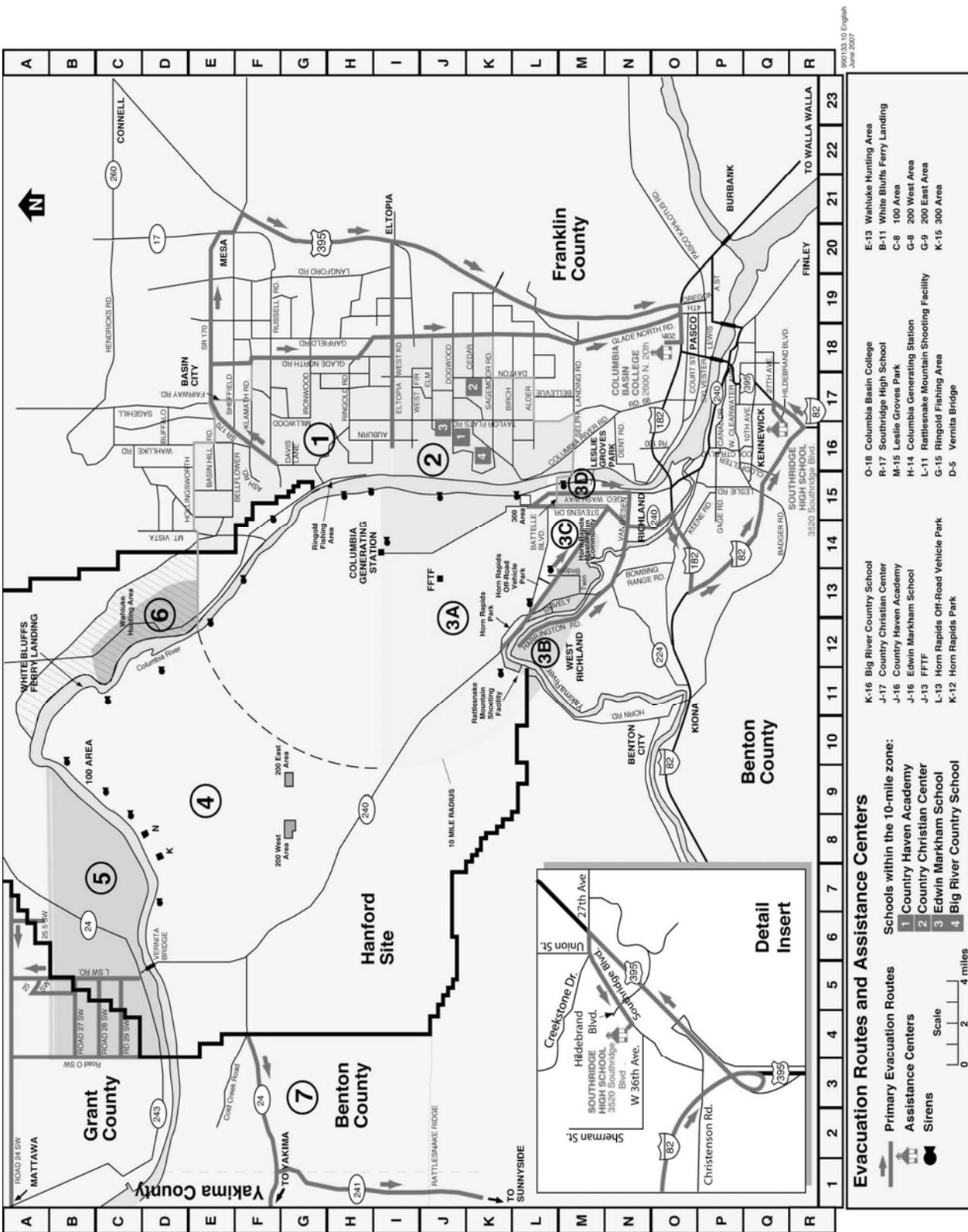
2. Action

Immediately notify appropriate state and local authorities and provide current information on the event. Recommend steps be taken to control access. Recommend preparatory steps be taken for directing the general public in specific sectors to evacuate or take shelter. Dispatch facility offsite monitoring personnel.

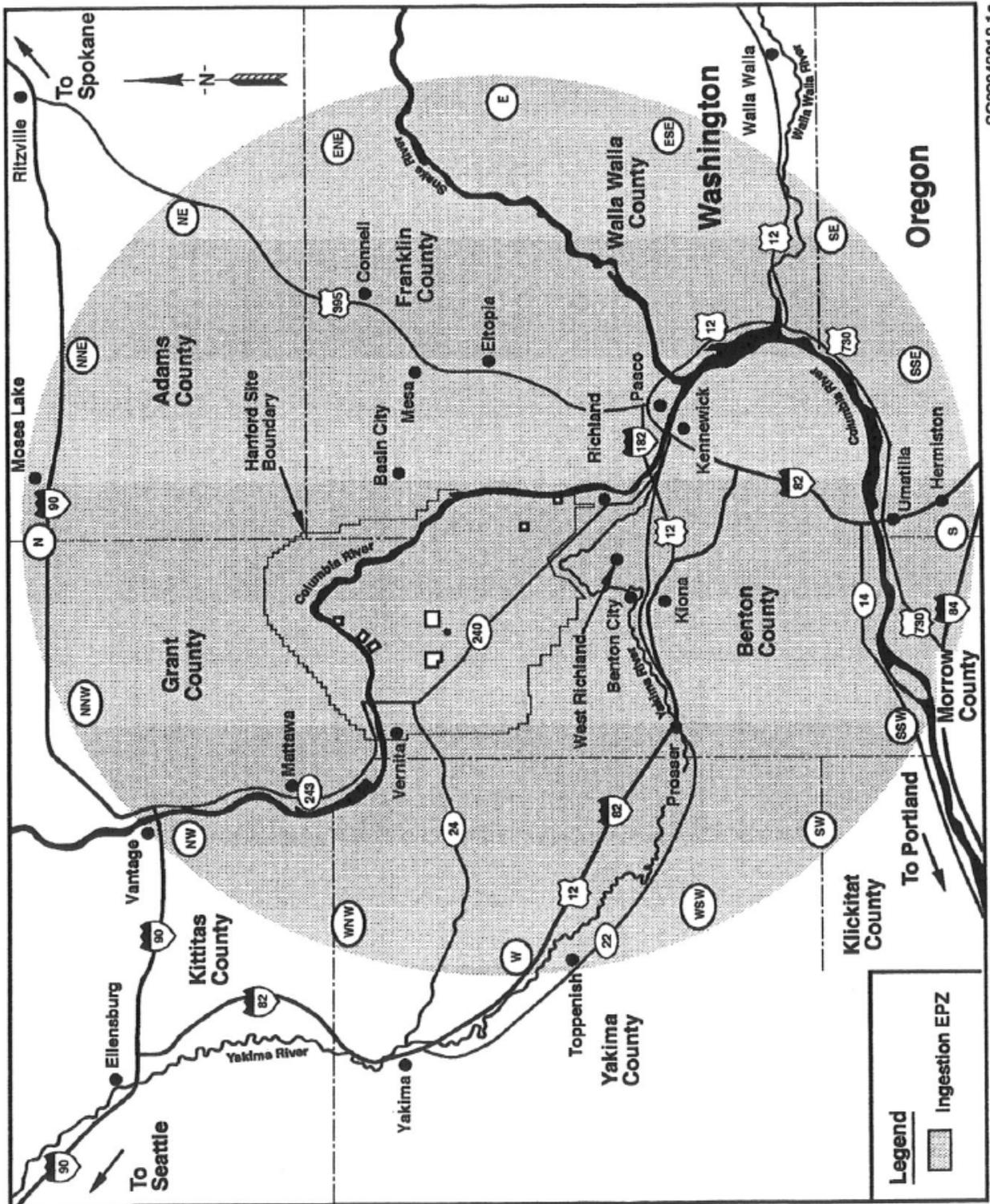
**ANNEX A, APPENDIX 6
MAPS**

| Facility | Page |
|---|-------------|
| Energy Northwest, Columbia Generating Station | |
| Plume -Ten (10) Mile Emergency Planning Zone (EPZ) | A-6-2 |
| Ingestion-Fifty (50) Mile Emergency Planning Zone (EPZ) | A-6-3 |
| US DOE Hanford Site Map | A-6-4 |
| UMCD-CSEPP Map (Benton County) | A-6-5 |
| Submarine Base Bangor Area of Planning Attention | A-6-6 |
| Naval Station Everett Area of Planning Attention | A-6-7 |
| Puget Sound Naval Shipyard/Naval Station Bremerton | |
| Area of Planning Attention | A-6-8 |
| Offsite Population in Area of Planning Attention | A-6-9 |

CGS 10-MILE EPZ MAP

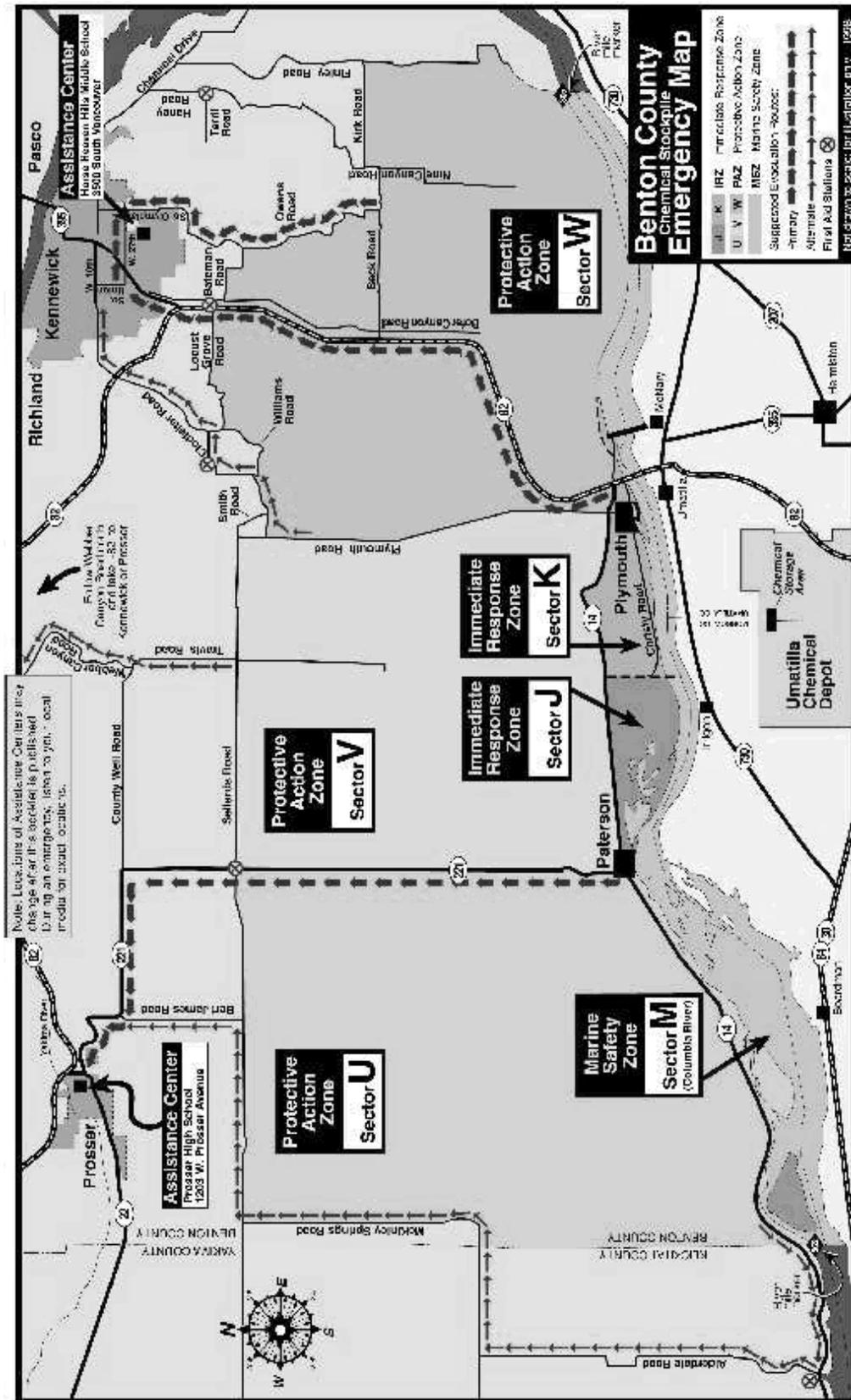


ENERGY NORTHWEST CGS/ US DOE-RL (50 Mile) INGESTION EMERGENCY PLANNING ZONE

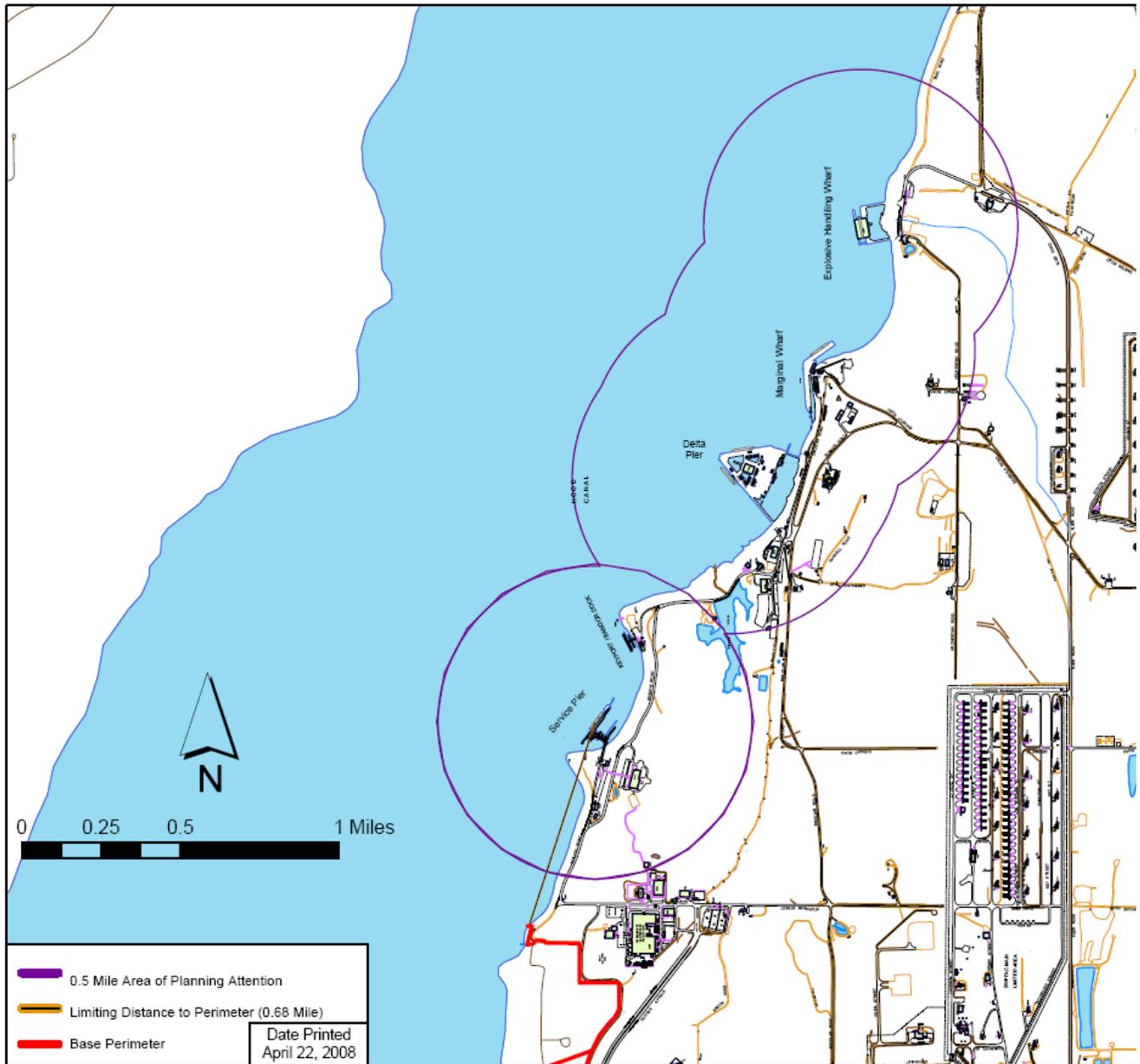


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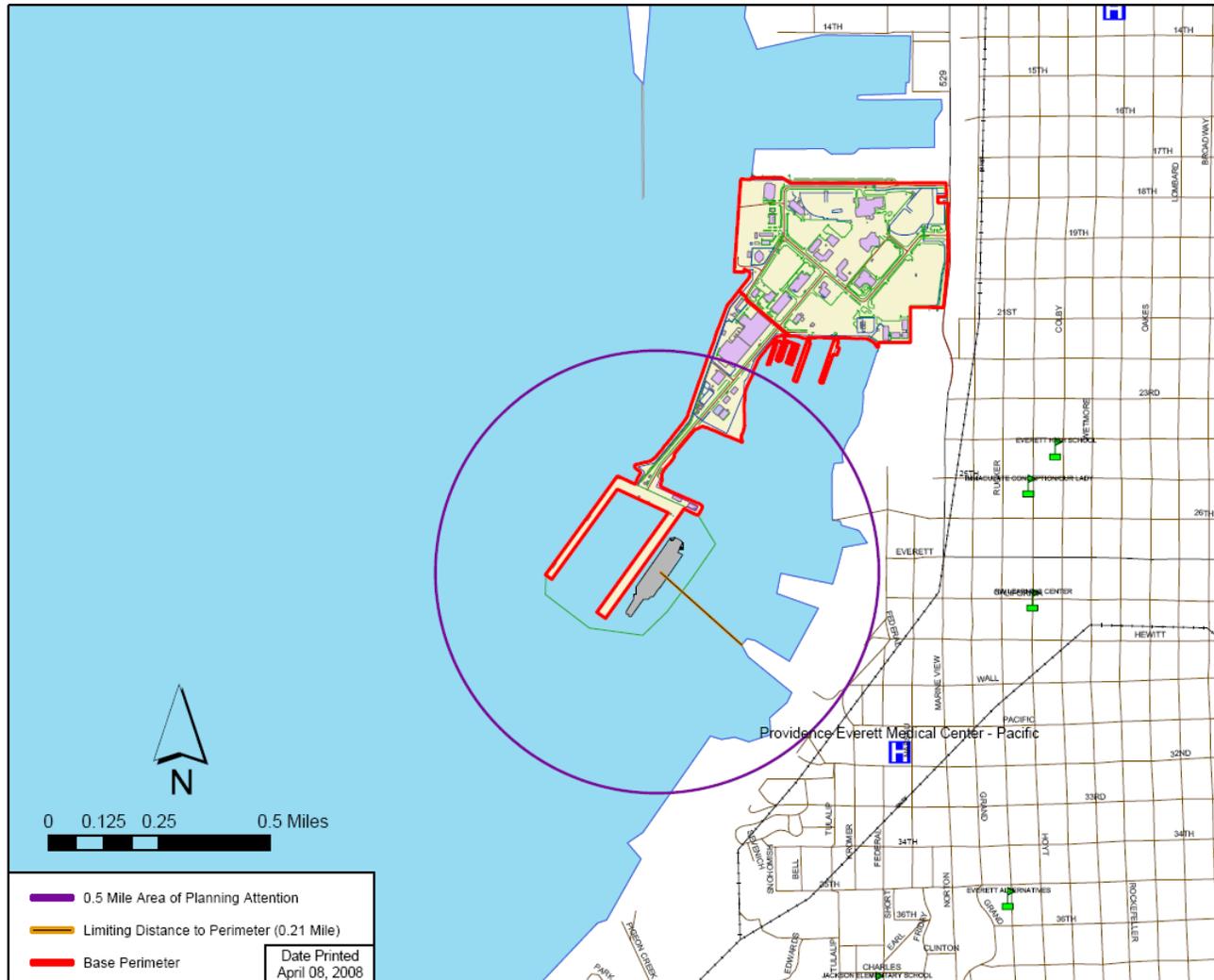
BENTON COUNTY CHEMICAL STOCKPILE EMERGENCY MAP



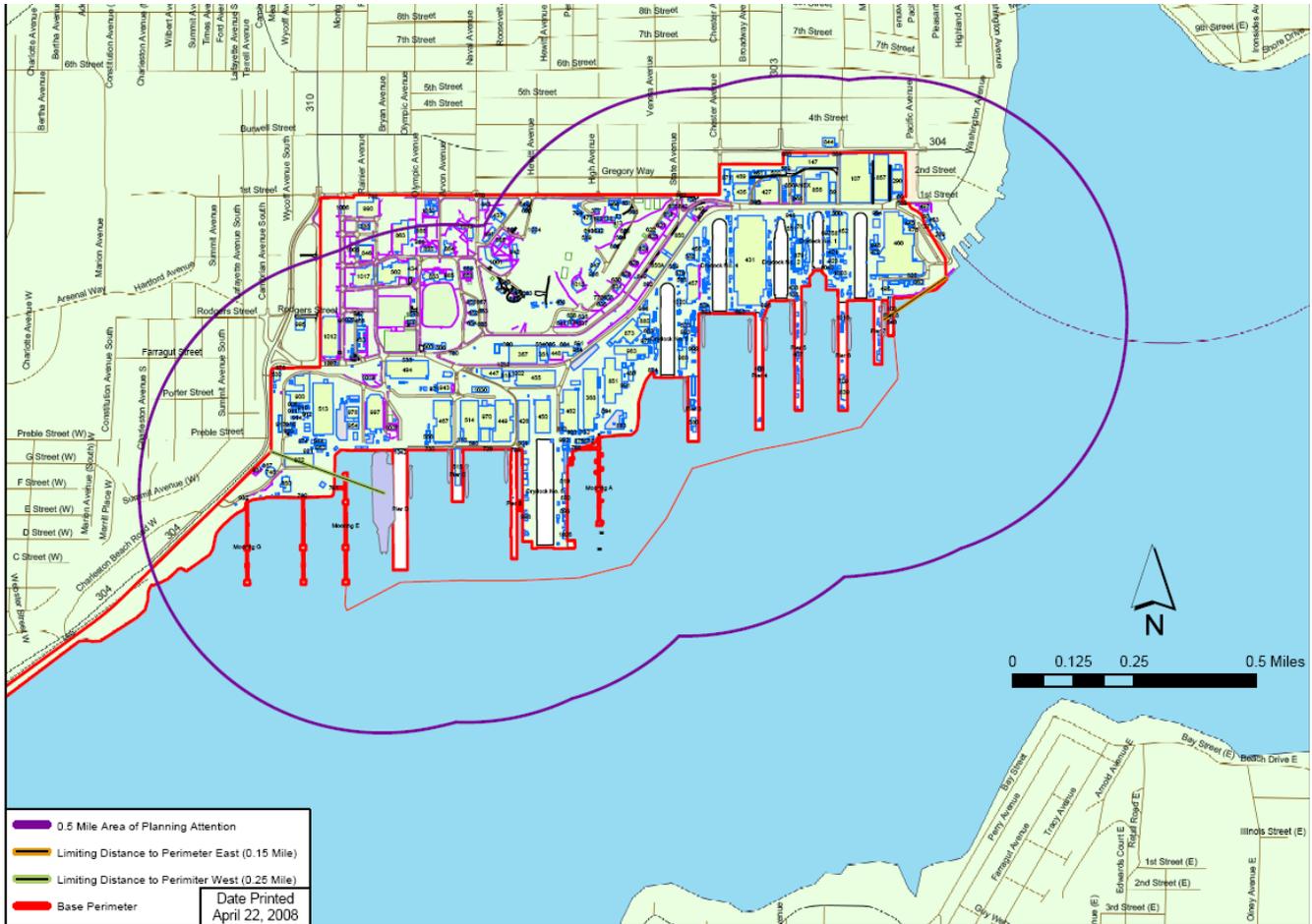
SUBMARINE BASE BANGOR AREA OF PLANNING ATTENTION



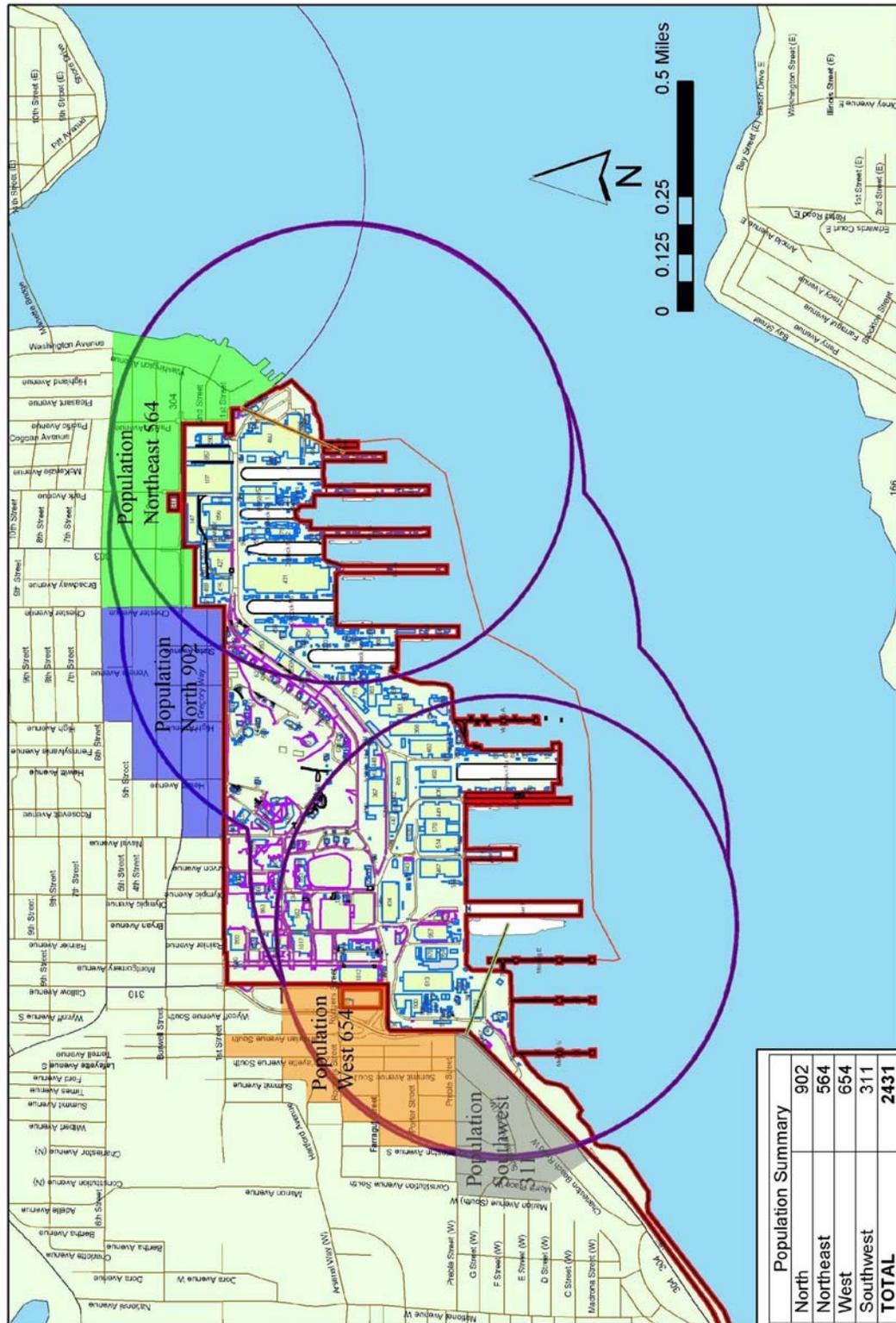
NAVAL STATION EVERETT AREA OF PLANNING ATTENTION



PUGET SOUND NAVAL SHIPYARD / NAVAL BASE KITSAP-BREMERTON AREA OF PLANNING ATTENTION



PUGET SOUND NAVAL SHIPYARD / NAVAL BASE KITSAP- BREMERTON OFFSITE POPULATION IN AREA OF PLANNING



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**ANNEX A, APPENDIX 7
NOTIFICATION FORMS**

| Facility | Page |
|---|-------------|
| UMCD Emergency Notification Form | A-7-2 |
| Columbia Generating Station Classification Notification Form | A-7-3 |
| DOE Hanford Notification Form | A-7-4 |
| AREVA NP, Inc. Incident Notification Form | A-7-5 |
| Naval Nuclear Propulsion Program Event Classification Notification Form | A-7-6 |

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UMCD EMERGENCY NOTIFICATION FORM (CSEPP)

The current Columbia Generating Station Classification Notification Form (CNF) is located behind this page; replace as necessary.

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UMATILLA CHEMICAL DEPOT NOTIFICATION FORM

THIS IS: AN EXERCISE AN ACTUAL EMERGENCY INFO ONLY

MESSAGE NUMBER: _____ DATE: _____ TIME: _____

PREPARED BY: _____

RECEIVED BY: _____

1. PURPOSE OF THIS MESSAGE:

- a. Initial Notification
- b. Change in Classification
- c. Status Update
- d. Termination of Emergency

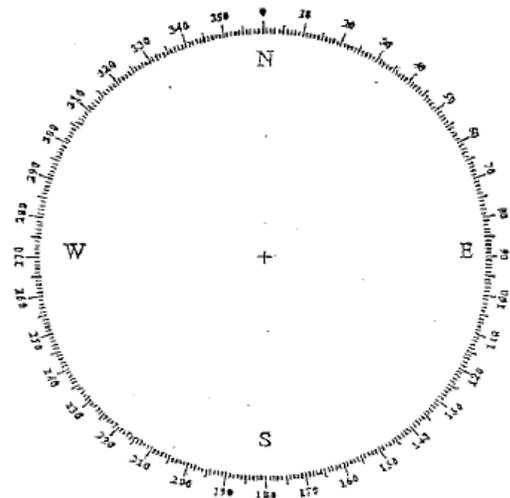
2. EVENT CLASSIFICATION:

- a. Non-Surety Emergency (Category I)*
- b. Limited Area Emergency (Category II)
- c. Post Only Emergency (Category II)
- d. Community Emergency (Category III)
- e. Other

3. UMCDC METEOROLOGICAL DATA:

Wind Degrees From: _____ Towards: _____

Wind Speed: _____ (mph)



4. PROTECTIVE ACTION

RECOMMENDATION:

No Action = Shelter = S Evacuate = E
Unshelter = U

IRZ:

A: _____ B: _____ C: _____ D: _____ E: _____
F: _____ G: _____ H: _____ J: _____ K: _____

M(Columbia River): _____

PAZ:

N: _____ P: _____ Q: _____ R: _____ S: _____
T: _____ U: _____ V: _____ W: _____

5. INITIATING EVENT: (If available)

Event: _____

Munition Type:

- a. GB b. VX c. HD
- d. Unknown e. N/A

IF IT IS A COMMUNITY EMERGENCY AND YOU HAVE NO QUESTIONS HANG UP AND BEGIN NOTIFICATION PROCEDURES.

6. ENVIRONMENTAL RELEASE INFO:

(If available)

- a. No Release
- b. In Progress
- c. Begin: _____ (24 hour clock)
Ended: _____ (24 hour clock)
- d. Unknown e. N/A

7. LOCATION OF EVENT: (If available)

- a. IGLOO: _____
- b. OTHER: _____
- c. Unknown _____

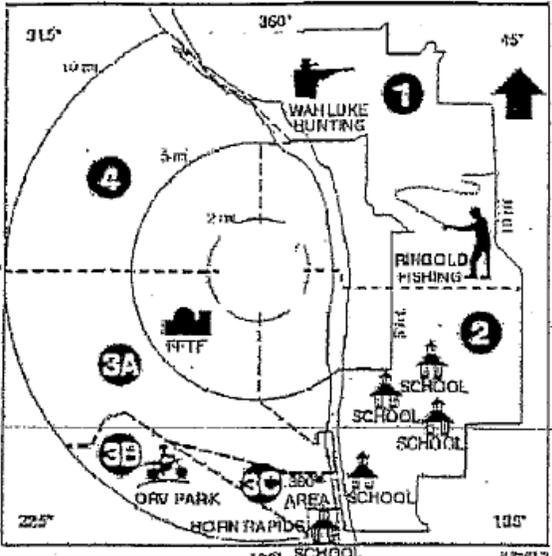
8. REMARKS

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COLUMBIA GENERATING STATION / CLASSIFICATION NOTIFICATION FORM

The current Columbia Generating Station Classification Notification Form (CNF) is located behind this page; replace as necessary.

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| | | | | | | | | | | | | | | | | | |
|--|--|--|--------------|------------|--|--|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 Type of Event | COLUMBIA GENERATING STATION EMERGENCY CLASSIFICATION NOTIFICATION | 2 NO: _____ | | | | | | | | | | | | | | | |
| 3 Notification Provided By | Phone 1-(509) _____ | 4 Classification/Status Reclassification | | | | | | | | | | | | | | | |
| | | Date _____ Time _____ | | | | | | | | | | | | | | | |
| 5 Section Map  | | 6 Unusual Event Automatic Protective Action Recommendations No offsite protective actions recommended. | | | | | | | | | | | | | | | |
| 7 Meteorological Data: Wind Speed: mph from _____ degrees. Precipitation: Stability Class: | | 8 Additional Protective Action Recommendations <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">All Sections</td> <td colspan="4" style="text-align:center;">2-10 miles</td> </tr> <tr> <td>0-2 miles</td> <td style="width:15%;">Section 1</td> <td style="width:15%;">Section 2</td> <td style="width:15%;">Section 3</td> <td style="width:15%;">Section 4</td> </tr> <tr> <td>No Action</td> <td>No Action</td> <td>No Action</td> <td>No Action</td> <td>No Action</td> </tr> </table> Basis for PAR: Not Applicable | All Sections | 2-10 miles | | | | 0-2 miles | Section 1 | Section 2 | Section 3 | Section 4 | No Action |
| All Sections | 2-10 miles | | | | | | | | | | | | | | | | |
| 0-2 miles | Section 1 | Section 2 | Section 3 | Section 4 | | | | | | | | | | | | | |
| No Action | No Action | No Action | No Action | No Action | | | | | | | | | | | | | |
| 9 There has been No Release. | | 10 Additional Information or Specific Protective Action Recommendations None. | | | | | | | | | | | | | | | |
| 11 Type of release: 110 | Estimated Start of Release: Release Terminated Time: | | | | | | | | | | | | | | | | |
| The State Criteria for administering KI... has NOT been met. | | | | | | | | | | | | | | | | | |
| 12 Description of Incident: () () | | | | | | | | | | | | | | | | | |
| 13 Prognosis of Situation: | | 14 Emergency Director Signature: | | | | | | | | | | | | | | | |

Em 03-05

C4A, AT-2

| | | | | | | | | | | | | | | | | |
|--|--|---|---------------------------|------------|--|--|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 Type of Event | COLUMBIA GENERATING STATION EMERGENCY CLASSIFICATION NOTIFICATION | 2 NO: _____ | | | | | | | | | | | | | | |
| 3 Notification Provided By _____ Phone 1-(509) _____ | 4 Classification/Status Reclassification | Date _____ Time _____ | | | | | | | | | | | | | | |
| 5 Section Map | | 6 Alert Automatic Protective Action Recommendations No offsite protective actions recommended. | | | | | | | | | | | | | | |
| 7 Meteorological Data: Wind Speed: mph from _____ degrees. Precipitation: Stability Class: | | 8 Additional Protective Action Recommendations <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="2">All Sections 0-2 miles</td> <td colspan="4" style="text-align:center;">2-10 miles</td> </tr> <tr> <td style="text-align:center;">Section 1</td> <td style="text-align:center;">Section 2</td> <td style="text-align:center;">Section 3</td> <td style="text-align:center;">Section 4</td> </tr> <tr> <td style="text-align:center;">No Action</td> </tr> </table> Basis for PAR: Not Applicable | All Sections 0-2 miles | 2-10 miles | | | | Section 1 | Section 2 | Section 3 | Section 4 | No Action |
| All Sections 0-2 miles | 2-10 miles | | | | | | | | | | | | | | | |
| | Section 1 | Section 2 | Section 3 | Section 4 | | | | | | | | | | | | |
| No Action | No Action | No Action | No Action | No Action | | | | | | | | | | | | |
| 9 There has been No Release. | | 10 Additional Information or Specific Protective Action Recommendations None. | | | | | | | | | | | | | | |
| 11 Type of release: _____ Estimated Start of Release: _____ Release Terminated Time: _____ | | | | | | | | | | | | | | | | |
| 12 The State Criteria for administering KI... has NOT been met. | | | | | | | | | | | | | | | | |
| 13 Description of Incident: _____ _____ _____ | | | | | | | | | | | | | | | | |
| 14 Prognosis of Situation: _____ | | 15 Emergency Director Signature: _____ | | | | | | | | | | | | | | |

Em 03.05

CUA, ST-2

| | | | | | | | | | | | | | | | | | |
|--|---|---|--------------|------------|--|--|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 Type of Event | COLUMBIA GENERATING STATION EMERGENCY CLASSIFICATION NOTIFICATION | 2 NO: _____ | | | | | | | | | | | | | | | |
| 3 Notification Provided By | Phone 1-(509) _____ | 4 Classification/Status Reclassification | | | | | | | | | | | | | | | |
| Section Map | | 5 Date | | | | | | | | | | | | | | | |
| | | 6 Time | | | | | | | | | | | | | | | |
| | | 7 Site Area Emergency | | | | | | | | | | | | | | | |
| | | Automatic Protective Action Recommendations EVACUATE Columbia River Horn Rapids Recreation Area/ ORV Park Ringold Fishing Area Wahluke Hunting Area Schools in EPZ ENERGY NORTHWEST ACTIONS Site Evacuation | | | | | | | | | | | | | | | |
| 8 Meteorological Data: Wind Speed: _____ mph from _____ degrees. Precipitation: _____ Stability Class: _____ | | 9 <i>Additional Protective Action Recommendations</i> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>All Sections</td> <td colspan="4" style="text-align:center;">2-10 miles</td> </tr> <tr> <td>0-2 miles</td> <td>Section 1</td> <td>Section 2</td> <td>Section 3</td> <td>Section 4</td> </tr> <tr> <td>No Action</td> <td>No Action</td> <td>No Action</td> <td>No Action</td> <td>No Action</td> </tr> </table> Basis for PAR: Not Applicable | All Sections | 2-10 miles | | | | 0-2 miles | Section 1 | Section 2 | Section 3 | Section 4 | No Action |
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| 0-2 miles | Section 1 | Section 2 | Section 3 | Section 4 | | | | | | | | | | | | | |
| No Action | No Action | No Action | No Action | No Action | | | | | | | | | | | | | |
| 10 There has been No Release. | | 11 <i>Additional Information or Specific Protective Action Recommendations</i> None. | | | | | | | | | | | | | | | |
| 12 Type of release: _____ | 13 Estimated Start of Release: _____ Release Terminated Time: _____ | | | | | | | | | | | | | | | | |
| 14 The State Criteria for administering KI... has NOT been met. | | | | | | | | | | | | | | | | | |
| 15 Description of Incident: _____ _____ | | | | | | | | | | | | | | | | | |
| 16 Prognosis of Situation: _____ | | 17 Emergency Director Signature: _____ | | | | | | | | | | | | | | | |

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CYA, AT-2

U. S. DOE HANFORD NOTIFICATION FORM

The current United States Department of Energy (DOE Hanford) Notification Form is located behind this page; replace as necessary.

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RL-F-5540.1
(REV 1)



**U.S. DEPARTMENT OF ENERGY
HANFORD EMERGENCY NOTIFICATION FORM**

No. _____

1 NOTIFICATION PROVIDED BY: Name: _____ Phone: (509) _____

2 AREA AND FACILITY: _____ **3** TYPE EVENT: a. Emergency b. Exercise/Drill

4 CLASSIFICATION/STATUS:
 a. Initial Classification b. Reclassification c. Termination d. PAR Change/Addition e. Information

5 EMERGENCY CLASSIFICATION LEVEL AND OFFSITE PROTECTIVE ACTION RECOMMENDATIONS:

| AREA | a. <input type="checkbox"/> ALERT | b. <input type="checkbox"/> SITE AREA EMERGENCY | c. <input type="checkbox"/> GENERAL EMERGENCY |
|------------------------------|-----------------------------------|--|--|
| <input type="checkbox"/> 100 | None | Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. | <ul style="list-style-type: none"> Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. Evacuate Section 5, east of Hwy. 24. |
| <input type="checkbox"/> 200 | None | Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. | <ul style="list-style-type: none"> Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. Evacuate Sections 5, 6, and 7. |
| <input type="checkbox"/> 300 | None | Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. | <ul style="list-style-type: none"> Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. Evacuate 2.2 mile radius. |
| <input type="checkbox"/> 400 | None | Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. | Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. |
| <input type="checkbox"/> 600 | None | None | Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. |

6 TYPE OF INCIDENT: *check all that apply*
 a. Fire b. Explosion c. Radiological d. Security e. Hazardous Materials f. Electrical g. Other
 EAL No.: DOE-0223, RLEP 1.0, Appendix 1- _____ Table _____
 Description of Incident: _____

7 RELEASE TO THE OUTSIDE ENVIRONMENT INFORMATION:
 a. No Release (No indicators)
 b. Unknown (Indicators of possible release, but not confirmed)
 c. Confirmed Release (Visible or instrument indication of hazardous release)
 - Estimated Start Time of Release: _____
 Airborne Spill to Columbia River
 d. Release Terminated - Time: _____

8 METEOROLOGICAL DATA:
 Wind Speed _____ mph
 Wind Direction: from _____
 Precipitation: Yes No
 Stability Class:
 A B C D E F G

9 PROGNOSIS OF SITUATION:
 a. Unknown b. Stable c. Escalating d. Improving

FOR EOC USE ONLY

10 ADDITIONAL OFFSITE PROTECTIVE ACTION RECOMMENDATIONS:

APPROVED: _____ DATE: _____ TIME: _____

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**AREVA NP, INC. CORPORATION
INCIDENT NOTIFICATION FORM**

The current Areva NP, Inc. Corporation Incident Notification Form is located behind this page; replace as necessary.

This page intentionally left blank.



INCIDENT NOTIFICATION FORM

AREVA NP INC. INCIDENT NOTIFICATION FORM, Number: _____

1. This is (name) _____, at phone _____ (509) 375-8350

2. Of the AREVA NP Inc. facility in Richland.

3. We have an event that is an: a. ___ Actual emergency, b. ___ Exercise.

4. The date and time of this classification status is:

| <u>Classification Status</u> | <u>Date</u> | <u>Time (24 hr)</u> |
|-------------------------------|-------------|---------------------|
| a. ___ Initial classification | _____ | _____ |
| b. ___ Periodic Update | _____ | _____ |
| c. ___ Reclassification | _____ | _____ |
| d. ___ Termination | _____ | _____ |
| e. ___ PAR Change Only | _____ | _____ |

5. The emergency classification is:

- | | |
|--|---------------------------|
| a. ___ Alert/ HazMat Level 2 | c. ___ None |
| b. ___ Site Area Emergency/HazMat Level 3 <i>PAR REQUIRED</i> | d. ___ Not Yet Classified |

6. The type of incident is:

- | | |
|---------------------------------------|-------------------------|
| a. ___ Fire/explosion | e. ___ Process problems |
| b. ___ Radiological | f. ___ Electrical |
| c. ___ Criticality (potential/actual) | g. ___ Security |
| d. ___ Hazardous materials | h. ___ Other |

Description of Incident: [Include, as applicable, information on chemicals/ radionuclide(s) involved, physical form of released material(s), quantity/rate of release, Emergency Action Levels (EALs) pertinent to event classification.]

AREVA NP INC.
An AREVA and Siemens company

2101 Horn Rapids Road, Richland, WA 99354
Emergency Tel: (509) 375-8350 - Emergency Fax: (509) 375-8799

Naval Nuclear Propulsion Program Event Classification

The Notification Form is located behind this page; replace as necessary.

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NAVAL NUCLEAR PROPULSION PROGRAM EVENT CLASSIFICATION/NOTIFICATION FORM

1. NOTIFICATION PROVIDED BY: Name: _____ Phone No: _____ Date: _____

2. FACILITY: BREMERTON NAVAL COMPLEX NSB BANGOR NAVSTA EVERETT

3. TYPE OF NOTIFICATION/TIME OF EVENT: a. Emergency b. Drill/Exercise c. Time of Event: _____

4. CLASSIFICATION STATUS:

a. Initial Classification Time: _____ d. Protective Action Recommendations: Time: _____

b. Follow-up classification (based on offsite surveys) Time: _____ Change/Addition/Refinement Time: _____

c. Termination (Release stopped) e. Information Time: _____

5. TYPE OF EVENT:

a. Fire/Explosion (circle one) involving radioactive material

b. Reactor system (Loss of Coolant, Steam Line Rupture, Loss of Flow - if known, circle one)

YES / NO / UNKNOWN Reactor shutdown
 YES / NO / UNKNOWN Reactor compartment containment set
 YES / NO / UNKNOWN Ship containment set

c. Radiological (liquid spill associated with: Reactor system discharge Other: _____)

d. Transportation accident involving radioactive material. Onsite Offsite

e. Further description of event: _____

6. PLUME STAGE EMERGENCY CLASSIFICATION LEVEL & OFFSITE PROTECTIVE ACTION RECOMMENDATIONS:

a. UNUSUAL EVENT
 < 0.01 Rem TEDE
 < 0.05 Rem CDE Thyroid

1. No specific action by state and local authorities or the public is required.
 2. Facility monitoring teams have been dispatched offsite, if appropriate.

b. ALERT
 0.01 to < 0.1 Rem TEDE
 0.05 to < 0.5 Rem CDE Thyroid

1. State and Local authorities should standby.
 2. No specific action by the public is required at this time.
 3. Facility monitoring teams have been dispatched offsite.

c. SITE AREA EMERGENCY
 0.1 to < 1 Rem TEDE
 0.5 to < 5 Rem CDE Thyroid

1. Recommend steps be taken to control access and warn the general public:
 Establish Coast Guard Marine Safety Zone Public and private ferry traffic: _____
 Public and Private Buses Other: _____

2. Recommend preparatory steps be taken for directing the general public in specific sectors to evacuate or take shelter.
 3. Facility monitoring teams have been dispatched offsite.

d. GENERAL EMERGENCY
 ≥ 1 Rem TEDE
 ≥ 5 Rem CDE Thyroid

1. Recommend that the general public in specific sectors be directed to evacuate or take shelter.
 2. Recommend steps be taken to control access:
 Establish Coast Guard Marine Safety Zone Public and private ferry traffic: _____
 Public and Private Buses Other: _____

3. Facility monitoring teams have been dispatched offsite.

7. METEOROLOGICAL DATA:

Wind Direction (from): _____ degrees Wind Speed: _____ mph Precipitation: Yes No
 Stability Class (Pasquill Category): A B C D E F (Circle one)

8. PROGNOSIS OF SITUATION:

a. Unknown b. Stable c. Escalating d. Improving

9. OFFSITE ASSISTANCE RESPONDING:

a. None b. Ambulance # Injured: _____ @ _____ # Contaminated/Injured _____ @ _____ c. Fire

d. Other: Coast Guard (Water Safety Zone) NAVAL STATION -Whidbey or Coast Guard (Aerial Monitoring)
 _____ Hospital FAA (to restrict over-flights)

10. RELEASE INFORMATION:

a. Onsite Release Yes No

c. Release : Airborne Direct Radiation
 Waterborne (to waterways – not from fallout)

b. Offsite Release Yes No

Cobalt 60, or Fission Products and Cobalt 60
 Elevated Release or Ground/Water level Release

d. Estimated Release Start: _____
Assumed Duration of Release: _____

e. Release Actually Terminated at _____
Actual Duration of Release: _____

f. Perimeter and Off-Site Data:

| SURVEY LOCATION | | | | RELEASE (Circle one) |
|-----------------|--|--------------------------|------------|----------------------|
| _____ | _____ mR/hr | at _____ (survey height) | _____ Time | <i>During/After</i> |
| _____ | _____ mR/hr | at _____ (survey height) | _____ Time | <i>During/After</i> |
| _____ | _____ mR/hr | at _____ (survey height) | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/100 cm ² | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/100 cm ² | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/100 cm ² | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/ml (air) (<input type="checkbox"/> Radioiodine sample?) | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/ml (air) (<input type="checkbox"/> Radioiodine sample?) | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/ml (air) (<input type="checkbox"/> Radioiodine sample?) | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/ml (water) | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/ml (water) | | _____ Time | <i>During/After</i> |
| _____ | _____ uCi/ml (water) | | _____ Time | <i>During/After</i> |

g. Plume Stage Dose Rates and Airborne Levels at Site Boundary:

_____ mRem/hr (Whole Body) _____ uCi/ml (Radioiodine or Cobalt 60?)

h. Plume Stage DOSE at Site Boundary: _____ mRem (Whole Body) _____ mRem (Thyroid)

i. Post-Plume Stage Dose at Site Boundary - See attached ARAC Plots:

(1) Effective Dose Equivalent (EDE) from 4 Days of Ground Shine: _____ mRem Whole Body

(2) External Effective Dose Equivalent (EDE) from Plume Shine: _____ mRem Whole Body

(3) Committed Effective Dose Equivalent (EDE) due to Inhalation: _____ mRem Whole Body (primarily thyroid and lung dose)

(4) Total Effective Dose Equivalent (4 Days) (TEDE): _____ mRem Whole Body [Sum of above (3) doses]

11. POST-PLUME STAGE PROTECTIVE ACTIONS:

Generally the State and County will determine post-plume protective actions. Some common sense protective actions are:

Changing / Washing Clothes Showering Opening windows to vent residences / businesses

N/A

ANNEX B

RESPONSE TO FIXED NUCLEAR FACILITY RADIOLOGICAL EMERGENCIES

PRIMARY AGENCY: Washington State Department of Health

SUPPORT AGENCIES: Washington State Department of Agriculture
Washington State Department of Fish and Wildlife
Washington State Military Department
Washington State Patrol
Washington State Department of Transportation
Other State Agencies
Adams County
Benton County
Franklin County
Grant County
Kitsap County
Snohomish County
Walla Walla County
Yakima County
United States Department of Energy- Hanford Site
Energy Northwest, Columbia Generating Station
Puget Sound Naval Shipyard and Intermediate
Maintenance Facility
Submarine group NINE in Bangor
Naval Station Everett

I. INTRODUCTION

A. Purpose

The purpose of this Annex is to present the components of the radiological protection system.

B. Scope

This Annex describes Washington State, county, and facility responsibilities in support of radiological protection measures. These measures are to be taken to protect the health and safety of the workers at, and the general populace near, Energy Northwest, Columbia Generating Station, and the United States Department of Energy- Hanford Site facilities on the Hanford Site, Naval Base Kitsap and Naval Station Everett.

II. POLICIES

- A. The Washington State Department of Health, Office of Radiation Protection (Health) is designated as the state's radiation control agency and acts on behalf of the Governor of Washington State in responding to radiological emergencies.
- B. Health is the state's lead technical response agency for fixed nuclear facility emergencies, and maintains a capability to assess radiological hazards resulting from such emergencies.
- C. Energy Northwest, Columbia Generating Station, the Hanford Site, AREVA NP Inc., Puget Sound Naval Shipyard and Intermediate Maintenance Facility, Naval Station Everett, and Submarine Group NINE Bangor are expected to provide the initial response, including early phase Protective Action Recommendations (PARs), for radiological emergencies at their facilities.
- D. County and State Health established guidance on administering the thyroid blocking agent--Potassium Iodide (KI)--is to limit its use to emergency workers and special populations in the plume exposure pathway who cannot be evacuated. Health and the local district health office will assure KI is distributed to county emergency response personnel that may be exposed to the radioactive plume. (Policies and procedures for administering and distributing the thyroid-blocking agent, including storage locations, quantities, and organizations involved, are contained in Health and county procedures.)
- E. Monitoring and decontaminating the public and emergency workers will be performed according to established procedures at Emergency Worker/Assistance Centers (EWAC). People and vehicles accumulating established dose levels of contamination would require decontamination. Equipment use and record keeping requirements are included in Health's procedures.

III. SITUATION

A. Emergency/Disaster Conditions and Hazards

An accidental release of radioactive material could pose a threat to the workers at, and a general populace near, Columbia Generating Station, the Hanford Site, AREVA NP Inc., Puget Sound Naval Shipyard and Intermediate Maintenance Facility, Naval Station Everett, and Submarine Group NINE Bangor. State and county emergency response procedures will provide for radiological protective measures for those offsite areas directly threatened by the release. Facility plans provide protective measures for onsite personnel.

B. Planning Assumptions

1. An accidental release of radioactive material from Columbia Generating Station, the Hanford Site, AREVA NP Inc., Puget Sound Naval Shipyard and Intermediate Maintenance Facility, Naval Base Kitsap and Naval Station Everett may occur.
2. The Columbia Generating Station, Hanford Site, AREVA NP Inc., Puget Sound Naval Shipyard and Intermediate Maintenance Facility, Naval Station Everett, and Naval Base Kitsap, state, and county emergency response procedures will provide for an effective and timely response to the emergency.
3. The state, Columbia Generating Station, the Hanford Site, AREVA NP Inc., Puget Sound Naval Shipyard and Intermediate Maintenance Facility, Naval Station Everett, Naval Base Kitsap will be required to provide assistance to the affected county (ies).
4. For Columbia Generating Station emergencies, the Energy Northwest Headquarters Building will serve as the Federal Response Center (FRC) or the Joint Field Office (JFO), if needed.
5. The Lead Federal Agency (LFA) for an emergency at Columbia Generating Station is the Nuclear Regulatory Commission (NRC), which would locate at the Columbia Generating Station Emergency Operations Facility (EOF) along with representatives from the Federal Emergency Management Agency (FEMA), Washington State, and Benton/Franklin Counties.
6. The LFA for an emergency at DOE Hanford is the United States Department of Energy, which would locate at the Hanford Site Emergency Operations Center (EOC).
7. The potential locations for a Federal Radiological and Monitoring Assessment Center (FRMAC) operations in Franklin County is the Trade Recreational Agriculture Center (TRAC), located at 660-Burden Blvd., Pasco WA and in Benton County, the Tri-Cities Coliseum, located at 7100-West Quinault Avenue (Building A), Kennewick, WA.
8. The Lead federal agency for an incident involving naval facilities or vessels is the Naval Nuclear Propulsion Program.
9. The Naval Nuclear Propulsion Program sites will contact U.S. DOE to select a location for FRMAC with the affected county's emergency management.

IV. CONCEPT OF OPERATIONS

A. General

1. Emergency management organizations of the state and federal governments and the affected facility will respond to radiological emergencies affecting

Washington State. Agencies of each county within the plume and ingestion exposure pathway Emergency Planning Zones (EPZs) or Areas of Planning Attention for Naval facilities will respond to such incidents or emergencies according to the county emergency response procedures. If a county is unable to respond to a facility emergency, the state will act in the interest of public health and safety of the residents.

2. The state's initial response to a radiological emergency is to assist the affected county (ies) in carrying out the sheltering or evacuation of persons within 10 miles of the plant and 0.5-miles for the naval nuclear propulsion plants, and 10 miles of other plants, if protective actions are warranted. During the intermediate phase, the state acts to minimize the public's exposure to radioactive material and to prevent the public's consumption of contaminated food and water. After the emergency, the state helps restore the community through reentry to the affected area(s), and recovery actions.

B. Organization

1. Health leads the state's technical response to a fixed facility radiological emergency.
2. The overall state response to the emergency is coordinated from the state EOC.
3. Each EPZ County will operate out of its own EOC.
4. A facility experiencing a radiological emergency is expected to play a key role in the emergency response. This response will include such things as operating out of its own emergency facility, providing dose assessment assistance and field teams, and generally assisting the state(s) and affected counties with response and recovery actions.
5. The affected facility, the Coordinating Agency, and FEMA can expect to be asked to send representatives to the state EOC to assist in coordinating the response to the emergency. These representatives will have access to telephones, computers, facsimile machines, and limited administrative support. The state EOC can accommodate two representatives from each of these agencies, if necessary. Federal agencies will be expected to provide their own transportation support. Requests for local area support will be handled on a case-by-case basis.

C. Notification

1. A facility experiencing a radiological emergency is responsible for notifying the state(s) and plume county agencies of the occurrence.
2. Washington State Military Department, Emergency Management Division (EMD) is responsible for verifying messages then notifying other state agencies, the remaining ingestion county agencies, and ensuring that the state of Oregon has been notified.

3. Plume county emergency management agencies initiate emergency public notification actions--sirens and radio announcements--for transient and resident populations (not applicable to Naval Nuclear Propulsion Program facilities). The counties are responsible to take steps to ensure notification of special populations whose mobility is impaired, such as people in jails, hospitals, and nursing homes.

V. RESPONSE ACTIONS (Also see Annex A, Emergency Response Management)

A. Early Phase Actions

1. Early phase actions (response) are taken before or during a release of radioactive material from a facility. Immediate emergency protective measures--sheltering and/or evacuation may be necessary to prevent or minimize direct exposure or inhalation of radioactive material. During the early phase of the emergency response, the facility is responsible for making either automatic or other PARs to the affected counties and state(s). Plume exposure pathway EPZ counties are responsible for making Protective Action Decisions (PADs). Washington State provides support and professional health physics expertise to the counties.
2. County or State Health personnel will analyze the need for prompt PARs, identify the magnitude and location of a radiological plume in Washington State, project the dose to the public, prescribe use of Potassium Iodide (KI) for offsite emergency workers when needed, and compare these projections with the Protective Action Guides (PAGs).
3. Upon notification of an Alert or more severe emergency classification, Health representatives, specifically trained in determining radiological doses and protective actions, will go to the appropriate facility's dose assessment center. Offsite dose assessments will be performed jointly by the facility and Health utilizing information from the facility on plant status and field data.
4. Radiological monitoring teams from the affected facility will conduct initial radiological field monitoring. Health also will conduct offsite radiological monitoring.

B. Intermediate Phase Actions

1. The intermediate phase begins when the facility has been stabilized and no further release of radioactive material is anticipated. Intermediate phase responses focus on minimizing exposure to radioactive material deposited on the ground and preventing the consumption (ingestion) of contaminated food and water. During this phase, Washington State takes the lead in the consensus decision-making process, seeking expertise and participation from the affected counties.

2. The identification of relocation and Food Control Areas (FCAs) is initially based upon field team data, computer projections, and calculated dose lines. As the response to the event unfolds, these areas are further refined through extensive field team sampling and laboratory analysis.
3. The affected counties recommend geopolitical boundaries for relocation and food control around the areas identified by the dose assessment center. The details of the food control process are included in Annex C, Food Control.

C. Late Phase Actions

The late phase (recovery) includes the long-term emergency response activities necessary to restore the affected area to safe conditions. The state leads this decision process through the Recovery and Restoration Task Force (RRTF)--see *Comprehensive Emergency Management Plan (CEMP)*, Emergency Support Function (ESF) 14, Long Term Community Recovery.

VI. RESPONSIBILITIES

A. Primary Agency: Washington State Department of Health

Health is responsible for planning and providing technical assistance for protection from radiological materials. This includes a 24-hour capability to determine the doses received by emergency personnel involved in any nuclear accident, including volunteers. Location of appropriate dosimetry and other specific Health procedures are found in the Washington State Department of Health, Office of Radiation Protection's, Radiological Emergency Response Plan and Procedures.

1. During the intermediate phase, Health assumes the lead from the facility for dose assessment and PARs, coordinates and directs offsite monitoring to detect affected areas and is responsible for the collection and analysis of environmental samples.
2. Develop, with Washington State Department of Agriculture (WSDA), a prioritized sampling plan of the projected area(s) affected by a radiological release from a facility.
3. Contribute to the identification of the geopolitical boundaries of the relocation area(s) and FCAs.
4. Assign personnel to work cooperatively with WSDA personnel monitoring food at facilities within or near the FCAs, as appropriate.
5. Director of the Office for Radiation Protection is responsible for authorizing emergency workers to incur exposures in excess of those set forth in the PAGs in the Health procedures.
6. The Office of Drinking Water, Department of Health provides consultation on public drinking water sources. Actions could range from the conservation of

water, to stopping the use of a source, to changing to a covered source. These activities will be closely coordinated with the Washington State Department of Ecology (Ecology).

B. Support Agencies:

1. Washington State Department of Agriculture

WSDA is responsible for preventing the public from consuming adulterated food through oversight of commercial sales and movement of agricultural commodities within the ingestion exposure pathway EPZ. WSDA and Health work in tandem to provide a comprehensive approach to the ingestion exposure pathway response.

- a. Embargo all potentially adulterated food until it is shown to be safe by means of testing and analysis.
- b. Assist Health with obtaining samples for laboratory analysis at Food Control Points (FCPs), licensed dairies, farms, processing plants, and wholesale distributors, as requested. The short-term re-entry of property owners and emergency workers to care for livestock and shut down or stabilize industrial plants may be required
- c. Coordinate with county agricultural agents who are charged with identifying family and hobby farms in the ingestion pathway EPZ to ensure the operators are aware of the recommended protective actions. Pass information will be delivered by local authorities via the public media.
- d. Develop with Health, a prioritized sampling plan of the projected area(s) affected by a radiological release from a facility.
- e. Contribute to the identification of the geopolitical boundaries of the relocation area(s) and FCAs, and the locations for the FCPs.
- f. Based upon data from Health, issue embargo orders, oversees the testing of embargoed foods, and monitor the proper disposition of adulterated food.

2. Washington State Department of Fish and Wildlife

- a. Assist local governments with evacuation of the public from department lands and state fisheries' jurisdictions; provide air transportation, law enforcement, and other support, as necessary.
- b. When the Department of Fish and Wildlife land holdings or facilities fall within the FCAs, Department personnel will be assigned to work cooperatively with the other state agencies to conduct sampling, as well as control access into and out of these areas.

- c. Work with the state EOC Executive Section to ensure the application of protective actions for fish and game in FCAs.

3. Washington State Military Department

a. Emergency Management Division

- (1) The state EMD is responsible for coordinating state agency activities from the state EOC during the early phase. During the intermediate and late phases, EMD facilitates the development of the state's PADs and coordinates the state's application of those decisions.
- (2) Facilitate the state's adoption of the affected counties' recommended geopolitical boundaries identifying the FCAs and the relocation area(s), including identification of the best locations for Access Control Points (ACPs) and Traffic Control Points (TCPs). This decision-making process will include consultation with the state of Oregon, if necessary.
- (3) In coordination with Health, WSDA, Washington State Patrol (WSP), the state of Oregon, and adjacent state(s), confirm the staffing and equipment requirements for implementing traffic control, security, and food control measures, for the relocation area(s), and FCAs, if required.
- (4) At regular intervals, arrange for a full briefing of the state EOC Executive Section on the latest sampling and monitoring data, develop recommendations from the Unified Dose Assessment Center (UDAC), and other pertinent data.
- (5) Develop estimates of the probable duration and scope of the intermediate phase response, based on consultation with the facility and FEMA. Share these estimates with the affected jurisdictions so all state and local jurisdictions can identify the staffing patterns necessary to accomplish shift changes, and resource requests requiring state or federal actions.
- (6) Coordinate the dissemination of public information with the ingestion pathway counties at regular intervals.

b. National Guard

- (1) Provide National Guard assistance, when approved.
- (2) Provide transportation support (ground and air), as requested.
- (3) Provide back-up mobile communications, as requested.
- (4) Provide field logistical support as required in the following areas, as required:
 - (a) Mobile command posts.

- (b) Temporary shelter (lodging).
- (c) Mass feeding.
- (d) Logistical support.
- (e) Other resources, as required.

4. Washington State Patrol

- a. Conduct traffic control, assists local law enforcement efforts, and coordinate the transportation of samples.
- b. Provide supplemental enforcement services at the ACPs and TCPs with available resources.
- c. Coordinate the provision of additional state law enforcement resources to local law enforcement agencies when requested. This includes the coordination of law enforcement resources with affected counties and the state of Oregon.

5. Washington State Department of Transportation

- a. Assist WSP, as requested, and coordinate with each affected county to perform traffic control and area access control.
- b. Provide transportation and other logistical support, upon the request of the Director of the state EMD, to affected county or other state agencies, on a noninterference basis with the Washington State Department of Transportation's (WSDOT) primary activities.

6. Other State Agencies

- a. The chief executives of other agencies will provide representation to the state EOC, as required. The responsibilities of the chief executive(s) of these other agencies may include the provision of personnel and resource support to responding agencies and assignment of public information personnel to support state emergency public information activities.
- b. Each Washington State agency will provide a single point for coordinating requests for support, resources, and information exchange concerning emergency response and recovery activities. The authorities under which these other agencies will act are their respective Washington State statutes and Chapter 38.52 RCW. The procedures for these agencies support the Washington State CEMP.

7. United States Department of Energy-Hanford Site

- a. Assess the nature and extent of the incident or emergency at the affected Hanford Site facility and make appropriate emergency classifications and notifications of county(ies) and the state(s).
- b. Activate and staff the EOC.
- c. Develop PARs for the affected public at the appropriate emergency classification level.
- d. Provide a representative to the state and county EOCs, when available.
- e. Evacuate and/or shelter personnel located in federally operated facilities at the Hanford Site.
- f. Control access to the Hanford Site during evacuation or sheltering.
- g. Conduct dose assessment within the Hanford Site boundaries and assist the state in offsite dose assessment and PAR development.
- h. Maintain and operate a Joint Information Center (JIC).
- i. Ensure timely coordination and dissemination of accurate information to the public regarding an incident or emergency involving facilities or personnel.
- j. Maintain 24-hour fixed nuclear facility emergency response capability and assure availability of resources, to include communication links with the state, Benton, Franklin, and Grant Counties.
- k. Provide updates of the affected the Hanford Site facility's status along with meteorological and effluent data to the state EOC, and to the affected plume exposure pathway EPZ county EOCs.
- l. Prepare and maintain an accurate and complete record of events, decisions, and actions to document and provide review capabilities.
- m. Train Hanford Site facility personnel to respond.
- n. Conduct unified dose assessment with the states of Washington and Oregon for offsite areas.
- o. Provide field teams and field team coordination in support of the Hanford Site and Columbia Generating Station emergencies.

8. Energy Northwest

- a. Assess the nature and extent of the incident or emergency at the affected Energy Northwest facility and make appropriate emergency classifications and notifications of counties and states.
- b. Activate and staff the EOF.
- c. Develop PARs for the affected public at the appropriate emergency classification level.
- d. Send a representative to the state EOC and county EOCs, when available.
- e. Evacuate the exclusion area and control access to the facility.
- f. Conduct dose assessment within the affected Energy Northwest facility's boundaries and assist the state in offsite dose assessment and PAR development.
- g. Maintain and operate a JIC.
- h. Ensure the timely coordination and dissemination of accurate information to the public regarding an incident involving its facilities or personnel.
- i. Maintain 24-hour staffing of the emergency response communication link with the state, Benton, and Franklin Counties.
- j. Provide updates of the affected Energy Northwest facility's status along with meteorological and effluent data to the state EOC, and the affected plume exposure pathway EPZ county EOCs.
- k. Prepare and maintain an accurate and complete record of events, decisions, and actions to maintain continuity and provide review capabilities.
- l. Train Energy Northwest facility personnel.
- m. Conduct unified dose assessment with the states of Washington and Oregon, and the Hanford Site for offsite areas.

9. Benton and Franklin Counties

Each Columbia Generation Station plume exposure pathway EPZ county, with the assistance of Health will manage the emergency worker kits for county emergency response organizations. Maintenance activities include inventory and distribution of ready dosimeters, chargers and batteries, and thyroid blocking agent, to emergency response organizations, and training emergency workers on personal dosimetry use. Counties need to be prepared to arrange for transporting victims of radiological accidents to medical facilities.

10. Puget Sound Naval Shipyard and Submarine Group NINE

- a. Assess the nature and extent of the emergency at PSNS/Naval Station Bremerton/Naval Base Kitsap, or Naval Station Everett and make appropriate emergency classifications and notifications to Kitsap or Snohomish County and State. If the emergency involves offsite Naval Nuclear Propulsion Program radiological materials, notify the State EMD and affected county.
- b. Activate and staff the PSNS&IMF Emergency Control center (PSNS and IMF and Submarine Group NINE in Bangor utilize the PSNS&IMF as primary ECC and Bangor ECC as an alternate ECC).
- c. Develop PARs for the affected public at the appropriate emergency classification level. Conduct harbor and land (perimeter and offsite) monitoring and collect offsite TLDs.
- d. If requested, provide a representative to the state EOC and Kitsap or Snohomish county EOC. Later, provide a senior representative to the RRTF at the state EOC.
- e. Control access to the Naval Base Kitsap and Naval Station Everett, if warranted.
- f. Assist with dose assessment and PAR development with Washington State and counties for offsite areas.
- g. Provide a spokesperson and staff to the Joint Information Center (JIC).
- h. Coordinate with state and local representatives to ensure timely dissemination of accurate information to the public regarding a radiological emergency involving facilities, vessels or personnel.
- i. Maintain 24-hour emergency response capability and assure availability of resources, to include a communication link with the state, and counties.
- j. Provide updates of the affected facility's/vessel status along with meteorological and radiological data to the state and county EOCs.
- k. Prepare and maintain an accurate and complete record of events, decisions, and actions to maintain continuity and provide review capabilities.
- l. Train PSNS and Submarine Group NINE personnel in Bangor response.
- m. Provide field team coordination with state Health team in support of Naval Base Kitsap or Naval Station Everett emergencies or off-yard transportation accidents.

- n. Provide National Atmospheric Release Advisory capability (NARAC) data-based plots to state and county authorities.

11. Naval Nuclear Propulsion Program

- a. Function as the Lead Federal Agency in accordance with the Nuclear/Radiological Incident Annex.
- b. Provide emergency response personnel and equipment from Bettis and Knolls atomic Power Laboratories.
- c. Provide emergency response personnel and equipment from Naval Nuclear Propulsion Program Headquarters, other naval shipyards, submarine bases, naval stations and prototypes.
- d. Request US DOE Radiological Assistance Program (RAP) teams and FRMAC assistance.
- e. Request US DOE Aerial Measuring System (AMS).
- f. Provide Nuclear/Radiological Incident Annex coordination with other federal agencies.

12. Kitsap and Snohomish Counties

Counties need to be prepared to arrange for evacuation and transporting people from radiological accidents to medical facilities.

VII. RESOURCE REQUIREMENTS

A. Assessment Resources

Washington State will ensure availability of equipment, expertise, and facilities capable of providing methods for rapid assessment of actual or potential radiological hazards in magnitude and location.

B. Meteorological Information

Meteorological instrumentation at each facility will be used to provide state and county emergency responders with up-to-date weather information such as wind direction and speed, ambient temperature, and weather stability. In the event of a continuing emergency, the National Weather Service can supply meteorological analysis for the facility operator and responding federal, state, and county government agencies.

C. Laboratories

Health's Public Health Laboratory is the designated Laboratory for Samples collected by Health field teams. Numerous federal, state, and facility laboratories

are available throughout Washington and Oregon for chemical and/or radiological analysis.

D. Emergency Equipment and Supplies

1. Health equipment and supplies are maintained and used according to Health, Office of Radiation Protection's *Radiological Emergency Response Plan and Procedures*.
2. The specifics of emergency equipment and supplies to be used in carrying out protective actions are addressed in each county's CEMP and Procedures.
3. Quantities and location of dosimeters for Washington State emergency workers are listed in the Health, Office of Radiation Protection's, *Radiological Emergency Response Plan and Procedures*.

E. Hospitals

1. Public and private hospitals in Washington State capable of providing emergency and definitive care for radiological victims are listed in Appendix 2 of this Plan. Arrangements for transporting victims to these hospitals are contained in the county emergency response procedures.
2. Primary (MS-1) hospitals performing these roles are Kadlec Medical Center in Richland, Kennewick General Hospital in Kennewick, and Lourdes Medical Center in Pasco.
3. The Navy works with and offers radiological training to local hospitals.

F. Washington State Emergency Operations Center

1. The Washington State EOC is located in Building 20, on Camp Murray, Washington. The state EOC is a center where the Governor and appropriate state agency officials may assemble to coordinate, direct, and control protective actions related to the ingestion pathway EPZ, coordinate reentry and recovery operations, and direct state public information activities. Throughout this document, the state EOC is distinguished from each county EOC whose county boundaries are within the plume exposure or ingestion pathway EPZ of a facility experiencing an emergency. Each county EOC is also utilized to coordinate the counties' (and related municipal) emergency response activities.
2. EMD upon notification from a facility operator of an Alert, Site Area Emergency (SAE), or General Emergency (GE) will activate the state EOC. It is the responsibility of EMD to activate sufficient staff to maintain 24-hour operations of the state EOC, if required. The state EOC procedures are included in the Washington State Emergency Operations Plan (EOP), and EMD SEEO Procedures.

G. Emergency Worker/Assistance Centers

1. In the event of a release of radioactive material, each plume exposure pathway EPZ County will establish EWACs so all potentially contaminated emergency workers and the public can be registered, monitored, and decontaminated, if necessary. These centers will be outside the 10-mile plume exposure pathway EPZ and will include showers, monitoring equipment, heating, and communications. The American Red Cross, or other volunteer groups will make sheltering and food available to evacuees. EWAC locations are listed in each county emergency response procedures and Health procedures.
2. In some cases, EWACs located outside a plume exposure EPZ county will be activated by the host county. The American Red Cross will operate shelters under their guidelines. EWACs will be operated in accordance with the procedures contained in the affected county's emergency procedures plan.
3. Health officials will ensure that radiological monitoring and decontamination for evacuees at the EWACs is provided, if necessary.

H. County Emergency Operations Centers

Each county within the plume exposure pathway EPZ, ingestion exposure pathway EPZ, or host area of a facility will have provisions for a county Emergency Operations Center (EOC). The locations and functions of each county EOC are detailed in each county's CEMP. Upon notification from the facility operator of an Alert, SAE, or GE, the state EOC will designate a representative as a liaison to go to each county within the plume exposure EPZ of a facility experiencing an emergency.

I. Facility's Emergency Operations Facility

Each facility will provide and equip an EOF from which to communicate with offsite response centers and coordinate onsite emergency actions. After notification from the facility operator of an Alert, SAE, or GE, Washington State will send representatives to the EOF.

J. Facility's Joint Information Center

Each facility will provide a JIC facility from which the public information function will be coordinated. After notification by a facility operator of an Alert, SAE or GE, the state will send emergency public information personnel to the JIC for the facility experiencing the emergency. State public information coordination and dissemination activities are primarily conducted at the JIC. Federal agencies and the facility experiencing the emergency will coordinate all public information activities and news releases through this center.

K. Washington State Public Information System

In the event of a facility incident, Washington State will provide information regarding the incident, protective actions taken, and state emergency response and recovery activities for the plume exposure pathway and ingestion pathway exposure EPZs. This will initially be done from the External Affairs function at the state EOC at Camp Murray, and then primarily through the JIC operated by the affected facility, and/or other locations as appropriate.

L. Washington State Interagency Communication System

1. The Washington State communication system is used to notify federal agencies, the state of Oregon, and each affected Washington State County of a facility emergency. The dedicated telephone system connecting each facility with the Washington State EOC and other appropriate EOCs are described in each facility's emergency response procedures. The communications capabilities of the Washington State EOC are described in the CEMP, ESF-2, Telecommunications and Warning.
2. In the event of an incident or emergency at a facility, a 24-hour communications system is available at each county sheriff's office dispatch center. Local police departments and fire departments will communicate with the county emergency response units by two-way radio or by telephone.

M. County Public Notification and Information System

1. Each county has established a public information and notification system to inform the public of the characteristics of Notification of Unusual Event (UE), Alert, SAE, and GE, and to correct any erroneous information received by the public. This system is described in each county's emergency response procedures. For Notification of an UE or Alert, the general public will be informed by press releases provided to the news media by the affected facility operator. For more severe emergency classifications, the public will be instructed by each plume exposure pathway EPZ county through its public notification system. This public notification system is capable of alerting people within the plume exposure pathway EPZ. Ingestion exposure pathway EPZ counties may elect to advise their jurisdictions through their notification systems.
2. The procedures for activating the notification system (except for Kitsap and Snohomish Counties) are contained in each county's emergency response procedures. The notification systems that may be used for each plume exposure EPZ County are:
 - a. Siren system.
 - b. Emergency Alert System (EAS).
 - c. Telephone automatic dialing system for emergency warning.

- d. Tone activated radio system.
3. After notification and instruction by their county, residents will be expected to tune to a specific radio or television station. All identified stations have the capability of broadcasting 24-hours-a-day. Written instructions to be used in the public notification are contained in each county's emergency response procedures. If a county is unable to activate its public notification system, the state will coordinate with the county to activate the state public notification and/or EAS. Details are included in the *Washington State Emergency Alert System Plan*.

VIII. REFERENCES

See the Basic Plan, Section II. A., Authorities, of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

**ANNEX B, APPENDIX 1
U.S. DEPARTMENT OF ENERGY EMERGENCY RESPONSE ASSESTS**

| Resource Responsible Office | Specialty | Response Time |
|---|--|---|
| <p><u>Radiological Assistance Program (RAP)</u> Richland Operations Office Richland, Washington</p> | <p>DOE's first responders for radiological emergencies. Provides initial assessment on scene, assisting mitigation, and assists in ascertaining of additional DOE assets are required.</p> | <p><u>Response:</u> 24/7, within 2-4 hours after request received.</p> |
| <p><u>Federal Radiological Monitoring and Assessment Center (FRMAC)</u> Nevada Site Office Las Vegas, Nevada</p> | <p>Responds to major radiological emergencies. Coordinates all federal monitoring and assessment resources.</p> | <p><u>Response:</u> 24/7</p> |
| <p><u>Atmospheric Release Advisory Capability (ARAC)</u> Livermore Site Office Livermore, California</p> | <p>Computer based atmospheric dispersion and deposition modeling. Near real-time assessments of the consequences of radiation releases.</p> | <p><u>Response:</u> 24/7, within 1 hour after request is made.</p> |
| <p><u>Aerial Measuring System (AMS)</u> Nevada Operation Office Las Vegas, Nevada</p> | <p>Determines extent and degree of the dispersal of airborne or deposited radioactivity.</p> | <p><u>Response:</u> 24/7, within 6-12 hours after request is made.</p> |
| <p><u>Radiation Emergency Assistance Center/Training Site (REAC/TS)</u> Oak Ridge Site Office Oak Ridge, Tennessee</p> | <p>Prepared to handle all types of medical radiation exposure emergencies; provides medical and health physics advice and assistance.</p> | <p><u>Response:</u> on-call 24 hours a day.</p> |
| <p><u>Accident Response Group (ARG)</u> NNSA Service Center Albuquerque, New Mexico</p> | <p>Manages or supports the successful resolution of a U.S. nuclear weapon accident anywhere in the world.</p> | <p><u>Response:</u> 24/7, within 4-6 hours after request is made.</p> |
| <p><u>Nuclear Emergency Support Team (NEST)</u> Nevada Site Office Las Vegas, Nevada</p> | <p>Provides technical specialized assistance in the response to nuclear or radiological terrorist's threats and activities involving special nuclear material.</p> | <p><u>Response:</u> 24/7, within 4-6 hours.</p> |

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ANNEX C

AGRICULTURE AND FOOD CONTROL MEASURES

PRIMARY AGENCY: Washington State Department of Agriculture

SUPPORT AGENCIES: Washington State Department of Fish and Wildlife
Washington State Department of Health
Washington State Military Department
Washington State Patrol
Washington State Department of Transportation
Adams County
Benton County
Franklin County
Grant County
Walla Walla County
Yakima County
Adjacent States/Provinces

I. INTRODUCTION

A. Purpose

This Annex provides for the coordinated application of food control measures and other agricultural protective actions during the response to facility incidents or emergencies at Columbia Generating Station (CGS), United States Department of Energy Hanford Site and United States Army's Umatilla Chemical Depot (UMCD) with the potential to threaten the public health and safety of people in Washington State.

B. Scope

This Annex describes the general process involved in determining the extent and length of time needed for food control measures.

II. POLICIES

- A. Food control measures may have to be set up to protect the public from consuming adulterated food and water in the event of an incident or emergency at a facility. Washington State, with the support of affected counties, will carry out the protective actions concerning food supplies, including livestock and the production of milk products. The counties are responsible for assessing the impacts of local area Protective Action Decisions (PADs) with the assistance of the local United States Department of Agriculture (USDA) agent.

- B. Specific authorities and procedures for direct intervention in the production, marketing, or consumption of contaminated food products are addressed in Washington State Department of Health (Health) and Washington State Department of Agriculture (WSDA) statutes and procedures.

III. SITUATION

A. Emergency/Disaster Conditions and Hazards

Conditions at a facility may deteriorate, calling for the application of food control measures within a designated area. Details of the methods of determining the affected area(s) are presented in agency operating procedures.

B. Planning Assumptions

1. Facility incidents or emergencies requiring the application of food control measures will occur.
2. Personnel at the facilities and within the offsite emergency response organizations are familiar with food control measures.

IV. CONCEPT OF OPERATIONS

A. General

1. The concern for food control and the deposition exposure pathway begins in the early phase of an incident. Meteorological data, facility data, and measurements taken by appropriately equipped field teams during and immediately after the release will help define the initial actions required when the release is terminated.
2. In the first hours after the release is terminated, field teams will be directed to continue to measure and sample material deposited on the ground to identify areas where ingestion and control of food are of concern.
3. This initial area(s) is plotted on a map at the facility and sent to decision-makers from the affected county (ies) and state(s). Geopolitical boundaries describing the area(s) in easily recognizable features such as roads and rivers are proposed by the affected county (ies). This proposed boundary is forwarded to the state EOC for coordination. The Executive Section of the state EOC evaluates the proposed boundary and then forwards the coordinated boundaries to the Governor's Office in the form of a draft Governor's Order to establish a Food Control Area (FCA) (Annex C, Appendix 1).
4. Health and WSDA will measure, sample, and analyze food for de-position. As this occurs, the boundary of the FCAs will be adjusted. It is anticipated that the area(s) will be reduced through this process.
5. Watersheds, community water systems, sources of licensed milk production, and food production and processing facilities within the ingestion exposure pathway

are listed in the WSDA procedures. Methods and procedures for carrying out protective actions are also described in the same document.

6. The sampling of crops, dairy products, and open water resources is conducted concurrently with the field measurements through a joint field team consisting of WSDA and Health personnel. Personnel only do dairy sampling and will not be present on every field team. Sample collection assistance is requested as needed from the local agricultural community, other states, the Hanford Site, other federal agencies, the nuclear facilities, or commercial firms under contract to conduct this function. The results of laboratory analysis of the samples are factored into the decisions regarding the protective measures to be taken.

B. Notification

The public is notified of food control measures through PIO notices.

1. WSDA will make available an agricultural protective action leaflet at Food Control Points (FCP).
2. WSDA or the local office of the Washington State University Cooperative Extension will provide information directly to food producers.
3. The Joint Information Center (JIC) for the incident or emergency will be the primary point for release of general public information.
4. County emergency managers should be prepared to release information identifying the affected areas and provide:
 - a. Agricultural protective action information at EWACs and other locations for residents residing in the Plume and Ingestion pathway.
 - b. Specific information to home gardeners at EWACs and other locations for those residing in the Plume and Ingestion Pathway.

V. RESPONSE ACTIONS

A. Initial Actions

1. The affected counties issue agricultural advisories when a release is imminent or has begun. The advisories are initially based on projections describing the probable deposition path of the release. This is the first official indication more stringent food control measures may need to be carried out.
2. Health coordinates and directs monitoring resources to determine relocation and food control isopleths.
3. State and county planners develop recommended initial food control boundaries based upon the calculated dose line provided by the Dose Assessment Center (DAC).

4. Based upon the counties' recommended geopolitical boundaries for FCAs, the state EOC will draft a Governor's Order to formally establish the FCAs. The formal Governor's Order will also stop food from being transported out of the FCA. This Order is designed to protect the public from consuming adulterated food.
5. Traffic Control Points (TCPs) will be needed on primary and secondary roads crossing the food control boundary. Food Control Points (FCPs) will be established where major commercial food transportation routes cross the food control boundary. These points serve to restrict transport of food from the FCA until food can be verified to be within accepted health standards by laboratory analysis. Law enforcement and representatives from WSDA, or other designated agencies will staff the FCPs. Vehicles will need to be stopped to advise the vehicle operators of the Governor's Order.
 - a. Commercial food transporters will be directed to return their cargo to its point of origin within the FCA.
 - b. People operating non-commercial vehicles transporting food from the FCA will be asked to return the food to the point of origin or sign a statement voluntarily surrendering their food at the FCP. Challengers to this direction should be referred to a FCP where the WSDA representative will explain the conditions in effect.
 - c. In those cases where the FCA is crossed by an interstate highway, or other limited access highways, TCPs should be established at each highway on-ramp within the FCA.
6. Upon determination of the FCA, Health in coordination with WSDA will establish a sampling plan to sample and monitor milk, pasture, and other agricultural crops to protect the health and safety of the population. Priorities of sampling are based on the risk to the most sensitive population (children) and crop harvest seasons. Laboratory analysis levels at which milk, water, and other food crops are embargoed are found in Appendix A, Washington State Department of Health Radiological Emergency Response Plan and Procedures.
7. Appropriate responses will consist of the identification and application of measures to protect various elements of the food chain from becoming adulterated. They also must address the proper disposal or diversion of food for which the contamination cannot be prevented or removed.

B. Continuing Actions

1. Support will be needed for ACP and TCP personnel.

2. The protective measures are modified and become increasingly more precise and location-specific as additional data is generated. Ingestion pathway protective measures are based on field data and lab analysis. Health certifies the food per laboratory analysis of samples. WSDA releases or embargoes the food, as appropriate.
3. Once all effects have been analyzed, final protective measures can be designated and implemented until full recovery and restoration activities are complete.

VI. RESPONSIBILITIES

A. Primary Agency: Washington State Department of Agriculture

WSDA is responsible for preventing adulterated food from coming into the food chain through oversight of commercial sales and movement of agricultural commodities. WSDA and Health work in tandem to provide a comprehensive approach to the ingestion exposure pathway response. WSDA procedures detail how their responsibilities will be accomplished.

1. Provide representatives to operate the FCPs at key transport intersections on the food control boundary with appropriate law enforcement.
2. Target the specific crops and food products proven to be unacceptable for consumption, as the contamination profile is further defined through field samples and laboratory analysis.
3. Identify and monitor the activities of licensed commercial dairies, farms, processing plants, and wholesale distributors, within the ingestion pathway EPZ.
4. Notify the agricultural community of the state's PADs.
5. Assist Health Office of Radiation Protection with obtaining sample for laboratory analysis, at licensed dairies, as requested.
6. Coordinate with county agricultural agents who are charged with identifying family and hobby farms in the ingestion pathway to ensure appropriate protective actions are carried out.
7. With Health, develop a prioritized sampling plan of the projected area(s) affected by a radiological release from a facility.
8. Contribute to the identification of the geopolitical boundaries of the relocation area(s) and food control area(s), and the locations for the FCPs.
9. Issue embargo orders as required, oversee testing of embargoed food, and monitor the proper disposition of adulterated food.

B. Support Agencies:

1. Washington State Department of Fish and Wildlife

When Fish and Wildlife land holdings or facilities fall within the FCAs, Fish and Wildlife personnel will be assigned to work cooperatively with other state agencies to conduct sampling in these places, as well as control access into and out of these areas. Fish and Wildlife will work cooperatively with the state EOC Executive Section to ensure protective actions to control the harvest of fish and game in FCAs are carried out.

2. Washington State Department of Health

Health will coordinate and direct all offsite monitoring to identify affected areas and verify non-affected areas; monitor and sample, and analyze air, milk, pasture, water, soil, and agricultural products. When the Federal Radiological Monitoring and Assessment Center (FRMAC) are activated at the state's request, Health will continue to coordinate and direct all offsite monitoring operations in collaboration with the FRMAC staff.

- a. Analyze field data, perform dose assessment, and develop Protective Action Recommendations (PARs) that will effectively protect the health and safety of residents and the food supply.
- b. Provide health physics support and contamination control for WSDA Sanitarians when they collect milk samples from a radiological affected area.
- c. If state and local capacity to deploy the required number of field teams is overwhelmed, prepare a request for federal assistance from the FRMAC.
- d. With WSDA, develop a prioritized sampling plan of the projected area(s) affected by a release from a facility.
- e. Provide technical assessment and analysis of field data to provide basis for county geopolitical boundary proposals for FCAs.
- f. Assign personnel to work cooperatively with WSDA personnel monitoring food at facilities within or near the FCAs, as appropriate.
- g. Consult with the facility and federal support teams, to identify additional laboratory resources qualified to conduct the required analysis of samples, if necessary. Identify needs for additional transportation capabilities to move samples to these laboratories, as required.
- h. Oversee the analysis of samples at all laboratories involved with the response.

- i. Provide continuing regular updates of dose assessment, analysis of field data, and new or refined Protective Action Recommendations (PARs) to the Executive Section of the state EOC.

3. Washington State Military Department

a. Emergency Management Division

- (1) Facilitate the development of the state's PADs and coordinate the carrying out of those decisions during the intermediate and late phases of the response.
- (2) Facilitate the Governor's adoption of the geopolitical boundaries defining the FCAs. These boundaries are recommended by the affected counties and coordinated with the state EOC. FCPs and TCPs are established by law enforcement agencies. This decision-making process will include consultation with the state of Oregon, if necessary.
- (3) In coordination with Health, WSDA, WSP, the affected county(ies), and the state of Oregon, if required, facilitate the staffing and equipment requirements for carrying out traffic control measures, security measures, and food control measures.
- (4) At regular intervals throughout the event, arrange for a full briefing of the state EOC Executive Section on the latest sampling and monitoring data, recommendations from the MUDAC or UDAC, and other pertinent data. Based on these briefings, validate the boundaries of the FCAs or recommend refinements to these boundaries. Before altering the boundaries, solicit recommendations from the affected county(ies) and consult with the state of Oregon.
- (5) Develop estimates of the probable duration and scope of the intermediate phase response, based on consultation with the facility and the Federal Emergency Management Agency (FEMA). Share these estimates with the affected jurisdictions so all state and local jurisdictions can identify the staffing patterns necessary to accomplish shift changes, and resource requests requiring action by the state or federal governments.
- (6) Coordinate the dissemination of public information with the ingestion pathway county(ies) at regular intervals throughout the intermediate phase.
- (7) Provide operational information to the counties.

b. National Guard

Support the Washington State Patrol (WSP) in traffic control, evacuation, mobile communications, and other areas. Assist local governments as necessary. Specific tasks in support of Health and WSDA operations in the Food Control Areas (FCAs) also may be assigned.

4. Washington State Patrol

- a. Conduct traffic control.
- b. Assist local law enforcement efforts, and coordinate the transportation of samples.
- c. Provide supplemental enforcement services at the access and TCPs with available resources.
- d. Assist WSDA and Health representatives at Food Control Points (FCPs).
- e. Coordinate the provision of additional state law enforcement resources to local law enforcement agencies, when requested. This includes the coordination of law enforcement resources with affected counties and the state of Oregon.

5. Washington State Department of Transportation

- a. Responsible for the coordination of transportation missions, when tasked, as prescribed by the *Washington State Comprehensive Emergency Management Plan (CEMP)*. *Washington State Department of Transportation Emergency Operating Procedures* are designed to carry out this function
- b. Coordinate with WSP for traffic control resources and provide other transportation resources, as necessary. The barricades, road signs, and highway rerouting information necessary to redirect traffic from the FCAs will be provided by WSDOT, provided resources are available. The need for long-term rerouting of interstate or intrastate traffic to avoid travel in or near specific areas will be addressed by WSDOT in consultation with WSP.

6. Adams, Benton, Franklin, Grant, Walla Walla, Yakima Counties

- a. Consult with the state regarding the development and implementation of PADs.
- b. Consult with the county extension agent to identify and locate milk producers, vegetable growers, fruit growers, and home gardeners not licensed by the state to carry out protective actions for this sector of the agricultural community. The county extension agent will assist the state in determining the impact on the food chain as well as implement the PADs for the state.

- c. Develop and submit recommendations to the state on the FCA boundaries and the locations for FCPs and TCPs.
- d. Identify and commit local law enforcement resources for FCPs. Request supplemental law enforcement support, when necessary.
- e. Coordinate the application of the PADs, requesting additional resources from the state, as needed.
- f. Implement ingestion PADs. PADs are the primarily responsibility of the affected county(ies). State resources may be made available to support such application, if requested. If state resources are fully committed, the state will request federal resources.
- g. Provide information on the disposition of specific commodities is disseminated to the licensed agricultural community on a case-by-case basis by the WSDA in conjunction with the county extension agent(s).

7. Adjacent States/Provinces

Washington State's emergency response to facility incidents includes coordinating PADs with the states and provinces adjacent to Washington State. Central to these relationships is the coordination between Washington and Oregon. Representatives from neighboring states may be present in the adjacent state's EOC to assist in the coordination of the decision-making process and the application of protective measures. Public information will be closely coordinated with Oregon State or other affected jurisdictions to ensure consistent messages are being given to the public.

VII. REFERENCES

See the Basic Plan, Section II. A., Authorities, of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

**ANNEX C, APPENDIX 1
GOVERNOR'S ORDER**

Having been advised by competent authority of the deposition of radiological and/or chemical contaminants in portions of the area described by emergency proclamation _____, to wit: the release of contaminants as a result of the accident at **(facility name)** has created conditions which threaten the health and safety of people in **(list county(ies))** and pursuant to the authority vested in me by Section 43.06.220, Revised Code of Washington, I hereby order the establishment of food control areas as described below to help preserve and maintain life, health, property, and the public peace. Law enforcement agencies are directed to stop all vehicles attempting to depart from the food control areas. Commercial food transporters will be directed to return any food produced or grown within the food control areas to its point of origin. Individuals transporting small amounts of food for personal consumption will be asked to return the food to its point of origin or to present it for collection at designated food access control points. Food grown, produced, or processed within the food control areas must be inspected and released for transport by the Washington State Departments of Agriculture or Health.

The boundaries of the food control areas are:

The Washington State Recovery and Restoration Task Force will reduce the boundaries of the food control area as the contamination profile allows.

Governor

Date

THIS IS AN EXAMPLE

**ANNEX C, APPENDIX 2
FOOD SURRENDER STATEMENT**

AGRICULTURE EMBARGO AND HOLD ORDER

DEPARTMENT OF AGRICULTURE
MAILSTOP 42560
OLYMPIA, WASHINGTON 98504 - 2560
(360) 902-1800

DEPARTMENT OF HEALTH
MAILSTOP 47800
OLYMPIA, WASHINGTON 98504 - 7800
(360) 586-5864

Date:

Due to suspected adulteration by a radioactive or a chemical substance caused by an accidental release radioactivity or a toxic chemical, the following food items:

shall not be sold, released, otherwise disposed of, or transported from the Food Control Area described below without written permission from the Departments of Agriculture/ Health, or by written court order:

Food Control Area Description: _____

The above-described food shall be stored as follows: _____

It shall be unlawful to remove, alter, or destroy this Order or to remove the above described agriculture food product from the Food Control Area without written permission from the Departments of Agriculture/Health, or by written court order.

Agriculture Authority: _____ Phone: _____

Health Authority: _____ Phone: _____

By order of RCW 43.70.180 and RCW 69.04.110-120

Acknowledged by (driver, owner, operator): _____

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ANNEX D

TRAINING, DRILLS, AND EXERCISES

PRIMARY AGENCY: Washington State Military Department

SUPPORT AGENCIES: Washington State Department of Agriculture
Washington State Department of Health
Washington State Patrol
Washington State Department of Transportation
Adams County
Benton County
Franklin County
Grant County
Kitsap County
Snohomish County
Walla Walla County
Yakima County
Umatilla Chemical Depot
United States Department of Energy- Hanford Site
Energy Northwest, Columbia Generating Station
Federal Emergency Management Agency
Puget Sound Naval Shipyard and Intermediate
Maintenance Facility
Submarine Base Bangor
Naval Station Everett

I. INTRODUCTION

A. Purpose

The purpose of this Annex is to describe the training, drill, and exercise activities supporting nuclear facilities, ships, submarines and chemical weapon facilities.

B. Scope

Pertinent state and county agencies will take part in emergency response training, drill, and exercise programs in support of this Plan.

II. POLICIES

Training activities supporting the *Chemical Stockpile Emergency Preparedness Program* (CSEPP), Columbia Generating Station, United States Department of Energy- Hanford Site and US Naval Nuclear Propulsion Program installations are to be coordinated so as to consolidate similar training sessions into joint hazards training opportunities. Exercise activities in one program with the potential to satisfy exercise requirements in one of the

other programs will be coordinated among the facilities, the state, and the Federal Emergency Management Agency (FEMA).

III. SITUATION

See the Basic Plan, Section III, of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

IV. CONCEPT OF OPERATIONS

A. General

Emergency response training, drill, and exercise programs are essential to ensure Washington State agencies and agencies of each affected county are able to implement and validate the EMD *Integrated Fixed Facility Radiological and Chemical Protection Plan*.

B. Training

Emergency response training programs provide instruction for state, county, and municipal response personnel responsible for implementing this Plan and its implementing procedures. Initial and annual training is primarily accomplished through program orientations, tabletop exercises, and drills. Specific technical training, such as field teams and dose assessors, is conducted in small groups by the lead agencies for that activity. Emergency response groups receiving training includes but is not limited to, the following:

1. Directors or coordinators of response agencies receive comprehensive initial and annual training through orientations and drills on the overall program and the protective action decision-making process from their program staff.
2. Personnel responsible for accident assessment receive initial and annual training from the facility and/or The Department of Health (Health) on the equipment and procedures necessary to accurately assess an accident.
3. Radiological/chemical hazardous materials monitoring teams and radiological analysis personnel receive initial and annual training from the facility and/or Health.
4. Law enforcement, security, and firefighting personnel receive annual training from the plume counties.
5. First aid and rescue personnel receive annual training from the plume counties and/or facilities.
6. Local support services personnel; including emergency services personnel receive annual training from the plume counties.

7. Medical support personnel receive annual training from the facility and plume counties.
8. Personnel who transmit emergency information and instructions receive annual training from the plume counties, Washington State Military Department, Emergency Management Division (EMD), and the facility.
9. Media personnel (radio, TV, and press) receive annual training by the Energy Northwest (ENW) and EMD.
10. Personnel with emergency response responsibilities receive initial and annual training from their respective organizations.

C. Drills

1. Fixed facility emergency response drills are conducted to familiarize and train state and county emergency response personnel with their emergency responsibilities and duties. These drills also provide a means of emergency performance evaluation.
2. Columbia Generating Station drills required by federal regulations include:
 - a. Communications Drills
 - 1) Monthly communications tests (to include the aspect of understanding the content of messages) of telephone communications between the facility and each plume exposure Emergency Planning Zone (EPZ) county Emergency Operations Center (EOC).
 - 2) Quarterly communications tests between federal response agencies and states within the ingestion pathway.
 - 3) Annual communications tests by Health between the state field teams and the facility.
 - b. Medical Emergency Drills
 - 1) Plume exposure EPZ counties will participate in annual medical emergency drills involving a simulated contaminated individual that contain provisions for participation by local support services (i.e., ambulance and offsite medical treatment facilities).
 - 2) Medical emergency drills involving designated hospitals, county emergency services and state agencies, as appropriate, will be conducted biennially.
 - c. Radiological Monitoring Drills

Radiological monitoring drills will be conducted annually by Health.

- d. Health Physics Drills
Health physics drills involving Health radiological monitoring teams will be conducted semi-annually to test response to and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment.
3. Naval Nuclear Propulsion Program Drills (known as exercises at the Naval Nuclear Propulsion Program sites) conduct the following periodic drills:
 - a. Communication Drills: Periodic communication test with WA EMD, Kitsap and Snohomish County EOCs.
 - b. Protective Action Decision Making Drill: Tabletop Drill covering use of State and County notification form/event category determinations/protective action recommendations.

D. Exercises

1. Energy Northwest, Columbia Generating Station Exercises

- a. Columbia Generating Station exercises will be conducted biennially in accordance with Nuclear Regulatory Commission (NRC) and the FEMA rules. The state plan will be tested using the six evaluation areas listed in the Interim REP Manual. Testing major elements of the ingestion plan will occur in six-year exercise cycle. The exercises will be based on an accident scenario postulating an emergency resulting in offsite radiological releases requiring response by offsite response organizations. Exercises will be observed by official evaluators who will observe, evaluate, and critique the exercise.
- b. Scenarios for exercises will be varied from exercise to exercise to allow all organizations having a role to demonstrate Columbia Generating Station preparedness. Columbia Generating Station exercise scenarios will be prepared by the facility operator, in cooperation with EMD, Health, WSDA, and appropriate county government(s). Information about the scenario will not be released to participants before the exercise to ensure a realistic evaluation of emergency preparedness. The scenario will include specific objectives, dates, times, places, and participating organizations, schedules of real or simulated events, a narrative summary of events, and a timeline for integrating the activities of participating organizations.
- c. Materials will be provided to evaluators and controllers in advance of the exercise.
- d. Ingestion exposure pathway exercises will be held at least once every six years.
- e. The number and type of personnel participating in ingestion aspects of an exercise will be sufficient for carrying out those ingestion measures required by the accident scenario.

- f. Exercises will be conducted to simulate different seasons of the year over a six-year period. This can be accomplished through scenario design and exercise controller input.
- g. Observer and participant comments on areas needing improvement, including plan and procedural changes, are to be evaluated and responsibility assigned for implementing corrective actions. A management control process must be used to ensure corrective actions are implemented.
- h. Visitors choosing to observe the Columbia Generating Station exercise(s) and visit the state EOC at Camp Murray, must wear a visitor badge, be escorted at all times, and therefore do not have a need for advance material.

2. United States Department of Energy (USDOE) Exercises

- a. The USDOE conducts one full-scale exercise annually. It is normally conducted on the third Thursday in June and typically involves the plume counties (Benton, Franklin, and Grant) as well as various Washington and Oregon State agencies. Additionally, USDOE conducts “limited drills” about once a quarter. These functional drills are used as training opportunities for responders and to test the validity of new or modified procedures, policies, and equipment.
- b. Each functional exercise will include mobilization of state and county emergency workers and resources required to adequately verify emergency response capabilities.
- c. The state and each county within the plume exposure pathway EPZ must participate in the exercises.
- d. Visitors choosing to observe the Hanford Site exercise(s) and visit the state EOC at Camp Murray, must wear a visitor badge, be escorted at all times, and therefore do not have a need for advance material.

3. Chemical Stockpile Emergency Preparedness Program Exercises (CSEPP)

- a. CSEPP exercises are conducted to provide a timely assessment of the level of preparedness at the Umatilla Chemical Depot (UMCD) and its surrounding communities in the Immediate Response Zone (IRZ). The exercises provide a basis upon which to build and strengthen response capabilities both on and off-post.
- b. Each CSEPP installation, as well as its surrounding jurisdictions within the plume exposure pathway must participate in this exercise program. These federally mandated CSEPP exercises are arranged on a two-year cycle. There are two types of exercises: Direction and Control Exercises (DCX) and Full-Scale Exercises (FSX). CSEPP Exercises are Federally Managed Exercises (FME) or Alternate Year Exercises (AYE). All exercises are evaluated.

- c. These exercises must:
 - 1) Be held in alternating years within the exercise cycle.
 - 2) Evaluation will include using the Integrated Performance Evaluation (IPE) methodology with 8 Response Operation Systems (ROS), associated with Performance Evaluation guides (PEG) as the exercise evaluation tool.
- d. Tabletop exercises may precede DCXs, FSXs, FME and AYE however, they cannot substitute for the exercises. All federally managed CSEPP exercises will be evaluated. Advance materials will be provided to controllers and evaluators for the exercise. A combination of self-assessment by the players and observation by the evaluators will be used in assessing the exercises. Evaluation consists of determining the level of existing CSEPP chemical accident/incident response capabilities as they pertain to people, plans, procedures, and training.
- e. Visitor choosing to observe CSEPP exercise(s) and visit the state EOC at Camp Murray must wear a name badge and be escorted at all times.

4. Naval Nuclear Propulsion Program Exercises: Puget Sound Naval Shipyard and Intermediate Maintenance Facility shall conduct periodic exercises with State and County agencies. These exercises may be located at or near Naval Base Kitsap or Naval Station Everett.

5. General Exercises:

- a. Evaluator critiques will be scheduled for the conclusion of the exercise or drill to determine the ability of the organization to respond as called for in the plan.
- b. Exercise and drill comments are to be evaluated for possible modifications to plans and procedures.

V. RESPONSIBILITIES

A. General

- 1. Support for training will be provided by EMD, Health, the facility, or the county emergency management agency. FEMA, Columbia Generating Station, Naval Nuclear Propulsion Program, and the Hanford Site also provide training to state and county agencies with emergency response duties.
- 2. EMD, Health, the facilities, and the affected county(ies) within the plume and ingestion exposure pathway EPZs will coordinate and conduct drills. Drills will be developed by jointly setting objectives, creating scenarios with real and simulated events, developing participant lists, and producing evaluation materials. EMD, Health, and the affected county(ies) will ensure drills are conducted, narrative summaries of the drills are produced, and evaluator and observer comments are addressed in a timely manner.

3. Management controls in each agency will be used to ensure corrective actions are implemented following drills and exercises.

B. Primary Agency: Washington State Military Department, Emergency Management Division

1. Training activities supporting the fixed facilities are to be coordinated to maximize opportunities for joint training sessions or consecutive training sessions to minimize travel requirements for participants.
2. Training sessions are to be conducted as necessary to meet program requirements.
3. In-house critiques will be conducted after each drill or exercise and incorporate resulting appropriate changes into the next revision of this Plan. In the event significant planning issues are identified, an immediate change to this plan shall be issued. Routine editorial-type changes to the plan can be held for the next annual review.
4. Develop a summary of resolved corrective actions arising out of each drill or exercise in conjunction with agencies participating in the drill or exercise. Ensure appropriate corrective actions are taken to correct any noted problems.
5. Ensure appropriate staff and volunteers receive initial and recurring training.
6. Conduct periodic training sessions and drills to validate the plan and procedures.
7. Maintain records of Columbia Generating Station related training provided, people attending, and corrective or remedial actions addressed by the training sessions to support the state's annual certification report.

C. Support Agencies:

1. Washington State Department of Agriculture

- a. Ensure appropriate people receive initial and recurring training.
- b. Conduct periodic training sessions and drills to validate the plan and procedures.
- c. Participate in training sessions to inform onsite and offsite responders of the requests for support that WSDA will be making.
- d. Participate in joint integrated drills and exercises with facilities, counties, and other state agencies.

2. Washington State Department of Health

- a. Participate in joint integrated drills and exercises with facilities, counties, and

other state agencies.

- b. Work with the planning agency to develop and conduct tabletop drills to validate plans and procedures.
- c. Conduct training drills both internally and in conjunction with other radiological response agencies, to provide realistic, hands-on experience.
- d. Ensure responders have received initial and refresher training appropriate for their response positions.
- e. Coordinate training with EMD and facilities.
- f. Coordinate and provide radiological-specific training to all agencies requiring or requesting training, e.g., WSP, counties, firefighters, and ambulance/rescue, if appropriate.

3. Adams, Benton, Franklin, Grant, Kitsap, Snohomish, Walla Walla, and Yakima Counties

- a. Ensure appropriate people receive initial and recurring training.
- b. Coordinate training requirements with EMD.
- c. Conduct periodic training sessions, drills, and exercises to validate the plan and procedures.
- d. Participate in joint integrated drills and exercises with facilities, other counties, and state agencies.
- e. For Columbia Generating Station related training, maintain records of training presented, people attending, exam results, and corrective or remedial actions addressed by the training sessions to support the state's annual program certification report to FEMA.

4. Energy Northwest, Columbia Generating Station

- a. Support requests for assistance from state and county agencies.
- b. Provide critiques of observed drills and exercises.
- c. Participate in joint integrated drills and exercises with other facilities, counties, state, and federal agencies.

5. United States Department of Energy- Hanford Site

- a. Support requests for assistance from state and county agencies.
- b. Provide critiques of observed drills and exercises.

- c. Participate in joint integrated drills and exercises with other facilities, counties, state, and federal agencies.

6. Umatilla Chemical Depot

- a. Support requests for assistance from state and county agencies.
- b. Provide critiques of observed drills and exercises.
- c. Participate in joint integrated drills and exercises with other facilities, counties, state, and federal agencies.

7. Federal Emergency Management Agency

- a. Support requests for assistance from state and county agencies.
- b. Provide critiques of observed drills and exercises.
- c. Participate in joint integrated drills and exercises with facilities, counties, state, and other federal agencies.

8. Naval Nuclear Propulsion Program

- a. Support requests for assistance from state and county agencies.
- b. Participate in joint integrated drills and exercises with facilities, counties, state, and other federal agencies.

VI. RESOURCE REQUIREMENTS

Resources required the support training, drills, and exercises will be identified by the agency providing the training in sufficient time to allow participants to be prepared.

VII. REFERENCES

- A. See the Basic Plan, Section II. A., Authorities, of the *Integrated Fixed Facility Radiological and Chemical Protection Plan*.
- B. *Exercise Policy and Guidance for the Chemical Stockpile Emergency Preparedness Program*. U.S. Department of the Army, September, 2004.

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APPENDIX 1

DEFINITIONS and ACRONYMS

DEFINITIONS

1% lethality dosage - Maximum dosage at which an individual has a 1% chance of dying.

Access Control Point - Road intersections or other logistically viable points on the perimeter of a restricted area which enable law enforcement and other emergency workers to maintain access control of the respective area(s). It involves the deployment of vehicles, barricades, or other measures to deny access to a particular area. Not to be confused with a Traffic Control Point.

Accident Assessment - Evaluation of the nature, severity, and impact of an accident. In the Chemical Stockpile Disposal Program, the Army will be primarily responsible for accident assessment.

Advisories - Precautionary advice which is easily implemented at a low cost. Advisories can be issued during the early or intermediate phases in a geopolitically bound area large enough to encompass the entire area where contamination is expected. For example, a typical advisory would be the recommendation to place livestock on covered water and stored feed until further notice.

AEGL-1 is the airborne concentration of a substance above which (i.e. between AEGL-1 and AEGL-2; expressed in parts per million [ppm] or milligram/meter cubed) it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic, non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEGL-2 is the airborne concentration of a substance above which (i.e. between AEGL-2 and AEGL-3) it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects, or an impaired ability to escape.

AEGL-3 is the airborne concentration of a substance above which it is predicted that the general population, including susceptible individual, could experience life-threatening health effects or death.

Aerosol - Airborne solid or liquid substances classified as dust, smoke, fumes, mists, and fog according to their physical nature, particle size, and method of generation. Particle size may vary from 0.01 to 100 micrometers in diameter.

Alert Classification - An event that could affect facility safety. County, state, federal officials will activate emergency centers and monitor the situation.

Area of Planning Attention - To assist State and local authorities in assessing the need for any preplanning in the vicinity of naval bases or shipyards where nuclear powered vessels are berthed, the Naval Nuclear Propulsion Program has designated Areas of Planning Attention. The areas of Planning Attention extend 0.5 mile around every location where nuclear powered vessels are normally berthed, (i.e., from the actual dock or pier where the ship is berthed - not from the shipyard or naval base property boundary). The 0.5-mile distance is based on detailed, conservative analysis of worst-case, but credible scenarios-the actual radius of impacted downwind area will most likely be smaller.

Assistance Centers - Facilities located outside the plume exposure pathway emergency planning zone wherein evacuees can receive first aid and assistance in obtaining food and lodging. Limited housing of evacuees is provided at assistance centers or at separate lodging facilities. (See also, Emergency Worker/Assistance Centers.)

Atmospheric Stability (low level) - This is a relative classification of the mixing of the air near the surface. This mixing has been measured as a standard deviation of wind direction changes or, in a more direct way, as the difference in air temperature at two reference heights (temperature gradient between and 4 meters). Low stability is associated with smaller downwind hazard distances.

Atmospheric Stability Categories - Note: Categories A, B, and C are most common during the day. Categories D, E, and F are most common during the night. Category G is at night but is very rare.

Category A: Extremely Unstable - Weather conditions are very unpredictable. Wind speed average one meter/second but is "gusty." The temperature rapidly decreases with altitude. This condition is called "super adiabatic." It is common on a hot, sunny day. Due to these conditions, a contamination plume would "loop" and be unpredictable.

Category B: Moderately Unstable - Weather conditions are still unpredictable, but less than "A." Wind speeds average two meters/second, and is not as "gusty." The temperature still decreases, but not as rapidly with altitude. "Looping" of a plume would still occur, but would not be as severe. This condition is common on a sunny, warm day.

Category C: Slightly Unstable - Weather conditions are somewhat unpredictable. Wind speeds average five meters/second. A little gustiness may be expected. The temperature still decreases and looping of a contamination plume may occur, but progressively less pronounced than "A" or "B" categories. This is an average day, slightly cloudy.

Category D: Neutral - Weather conditions are more predictable. Wind speeds average five meters/second, with no expected gustiness. The temperature still decreases with altitude, but the change is less pronounced. At this point, the condition name changes from "super adiabatic" to "adiabatic." A contamination plume is more predictable, with minor "looping." This condition is common on an overcast day or night (heavy overcast).

Category E: Slightly Stable - Weather conditions turn more predictable than with "D." Wind speeds average three meters/second. The temperature does not change with altitude. This condition is called "isothermic." A contamination plume is easy to predict with this condition. "Coning" of the plume occurs. This condition generally occurs at night, and is considered an average night (partly cloudy).

Category F: Moderately Stable - Weather conditions become very predictable. Wind speeds average two meters/second. This is an inversion. Temperatures increase with altitude (opposite of an "A" class). With this condition, little vertical dispersion occurs, i.e., it does not reach the ground rapidly.

Category G: Extremely Stable - This condition is very predictable, but rarely occurs. No wind blow, and the temperature increases rapidly with altitude. This condition may occur over a city, which acts even less pronounced than an "F" condition.

Blister Agent - See HD

Boiling Water Reactor (BWR) - A nuclear reactor in which water, used as both coolant and moderator, is allowed to boil in the core. The resulting steam is used to drive a turbine for generating electricity. Energy Northwest, Columbia Generating Station is a boiling water reactor.

Buffer Zone - The area which falls between a measured or calculated isodose line and the surrounding geopolitical boundary that defines a relocation area or food control area.

Calculated Dose Line - An isodose line that is generated using dose assessment techniques and calculations. This line is not measured in the field directly.

Chemical Accident/Incident (CAI) - Chemical events involving chemical surety materials. A chemical accident refers to a chemical event resulting from non-deliberate acts where safety is of prime concern. A chemical incident refers to a chemical event resulting from deliberate acts (terrorism or criminal), where security is of concern.

Chemical Accident/Incident Response and Assistance (CAIRA) Plan - A plan that spells out how an Army installation will handle chemical material events. This on-post plan must be integrated with off-post plans.

Chemical Accident/Incident Response and Assistance (CAIRA) Operations - Headquarters, Department of Army publication that standardizes federal response operations in case of a chemical surety event.

Chemical Agent (lethal) - A chemical substance that is intended for use in military operations to kill, seriously injure, or incapacitate a person through its physiological effects. Excluded from consideration are riot control agents, chemical herbicides, smoke, and flame.

Chemical Event Emergency Notification System - A tiered system whereby the Army classifies chemical surety emergencies and provides appropriate notification to off-post public officials.

Chemical Limited Area - See Limited Area.

Chemical Stockpile Disposal Program (CSEPP) - The congressionally-mandated program that requires the Army to dispose of all its unitary chemical agents by September 30, 1997. The preferred mode of disposition is on-post incineration.

Chemical Surety - Those controls, procedures, and actions that contribute to the safety, security, and reliability of chemical agents and their associated weapons systems throughout their life cycle without degrading operational performance. The term is also used to refer to an Army regulation, Nuclear and Chemical Weapons and Material: Chemical Surety, AR/50/6 that implements the chemical surety program.

Chemical Surety Event - A term used by the military that includes (1) chemical accidents resulting from non-deliberate events where safety is of primary concern or (2) chemical incidents resulting from deliberate acts or criminal acts where security is a concern.

Chemical Surety Material - Chemical agents and their associated weapons systems or storage and shipping containers.

Columbia Generating Station (CGS) - The nuclear power-generating facility operated by the Energy Northwest, on the Hanford site area.

Community Emergency (CE) - Events are likely to occur or have occurred that involve the agent release with chemical effects beyond the installation boundary. This level will be declared when the predicted chemical agent no-effect dosage extends beyond the installation boundary.

Comprehensive Emergency Management Plan (CEMP) - Framework for statewide migration, preparedness, response and recovery activities to facilitate interoperability between local, state, and federal governments.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - A law that deals with hazardous substance releases into the environment and the clean up of hazardous waste sites.

Congregate Care Center - A public or private facility that is pre-designated and managed by the American Red Cross during an emergency, where evacuated or displaced persons are housed and fed.

Corrective Actions - Those emergency measures taken to lessen or terminate an emergency situation in order to prevent an uncontrolled release of radioactive material or to reduce the magnitude of a release (e.g., shutting down equipment, firefighting, repair, and damage control).

Demilitarization - The mutilation, destruction, or neutralization of chemical surety material, rendering it harmless and ineffectual for military purposes.

Derived Intervention Levels (DILs) - A calculated concentration of a specific radionuclide in food, at which it is necessary to take protective actions. DILs can be referred to as Derived Response Levels (DRLs).

Dose - A generic term denoting a quantity of energy absorbed from exposure to ionizing radiation. (The term when expressed in Roentgens relates to the amount of gamma or x-ray radiation required to produce a quantity of ionizations in a volume of air. Expressed in rads it relates to an amount of absorbed dose to any material. Expressed in Rem it is a dose equivalent, which relates absorbed dose to the biological effect in human tissue. Exposure to a rad of alpha will cause more damage to tissue than a rad of gamma radiation. Exposure to a Rem of gamma will cause the same amount of damage to tissue.)

Dose Assessment Center (DAC) - An area within or near the facility which houses the personnel responsible for coordinating radiological monitoring teams, collecting radiological monitoring data, calculating dose projections, and recommending protective actions for the Emergency Planning Zones. At the Energy Northwest, Columbia Generating Station, this area is referred to as Meteorological Unified Dose Assessment Center. For Naval Nuclear Propulsion Program Installations, dose assessment will be conducted at the Emergency Control Center (ECC).

Dose Commitment - The total dose equivalent which may be expected to accrue to an organ of interest, such as the thyroid, as a result of inhalation, ingestion, or immersion of a source of radiation during an event. The dose commitment includes the effect of retaining radioactive material in the body after an event.

Dosimeter - A device to detect and measure accumulated radiation dose of an individual. Devices used include film badges, thermo luminescent dosimeters, and direct reading pocket dosimeters.

Drill - A supervised instruction session devised to test, maintain, and develop skills in a specified area. A drill can be an element of an exercise.

Early Phase - The time period at the very beginning of a nuclear incident where immediate decisions for effective use of protective actions are required. Early protective actions may be based on plant conditions and/or projections of radiological conditions in the environment. This phase may last from hours to days. For planning purposes, it is assumed to last four days.

Emergency - An abnormal condition at a facility that presents the possibility of an impact on public health and safety. Such conditions are categorized into different classification levels. These classification levels are discussed fully in Annex A and its Appendices.

Emergency Action Levels (EALs) - Specific abnormal indications used by the nuclear power plant to designate the emergency classification and severity of the event. Such indications include power plant instrument indicators, specific levels or radioactive releases from the power plant, and radiological dose rates.

Emergency Alert System (EAS) - The Primary means for providing the public with critical alert information about an emergency or disaster.

Emergency Control Center (ECC) – Where emergency directions and response are coordinated for the Naval Nuclear Propulsion Program.

Emergency Management Division (EMD) - A subdivision of the Washington State Military Department designated to preserve health and safety of the state's citizens, economic prosperity, property, and environment.

Emergency Operations Centers (EOC) - State and county centers where emergency direction and response are coordinated. The state EOC is the single point of contact for the authorization of state resources or actions, including emergency permits. Includes representation from all appropriate state agencies.

Emergency Operations Facility (EOF) - A building near the nuclear facility where the management of overall emergency response, coordination of radiological assessments, and management of recovery operations occur for the facility operator.

Emergency Planning Zones (EPZs) - A geographical area delineated around a potential hazard source to define the potential area of impact. EPZs facilitate planning for the protection of people during an emergency.

Emergency Protective Actions - Life-saving measures taken to prevent immediate or long-term public health and safety impacts due to exposure to radiation.

Emergency Response Procedure (ERP) - A detailed description of essential actions for responding to an accident at a nuclear power plant.

Emergency Support Function (ESF) - Subsets to the CEMP and defining procedures for state and federal plans.

Emergency Workers - Any person, including, but not limited to, an architect registered under chapter 18.08 RCW or a professional engineer registered under Chapter 18.43 RCW, who is registered with a local emergency management organization or the department holds an identification card issued by the local emergency management director or the department for the purpose of engaging in authorized emergency management activities or is an employee of the state of Washington or any political subdivision thereof who is called upon to perform emergency management activities.

Emergency Worker/Assistance Center (EWAC) - A combined Emergency Worker Center and Assistance Center.

Emergency Worker Center - A facility where emergency workers will assemble for assignments, equipment, and necessary training. The facility is also equipped to monitor and decontaminate personnel as required. (See EWAC.)

Energy Northwest - A public corporation planning the construction and operation of one nuclear facility in the state of Washington. The facility Columbia Generating Station is located on land leased from the United States Department of Energy, Hanford Site.

Enhanced Sheltering - Taking refuge in structures in which infiltration has been reduced via weatherization techniques before the occurrence of accidents.

Exclusion Area - Fixed Nuclear Facility - The area surrounding a nuclear reactor in which the facility operator has the authority to determine all activities, including exclusion or removal of personnel and property from the area. CSEPP: The area immediately surrounding one or more receptacles in which chemical agents are contained. In the absence of positive preventive measures, access into the area constitutes access to the chemical agent. At Naval Nuclear Propulsion Program facilities a combination of the outer base boundary and the Controlled Industrial Area (CIA) form the Exclusion Area.

Expedient Sheltering - Taking refuge in existing structures that are modified at the time of an accident to reduce infiltration by using common resources and materials, such as plastic bags, tape, and wet towels.

Exposure - The absorption of radiation (external exposure) or ingestion of radioactivity (internal exposure). Acute exposure is generally accepted to be a large exposure received over a short period of time. Chronic exposure is exposure received during a lifetime. (See “Dose”.)

Federal Emergency Management Agency (FEMA) - An agency created in 1979 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery. FEMA manages the President’s Disaster Relief Fund and coordinates the disaster assistance activities of all federal agencies in the event of a Presidential Disaster Declaration.

First Federal Official (FFO) - The first federal representative of a participating agency of the National Response Team arriving at the incident scene. The FFO coordinates activations under the National Contingency Plan.

Fixed Nuclear Facility (FNF) - One of a variety of complexes, in which fissionable fuel is stored or utilized for such functions as electrical power generation, or testing and manufacturing fuels and materials.

Food Control Area (FCA) - An area in which food control measures are implemented. Measures are enacted due to potential or actual adulteration of food products. The food control area would include the relocation area, if a relocation decision is appropriate.

Food Control Boundary - A geopolitical designation that defines and surrounds the food control area, where food control measures may be implemented.

Food Control Measures - Protective actions established to limit the exposure of the general public to adulterated food. Measures may include delaying or restricting harvest and/or transport, and instituting an embargo.

Food Control Point – A location for controlling the flow of agricultural products out of a Food Control Area. The usually located on a major trucking thoroughfare and is enough room to turn large trucks around and park trailers. Must be manned by a law enforcement officer and a Washington State Department of Agriculture representative.

Full-Scale Exercise (FSX)-Local, state, federal, and private entity are performing scenario based exercise to accomplish objectives to test plans or procedures.

GB (Sarin)-

Description

This chemical agent has the consistency and appearance of water. It is colorless and odorless in its pure form. It has evaporation characteristics similar to water but is heavier than air as a suspended vapor. It is completely soluble in water.

Effects

- Low dose effects include a redness and pressure in and behind eyes, sweating, and salivation.
- Higher dosages produce nasal congestion, tightness in the chest, salivation, nausea, vomiting, diarrhea, stomach cramps, involuntary urination /defecation, generalized muscle twitching and muscle cramps, depression, anxiety, and confusion.
- Exposure to high concentrations of nerve agent may bring on a lack of coordination, mental confusion and collapse so rapidly that the casualty cannot perform self-aid.
- Lethal dose: Concentrations of GB at 70 milligrams of agent per cubic meter of air can produce a lethal dose in a population of healthy males ages 18 to 25 years.

General Emergency (GE Classification) - Indicates events are in process or have occurred, creating an imminent threat or danger of a nuclear power plant to loose core degradation.

Geopolitical Boundary - A continuous line on a map which may utilize geographic (rivers, roads, and railroad tracks) or political (county/state border) designations. The food control and relocation boundaries are geopolitical boundaries.

HD -

Description

This chemical agent has the consistency and appearance of heavy oil. It is colorless and odorless in its pure form, but is normally pale yellow to black. It has evaporation characteristics similar to oil with a very low evaporation rate. It is not soluble in water but will form concentrations in the form of balls that will not float. This agent will freeze at 55 degrees Fahrenheit.

Effects

- Low dose effects include affects to both the eyes and skin. Swelling and reddening of the skin occurs after a period of 4 to 24 hours depending on the degree of exposure. Exposure of the eyes to HD vapor produces inflammation. Inhalation of vapor or aerosol can produce inflammation of the upper respiratory tract accompanied by sneezing, coughing, and bronchitis.
- Higher dosages produce a much stronger effect on the eyes than on the skin. Severe damage to eye tissue and blindness can result. Severe blistering of the skin, particularly moist or sensitive areas will occur. The skin's healing process is very slow following exposure.
- Lethal dose: A teaspoon of liquid on the body is considered a lethal dose.

Host County - A county in proximity to the plume exposure zone that can provide evacuee support.

Igloo - An earth covered shelter shaped like a Quonset hut, used to store munitions.

Ingestion Exposure Pathway Emergency Planning Zone - Ingestion exposure pathway is the potential pathway of radioactive materials to the public through consumption of radiological contaminated water, food crops or dairy products. This planning zone extends 50 miles in radius from the nuclear power plant.

Initial Response Force (IRF) - An emergency action organization tasked to provide first response to a chemical event at an installation assigned a chemical surety mission. Under command of the installation commander, the IRF is comprised of command and control elements and emergency teams capable of providing emergency medical services and initiating those actions necessary to prevent, minimize, or mitigate hazards to public health and safety or to the environment.

In-Place Sheltering - Also known as in place protection, involves taking refuge in various kinds of structures. Five types of sheltering have been identified to be of interest for protection from chemical agents: Normal, Expedient, Enhanced, Specialized, and Pressurized.

Intermediate Phase - This period of time starts when the release has terminated. This may occur in the form of stabilizing a reactor, or ensuring that no subsequent releases are expected. Reliable environmental measurements are made before and during the intermediate phase as a basis for decisions on intermediate phase protective actions (subsequent to early phase protective actions). The intermediate phase extends until these additional protective actions are terminated. The intermediate phase may overlap the early and late phases and may last from days to many months. For planning purposes, it is assumed to last for one year.

Ionizing Radiation - Any radiation displacing electrons from atoms or molecules, thereby producing ions. Examples: alpha, beta, gamma radiation, X-ray or short-wave ultraviolet light. Ionizing radiation may produce severe skin or tissue damage.

Isodose Line - A geographic designation that defines locations where the radiation doses (or dose rates) are constant. There are typically many isodose lines on a map when characterizing radioactive contamination. This is similar in form to a topographic map designation, which shows increments of elevation.

Isopleth - A measured or projected contour line on a map connecting locations with equal dose rates or equal levels of contamination. Isopleths in the procedures refer to levels of radiation or radioactive contamination. An isodose line.

Joint Field Office (JFO) - is a multiagency coordination center established locally to provide a central location for coordination of Federal, State, Local tribal, NGO, and private sector organizations with primary responsibility for threat response and incident support.

Joint Information Center (JIC) - A facility used by the affected utility, state(s) and county (ies) to jointly coordinate the public information function during a nuclear facility emergency.

Joint Information System (JIS) - Multiple locations where public information officials conference via telephone to collaborate on and coordinate the release of emergency public information when establishing a JIC is not practical.

Late Phase - This time period of a fixed nuclear facility accident begins when recovery and restoration actions are recommended. This period of time extends until all recovery actions have been completed, which may be on the order of months to years. The late phase may also be referred to as the recovery and restoration phase.

Limited Area - The area immediately surrounding one or more exclusion areas. Normally, the area between the boundaries of the exclusion areas and the perimeter boundary of an Army chemical storage facility.

Local Emergency Planning Committee (LEPC) - The planning body designated by the Superfund Amendments and Reauthorization Act, Title III legislation as the planning body for preparing local hazardous materials plans.

Marine Safety Zone (MSZ) - is the stretch of the Columbia River from Juniper Canyon (River Mile 305) on the east, down river to the west end of Crow Butte State Park (River Mile 262).

Material Safety Data Sheet (MSDS) - Compilation of information on a specific chemical compound including chemical name, manufacturer, physical data, and health hazard. (See Tab 1 for MSDS for the chemical agents VX, GB, and HD).

Maximum Credible Event (MCE) - The worst single event likely to cause the release of a chemical agent from a munitions, bulk container, or process, as a result of an unintended, unplanned, or accidental event. The probability of maximum credible events is 10^{-6} - 10^{-8} (1 in 1,000,000 to 1 in 100,000,000 years).

Meteorological Unified Dose Assessment Center (MUDAC) - An area within the Columbia Generating Station, Emergency Operations Facility which houses the personnel responsible for the coordination of radiological monitoring teams, collection of radiological monitoring data, calculation of dose projections, and the recommendation of protective actions for the Emergency Planning Zones. Also see dose assessment center.

Mustard Agent - The vesicant agents (H, HD, and HT) that cause blistering. In sufficient amounts, can be fatal if not quickly removed from exposed skin or if inhaled.

National Contingency Plan (NCP) - "The National Oil and Hazardous Substances Pollution Contingency Plan" (40 CFR Part 300) prepared by the Environmental Protection Agency to put into effect the response powers and responsibilities created by the Comprehensive Environmental Response, Compensation and Liability Act, and the authorities established by Section 311 of the Clean Water Act.

National Defense Area (NDA) - An area established on non-federal lands located within the United States, its possessions, or territories for the purpose of safeguarding classified defense information or protecting Department of Defense equipment and/or material. A national defense area may be established around the site of an accident involving military weapons or equipment by the Department of Defense to protect national security.

National Incident Management System (NIMS) - Functions of direction and control, operations, planning, logistic and administration and finance, coordinating together to respond as a unit during emergencies or disasters.

National Response Center - A communications center for activities related to hazardous materials response actions at Coast Guard Headquarters in Washington D.C. The Center receives and relays notices of discharges or releases to the appropriate On-Scene Coordinator, disseminates On-Scene Coordinator and Regional Response Team reports to the National Response Team when appropriate, and provides facilities for the National Response Team to use in coordinating national response action when required.

National Response Framework (NRF) - The plan, which establishes the basis for the provision of federal assistance to a state and the local jurisdiction, impacted by a catastrophic or significant emergency or disaster which results in a requirement for federal response assistance.

Naval Base Kitsap-Bangor - A 7450-Acre nuclear Submarine Base on the eastside of Hood Canal near Bangor, Washington. Trident submarines and one fast attack submarine are home ported at Naval Base Kitsap Bangor. Emergency preparedness and response for all nuclear submarines at Bangor are the responsibility of the Submarine Group NINE.

Naval Nuclear Propulsion Program (NNPP) - Is a joint program of the US Department of Energy/National Nuclear Security Administration and US Navy. All naval nuclear propulsion work and operations at nuclear capable public and private shipyards, naval nuclear ships/tenders, submarine bases and nuclear homeport naval stations are under the radiological regulatory authority of the Naval Nuclear Propulsion Program.

Naval Station Everett - A 120-acre naval station in Everett, Washington on Port Gardner Harbor. One nuclear vessel, an aircraft carrier, is homeport at Naval Station Everett. PSNS is responsible for emergency preparedness and response.

Nerve Agent - The nerve agents (GA, GB, and VX) are fatal, colorless, odorless, and tasteless chemical agents that can be fatal upon skin contact or when inhaled. These agents attack the central nervous system by inhibiting the production of acetylcholinesterase, which is essential for the proper operation of the nervous system.

Nuclear Regulatory Commission (NRC) - The federal agency that regulates and licenses commercial nuclear facilities.

Nuclear/Radiological Incident Annex - The plan which describes the Federal response to the radiological and onsite technical aspects of an emergency in the United States and identifies the lead federal agency for an event. The events include one involving the Nuclear Regulatory Commission or state licensee, the Department of Energy or Department of Defense property, a space launch, occurrence outside the United States, but not affecting the United States, and one involving radium or accelerated-produced material. Transportation events are included in those involving the Nuclear Regulatory Commission, state licensee, Department of Energy, or Department of Defense.

NUREG 0654 - Federal regulations and standards for emergency planning and responding to a nuclear power plant disaster.

On-Scene Coordinator (OSC) - The federal official pre-designated by the Environmental Protection Agency or the Coast Guard to coordinate and direct federal responses and removals under the National Contingency Plan, or the Department of Defense official designated to coordinate and direct the removal actions from releases of hazardous substances, pollutants or contaminants from the Department of Defense vessels and facilities. For Department of the Army facilities, the Initial Response Force and the Service Response Force Commander is the On-Scene Coordinator.

Plume Exposure Pathway Emergency Planning Zone - The planning area extending 10 miles from the facility in which actions are taken to protect the public from direct exposure of radioactive materials in the air or internal exposure from inhalation.

Potassium Iodide (KI) - A radio protective drug used to block the intake of radioactive iodine by the thyroid.

Preventive Protective Actions - Actions implemented to avoid or reduce the contamination of food, milk, or water. These measures may involve more complex actions and some economic consequences. Preventive protective actions will be implemented in areas bounded by advisories that are projected or known to contain locations of contamination. A typical preventive protective action is the recommendation to stop picking up milk from licensed dairies.

Projected Dose Equivalent - An estimate of the radiation dose equivalent that affected population groups could potentially receive if protective actions are not taken.

Protective Action - An action or policy that is designed to protect human health and safety. Protective actions are often described based on a certain Protective Action Guide and circumstances.

Protective Action Decision (PAD) - An action or measure taken by public officials to prevent or minimize radiological exposures to people.

Protective Action Guides (PAGs) - Radiation exposure "trigger levels" which prompt the implementation of a specific protective action based on a given dose level or radioactivity level.

Protective Action Recommendation (PAR) - A recommendation based on technical scientific data for public officials to use in framing a decision to prevent or minimize the contamination of people and foodstuffs.

Protective Action Guide Ratio - The ratio of the measured sample isotopic concentration to the corresponding derived intervention level. A PAG value of 1.0 or greater indicates that protective actions should be taken to prevent or reduce radiation exposure to the public.

Public Information Officer - Additional or supplemental facts or knowledge regarding an incident given to the general public. Such information may include a synopsis of the incidents, emergency response and recovery actions, and the rationale for such actions and activities.

Public Alert and Notification System - The system for obtaining the attention of the public and providing appropriate emergency information. Sirens are the most commonly used outdoor public alert devices but frequently are supplemented by tone alert radios, visual warning devices for the hearing impaired, and telephone-based warning systems.

Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS&IMF) Naval Base Bremerton – A 353-acre shipyard performing repair, overhaul, testing and decommissioning of nuclear vessels in Sinclair Inlet adjacent to Bremerton, Washington. A nuclear aircraft carrier is home ported at Naval Base Kitsap-Bremerton that is collocated with the shipyard. Emergency preparedness and response of all nuclear ships at the shipyard and Naval Base Kitsap-Bremerton are the responsibility of the Shipyard Commander.

Recovery and Restoration - The late phase protective activities taken to address the long-term concerns in the affected area(s) and among its residents. These concerns include economic, social, psychological, physiological, and environmental impacts, as well as control of contaminated food, and a continuing public information effort.

Reentry - The intermediate phase protective action to allow the temporary controlled entrance into evacuated or relocation areas by emergency workers and members of the general public meeting specific criteria.

Regional Response Team (RRT) - The representatives of federal agencies and a representative from each state in the federal region. During a response to a major hazardous materials incident involving transportation or a fixed facility, the On-Scene Coordinator may request that the RRT be convened to provide advice or recommendations on specific issues requiring resolution.

Relocation - The intermediate phase protective action to move residents out of areas where continued full-time occupancy would cause radiation exposures in excess of federal guidelines.

Relocation Access Control Point (RACP) - An access control point established along the relocation boundary where access into the relocation area is maintained (synonymous with Relocation Control Point).

Relocation Area - The geographic area in which relocation has been determined to be necessary. This area is defined by geopolitical designations that surround an area of potential exposure with long-term health and safety impacts to the general public.

REM - The unit of exposure expressed as dose equivalent. (The dose in Rem is equal to the absorbed dose times a quality factor. The quality factor takes into consideration the linear energy transfer of each type of radiation due to its size, charge, spin, or fluence.)

Return - The intermediate phase action to allow evacuees to return to their homes as quickly as possible in areas that were clearly not affected. Several return protective action decisions may be made, and are described as Initial Return, Second Return, and others.

Revised Code of Washington (RCW) - Laws enacted by the Washington State Legislature and approved by the Governor of Washington State.

Roentgen (R) - A unit of exposure to ionizing radiation. It is that amount of gamma or X-rays required to produce ions carrying one electrostatic unit of electrical charge in one cubic centimeter of dry air under standard conditions.

Routine Leaker - When an agent vapor is detected at an extremely low level inside of an igloo. These leakers must be found within the munitions engineering control (i.e., a shipping/firing tube if the munitions are a M55 rocket) or within an approved chemical storage facility (i.e., igloo or structure) with chemical effects are expected to be confirmed to the chemical limited area.

Site Area Emergency (SAE Classification) - An event that could effect the safety of the public near the facility. Public officials will tell you what actions, if any you should take.

Sheltering - A protective action that involves taking cover in a building that can be made relatively airtight. Generally, any building suitable for winter habitation will provide some protection when the windows and doors are closed and the heating, ventilation, and air conditioning systems are turned off. Effectiveness can be increased by methods such as using an interior room or basement, taping doors and windows, and employing other systems to limit natural ventilation.

Special Population - In the event of public evacuation, certain groups within the plume exposure pathway emergency planning zone may require special transportation or protective provisions due to special needs or sensitive industrial operations. Examples of such groups are the staff and inhabitants of:

- Schools and day care centers
- Nursing homes
- Hospitals
- Retirement centers
- Public utilities
- Large dairies
- Correctional institutions
- Facilities for developmentally disabled and physically challenged persons
- Special industrial plants

State Emergency Response Commission (SERC) - The state planning group designated by the Superfund Amendments and Reauthorization Act of 1986, Title III statutes as the state coordinating body for hazardous materials activities.

Superfund Amendments and Reauthorization Act of 1986 (SARA) - Title III of SARA includes detailed provisions for community emergency planning for fixed chemical facilities.

Technical Specifications - The limits, operating conditions, and other requirements imposed by the NRC on the operation of commercial facilities.

Thermo luminescent Dosimeter (TLD) - A device for measuring radiation exposure similar to a film badge or a pocket dosimeter.

Thyroid Blocking Agent - A prophylactic compound such as Potassium Iodide (KI) used to block the intake of radioactive iodine by the thyroid in a human being.

Title III - A major section of the Superfund Amendments and Reauthorization Act entitled the "Emergency Planning and Community Right-to-Know Act of 1986." A law that requires the establishment of state and local planning organizations (State Emergency Response Commissions and Local Emergency Planning Councils) to conduct emergency planning for hazardous materials incidents. It requires (1) site-specific planning for extremely hazardous substances, (2) participation in the planning process by facilities storing or using hazardous substances, and (3) notifications to SERCs and LEPCs of releases of specified hazardous substances. It also provides for mechanisms to provide information on hazardous chemicals and emergency plans for hazardous chemical events to the public.

Traffic Control Point – A location for controlling the flow of traffic. May be manned or unmanned. Typically used to direct the flow of traffic towards a specific location, such as a Food Control point. Not to be confused with Access Control Point.

Unified Dose Assessment Center (UDAC) – An area within the Hanford Site EOC which houses the personnel responsible for the coordination of radiological monitoring teams, collection of radiological monitoring data, calculation of dose projections, and the recommendation of protective actions for the Emergency Planning Zones. Also see dose assessment center.

United States Department of Energy (USDOE) - The federal agency responsible for a variety of energy research, development, and materials production activities at the Hanford Site located in Benton County, Washington. Through its Richland Operations Office, resource support is provided for a fixed nuclear facility incident.

Unusual Event (UE) Classification - The least serious emergency. It means there is a minor problem at the facility being handled by facility workers.

VX -

Description

This chemical agent has the consistency and appearance of motor oil. It is straw colored and odorless in its pure form. It has very low evaporation characteristics and is heavier than air as a suspended vapor. It is moderately soluble in water.

Effect

- Low dose effects include a redness and pressure in and behind eyes, sweating, and salivation.
- Higher dosages produce nasal congestion, tightness in the chest, salivation, nausea, vomiting, diarrhea, stomach cramps, involuntary urination/defecation, generalized muscle twitching and muscle cramps, depression, anxiety, and confusion.
- Exposure to high concentrations of nerve agent may bring on a lack of coordination, mental confusion and collapse so rapidly that the casualty cannot perform self-aid.
- Lethal dose: Concentrations of VX at 70 milligrams of agent per cubic meter of air can produce a lethal dose in a population of healthy males ages 18 to 25 years.

Washington Administrative Code (WAC) – Regulations of executive branch agencies are issued by authority of statutes. Like legislative and the constitution, regulations are a source of primary law in Washington State.

Warning - A notification to the public in advance of anticipated emergency.

Wedge - An angle centered about the downwind bearing. Used to indicate a larger area of concern for emergency planning than that provided by the output of a dispersion model. For example, the D2PC dispersion model assumes that the area surrounding the release is flat and open, and that there will be no changes in the wind direction after the release. For this reason, a wedge is often used to account for model limitations.

APPENDIX 1

DEFINITIONS and ACRONYMS

ACRONYMS

| | |
|---------------|---|
| ACP | Access Control Point |
| APA | Area of Planning Attention |
| BWR | Boiling Water Reactor |
| CAI | Chemical Accident/Incident |
| CAIRA | Chemical Accident/Incident Response and Assistance |
| CE | Community Emergency |
| CEMP | <i>Comprehensive Emergency Management Plan</i> |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CGS | Columbia Generating Station |
| CSDP | Chemical Stockpile Disposal Program |
| CSEPP | Chemical Stockpile Emergency Preparedness Program |
| DAC | Dose Assessment Center |
| DILs | Derived Intervention Levels |
| DOD | Department of Defense |
| EAL | Emergency Action Level |
| EAS | Emergency Alert System |
| ECC | Emergency Control Center |
| EFSEC | Energy Facility Site Evaluation Council |
| EMD | Emergency Management Division |
| ENW | Energy Northwest |
| EOC | Emergency Operation Center |
| EOF | Emergency Operations Facility |
| EOP | <i>Emergency Operations Plan</i> |
| EPZ | Emergency Planning Zone |
| ERP | Emergency Response Procedure |
| ESF | Emergency Support Function |
| EW | Emergency Worker |
| EWC | Emergency Worker Center |
| EWAC | Emergency Worker/Assistance Center |
| FCA | Food control Area |
| FCB | Food Control Boundary |
| FCP | Food Control Point |
| FEMA | Federal Emergency Management Agency |
| FNF | Fixed Nuclear Facility |
| FRC | Federal Response Center |
| FRMAC | Federal Radiological and Monitoring Assessment Center |
| FRERP | <i>Federal Radiological Emergency Response Plan</i> |
| FSX | Full-Scale Exercise |
| GB | Sarin Chemical |
| GE | General Emergency |

| | |
|---------------------|---|
| HQDA | Headquarters, Department of the Army |
| IMAT | Incident Management Assist Team (replaces ERT) |
| IRF | Initial Response Force |
| IRZ | Immediate Response Zone |
| JFO | Joint Field Office |
| JIC | Joint Information Center |
| JIS | Joint Information System |
| KI | Potassium Iodide |
| LAE | Limited Area Event |
| LEPC | Local Emergency Planning Committee |
| MAC | Multi-Agencies Coordination |
| MCE | Maximum Credible Event |
| MSDS | Material Safety Data Sheet |
| MSZ | Marine Safety Zone |
| MUDAC | Meteorological Unified Dose Assessment Center |
| NCP | <i>National Contingency Plan</i> |
| NDA | National Defense Area |
| NIMS | National Incident Management System |
| NNPP | Naval Nuclear Propulsion Program |
| NOUE | Notification of Unusual Event |
| NRC | Nuclear Regulatory Commission |
| NRF | National Response Framework |
| NSE | Non-Surety Event |
| NUREG | Nuclear Regulatory Commission Guidance |
| OSC | On-Scene Coordinator |
| PA | Protective Action |
| PAD | Protective Action Decision |
| PAG | Protective Action Guides |
| PAR | Protective Action Recommendations |
| PAZ | Protective Action Zone |
| PIO | Public Information Officer |
| PSNS&IMF | Puget Sound Naval Shipyard and Intermediate Maintenance Facility |
| PZ | Precautionary Zone |
| RACP | Relocation Access Control Point |
| RCW | Revised Code of Washington |
| REM | Roentgen Equivalent in Man |
| REP | Radiological Emergency Preparedness |
| RRTF | Recovery and Restoration Task Force |
| SAE | Site Area Emergency |
| SARA | Superfund Amendments and Reauthorization Act |
| SERC | State Emergency Response Commission |
| SCO | State Coordination Officer |
| TCP | Traffic Control Point |
| TITLE III | Major Section of the Superfund Amendments and Reauthorization Act |
| TLD | Thermo luminescent Dosimeter |
| UDAC | Unified Dose Assessment Center |
| UMCD | Umatilla Chemical Depot |
| USDA | United States Department of Agriculture |
| USDOE | United States Department of Energy |

USDOE-RL United States Department of Energy-Richland
WAC Washington Administrative Code
WSDA Washington State Department of Agriculture
WSDOT Washington State Department of Transportation
WSP Washington State Patrol

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APPENDIX 2

MEMORANDA OF UNDERSTANDING AND AGREEMENTS

I. Governmental Agency Memoranda of Understanding and Letters of Agreement

- A. Energy Northwest, Columbia Generating Station and State of Washington for Emergency Preparedness (2007).
- B. Oregon State and Washington State for Radiological Emergency Preparedness at Columbia Generating Station (2002).
- C. American Red Cross and Washington Military Department, Emergency Management Division (1995).
- D. U.S. Department of Energy- Hanford Site and State of Washington for Emergency Preparedness (2007).
- E. Memorandum of Understanding (MOU) between the States of WA & OR; Benton County; Umatilla County; Morrow County; and Umatilla Chemical Depot (2004).

II. Washington State Hospital Memoranda of Understanding *

- | | | |
|--|-----|-------------|
| A. Kadlec Medical Center (2006) | R/C | Richland |
| B. Kennewick General Hospital (2006) | R/C | Kennewick |
| C. Lourdes Medical Center (2006) | R/C | Pasco |
| D. Prosser Memorial Hospital (2006) | C | Prosser |
| E. Yakima HMA INC. d/b/a Yakima Regional Medical and Heart Center (2006) | R/C | Yakima |
| F. Sacred Heart Medical Center (2006) | R/C | Spokane |
| G. Madigan Army Medical Center (2006) | R/C | Tacoma |
| H. Harborview Medical Center (2006) | R/C | Seattle |
| I. Swedish Medical Center/Providence (2006) | R/C | Seattle |
| J. Swedish Medical Center/First Hill (2006) | R/C | Seattle |
| K. St. Mary Medical Center (2006) | C | Walla Walla |

***Note:** The letter **R** after the hospital name indicates that the MOU provides for the admission, treatment, and care of persons exposed or contaminated by radiation resulting from a radioactive release at a Fixed Nuclear Facility.

The letter **C** after the hospital name indicates that the MOU provides for the admission, treatment and care of persons exposed or contaminated by chemicals resulting from a chemical release at a fixed chemical facility.

Copies are available upon request.

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APPENDIX 3

SUPPORTING PLANS, PROCEDURES, AND DOCUMENTS

This Plan is part of a group of plans and implementing procedures that support, and are supported by each other. These documents are designed to avoid needless repetition and to reduce the possibility of conflicting information.

These plans and procedures will be implemented upon receipt of notification of an event or incident, and from the effected facility and/or competent authority.

I. Washington State Comprehensive Emergency Management Plan

The Comprehensive Emergency Management Plan (CEMP) is an all-hazards plan which identifies the general emergency management concepts and responsibilities of state agencies. It includes the 15 National Response Frameworks Emergency Support Functions (ESFs) plus 1 state-established ESFs, and 2 Annexes. The ESF on the Defense Support to Civil Authorities (ESF-20) and 2 Annexes, Terrorism and Catastrophic Event have specific application to this Plan.

II. Washington State Emergency Operations Plan

The *Washington State Emergency Operations Plan (EOP)* establishes the procedures to be used within the state Emergency Operations Center (EOC). Position specific checklists are provided for each position within the EOC. These procedures include the process for bringing the EOC to full operational status. The EOP contains a Basic Plan, 13 Annexes, and 3 Appendices.

III. Emergency Management Division Duty Officer Procedures

The *Emergency Management Division Duty Officer Procedures* provide checklists for verifying and responding to facility emergencies and include state and local agency notification steps. C-4, Notification Forms for CGS, DOE-RL, AREVA, Navy, and Trojan; C-12 Terrorist Incidents; C- C-20, Umatilla/CSSEP Notification Form; C-23 Emergency Management Assistance Compact; C-24 Hazardous Material Incident; G-4, Telecommunications Capabilities; G-5, Pager; G-6, Staff Call-Out; G-7, EOC Activation; G-8, Emergency Power; G-12 EOC Relocation Procedures; G-14, CSEPP Trouble Form Report; G-18 a & b, EAS & EAS Messages.

IV. County Emergency Plans

Plans for each of the eight Washington counties - Adams, Benton, Franklin, Grant, Kitsap, Snohomish, Walla Walla, and Yakima - provide guidance for the local jurisdictions. These documents are very specific for NUREG 0654 and the CAIRA.

V. Washington State Agency Procedures

Several state agencies maintain their own EOC procedure documents due to the nature of their responsibilities during emergencies. These include the Washington State Patrol (WSP), and the Washington State Department of Transportation (WSDOT) as well as the following primary radiological response organizations:

A. Washington State Department of Health Radiological Emergency Response Plan and Procedures

The *Washington State Department of Health Radiological Emergency Response Plan and Procedures* provide detailed instructions and guidance for responding to radiological emergencies at Columbia Generating Station, the United States Department of Energy- Hanford Site and other non-fixed nuclear facility events. Topics covered include notification systems, specific actions for each site, accident assessment, field operations, Emergency Worker/Assistance Centers, and Protective Action Guides. A cross-reference for this plan is located within the plan at Appendix F.

B. Washington State Department of Agriculture Radiological and Chemical Emergency Procedures

The *Washington State Department of Agriculture Radiological and Chemical Emergency Procedures* include specific guidance for Washington State Department of Agriculture (WSDA) personnel and provide up-to-date information on the agricultural communities around Hanford Site, Columbia Generating Station, and the Umatilla Chemical Depot. Food producers, processors, dairies, and commercial farms are also included. A cross-reference for this plan is located within the plan at Annex F.

VI. Facility Plans and Procedures

Each facility maintains its own set of plans and procedures to respond to onsite emergencies. The interface with offsite response organizations is a key part of these documents. Facilities documents are sent to the State and are on file in the EOC.

VII. U.S. Department of the Army, Chemical Surety Program, Army Regulation 50-6

This regulation provides control for chemical weapons materials, including Chemical Accident/Incident Response and Assistance (CAIRA) Operations, chemical event notification, safety guidance, and requirements pertaining to the military contractors.

APPENDIX 4

NUREG O654 CROSS REFERENCE

Guide to Abbreviations

| | | |
|---------------------------|---|--|
| Annex | = | Annex |
| APP | = | Appendix |
| B | = | <i>Benton County Plan and Procedures</i> |
| BP | = | <i>Basic Plan</i> |
| CEMP | = | <i>Washington State Comprehensive Emergency Management Plan</i> |
| DO/SEOO | = | <i>Emergency Management Division Duty Officer/State Emergency Operation Officer Procedures</i> |
| DOH | = | <i>Department of Health Procedures</i> |
| EOP | = | <i>Emergency Management Division Emergency Operations Plan</i> |
| ESF | = | CEMP Emergency Support Function |
| F | = | <i>Franklin County Plan and Procedures</i> |
| FIG | = | Figure |
| LO | = | Licensee Only (Not required for offsite response organizations) |
| UMCD | = | Umatilla Chemical Depot |
| WSDA | = | <i>Washington State Department of Agriculture Procedures</i> |
| Roman Numerals | = | Sections in BP or Annexes |
| Letter followed by number | = | Subparagraph within a section |
| EXAMPLE: “BP-IV-C” | = | “Basic Plan, Section IV, Subparagraph C.” |

**APPENDIX 4
NUREG 0654 CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|--|--|--|---------------------------------------|
| A. Assignment of Responsibility | | EOP | |
| 1a. | Identify state local, federal, and private response organizations for EPZs. | BP page 1; BP-VI; Annex B page 1, 7-20; APP 2 | EOP-2-F |
| 1b. | Concept of operations, and relationship to total effort. | BP-IV & V; Annex B-IV & V | EOP-2-A, F, Annex A-F |
| 1c. | Organizational interrelationship block diagram. | BP-FIG 2, 3 | EOP-2-F.2/3; Annex A-I; Annex C |
| 1d. | Individual in charge of emergency response. | BP-IV-A-3 | EOP-2-C.2-4; Annex D-A |
| 1e. | 24-hour emergency response and manning of communication links. | BP-VII-G-1-e; CEMP-ESF-2, APP 1 | EOP-2-D Annex-B-G-4 |
| 2a. | Functions and responsibilities for major elements and key individuals by title, of emergency response. Summary table showing primary and support responsibilities. | BP-VI, VII & Fig 1; Annex B-VI, V, VII | Annex C-B.3 Table 1 |
| 2b | Legal basis for organizational authorities. | BP-II-A | N/A |
| 3. | Support information, e.g., MOUs, MOAs, etc. | BP-II-B-3; APP 2 | Annex B-C-23 & C-24-B |
| 4. | Individual and organization responsible for assuring continuity of resources to support 24-hour operations. | BP-VII-G-1-e; BP-IV-A-2; BP-IV-B-1-c | EOP-2-D; Annex C-B |
| B. Onsite Emergency Organization | | LO | |
| | | | |
| C. Emergency Response Support and Resources | | | |
| 1a. | Specific persons by title authorized to request federal assistance. | BP-VII-E-10; BP-VII-G-1-D | EOP-6 Annex D |
| 1b. | Federal resources expected, including times of arrival. | BP-VII-X-Y, AA- AB, AD-AH; Annex B-III-B-7; Annex B-APP 1; DOH (see APP F, cross ref.) | EOP-6 Annex D; EOP-7 Annex E |

**APPENDIX 4
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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|---|--|--|--|
| 1c. | Licensee, state, and local resources available to support the federal response. | BP-I-D; BP-IV-B-e-6; BP VII-X-Z; Annex B-III, IV, VI APP 1; BP-APP 2; DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.) | Table 1 |
| 2a. | Dispatch of offsite representatives to the EOF. | BP-IV-B-1; BP IV-B-1-g & 3-e; Annex A-IV-D; Annex B-III-4-DOH (see APP F, cross ref.) | EOP-12; Annex J |
| 3. | Radiological laboratories, capabilities, and availability. | BP-VII-C; BP-Annex B; DOH (see APP F, cross ref.) | N/A |
| 4. | Assisting facilities, organizations, individuals, and supporting letters of agreement. | BP-I-B-3; BP-VII, APP 2; DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.) | EOP-2; Annex E |
| D. Emergency Classification System | | | |
| 1. & 2. | Not required for offsite response organizations. | LO | N/A |
| 3. | ECL and EAL scheme consistent with licensee. | Annex A-APP 2/3; Annex A-APP 7 | EOP-4 Annex B (C.4) |
| 4. | Emergency action procedures consistent with emergency actions recommended by licensee. | Annex A; APP-2/5; DOH (see APP F, cross ref.); B (see Section 10, cross ref.); F (see Section IX, cross ref.); WSDA (see Annex F, cross ref.) | EOP 2 D-1; EOP 4 Annex B (C.4, C.6, C.7, C.17, C.18, C.20, G.21, G.25) |
| E. Notification Methods and Procedures | | | |
| 1. | Organizational notification procedures, to include means of verification of messages. | BP-IV-A-2; Annex B-IV-C-2/3 | EOP-4 Annex B (C4, C18, G-25) |

**APPENDIX 4
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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|---|--|--|--|
| 2. | Procedures for alerting, notifying, and mobilizing emergency response personnel. | BP-IV-C-3; BP-V | EOP 4 Annex B; (C-4, C-6; C-7; c-17; C-18; C-20; G-21; G-25) |
| 3. / 4. | Not required for offsite response organizations. | LO | N/A |
| 5. | System to disseminate public information, including EAS. | BP-V-A-5-g; B; Annex A-IV-A-4 | EOP-4 Annex B; C-4A; G-21; G-25 |
| 6. | Plume EPZ notification means and times. | Annex A-IV-A; A-6; B; Annex B-IV-C3 | N/A |
| 7. | Draft messages giving the public instructions with regard to protective actions. | BP IV-A-4; IV-B-1-f; V-A-1-e; V-A-5-g; VII-A-4; Vii-G-1-e; Annex A-IV-A-.4; APP 2; CEMP ESF-15; CEMP; ESF-2; B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| F. Emergency Communications | | | |
| 1a. | 24-hour per day notification and activation of state/local emergency response network—minimum of telephone and alternate, including 24-hour per day manning of communication links to initiate emergency response actions. | BP-IV-B-1-c; BP-VII-G-1-e; Annex B-VI-B-3; VII-F; CEMP; ESF-15; ESF-2 | EOP-4 Annex B; C-4; G-1; G-4; G-5; G-6; G-7; G-21; G-25 |
| 1b. | Provision for communications with contiguous state/local governments within the EPZs. | BP-IV-A.2; IV-B-1-c; IV-C-1 & 2; & V-A-2 | EOP-4 Annex B; C-4 |
| 1c. | Provision for communications with federal EROs. | BP IV-A-2; ESF-2; ESF-15 | EOP-13 Annex K |
| 1d. | Provision for communications with licensee and EOF, state and local EOCs, and radiological monitoring teams. | BP-IV-B-1; BP-V-A.2; Annex B-IV C; Annex B-V-A-3; Annex B-VII-F, H, I; ESF-2; DOH (see APP F, cross ref.) | DOH Procedures |
| 1e. | Provision for alerting or activating emergency personnel in each ERO. | BP-V-A & FIG 4 | EOP-4 Annex B; EOP-6 Annex |

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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|---|---|--|------------------------|
| 1f. | Not required for offsite response organizations. | LO | N/A |
| 2. | Coordinated communications link for fixed and mobile medical support facilities. | Annex B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| 3. | Periodic testing of the entire emergency communications system. | Annex D-IV-C | N/A |
| G. Public Education and Information | | | |
| 1. | Periodic (at least annually) dissemination of information to the public regarding notification and emergency actions. | BP-IV-1; Annex B-V1-B-1; Annex C-IV-B; Annex C-IV-B; CEMP-ESF 2/15 | N/A |
| 2. | Plume exposure EPZ annual information for permanent and transient populations. | LO; B; F | N/A |
| 3a. | Points-of-contact and location for emergency media use. | BP-IV-B-1-f; CEMP, ESF 2/15 | N/A |
| 3b. | Not required for offsite response organizations. | LO | N/A |
| 4a. | Designated spokesperson with access to all necessary information. | BP-V-A-1-e; Annex A-IV-A-4; CEMP, ESF 2/15 | N/A |
| 4b. | Arrangements for timely exchange of information among designated spokespersons. | BP-V-A-1-e; Annex A-IV-A-4; CEMP, ESF 2/15 | N/A |
| 4c. | Coordinated rumor control. | BP-V-A-1-e; BP-V-A-5-g-e; Annex A-IV-A-4; CEMP, ESF 2/15 | N/A |
| 5. | Annual media orientation. | CEMP, ESF 2/15 | N/A |
| H. Emergency Facilities and Equipment | | | |
| 1. & 2. | Not required for offsite response organizations. | LO | N/A |
| 3. | EOC for directing and controlling response functions. | BP-IV-A-.3 & B-1-c; BP-VII-G-1-e; Annex B-VII-F | EOP-2-C.2-4; Annex D-A |
| 4. | Timely activation and staffing of facilities and centers. | Annex B-VII-F; B (see Section X, cross ref.); F (see Section IX, cross ref.) | EOP-4 Annex B, G.6/7 |

**APPENDIX 4
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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|---|---|--|----------------------|
| 5. & 6. | Not required for offsite response organizations. | LO | N/A |
| 7. | Offsite radiological monitoring equipment near facility. | DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| 8. & 9. | Not required for offsite response organizations. | LO | N/A |
| 10. | Inspect, inventory, and operationally check emergency equipment/instruments at least once each calendar quarter and after each use. | DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| 11. | Appendix identifying category of emergency kits. | DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| 12. | Central point for receipt and analysis of all field monitoring data and coordination of sample media. | DOH (see APP F, cross ref.) | N/A |
| I. Accident Assessment | | | |
| 1.-6. | Not required for offsite response organizations. | LO | N/A |
| 7. | Capability and resources for field monitoring within the plume exposure EPZ. | DOH (see APP F, cross ref.) | N/A |
| 8. | Methods, equipment and expertise to make rapid assessments of radiological hazards through liquid or gaseous release pathways. | DOH (see APP F, cross ref.) | N/A |
| 9. | Capability to detect and measure radioiodine in air in the plume exposure EPZ. | DOH (see APP F, cross ref.) | N/A |
| 10. | Establish means for relating measured parameters to dose rates for key isotopes and gross radioactivity measurements. | DOH (see APP F, cross ref.) | N/A |

**APPENDIX 4
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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|---|---|---|----------------------|
| 11. | Arrangements to locate and track the airborne radioactive plume using either federal and/or state resources. | DOH (see APP F, cross ref.) | N/A |
| J. Protective Response | | | |
| 1. | Not required for offsite response organizations. | LO | N/A |
| 2. | Evacuation routes and transportation for onsite personnel to offsite locations, including alternatives for inclement weather, high traffic density, and specific radiological conditions. | LO; B; F; BP-VII-G-1-5; VII-N-10-13; VII-O-10-13; VII-W-3; VII-Z-4; Annex A, APP 2 | N/A |
| 3.-8. | Not required for offsite response organizations. | LO | N/A |
| 9. | Implementation of protective measures based on PAGs, PARs, PADs, and other criteria. | BP-VII-E-2-b; N-4; O-4; Annex A, APP 2; Annex B-V-A-1-2; B-VI-A-8-c; Annex C VI-B-2-a, 3-a, 6-a; DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.) | EOP-2-C.2-4 |
| 10. | Plans to implement protective measures for the plume exposure pathway EPZ include: | BP Annex A, APP 2 | N/A |
| | Maps showing evacuation routes, evacuation areas, selected radiological sampling and monitoring points, EWACs, and shelter areas. | BP Annex A, APP 6; DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.); LO-B-F | N/A |
| | Maps showing population distribution around facility, by evacuation areas. | BP Annex A, APP 7; B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |

APPENDIX 4
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| | Planning Standards and Evaluation Criteria | Plan Reference | EMD Procedure |
|--|--|---|----------------------|
| | Means for notifying all segments of the transient and resident population. | Annex B IV-C3, Annex B-VII-M; B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| | Means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement. | Annex B-IV-C3; B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| | Provision for use of radiological protective drugs for emergency workers and institutionalized persons within the plume exposure EPZ – including quantities, storage, and means of distribution. | Annex B-II-D; Annex B-IV-C-3 Annex B-V-A-2; DOH (see APP F, cross ref.) | N/A |
| | Decision process by State Health Officer for administering radiological protective drugs to the general population, and the conditions for use of such drugs by offsite emergency workers. | Annex B-II-D; Annex B-V-A-2; DOH (see APP F, cross ref.) | N/A |
| | Means of relocation. | B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| | Relocation centers - at least five miles, and preferably 10 miles beyond boundaries of plume exposure EPZ. | Annex B-VII-G; B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| | Projected traffic capabilities of evacuation routes under emergency conditions. | B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| | Access control to evacuated areas and organization responsibilities for such control. | Annex C (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| | Identification of, and means for, dealing with potential impediments (e.g., seasonal impassibility of roads) to use of evacuation routes and contingency measures. | Annex C (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |

**APPENDIX 4
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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|---|--|---|----------------------|
| | Time estimates for evacuation of various sectors and distances for the plume exposure EPZ. | LO; B; F | N/A |
| | Bases for choice of PARs for plume exposure pathway during emergency conditions. | DOH (see APP F, cross ref.) | N/A |
| 11. | Ingestion exposure pathway protective measures. | BP-V-B-1-e; Annex B-V-B; Annex C; DOH (see APP F, cross ref.); WSDA (see Annex F, cross ref.) | N/A |
| 12. | Registration and monitoring of evacuees at EWACs. | Annex B-VII-G; DOH (see APP F, cross ref.); B (see Section X, cross ref.); F (see Section IX, cross ref.) | N/A |
| K. Radiological Exposure Control | | | |
| 1.-2. | Not required for offsite response organizations. | LO | N/A |
| 3a. | Provisions for 24-hour-per-day dose determination for emergency personnel – distribution of dosimeters. | Annex B-VI-A; DOH (see APP F, cross ref.) | N/A |
| 3b. | Ensure dosimeters are read at appropriate frequencies and maintain dose records for emergency workers. | Annex B-VI-A; DOH (see APP F, cross ref.) | N/A |
| 4. | Decision chain authorizing emergency workers to incur exposures in excess of PAGs. | Annex B-VI-A; DOH (see APP F, cross ref.) | N/A |
| 5a. | Action levels for determining need for decontamination. | Annex B-VII-G-3; DOH (see APP F, cross ref.) | N/A |
| 5b. | Means for radiological decontamination of emergency personnel wounds, supplies, instruments and equipment, and for waste disposal. | Annex B-VII-E; APP 2; DOH (see APP F, cross ref.) | N/A |
| 6.-7. | Not required for offsite response organizations. | LO | N/A |

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| Planning Standards and Evaluation Criteria | Plan Reference | EMD Procedure | |
|--|---|-----------------------------------|-----|
| L. Medical and Public Health Support | | | |
| 1. | Local and backup hospital and medical services to evaluate radiation exposure and uptake. | Annex B-VII-E; APP 2; DOH; B; F | N/A |
| 2. | Not required for offsite response organizations. | LO | N/A |
| 3. | List of hospitals and other emergency medical services facilities capable of providing medical support for contaminated and injured individuals. | Annex B-VII-E; APP 2; DOH; B; F | N/A |
| 4. | Arrange for transport of victims of radiological accidents to medical support facilities. | B; F | N/A |
| M. Recovery and Reentry Planning and Post-Accident Operations | | | |
| 1. | Plans and procedures for reentry and recovery and decision process for relaxing protective measures. | BP-V-B,C, VII-F; ESF-14 | N/A |
| 2. | Not required for offsite response organizations. | LO | N/A |
| 3. | Means for informing members of response organizations a recovery operation is to be initiated, and of changes in organizational structure. | BP-IV-A-3; Annex A-IV-A-4; ESF-14 | N/A |
| 4. | Method for periodically estimating total population exposure. | LO | N/A |
| N. Exercises and Drills | | | |
| 1a. | Emergency Preparedness exercises shall simulate an emergency resulting in offsite radiological releases requiring response by offsite response organizations. | Annex D-IV-D-1 | N/A |
| 1b. | Exercise shall mobilize state and local resources adequate to verify response capability. Provide for critiques of exercise by federal and state evaluators/ observers. Complete six-year exercise cycle. | Annex D-IV-D-1 | N/A |

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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|---|---|--|----------------------|
| 2a. | Communication Drills shall be conducted monthly, with state and local governments in plume exposure pathway EPZ; quarterly, with federal and states in ingestion pathway EPZ; annually, with nuclear facility, state and local EOCs, and field assessment teams. Drills shall also include aspect of understanding the content of messages. | Annex D-IV-C-2; DOH (see APP F, cross ref.) | EOP 4 Annex B, C-4 |
| 2b. | Not required for offsite response organizations. | LO | N/A |
| 2c. | Medical Emergency Drills shall be conducted annually. | Annex D-IV-C-2 DOH (see cross ref.); B (see cross ref.); F (see Section cross ref.) | N/A |
| 2d. | Radiological Monitoring Drills shall be conducted annually for onsite and offsite organizations. | Annex D-IV-C-2; DOH (see cross ref.) | N/A |
| 2e. | Health Physics Drills shall be conducted semi-annually. | Annex D-IV-D-2; DOH (see cross ref.) | N/A |
| 3. | Exercise scenarios will include, but not be limited to: | Annex D-IV-D | N/A |
| | Objectives and evaluation criteria for drills and exercises. | Annex D-IV-D | N/A |
| | Dates, time period, places, and participating organizations. | Annex D-IV-D. | N/A |
| | Simulated events. | Annex D-IV-D | N/A |
| | Time schedule of real and simulated initiating events. | Annex D-IV-D | N/A |
| | Narrative summary of activities. | Annex D-IV-D | N/A |
| | Description of arrangements for and advance materials to be provided to official observers. | Annex D-IV-D | N/A |

APPENDIX 4
NUREG 0654 CROSS REFERENCE

| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|--|--|--|----------------------|
| 4. | Official observers from federal, state, or local governments will observe, evaluate, and critique the required exercises. | Annex D-IV-D | N/A |
| 5. | Means for evaluating observer and participant comments on areas needing improvement. Management control needed to ensure corrective actions are implemented. | Annex D-IV-D | N/A |
| O. Radiological Emergency Response Training | | | |
| 1. | Appropriate people will be trained. | Annex D-IV-B | N/A |
| 1a. | Not required for offsite response organizations. | LO | N/A |
| 1b. | Each offsite ORO shall participate and receive training. | Annex D-IV-B | N/A |
| 2.-3. | Not required for offsite response organizations. | LO | N/A |
| 4. | Instruct and qualify personnel to implement REP plans. Specialized initial and periodic retraining programs shall be provided in following categories: | Annex D-IV-B | N/A |
| | Directors or coordinators of ERO. | Annex D-IV-B | N/A |
| | Accident assessors. | Annex D-IV-B; DOH (see cross ref.) | N/A |
| | Radiological monitoring teams and radiological analysts. | Annex D-IV-B; DOH (see cross ref.) | N/A |
| | Police, security, and firefighting personnel. | Annex D-IV-B | N/A |
| | Not required for offsite response organizations. | LO | N/A |
| | First aid and rescue personnel. | Annex D-IV-B; B (see cross ref.); F (see cross ref.) | N/A |
| | Local support services personnel including emergency services. | Annex D-IV-B; B (see cross ref.); F (see cross ref.) | N/A |
| | Medical support personnel. | Annex D-IV-B | N/A |

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| Planning Standards and Evaluation Criteria | | Plan Reference | EMD Procedure |
|--|---|------------------------|----------------------|
| | Not required for offsite response organizations. | LO | N/A |
| | Personnel responsible for transmission of emergency information and instructors. | Annex D-IV-B | N/A |
| 5. | Initial and annual retraining of personnel with emergency response responsibilities. | BP, APP 4 Annex D-IV-B | N/A |
| P. Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans | | | |
| 1. | Train persons responsible for the planning effort. | BP-VII-G-1 | N/A |
| 2. | Identify by title the individual with overall authority and responsibility for radiological emergency response planning. | BP-VII-G-1 | N/A |
| 3. | Designate an Emergency Planning Coordinator with responsibility for the development and updating of emergency plans and coordinating these plans with other response organizations. | BP-VII-G-1 | N/A |
| 4. | Update plans and agreements as needed, review and certify to be current on an annual basis. | BP-II-B, VII-G-1 | N/A |
| 5. | Forward emergency response plans and changes to all organizations and appropriate individuals with responsibility for implementing the plans. Date and mark revised pages. | BP-II-B; APP 5 | N/A |
| 6. | Include list of supporting plans and their source. | BP APP 3 | N/A |
| 7. | Include, as an appendix, a listing of procedures required to implement the plan. | BP APP 3, APP 6-11-C-1 | N/A |
| 8. | Include a table of contents and a cross-reference to the requirements of NUREG-0654 as an appendix. | BP APP 4 | N/A |
| 9. | Update emergency telephone numbers at least quarterly. | BP-II-B | N/A |

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**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|---|---|
| 8.1 Emergency Plans Checklist | | |
| 1-1 | Bear the signature of the appropriate elected official or chief administrator of the jurisdiction attesting to plan review, acceptance, and promulgation. | BP page i |
| 1-2 | Cite appropriate federal and state authorizing legislations, and regulations. | BP page 4; Annex D, page 11 |
| 1-3 | Assign responsibility for all key emergency functions. The descriptions of these functions will include a clear, concise matrix listing all agencies having primary and support responsibilities for each function. | BP page 41; Fig 1 |
| 1-4 | Identify by title the specific individuals authorized to direct the emergency response. | BP page 11 |
| 1-5 | Identify federal, state, and private sector support organizations and define their respective responsibilities. | BP pages 19-40 |
| 1-6 | Contain detailed position-specific implementing procedures for emergency officials involved in the off-post emergency operating center (EOC) and field operations. | EOP-6 |
| 1-7 | State the major geographic, political, and demographic features of the EPZs. | BP page 9-10; Annex A-1, pages 1-5; APP-7 |
| 1-8 | Include maps of the EPZs delineating the IRZ and Paz with all of their subzones. | Annex A, APP-7 |
| 1-9 | Reference the major scenarios or categories of scenarios that form the basis of risk assessment and planning. | Annex A, APP-1 |
| 1-10 | Identify the major population centers at risk. | Annex A, APP-1 |
| 1-11 | Describe standard chemical event emergency notification system used off-post. | Annex A pages 1-5 |
| 1-12 | Contain procedures that provide for appropriate response based on each notification level. | Annex A, APP 1 |
| 1-13 | Identify the responsible on-post individuals and their alternates authorized to communicate information to off-post officials. | UMCD & B |
| 1-14 | Describe circumstances under which county governments authorize the Army to directly initiate off-post protective actions. | N/A |
| 1-15 | Reference letters of agreement or MOU between local officials and other public or private groups. | APP 2 |
| 1-16 | Explain all abbreviations and specific terms used in plan. | APP 1 |
| 1-17 | Contain plan update guidelines and a record-of-change page. | BP pages ii; 5 |
| 1-18 | Distribution of the plan | APP 5 |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|--|---|
| 1-19 | Contain a record-of-receipt form. | BP page iv |
| 1-20 | Provide for annual plan update following a cycle of drills and exercises. | Annex D pages 6-7 |
| 8.2 Command and Control | | |
| 2.1 | Establish an EOC outside the IRZ and staff with decision makers, administration, communication, and operations on a 24 hours basis during emergencies. | BP pages 10, 24-25; EOP-4 Annex B-G-14) |
| 2.2 | Provide for protection of off-post EOC personnel with positive pressure ventilation and filtration system. | N/A |
| 2.3 | Assure that off-post EOCs are capable of reliable communications with all response agencies. | N/A |
| 2.4 | Designate an alternate EOC outside the IRZ. | B |
| 2.5 | Provide for extended EOC operations. | EOP-4, Annex B-17, |
| 2.6 | Identify official(s) authorized to activate the plan, EOC, and emergency activation. | EOP-2-D; Annex C-B; EOP-5-D |
| 2.7 | Describe chemical event emergency notification levels and actions taken for each event, | BP Annex A, APP 1 |
| 2.8 | Indicate how all EOCs involved will be coordinated. | BP page 3; CEMP-ESF 5 |
| 2.9 | Designate a liaison to the on-post EOC. | N/A |
| 2.10 | Assure Army Liaisons to IRZ and Other EOCs have been designated. | N/A |
| 2.11 | Name individual by title responsible for technical, administrative, and material management of off-post EOC. | UMCD |
| 2.12 | Designate chain of command for notifying key personnel involved in activating and operating EOC. | BP FIG 2; EOP-5.C |
| 2.13 | Specify the notification process of key officials at each emergency level. | B |
| 2.14 | Describe notification and coordination linkages when multiple jurisdictions are involved | BP-I-D; EOP |
| 2.15 | Describe the relationship between state, local emergency response efforts and federal. | BP-VII; CEMP |
| 8.3 Communications | | |
| 3.1 | Identify, by title, the on-post individuals authorized to communicate necessary information to off-post. | UMCD; B |
| 3.2 | Provide for daily testing of primary and back-up communication links between on-post and off-post notification points. | UMCD; B |
| 3.3 | State how all local state will promptly receive emergency notification. | BP pages 12-15; Annex A, APP 1; EOP Annex |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|--|--|
| 3.4 | Indicate how exchange of information will take place. | BP Annex A, APP 1; EOP-5 Annex B (G-4, 14); EOP-13 Annex K |
| 3.5 | Capability to alert and communicate with all field response units. | UMCD & B |
| 3.6 | Update contact lists when changes to personnel occur and review monthly. | BP page 5; EOP-13 Annex K |
| 3.7 | Require interagency and inter-jurisdictional radio communication between EOCs. | EOP-5 Annex B; EOP-13 Annex K |
| 3.8 | Require dedicated telephone link and radio link to tie the on-post notification post to off-post points. | BP Annex A, APP 7; EOP-5 Annex B |
| 3.9 | Require capability for high-speed transfer of hard copy. | BP, Annex A, APP 7 EOP-5 Annex B |
| 3.10 | Establish a communication system with reliability between all EOCs. | EOP-5 Annex B; EOP-13 Annex K |
| 3.11 | Require communication between on-post and off-post be tested once a month. | UMCD; EOP-5 Annex B; EOP-13 Annex K; |
| 3.12 | Require communication between on-post and off-post be tested during nonworking hours, twice a year. | UMCD; EOP-5 Annex B; EOP-13 Annex K |
| 3.13 | Require regular communication checks. | UMCD; EOP-5 Annex B; EOP-13 Annex K |
| 3.14 | Require monthly communication checks between EOCs and response units. | UMCD & B; EOP-5 Annex B; EOP-13 Annex K |
| 8.4 Emergency Notification | | |
| 4.1 | Ten minutes from initial detection of release, Depot to notify designated off-port points, of ECLs and PARs. | UMCD |
| 4.2 | Identify, by title, on-post official responsible for accident assessment & notification. | UMCD |
| 4.3 | Require 24 hour capability for receiving emergency notification and PAR from installation. | UMCD; B; EOP-5 Annex B; EOP-13 Annex K |
| 4.4 | Include standardized format for receiving information. | Annex A, APP 7 |
| 4.5 | Describe how information on event assessment and plume pathway predictions will be received & used. | N/A |
| 4.6 | Tie all emergency response decisions and action to chemical event notification system. | N/A |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|--|---|
| 4.7 | State capability of receiving hard copy of assessment information and updates. | N/A |
| 8.5. Protective Action Decision | | |
| 5.1 | Designate 24 hour notification point. | UMCD; B; BP pages 10-15, 24; Annex A, APP 1 |
| 5.2 | Identify, by title, the individuals and their alternates authorized to make protective action decisions. | UMCD & B |
| 5.3 | Provide for 24-hour decision making capability. | B; UMCD |
| 5.4 | Specify the decision criteria to be used by Army installation personnel to PAR for inclusion in the initial off-post notification. | UMCD |
| 5.5 | List off-post response actions that local officials authorize the Army to implement. | N/A |
| 5.6 | Describe the protective action decision making process. | UMCD & B |
| 5.7 | Link protective action decision making to the standard emergency notification system. | UMCD & B |
| 5.8 | Identify protective actions for each population group within the EPZ by accident category. | UMCD & B |
| 8.6 Protective Actions and Responses | | |
| 6.1 | Establish protective action procedures keyed to the chemical event, notification system for all officials. | UMCD & B |
| 6.2 | Specify potential protective action responses for each chemical event and accident category, zone-by-zone. | UMCD & B |
| 6.3 | Include procedures for estimating the number of potential evacuees. | UMCD & B |
| 6.4 | Identify the most appropriate evacuation routes for evacuees. | UMCD & B |
| 6.5 | Incorporate results of evacuation time estimates for potential evacuees. | UMCD & B |
| 6.6 | Identify structures for which positive pressure and filtering equipment is needed or in place. | UMCD & B |
| 8.7 Public Alert and Notification | | |
| 7.1 | Require people in the IRZ be adequately and reliably public alert & notification system. | B |
| 7.2 | Require outdoor recreation areas and populated areas within the IRZ to be equipped with outdoor alerting and notification systems. | B & UMCD |
| 7.3 | Require alert & notification system have a signal of at least 10 decibels above ambient noise level. | B & UMCD |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|---|--------------------------------------|
| 7.4 | Provide indoor alerting & notification to inhabited residents within IRZ. | B & UMCD |
| 7.5 | Provide alert & notification of non-English speaking residents within the IRZ. | B & UMCD |
| 7.6 | Require population within PAZ receive warning and notification via electronic media, EAS, route alerting or by other means. | B & UMCD |
| 7.7 | Provide alert & notification to each institution in IRZ and PAZ. | B & UMCD |
| 7.8 | Require sensory impaired to receive warning by some means. | B & UMCD |
| 7.9 | Establish procedures for alerting & notifying special population, non-English speaking groups, isolated individuals, and people such as campers, hunters. | B & UMCD |
| 7.10 | Require alert & notification system in IRZ to be tested on a monthly basis. | B & UMCD |
| 7.11 | Require alert & notification system in PAZ be tested annually, | B & UMCD |
| 7.12 | Require public notification messages be prescript and available to radio & TV stations. | B; UMCD; EOP4 Annex B; EOP13 Annex K |
| 7.13 | Require messages identify areas at risk by using local designators such as streets, highways, landmarks. | B & UMCD |
| 7.14 | Require all public message provide as much detail as necessary to implement recommended protective actions. | B & UMCD |
| 8.8 Traffic and Access Control | | |
| 8.1 | Designate Access Control Points (ACPs) around all zones and coordinate with installation, state, and neighboring jurisdictions. | B & UMCD |
| 8.2 | .Designate locations for Traffic Control Points (TCPs) based on traffic flow patterns. | B & UMCD |
| 8.3 | Establish procedures for mobilization of personnel for access or traffic control points. | B & UMCD B & UMCD |
| 8.4 | Identify staff and equipment resources to support initial and long-term operations. | B & UMCD |
| 8.5 | Identify evacuation routes. | B & UMCD |
| 8.6 | Establish procedures for controlling access and traffic during re-entry. | B & UMCD |
| 8.7 | Prepare for possibility of long-term access control if re-entry is delayed. | B & UMCD |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|---|-----------------------|
| 8.8 | Prepare for possible implementation of a National Defense Area (NDA) by the Army. | B & UMCD |
| 8.9 | Require EOCs & response groups list all ACPs & TCPs on maps. | B & UMCD |
| 8.10 | Require Evacuation Time Estimates (ETEs) be made for a zone-by-zone on all areas of potential evacuation. | B & UMCD |
| 8.11 | Assure special populations are included in ETEs. | B & UMCD |
| 8.12 | Designate vehicle availability for individuals needing transportation. | B |
| 8.13 | Coordination of off-post and on-post evacuation plans required. | B & UMCD |
| 8.14 | Have procedures for monitoring road conditions. | B & UMCD |
| 8.9 Special Population | | |
| 9.1 | Identify all special population groups. | N/A |
| 9.2 | Specify ways to maintain the confidentiality of anyone requiring special assistance. | N/A |
| 9.3 | Require that lists of non-institutionalized people with special needs are updated regularly. | N/A |
| 9.4 | Identify specialized protective, transportation, and care options for special groups. | N/A |
| 9.5 | Specify protective, transportation, care options for the non-institutionalized handicapped. | N/A |
| 9.6 | State how information will be collected & processed. | N/A |
| 9.7 | State evacuation routes for special population. | N/A |
| 9.8 | Plans for inmates of correctional facilities are kept secure and confidential. | N/A |
| 9.9 | Specify ways to reach other groups of special needs when event occurs. | N/A |
| 8.10 Emergency Support Operations | | |
| 10.1 | Require proper identification of all emergency workers and vehicles. | B & UMCD |
| 10.2 | Require emergency workers to receive personal protective equipment. | B |
| 10.3 | Require emergency workers to receive training in use of equipment and decontamination. | B |
| 10.4 | Receive training on chemical agents, their hazards, and symptoms produced. | B & UMCD |
| 10.5 | Establish procedures for monitoring & decontaminating workers. | B & UMCD |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|---|-----------------------|
| 10.6 | Identify adequate facilities for monitoring and decontaminating. | B |
| 8.11 Emergency Medical Services | | |
| 8.1 | Review medical resources and emergency medical plans. | B |
| 8.12 Transportation | | |
| 12.1 | Identify transportation requirements for persons with special needs. | N/A |
| 12.2 | Identify transportation adequate resources for persons with special needs. | N/A |
| 12.3 | Provide procedures establishing priorities for notifying transportation resources. | B |
| 12.4 | Establish staging areas & specific procedures for dispatching transportation resources. | B |
| 12.5 | Develop & distribute maps for the staging areas & transportation routes prior to an emergency. | N/A |
| 12.6 | Provide pickup routes & special facilities to persons in need prior to an emergency. | N/A |
| 12.7 | Assure that communication links exist among vehicles, dispatch agencies and EOCs. | N/A |
| 12.8 | Establish and maintain procedures for notifying drivers of buses, vans, and other vehicles. | N/A |
| 12.9 | Establish emergency procedures for providing transportation needs to person unable to identify needs before emergency. | N/A |
| 12.10 | Develop priority assignments for transportation resources. | N/A |
| 12.11 | Specify how lists are updated for handicapped. | N/A |
| 12.12 | Coordinate all transportation plans with on-post planners. | N/A |
| 8.13 Community Resource Coordination | | |
| 13.1 | Require reviewing resource lists and updating quarterly. | N/A |
| 13.2 | Catalog resources of primary sources & MOUs/MOAs agreements for resources. | N/A |
| 13.3 | List resources by location, type, number, provider's name & phone number, and written commitments. | N/A |
| 13.4 | Require hard copy of resource list be kept. | N/A |
| 13.5 | List resources by location, type, number, provider's name & phone number, and written commitments that will be provide by Army, National Guard, federal and state agencies. | N/A |
| 13.6 | Identify zone-by-zone equipment and resources needs. | N/A |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|---|---|
| 13.7 | Identify the special population resources needs by zone-by-zone. | N/A |
| 13.8 | Reference written agreements governing use of resources not owned or controlled by the jurisdiction. | N/A |
| 13.9 | Identify jurisdiction or regional sources for food, water, and other essentials needs during re-entry. | N/A |
| 13.10 | Describe mechanisms for obtaining temporary housing for residents with contaminated residences. | N/A |
| 13.11 | List sources of replacement vehicles, equipment, & machinery should contaminated items be unusable. | N/A |
| 13.12 | Designate staging areas for receiving, storing, and allocating supplementary resources. | N/A |
| 8.14 Public Education & Information | | |
| 14.1 | Establish public education program that includes printed materials for households and special facilities. | UMCD; B; BP Annex A-C; CEMP-ESF 15; EOP-5 Annex B |
| 14.2 | Require public education program include risk communication information. | B |
| 14.3 | Provide involvement of special population groups in developing Public Ed Program. | N/A |
| 14.4 | Establish procedures to revise materials annually. | N/A |
| 14.5 | Develop procedures to keep news media informed. | UMCD; B; BP Annex A-C; CEMP-ESF 15; EOP-5 Annex B |
| 14.6 | Identify disseminate information to the various planning zones. | UMCD; B; BP Annex A-C; CEMP-ESF 15; EOP-5 Annex B |
| 14.7 | Provide local news media in planning, training, and exercise activities. | UMCD; B; BP Annex A-C; CEMP-ESF 15; EOP-5 Annex B |
| 14.8 | Provide for coordinated dissemination of information through JIC. | UMCD; B; BP Annex A-C; CEMP-ESF 15; EOP-5 Annex B |
| 14.9 | Assure links exist between JIC and public information officials | BP Annex A-B-C; CEMP, & EOPs |
| 14.10 | Set and coordinate procedures for the activation and operation of EAS. | EOP-4 Annex B; EOP-13 Annex K |
| 14.11 | Provide for rumor control system. | Annex A, EOPs |
| 14.12 | JIC separate from off-post EOC | UMCD; B |
| 14.13 | Develop prescript, generic public announcements to distribute to news media. | UMCD; B |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|---|-----------------------|
| 14.14 | Provide information on emergency zones and phases. | BP Annex A-1 |
| 14.15 | Release information in community's language. | UMCD; B |
| 14.16 | Prepare information to meet the special needs of sensory or emotionally impaired persons | UMCD; B |
| 14.17 | Conduct periodic and timely news briefs | UMCD; B |
| 8.15 Evacuee Support | | |
| 15.1 | Identify mass care centers outside PAZ | B |
| 15.2 | Identify, by name/locations reception centers near evacuations routes, outside IPZ and PAZ. | B |
| 15.3 | Establish procedures, maps, information, & referral services for reception centers. | B |
| 15.4 | Mass care centers recipients need to register, receive medical care, family reunification services, & public information. | B |
| 15.5 | Provide for extended relocation and temporary housing outside PAZ. | B |
| 15.6 | Provide for prior coordination of MOUs for mass care arrangements with ARC officials. | B |
| 15.7 | For mass care and relocation centers provide law enforcement and fire protection. | N/A |
| 15.8 | Provide security at all reception and mass care centers. | B |
| 8.16 Agent Detection and Monitoring | | N/A |
| 8.17 Decontamination | | |
| 17.1 | Identify agencies responsible for decontamination. | UMCD & B |
| 17.2 | Identify possible decontamination personnel & resources. | UMCD & B |
| 17.3 | Priorities guidelines for use of decontamination personnel resources. | UMCD & B |
| 17.4 | Specify how the Army, federal, state, local agencies will cooperate in off-post decontamination. | UMCD |
| 17.5 | Endure decontamination of potentially contaminated people is done in a timely matter. | UMCD |
| 17.6 | Establish procedures for educating and informing public of procedures for decontamination. | UMCD |
| 17.7 | Include in plans for siting, staffing, & equipping decontamination stations. | UMCD |
| 17.8 | Provide medical personnel, properly trained, equipped, and clothed for decontaminating injured persons before transporting. | UMCD |
| 17.9 | Minimize cross-contamination hazards presented by companion animals. | UMCD |

**APPENDIX 4-A
CSEPP PLANNING GUIDANCE CROSS REFERENCE**

| Planning Standards and Evaluation Criteria | | Plan Reference |
|---|---|-----------------------|
| 17.10 | Identify officials and agencies responsible for establishing and implementing quarantine. | UMCD |
| 8.18 Re-Entry | | |
| | To be developed | |
| 8.19 Training | | |
| 19.1 | Identify emergency officials, staff, & responders to receive training. | BP Annex D |
| 19.2 | Specify performance levels for all functional units in the response organization. | N/A |
| 19.3 | Include provisions for periodic refresher training. | BP Annex D |
| 19.4 | Identify personnel within each organization responsible for coordinating training. | BP Annex D |
| 19.5 | Documented all training records for local & state | BP Annex D |
| 19.6 | Train public on protective actions for event. | UMCD, B |
| 8.20 Exercises | | |
| 20.1 | Meet requirements of the CSEPP exercise program. | BP Annex D |
| 20.2 | Provide for jurisdiction's participation in all exercises. | BP Annex D |
| 20.3 | Identify exercise objectives performed during exercises. | N/A |
| 20.4 | For each exercise, identify exercise objectives that have to be demonstrated and response groups. | All |
| 20.5 | Identify representatives on exercise planning team for each exercise. | N/A |
| 20.6 | Describe procedure to track actions assigned and agreed upon as a result of exercise evaluation. | BP Annex D |

APPENDIX 5**DISTRIBUTION****WASHINGTON STATE EMERGENCY MANAGEMENT DIVISION**

| Special Distribution | Position |
|-----------------------------|--|
| 1 | Director |
| 1 | Operations Unit Manager |
| 1 | State Emergency Operations Center |
| 1 | Plans, Exercise, Education and Training Unit Manager |
| 1 | Plans Section Supervisor |
| 1 | REP Program Section Supervisor |
| 1 | REP Planner |
| 1 | Fixed Nuclear Facility Exercise and Training Coordinator |
| 2 | Energy Northwest, Columbia Generating Station/United States Department of Energy Program Manager |
| 1 | Chemical Stockpile Emergency Preparedness Program Program Manager |
| 1 | Chemical Stockpile Emergency Preparedness Program Exercise and Training Coordinator |
| 1 | Chemical Stockpile Emergency Preparedness Program Planner |
| 2 | Public Information Officer |

APPENDIX 5

DISTRIBUTION WASHINGTON STATE AGENCIES

| Special Distribution | Organization | Address |
|-------------------------|---|--|
| 1 | Department of Agriculture | Emergency Liaison Coordinator Post Office Box 42560 Olympia, WA 98504-2560 |
| 1 | Energy Facility Site Evaluation Council | Emergency Liaison Coordinator Post Office Box 43172 Olympia, WA 98504-3172 |
| 2 | Department of Health, Radiation Protection | Emergency Liaison Coordinator Post Office Box 48716 Olympia, WA 98504-8716 |
| 1 | Department of Health, Toxic Substances | Emergency Liaison Coordinator Post Office Box 48716 Olympia, WA 98504-8716 |
| 1 | Washington State Patrol | Post Office Box 42600 Olympia, WA 98504-2600 |
| 1 | Department of Transportation | Emergency Liaison Coordinator Post Office Box 47300 Olympia, WA 98504-7300 |

APPENDIX 5

DISTRIBUTION COUNTY EMERGENCY MANAGEMENT

| Special Distribution | Organization | Address |
|-------------------------|--------------------|---|
| 1 | Adams | 2060 W. Highway 26 Othello, WA 99344 |
| 1 | Benton | 651 Truman Avenue Richland, WA 99352 |
| 1 | Franklin County | 502 Boeing Street Pasco, Washington 99301 |
| 1 | Grant County | 3953 Airway Dr. NE, #4 Moses Lake, WA 98837 |
| 1 | Kitsap County | 911 Carver Bremerton, WA 98312 |
| 1 | Snohomish County | 3509 109 th St. S.W. Everett, WA 98204 |
| 1 | Walla Walla County | 27 North 2 nd Avenue Walla Walla, WA 99362 |
| 1 | Yakima County | 128 North 2 nd Street Room B-10 Yakima, WA 98901 |

APPENDIX 5

DISTRIBUTION FEDERAL AGENCIES

| Special Distribution | Organization | Address |
|---------------------------------|--|---|
| 1 | Federal Emergency Management Agency – Region X Liaison | FEMA Region X Liaison Federal Regional Center 130 – 228 th Street SW Bothell, WA 98021-9796 |
| 1 | Federal Emergency Management Agency - Washington D.C. | FEMA Headquarters Federal Center Plaza 500 C Street SW Washington D. C. 20472 |
| 1 | United States Department of Energy-Richland Operations | U.S. DOE Hanford Post Office Box 550/A6-35 Richland, WA 99352 |
| 1 | Umatilla Chemical Depot | Planner Building 1 Hermiston, OR 97838 |
| 1 | Puget Sound Naval Shipyard | 1400 Farragut Ave Radiological Control Director Bremerton, WA 98314-5001 |

APPENDIX 5
DISTRIBUTION
OTHER AGENCIES

| Special Distribution | Organization | Address |
|-----------------------------|--|---|
| 1 | State of Oregon (Emergency Management) | Oregon EM Office of State Police 595 Cottage Street NE Salem, OR 97310 |
| 1 | State of Oregon (Energy) | 625 Marion Street Northeast Salem, OR 97310 |
| 1 | State of Oregon (Health) | Health Division 800 NE Oregon Street #21 STE 260 Portland, OR 97232 |
| 1 | Morrow County, Oregon | 325 Willow View Drive Post Office 622 Heppner, OR 97836 |
| 1 | Umatilla County, Oregon | 305 "B" SE 4 th Street Hermiston, OR 97838 |
| 2 | Energy Northwest (Columbia Generating Station) | Emergency Preparedness PO Box 968 / MD PE30 Richland, WA 99352-0968 |

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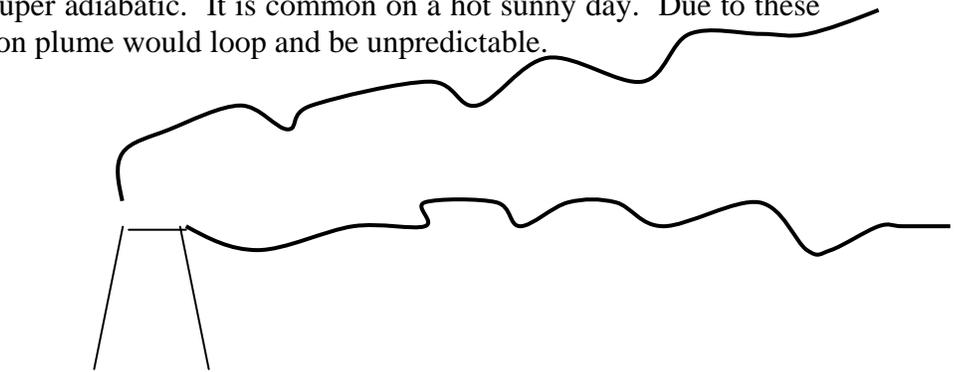
APPENDIX 6 ATMOSPHERIC STABILITY CATEGORIES

These Atmospheric Stability Categories are used on the Emergency Management Division EOC Weather Charts, Energy Northwest Classification Notification Form (CNF), United States Department of Energy Hanford Site Notification Form, Naval Nuclear Propulsion Program Event Classification/Notification Form, and the Umatilla Chemical Depot (UMCD) Notification Form.

| Classification | Pasquill Stability Category |
|---------------------|-----------------------------------|
| Extremely Unstable | A |
| Moderately Unstable | B |
| Slightly Unstable | C |
| Neutral | D |
| Slightly Stable | E |
| Moderately Stable | F |
| Extremely Stable | G |

I. Pasquill Stability Classes General Descriptions and Definitions:

Extremely Unstable “A” Weather conditions are very unpredictable. Wind speed average 1 meter/second but is “gusty”. The temperature rapidly decreases with altitude. This condition is called super adiabatic. It is common on a hot sunny day. Due to these conditions, a contamination plume would loop and be unpredictable.

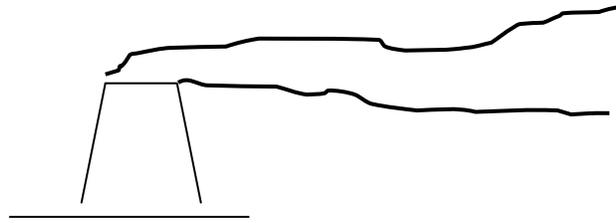


(Extremely Unstable “A”)

Moderately Unstable “B” Weather conditions are still unpredictable, but less so than “A”. Wind speeds average 2 meter/second, and is not gusty. The temperature still decreases, but not as rapidly, with altitude. Looping of a plume would still occur, but is not as severe. This condition is common on a sunny warm day.

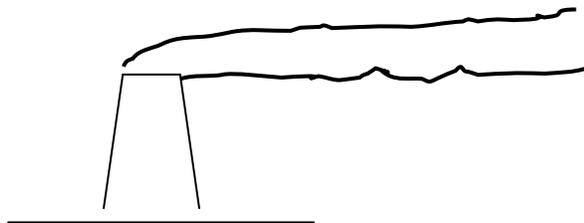
Slightly Unstable “C” Weather conditions are somewhat unpredictable. Wind speeds average 5 meters/second. A little gustiness may be expected. The temperature still decreases and looping of a contamination plume may occur, but progressively less pronounced than “A” or “B” categories. This is an average day, slightly cloudy.

Neutral “D” Weather conditions are more predictable. Wind speeds average 5 meters/second, with no expected gustiness. The temperature still decreases with altitude, but the change is less pronounced. At this point, the condition name changes from “super adiabatic” to “adiabatic”. A contamination plume is more predictable, with minor looping. This condition is common on an overcast day or night (heavy overcast)



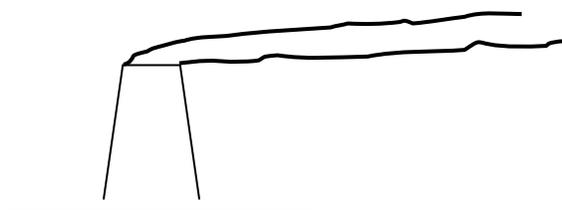
(Neutral “D”)

Slightly Stable “E” Weather conditions turn more predictable than with “D”. Wind speeds average 3 meters/second. The temperature does not change with altitude. This condition is called “isothermic”. A contamination plume is easy to predict with this condition. “Coning” of the plume occurs. This condition generally occurs at night, and is considered an average night (partly cloudy).



(Slightly Stable “E”)

Moderately Stable “F” Weather conditions become very predictable. Wind speeds average 2 meters/second. This is an inversion. Temperatures increase with altitude. This condition is opposite of a Category “A”. With this condition, little vertical dispersion occurs, i.e. it doesn’t reach the ground rapidly.



(Moderately Stable “F”)

Extremely Stable “G” This condition is very predictable, but rarely occurs. No winds blow and the temperature increases rapidly with altitude. This condition may occur over a city, which acts even less pronounced than an “F” condition.

II. Notes from DSHS, ORP, A>W. Conklin on further clarification of Atmospheric Stability Categories.

A. It should be noted that the above conditions are GENERALITIES. Stability classes change several times per day as wind speeds change and as sun and cloud cover change.

“A”, “B”, and “C” are most common during the day.

“D”, “E”, and “F” are most common at night.

“G” is at night, but very rare.

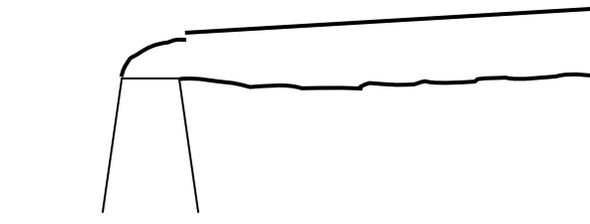
B. Stability classes also change with altitude, with day and night changes.

1. Inversions (stable) can occur at low altitudes, and can be topped by an unstable class. When this occurs, “Lofting” of a plume occurs, i.e., the contamination is carried higher into the atmosphere.



(Stable topped by an Unstable)

2. Or the opposite can occur. Closer to the ground it can be unstable, while an inversion can exist at higher altitudes. When this occurs, fumigation occurs, i.e., plume rapidly disperses to the ground.



(Unstable at ground with inversion above)

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