Columbia Generating Station
2016 Plume and Ingestion Exercises
After Action Report/ Improvement Plan

Exercise Dates – March 29-31, 2016

Radiological Emergency Preparedness (REP) Program

FEMA

Published July 13, 2016

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Columbia Generating Station

After Action Report/Improvement Plan

Published April 28, 2016

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EXECUTIVE SUMMARY

On March 29, 2016, a functional exercise was conducted in the 10-mile Plume Pathway Emergency Planning Zone (EPZ) and on March 30-31, 2016, two exercises were conducted in the 50-mile Ingestion Pathway Zone (IPZ) around the Columbia Generating Station (CGS) by the Federal Emergency Management Agency (FEMA), Region X. The purpose of these exercises was to assess the level of State and local preparedness in responding to an event at CGS for an off-site radiological emergency. The exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local Radiological Emergency Response Plans (RERP) and procedures in Washington and Oregon.

The most recent exercise at this site was conducted on August 08, 2015. The qualifying emergency preparedness exercise was conducted on June 1, 1983.

The FEMA Region X REP Program wishes to acknowledge the efforts of the many individuals in the State of Washington (WA): The Washington State Emergency Operations Center (SEOC) at Camp Murray, Meteorological Unified Dose Assessment Center (MUDAC); Richland Joint Information Center (JIC); Washington State Radiological Field Monitoring Teams; Washington State Patrol (WSP); Washington State Department of Health (DOH) - Radiation Protection; and the Washington State Department of Agriculture (WSDA). The Washington Risk Counties of Benton and Franklin and the Washington Ingestion Counties of Adams, Grant, Walla Walla and Yakima. The State of Oregon (OR) also participated in this exercise: Oregon Department of Energy (ODOE); Oregon Health Authority (OHA); Oregon Department of Agriculture; Oregon State Radiological Field Monitoring Teams and the Oregon Ingestion Counties of Morrow and Umatilla.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Many others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Exceptional cooperation and teamwork of all the participants were evident during this exercise.

This report contains the final evaluations of Energy Northwest's Columbia Generating Station Plume and Ingestion Exercise.

The States and local organizations, except where noted in this report, adequately demonstrated knowledge of their emergency response plans and procedures and adequately implemented them in the exercise. There were no Level 1 Findings and one Level 2 Finding. Seven Previous Plan Issues identified from the 2014 exercise were successfully demonstrated and closed, three Previous Plan Issues remain open, and six new Plan Issues have been identified.

The findings from the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-31, 2016 are summarized below:

Resolved Planning Issues from 2014 HAB Exercise:

69-14-1.c.1-P-01: Initial Notification from the Washington SEOC to the Washington State DOH was not received in the manner described in the procedures.

69-14-5.b.1-P-02: The External Affairs Section and the Health Section in the Washington SEOC answered public inquires through phone, email and social media without forwarding them to the JIC as described in the plan. This was identified in 2012 as a potential issue and specific injects were created in the exercise to cause the SEOC to respond to public inquiries and forward them to the JIC to provide the coordinated messaging to the public.

69-14-1.e.1-P-03: The Washington State DOH Field Monitoring Team (FMT) 1 did not have a method for source checking the one high range instrument (RO-20) contained in the FMT instrument kits.

69-14-4.a.3-P-04: The Washington DOH FMT 2 did not follow procedures to use their Ludlum Model-12 Count Rate Meter with a cardboard cover when determining the presence of the plume in radiation fields lower than reasonably detectable with the Eberline Model RO-20 Meter.

69-14-1.e.1-P-07: IP-3 Inventory and Inspection of Radiation Detection Equipment 2.0: There are 52 Radiation detection kits accounted for and located in Franklin County. But there are total of 58 kits listed in the plan when you add them all together.

69-14-3.c.1-P-08: Under the Franklin County Plan and Procedure (ESF 10C Revision and HAB Appendix E) & Appendix A Tables, Table 9, 2010, Private School Enrollment, listed two private schools, but on the plan mentioned there are three private schools and Edwin Markham Elementary School is not listed in the plan.

69-14-1.e.1-P-09: The procedures do not provide for Emergency Worker Exposure Control Kits designated for the separate locations of the Incident Command Post and Staging Area. The procedures only address provisions and exposure control measures for SWAT Team members and not the ICP Staff and Staging Area participants as well.

Un-resolved Planning Issues from 2014 HAB Exercise:

69-14-1.c.1-P-05: The Washington State Comprehensive Emergency Management Plan (CEMP) with associated Procedures and the Washington State Comprehensive All Hazard Plan does not accurately describe the functions and responsibilities of Senior Officials in the DOH's role as a key position for response to a radiological emergency at the Columbia Generating Station at the State Emergency Operations Center (SEOC) as required by Nuclear Regulation (NUREG-0654/FEMA REP-1; A.2.a) and Radiological Emergency Preparedness Program Manual (RPM).

69-14-1.e.1-P-06: ***Continued Planning Issue from the 2014 HAB Exercise***. The Washington State Patrol and the Benton County Sheriff's Office still did not have accurate WebEOC resource/reference documents available to assist with implementation of staffing of the Traffic and Access Control Points (TACPs) in response to a postulated event at the Columbia Generating Station (CGS).

69-14-3.a.1-P-10: The Special Weapons and Tactics (SWAT) Emergency Workers were equipped with Arrow-Tech 730, 0-20R (calibration due date of 5/2015) direct reading dosimeters (DRDs). The Benton County Health Officer has pre-authorized SWAT team members for exposure limits up to 25R Total Effective Dose Equivalent (TEDE), and the equipment provided was not adequate to measure these limits.

No Level 1 Findings

New Level 2 Findings:

69-16-3.d.2-L2-01: In the Franklin County Emergency Operations Center, the original alternate route to the traffic impediment was not correctly shared with the public and news media based on the initial discussions and decisions made by the Emergency Manager, Operations Coordinator, Fire Coordinator and Law Enforcement Coordinator. (Press Release error & State Brief error).

New Plan Issues:

69-16-1.e.1-P-01: Franklin County Emergency Management has revised/updated IP-3 Inventory and Inspection of Radiation Detection Equipment dated February 2016 to reflect 58 kits (Plan Issue 69-14-1e1-P-07). However, Table 16, Emergency Worker Kit Distribution, Appendix A - ESF-10.C: Franklin County Radiological Emergency Response: Energy Northwest, does not reflect the current number or distribution of emergency worker kits. Table 16 listed 305 kits. The Emergency Worker Kit Master List listed 259. Through interview, it was determined that there may be as many 10 kits missing from the Emergency Worker Kit Master List.

69-16-1.e.1-P-02: The Washington State Department of Health Radiological Emergency Response Plan refers to the air sampling cartridge different ways in two areas of the plan. In Procedure 6.3, Field Team Sampling, paragraph 5.1.2 (2) the cartridge is referred to as a "silver zeolite" cartridge, while in paragraph 5.1.2 (12) of the same procedure the cartridge is referred to as a "charcoal/iodine" cartridge.

69-16-3.a.1-P-03: Oregon Health Procedures, Tab C, Staging Area, Standard Operating Guidelines, includes a note with outdated radiation exposure limits for emergency workers. The note indicated radiation exposure up to 25 R could be authorized for protection of property and 75 R for lifesaving. These limits are outdated and it may have been an oversight when procedures were revised to include 1992 EPA guidelines for radiation exposure to emergency workers.

69-16-3.a.1-P-04: Washington State Department of Health Radiological Emergency Response Plan (September 2012), Procedure 2.2.3, page 6, states "There is a default TAV [Turn-Around

Value] of 2.5 rem for CGS accidents as read on the pocket dosimeter." In addition, Procedure 2.2.4, page 3, states, "The dose limit for field team members as emergency workers is 5 rem…To ensure field team members do not exceed 5 rem TEDE. A default TAV of 2.5 rem for CGS accidents has been established."

The NUREG Criterion K.3.a states, "It can be shown that for the less severe, but more probable, reactor accident sequences, the TEDE to emergency workers who have taken KI would not likely exceed five times their measured external dose as shown on DRDs [direct reading dosimeters]. Therefore, if the external dose measured by a DRD is limited to 1/5 of the applicable limit, the TEDE would not likely exceed the limit." This is also documented in the FEMA guidance document, *Summary of Federal REP Agencies Guidance on State Implementation of EPA Guidance on Inhalation Dose for Emergency Workers* (July 1994), page 3; and FEMA's Radiological Emergency Preparedness Program Manual (January 2016), page 111.

There was Confusion between the external dose in units of rem measured by an emergency worker's DRD and the emergency worker's TEDE dose limit (also in units of rem), but the TEDE dose limit is the sum of the external dose plus the internal dose as affected by taking KI.

69-16-3.e.1-P-05: On page 23 of the Grant County Basic Plan and in Appendix 4 "Agriculture and Food Control Measures" specifies the responsibilities of the WSU Cooperative Extension Services during a response to an incident involving deposition of radioactive materials. These include providing a staff member to coordinate planning and preparedness activities with the county, to assist in the determination of an agricultural advisory area, assisting the WA State Department of Agriculture in checking all food stuffs, and other duties as well. The Grant County Extension Agent was unaware of these responsibilities, and does not have access to appropriate databases of farmers and other suppliers in their systems in order to implement ingestion pathway decisions.

69-16-5.a.1-P-06: The implementing procedure as created in the Benton County procedures for KORD Radio is insufficient and does not meet the guidance given for correction of the issue found in the Feb 2016 DR. It is incomplete and does not fully address responsibilities and responsible persons for KORD. Nor was it approved as required by the RAC Chair prior to use in the exercise.

Any areas identified for suggested improvements at the option of the Offsite Response Organizations OROs will be published in a separate letter issued by the Region X RAC Chair.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

1.1.A
Exercise Name
Plume 2016-03-29

Type of Exercise
Plume

Exercise Date
March 29, 2016

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Minimal Release

1.1.B
Exercise Name
Ingestion Exercise South 2016-03-30
Washington Counties: Benton, Franklin, Walla Walla
Oregon Counties: Morrow, Umatilla

Type of Exercise
Ingestion

Exercise Date
March 30, 2016

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Release

1.1.C

Exercise Name
Ingestion Exercise North 2016-03-31
Washington Counties: Adams, Grant Yakima

Type of Exercise
Ingestion

Exercise Date
March 31, 2016

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Release

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Columbia Generating Station exercise:

State Jurisdictions:

- Oregon Department of Agriculture (ODA)
- Oregon Department of Energy (ODOE)
- Oregon Office of Emergency Management (OEM)
- Oregon Health Authority (OHA)
- Oregon State University (OSU)
- Washington Military Department (WMD)
  - Washington Emergency Management Division (EMD)
  - Washington National Guard (WANG)
- Washington State Department of Agriculture (WSDA)
- Washington State Department of Commerce
- Washington State Department of Ecology
- Washington State Energy Office
- Washington State Department of Enterprise Services (DES)
- Washington State Department of Fish and Wildlife
- Washington State Department of Health (DOH)
- Washington State Department of Labor and Industries
- Washington State Parks and Recreation Commission
- Washington State Department of Transportation (WSDOT)
- Washington – Governors' Office of Indian Affairs
- Washington State Patrol (WSP)
- Washington State University (WSU)
- Washington State Utilities and Transportation Commission

Local Jurisdictions:

- Adams County Board of Commissioners
- Adams County Department of Public Works
- Adams County Emergency Management (ACEM)
- Adams County Fire District #5
- Adams County Integrated Healthcare Services
- Adams County Sheriff's Office
- Benton County Board of Commissioners
- Benton County Emergency Services (BCES)
  - Benton County Emergency Management (BCEM)
  - Southeast Communications Center (SECOMM)
- Benton County Fire District #1
- Benton County Fire District #4
- Benton County Public Works
- Benton County Sheriff's Office
- Benton-Franklin Health District (BFHD)

City of College Place – Mayor's Office
Franklin County Board of Commissioners
Franklin County Dispatch Center
Franklin County Emergency Management (FCEM)
Franklin County Fire District #3
Franklin County Prosecutor's Office
Franklin County Public Works Department
Franklin County Sheriff's Office (FCSO)
Grant County Board of Commissioners
Grant County Emergency Management (GCEM)
Grant County Health District
Grant County Public Works
Grant County Sheriff's Office
Grant County Technical Services
Kennewick Police Department (KPD)
Morrow County Sheriff's Office
City of Othello – City Government
Pasco Fire Department (PFD)
Pasco Police Department (PPD)
Region 8 Public Health Emergency Preparedness and Response (PHEPR)
Richland Fire Department (RFD)
Richland Police Department (RPD)
Umatilla County Emergency Management
Umatilla County Health Services
Umatilla County Sheriff's Office
Port of Walla Walla
Walla Walla County Board of Commissioners
Walla Walla County Community Health
Walla Walla County Emergency Management (WWEM)
Walla Walla County Fire District #5
City of Walla Walla – Mayor's Office
Walla Walla County Public Works Department
West Richland Police Department (WRPD)
Yakima County Board of Commissioners
Yakima County Geospatial Information Services (GIS) Department
Yakima County Health District
Yakima County Human Resources
Yakima County Prosecuting Attorney's Office
Yakima County Public Services
Yakima County Sheriff's Office
Yakima County Technology Services
Yakima Valley Office of Emergency Management (YVEOM)

Other Agencies/Organizations:

- American Red Cross (ARC) Central and Southeastern Washington
- Ben Franklin Transit
- Benton-Franklin Mounted Sheriff's Posse
- Big River Country School
- Energy Northwest
- Horn Rapids Golf Course (Volunteer for water samples)
- KONA Radio
- KORD Radio
- Lourdes Health Network
- Pasco School District
- Pasco School District Transportation
- Ruby Ridge Farms (Volunteer for milk samples)
- Tri-Cities Amateur Radio Club
- Walla Walla County Amateur Radio Emergency Services
- Washington State Radio Amateur Civil Emergency Services (RACES)
- Yakima County ARES

Federal Agencies:

- Federal Emergency Management Agency (FEMA) Region X
- U.S. Department of Agriculture (USDA)
- U.S. Department of Energy (DOE)
  - National Nuclear Security Administration (NNSA)
    - Federal Radiological Monitoring and Assessment Center (FRMAC)
    - Radiological Assistance Program (RAP), Region 8
  - Richland Operations Office (DOE-RL)
- U.S. Nuclear Regulatory Commission (NRC) Region IV

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

Confidentiality

The Plume and Ingestion Pathway exercise are unclassified. The control of information is based more on public sensitivity regarding the nature of the exercise than on the actual exercise content. Some exercise material is intended for the exclusive use of exercise planners, controllers, and evaluators, but players may view other materials deemed necessary to their performance. The Exercise Plan (ExPlan) may be viewed by all exercise participants, but the Controller and Evaluator (C/E) Handbook is a restricted document intended for controllers and evaluators only. All exercise participants should use appropriate guidelines to ensure the proper control of information within their areas of expertise and to protect this material in accordance with current jurisdictional directives.

Purpose

The purpose of these exercises is to evaluate plans, policies and procedures that apply throughout the early phase (commonly referred to as the plume phase) and the intermediate phase (commonly referred to as the ingestion phase). It is essential that State, local and tribal agencies and departments continue to practice, evaluate and enhance their emergency plans.

Evaluation Areas

FEMA uses exercises and drills to determine the adequacy of offsite radiological emergency preparedness for Nuclear Power Plants (NPP) incidents. Although the evaluation process has evolved in format and function over the years, the regulatory basis remains unchanged. The regulatory basis and standards for the REP Program exercises and drills are addressed in 44 CFR part 350, 351, and 352; and the FEMA/NRC MOU dated June 19, 1993 contained in 44 CFR Â§ 353, Appendix A. These documents establish FEMA's responsibility to review, evaluate, and approve State, local, and tribal radiological emergency plans and preparedness and to evaluate exercises. FEMA and the NRC use both the Planning Standards and related Evaluation Criteria contained in NUREG-0654/FEMA-REP-1 in reviewing and evaluating Offsite Response Organizations (OROs) radiological emergency plans and preparedness.

Planning Standard N of NUREG-0654/FEMA-REP-1 states that "Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities …and deficiencies identified as a result of exercises… are (will be) corrected." Evaluation Criterion N.a.1 defines an exercise as an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. Radiological Emergency Preparedness (REP) exercises and drills are designed to test the capability of OROs to protect public health and safety through implementation of their emergency response plans

and procedures in simulated emergencies. Security and law enforcement response capabilities related to site security contingency plans will not be evaluated in this program. This ensures the confidentiality of sensitive security information. The Evaluation Areas reflect current policy and guidance on what should be required for successful demonstration during an exercise. They reflect FEMAs shift toward a results-oriented approach to the evaluation process. REP exercises and drills are designed to test the capability of OROs to protect public health and safety. The Evaluation Areas were designed to assist the evaluator in focusing on observing and recording exercise and drill events as they occur. Contained within each of these Evaluation Areas are specific sub-elements and criteria. FEMA Region X is responsible for tracking when these facilities and/or functions have been evaluated, which Evaluation Area criteria were evaluated, and the status of that demonstration. Controllers and Evaluators were given a copy of the exercise Extent of Play (EoP) which identified the exact areas that required demonstration. The exercise Evaluation Area methodology contains six Evaluation Areas with sub-elements as listed below:

1. Emergency Operations Management

    Sub-element 1.a Mobilization

    Sub-element 1.b Facilities

    Sub-element 1.c Direction and Control

    Sub-element 1.d Communications Equipment

    Sub-element 1.e Equipment and Supplies to Support Operations

2. Protective Action Decision-making

    Sub-element 2.a Emergency Worker (EW) Exposure Control

    Sub-element 2.b Dose Assessment, PARs and PADs for the Emergency Event

    Sub-element 2.c PADs Consideration for the Protection of Persons with Disabilities and Access/Functional Needs

    Sub-element 2.d Radiological Assessment and Decision-Making for the Ingestion Exposure Pathway

    Sub-element 2.e Radiological Assessment and Decision-Making Concerning Post-Plume Phase Relocation, Reentry, and Return

3. Protective Action Implementation

    Sub-element 3.a Implementation of EW Exposure Control

    Sub-element 3.b Implementation of KI Decision for Institutionalized Individuals and the Public

    Sub-element 3.c Implementation of Protective Actions for Persons with Disabilities and Access/Functional Needs

Sub-element 3.d Implementation of Traffic and Access Control

Sub-element 3.e Implementation of Ingestion Pathway Decisions

Sub-element 3.f Implementation Post-Plume Phase of Relocation, Reentry, and Return Decisions

4. Plume Phase Field Measurements and Analyses

Sub-element 4.a Plume Phase Field Measurements and Analyses

Sub-element 4.b Post-Plume Phase Field Measurements and Sampling

5. Emergency Notifications and Public Information

Sub element 5.a Activation of the Prompt Alert and Notification System

Sub-element 5.b Emergency Information and Instructions for the Public and Media

6. Support Operations/Facilities

Sub-element 6.a Monitoring, Decontamination, and Registration of Evacuees

Sub-element 6.b Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles

Sub-element 6.c Temporary Care of Evacuees

Sub-element 6.d Transportation and Treatment of Contaminated Injured Individuals

2.2 Exercise Objectives, Capabilities and Activities

The Plume and Ingestion Exercises were played in real time.

Injects, as part of a larger scripted Master Scenario Events List (MSEL), were used to prompt action as needed.

Exercise play was supported and driven from the CGS facility and the Simulation Cell (SimCell) for the exercise.

ASSUMPTIONS AND ARTIFICIALITIES

These exercises require certain assumptions and artificialities to complete conduct within the time allotted, and to account for logistical limitations. Exercise participants should accept that assumptions and artificialities are inherent in any exercise, and should not allow these considerations to negatively-influence their participation.

Assumptions

Assumptions constitute the implied factual foundation for exercise conduct. For effective exercise conduct, all participants should assume such conditions exist prior to the start of exercise (StartEx). The following assumptions apply to these exercises…

Each host organization determines the starting posture of their venue (i.e., 'cold start' vs. 'warm start').

Exercise conduct takes place in real time at all venues/locations.

The exercise scenarios are plausible, and events occur as presented.

Exercise simulation contains sufficient detail to allow players to react to information and situations as provided, as if the simulated incident were real.

Real world emergencies take priority over exercise events; in such instances, participating organizations may initiate a pause of exercise (PauseEx) at their venue/location.

Artificialities

To provide all participants an opportunity to meet specific exercise objectives within the allotted timeframe –AND– so that exercise conduct does not impede capabilities, certain artificialities (i.e., would not apply to an actual emergency/incident response) are designed into these exercises. The following artificialities apply to these exercises…

These exercises use simulated weather conditions for the impacted area. Controllers provide this information to players when earned.

Some players from participating organizations may be pre-positioned near or at evaluated venues/locations.

All participants will use routine, in-place, communication systems. Additional communication assets (e.g., amateur radio) may be available during the exercises.

The need to maintain capabilities for responding to actual emergencies may exempt certain alerting and notification systems from exercise use (e.g., ACCESS, EAS, NAWAS, etc.).

2016 Annual CGS Full-Scale Exercise (FSE) **Exercise Plan Evaluated Exercise (ExPlan)** (16-EX-003)

Visual simulation aides may illustrate scenario conditions on exempted equipment or systems. If used, controllers provide simulation aides where applicable or when earned.

2.3 Scenario Summary

On Tuesday, March 29, 2016, the Columbia Generating Station (CGS) was operating at or near 100% power; with a known fuel failure. At 0805 the main generator tripped, following with one emergency diesel generator failing to start while the other tripped. Offsite power was lost, and the reactor SCRAMS. These events prompted the Shift Manager to declare an Alert. The control room notified the ERO and OROs of the Alert; emergency centers started to be staffed, with the ERO centers activated at 0935.

Also at 0935, motion sensor alarms were triggered by a magnitude 5.5 earthquake in the immediate vicinity of CGS (recorded 14 miles north of Richland). Shaking at the power plant caused a main steam line to break. Repair teams were sent to investigate, where they confirmed that in order to isolate the leak, they had to restore power to the valve inside primary containment; additionally, the repair team noted that the temperature had reached maximum safe operating temperature. Under those conditions, the Emergency Director declared a Site Area Emergency at 1000; Energy Northwest began to evacuate nonessential employees from the CGS site. A half hour later, at 1030, a second seismic event occurred, measuring magnitude 5.5 in the same vicinity previously. Almost simultaneously, rising temperatures had lowered the water levels in the Reactor Pressure Vessel to expose Top of Active Fuel. Under those new conditions, the Emergency Director declared a General Emergency.

Eventually, plant personnel successfully isolated the leak, terminating the release. At that point, the plant transitioned to recovery and responsibility for MUDAC and JIC transferred to the state.

SECTION 3: EXERCISE EVALUATION AND RESULTS

3.1 Summary Results of Exercise Evaluation

DATE: 2016-03-29 (Plume/Ingestion) SITE: Columbia Generating Station, WA M: Met, M-SR: Successfully Re-demonstrated, F1: Level 1 Finding, F2: Level 2 Finding, P: Plan Issue, UP: Unresolved Plan Issue, N: Not Demonstrated	Criterion	WA EOC	WA DOH	EOF/MUDAC	WSDA	WA FMT 1	WA FMT 2	BC EOC	SECOMM	BC TACP	BCRP
Emergency Operations Management											
Mobilization	1a1	M	M	M	M	M	M	M	M		
Facilities	1b1	M	M	M	M			M	M		
Direction and Control	1c1	UP	M	M	M			M			
Communications Equipment	1d1	M	M	M	M	M	M	M	M	M	M
Equip & Supplies to support operations	1e1	M	P	M	M	M	M	UP	M	M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1	M		M	M			M			M
Radiological Assessment and PARs	2b1			M							
Decisions for the Plume Phase -PADs	2b2	M		M				M			
PADs for protection of special populations	2c1	M						M			
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1	M		M	M			M			
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1	M		M				M			
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1		P	M		M	M	UP		M	M
Implementation of KI decision	3b1			M				M			
Implementation of protective actions for special populations - EOCs	3c1							M			
Implementation of protective actions for Schools	3c2							M			
Implementation of traffic and access control	3d1							M		M	
Impediments to evacuation are identified and resolved	3d2							M			
Implementation of ingestion pathway decisions - availability/use of info	3e1	M			M			M			
Materials for Ingestion Pathway PADs are available	3e2	M			M			M			
Implementation of relocation, re-entry, and return decisions.	3f1	M						M			
Field Measurement and Analyses											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2			M							
Field Teams Manage Sample Collection Appropriately	4a3					M	M				

DATE: 2016-03-29 (Plume/Ingestion) SITE: Columbia Generating Station, WA M: Met, M-SR: Successfully Re-demonstrated, F1: Level 1 Finding, F2: Level 2 Finding, P: Plan Issue, UP: Unresolved Plan Issue, N: Not Demonstrated	Criterion	WA EOC	WA DOH	EOF/MUDAC	WSDA	WA FMT 1	WA FMT 2	BC EOC	SECOMM	BC TACP	BCRP
Post plume phase field measurements and sampling	4b1					M	M				
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1							P			
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of the prompt alert and notification system - Exception areas	5a3										
Emergency information and instructions for the public and the media	5b1	M			M			M			
Support Operations/Facilities											
Mon/Decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon /Decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1										
Transportation and treatment of contaminated injured individuals	6d1										
Emergency Operations Management											
Mobilization	1a1	M	M			M	M	M	M	M	
Facilities	1b1	M	M			M	M	M	M	M	
Direction and Control	1c1	M				M	M	M	M	M	
Communications Equipment	1d1	M	M	M	M	M	M	M	M	M	
Equip & Supplies to support operations	1e1	P	M	M		M	M	M	M	M	
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1	M									
Radiological Assessment and PARs	2b1	M									
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1	M									
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1	M				M	M	M	M		
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1	M									
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1	M		M							
Implementation of KI decision	3b1	M									
Implementation of protective actions for special populations - EOCs	3c1	M									
Implementation of protective actions for Schools	3c2	M			M						
Implementation of traffic and access control	3d1	M		M							
Impediments to evacuation are identified and resolved	3d2	F2									

DATE: 2016-03-29 (Plume) SITE: Columbia Generating Station, WA M: Met, F1: Level 1 Finding, F2: Level 1 Finding, P: Plan Issue, N: Not Demonstrated, SR: Successfully Re-demonstrated	Criterion	FC EOC	FCD	FC TACP	BRCS	ACEOC	GCEOC	WWC EOC	YCEOC	JIC	
Implementation of ingestion pathway decisions - availability/use of info	3e1	M				M	P	M	M		
Materials for Ingestion Pathway PADs are available	3e2	M				M	M	M	M		
Implementation of relocation, re-entry, and return decisions.	3f1	M									
Field Measurement and Analyses											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2										
Field Teams Manage Sample Collection Appropriately	4a3										
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1	M									
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of the prompt alert and notification system - Exception areas	5a3										
Emergency information and instructions for the public and the media	5b1	M				M	M	M	M	M	
Support Operations/Facilities											
Mon/Decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon /Decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1										
Transportation and treatment of contaminated injured individuals	6d1										
Emergency Operations Management											
Mobilization	1a1			M		M	M	M	M		
Facilities	1b1			M				M	M		
Direction and Control	1c1			M				M	M		
Communications Equipment	1d1	M	M	M		M	M	M	M		
Equip & Supplies to support operations	1e1			M		M	M	M	M		
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1			M							
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1										
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1			M				M	M		
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										

DATE: 2016-03-29 (Plume) SITE: Columbia Generating Station, WA M: Met, F1: Level 1 Finding, F2: Level 1 Finding, P: Plan Issue, N: Not Demonstrated, SR: Successfully Re-demonstrated	Criterion	FC EOC	FCD	FC TACP	BRCS	ACEOC	GCEOC	WWC EOC	YCEOC	JIC	
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1				P	M	M				
Implementation of KI decision	3b1										
Implementation of protective actions for special populations - EOCs	3c1										
Implementation of protective actions for Schools	3c2										
Implementation of traffic and access control	3d1										
Impediments to evacuation are identified and resolved	3d2										
Implementation of ingestion pathway decisions - availability/use of info	3e1			M				M	M		
Materials for Ingestion Pathway PADs are available	3e2			M				M	M		
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analyses											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2										
Field Teams Manage Sample Collection Appropriately	4a3					M	M				
Post plume phase field measurements and sampling	4b1					M	M				
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1	M	M								
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of the prompt alert and notification system - Exception areas	5a3										
Emergency information and instructions for the public and the media	5b1		M	M				M	M		
Support Operations/Facilities											
Mon/Decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon /Decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1										
Transportation and treatment of contaminated injured individuals	6d1										

3.2 Criteria Evaluation Summaries

3.2.1 Oregon Jurisdictions

3.2.1.1 Oregon Energy Emergency Operations Center

Staff at the Oregon Energy Emergency Operation Center (SEOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

At 0835, the ODOE Duty Officer received an Oregon Emergency Response System (OERS) page from the 24/7 emergency notification service for Oregon state agencies. The Duty Officer immediately contacted Oregon Emergency Response System (OERS) and verified the page and the notification. No information was provided by OERS over the phone to the Duty Officer but OERS sent a facsimile to ODOE. The Classification Notification Form (CNF) number one was received via facsimile notifying ODOE that an Alert Emergency Classification Level (ECL) had been declared at 0820, at CGS.

After the facsimile and an Auto-Dialer page/text message were received and verified, the Duty Officer contacted the DOE Assistant Director who became the Radiological Event Manager (REM) after making the decision to activate the EOC due to the CNF's "Prognosis of Situation: as Escalating," and in accordance with the Oregon CGS/Hanford Emergency Response Plan, revision: April, 2015. The REM requested the EOC to be set up and to have the subsequent notifications transferred from OERS to the ODOE EOC as soon as he EOC could set up the dedicated Crash call phone line. At 0852, the Duty Officer contacted Morrow County and Umatilla Counties, via his cellular phone, providing them with information regarding the Alert status at CGS. At 0913, the CRASH Phone Operator completed the transfer of the CRASH phone responsibility from OERS to the ODOE EOC in order to receive and verify all subsequent notifications. Facsimiles of each notification was received in the supply room and distributed to all EOC responders by a designated messenger.

The EOC Manager contacted the Information Technology Department staff and requested them to set up the EOC in accordance with the floor plan in the Emergency Operations Plan. Several members of the EOC response staff worked for ODOE and were located within the ODOE building in Salem, where the EOC was located. Most of the EOC response staff were contacted in person. Other responders were contacted by the Duty Officer, using a call down roster, this same roster would be used during off duty hours. The EOC staff began arriving at the EOC shortly after being notified. The Duty Officer contacted the Oregon State Liaison and requested him to report to the Emergency Operations Facility in Richland, WA. The Duty Officer also

contacted the response representatives from Oregon Health Authority, Department of Agriculture, and the Oregon State University Radiation Center and requested them to report to the EOC. All requested positions were filled and the REM declared the ODOE EOC operational at 0935.

The EOC positions that were filled were: Radiological Event Manager/Incident Commander, Public Information Officer, (Technical Advisor) Assessment Group Lead, Health Advisor, Agriculture Advisor, Facility Analyst/Duty Officer, Crash Phone Operator, Oregon Emergency Management representative acting as Liaison to Morrow County and Umatilla County, Deputy Public Information Officer, two EOC Managers/Operations Group Lead, two Emergency Web Page Operators, and an Event Log Recorder/WebEOC Manager, Messenger, Graphical Information Specialist, RAPTOR Map Specialist, and an ODOE Receptionist. Additional personnel participated in the exercise as Mock Media persons, and as Rumor Callers who simulated the public who called the Public Inquiry Phone Team. A 24-hour roster was available for review.

The approved extent-of-play allowed representatives from Oregon Health Authority, Oregon State University (Technical Advisor), Oregon Department of Agriculture, and Oregon Emergency Management representatives to be pre-positioned nearby to respond to the ODOE EOC within 15 minutes of notification of the activation. The OHA Field Teams activated from their office in Portland and deployed to Hermiston in real-time following their notification. The Field Teams were notified by State Health representative at 0855.

Additional Field Sampling Team resources were requested at 1053, by the Health Advisor due to the GE ECL. He updated the Alpha and Bravo teams and advised the team leads that he had requested the Regional Hazmat from Clackamas and the 102nd Civilian Support Team from Salem to join them.

Criterion 1.b.1:

The ODOE EOC, a dual-function facility located at 625 Marion Street NE, Salem, OR was well equipped for emergency operations and to meet the needs of the ODOE staff and other EOC agency representatives. Numerous rooms and support facilities within the 18,000 square foot building were used to support emergency operations. The primary space used was the Westerberg Conference Room, which was transformed into the EOC where the Emergency Management Team, Public Information Team, Operations Team and other state agency officials worked to coordinate the overall response effort. Other facilities and rooms throughout the building were utilized to support emergency operations. Support operations observed during the exercise included the Telephone Information Center, the Mail and Copy Center, the ODOE Reception Desk, and the ODOE EOC News Center.

The building was equipped with an HVAC system housed on the roof that provided air conditioning and heat for the entire building including the EOC. The HVAC was controlled

through an automated system that could be switched to manual control by designated personnel if required. The control room for HVAC was physically secured with a locked entry and also served as the control room for communications for the telephone system and the IT network. The building was sufficiently illuminated with natural lighting and artificial lighting throughout. Backup power for the entire building was provided through a diesel powered generator located just outside the building in a secured area. Documentation was available indicating that the generator was inspected on a monthly basis throughout the year.

Secured ingress/egress to the building was observed on three sides of the building with the back and side exits locked at all times and required key code entry for authorized personnel. Through interview it was determined that all visitors must enter the main entrance at the front of the building where a receptionist would provide them with a visitor badge and ensure that they sign in on arrival and sign-out on departure. It was also noted that the ODOE normal work hours were 0800 to 1700, Monday-Friday and that the front entrance had a key code entry panel for authorized staff to enter during non-work hours. All exit areas (and pathways to exits) were identified to be clearly marked throughout the building. Restrooms were located in the back of the building. The building was also equipped with an elevator, alarm system, and fire suppressant/sprinkler system.

Set-up of emergency operations was observed following receipt of the Alert notification at 0839 when the decision was made by the Assistant Director to activate the EOC. The transformation from conference room to an EOC was highly efficient and well-orchestrated with designated staff working together as they prepared telephone lines, IT equipment, GIS, arranged tables, provided handouts to each position, set up registration, and numerous other tasks in order to stand up the EOC within less than 30 minutes. It was clear that all involved in setting up the EOC had clearly defined procedures, roles, and had practiced and coordinated their responsibilities to allow for such a timely and efficient set up of the room. In addition, the majority of EOC supplies including electronic equipment, tables, wall displays, plans/procedures and other materials were securely stored in room which allowed personnel easy access to the equipment set-up in short order.

Criterion 1.c.1:

The Radiological Event Manager (REM) held briefings approximately every hour. He gave each agency opportunity to provide status on their area of expertise, updates, possible need for resources. Updated information was shared and questions were addressed and resolved as a result. The REM was engaged in all aspects of the EOC response. He maintained a high level of control and he delegated tasks efficiently. The Oregon State Office of Emergency Management was the Liaison for the two counties, Morrow and Umatilla. State Health, State Agriculture, and Oregon State University representatives communicated often with their respective offsite response organizations. The REM ensured all requests were handled and properly processed as they occurred. He also provided thoughtful, advanced planning concepts for the participants to consider.

The WebEOC Activity Log was projected continuously on the EOC wall and briefed as changes were documented. Reports from field responders were received and briefed to EOC Staff. The Technical Advisor maintained close communication with the REM, the Oregon State Liaison in Richland, the ODOE EOC Health Advisor, Agriculture Advisor, and the Counties' Liaison. The REM maintained communication with the Public Information Officer, and approved all Emergency News Releases. Implementation of CGS's protective action recommendations were discussed and shared with EOC staff for input routinely. Call logs were maintained and checklists were utilized at each position. The ODOE EOC staff appeared confident, cohesive, well trained in their positions, and extremely skilled at handling major events that might impact their State. Position checklist folders and position badges were organized to provide visiting personnel the opportunity to receive just-in-time position training and seamlessly integration into the EOC operations.

Criterion 1.d.1:

The ODOE EOC was equipped with numerous communications systems that allowed for multiple layers of redundancy during the exercise. Systems used during the exercise included commercial telephone (including the Crash Phone), cellular telephone, satellite telephone, pager system, facsimile, WebEOC, and email.

At 0839, ODOE received a Classification Notification Form (CNF) via facsimile notifying of an Alert at the Columbia Generating Station (CGS). Upon confirmation of the Alert status, the Duty Officer experienced a commercial telephone communications failure when attempting to contact Morrow and Umatilla Counties to update them on the situation. He quickly switched to his cellular telephone through which he was able to make contact with each county's dispatch and provide them with the Alert status and related information.

At approximately 0845, the Assistant Director made the decision to activate the EOC based on an "escalating" prognosis of the Alert status noted on the CNF. At 0910 the Crash Phone was transferred from the Oregon Emergency Response System (OERS) Dispatch Center to ODOE and served as the primary communications between CGS and ODOE for the remainder of the exercise. At the beginning of each Crash Phone call, communications checks were conducted via roll call with all participants. Class Notification Forms (CNFs) were successfully transmitted via facsimile in coordination with each Crash Phone communication.

At 0935, the EOC was fully operational with all agencies in place. For the remainder of the exercise, multiple communications systems were used including WebEOC which served as the primary system for interagency coordination, tracking of actions taken and providing incident-related information. Commercial telephone, through the use of dedicated telephones at EOC work stations, was also used extensively by EOC staff to communicate with external agencies including the Oregon Emergency Management Division, Washington State (SEOC), Morrow and Umatilla Counties and other state, local and Federal agencies. Cellular telephones provided adequate backup for external communications and were also used throughout the exercise.

At least one additional communications failure was experienced when the Oregon Health Authority field sampling teams lost cellular coverage. The teams were able to switch to satellite communications successfully and maintain contact with the OHA representative in the EOC.

Criterion 1.e.1:

The ODOE EOC was set up with more than an adequate supply of equipment and other supplies to enable the staff to stand up emergency operations in very short order. The majority of equipment and supplies needed for emergency operations were housed in the room and secured on a 24/7 basis. Upon activation of the EOC, tables were set up to accommodate each functional group, supply cabinets were opened and materials including plans and procedures were distributed.

Displays included the Event Status Board which was set up next to the "Crash Phone" where all event status updates were transmitted and immediately documented on the status board. Entries on the status board included EAL status, weather conditions, and space to record other notable events as they occurred. Other displays in the EOC included the 10 mile EPZ CGS map, 50-mile Ingestion Zone map, site map/overview of CGS, the DOE EOC Organization Chart, and an EAL description diagram.

Work stations were set up throughout the EOC with laptop computers and dedicated telephones. All work stations were clearly identified by position through the use of hanging signage directly over the station. Wi-Fi access for all staff was available with the Wi-Fi password displayed prominently on a white board on the back wall. One staff person was dedicated to running the Event Activity Log which was displayed on a flat screen on the wall and visible to all in the EOC to check all messaging updates. Another staff person was dedicated to running the geographical information system "Real Time Assessment and Planning Tool" (RAPTOR) that was displayed alongside a large portion of one wall. RAPTOR was used throughout the exercise to track the event as it unfolded and plot the boundaries of the Food Control Area. In addition, RAPTOR displayed all the agribusiness facilities that fell within or outside the Food Control Area.

Other supplies contained in the EOC included one satellite telephone, one two-way radio, and administrative materials (pens, pads, sign-in sheets, maps, name tags). A KI supply consisting of two packages of 14 tablets each (USP 130 mg) was also available in one of the locked file cabinets and could be given to anyone who went to Richmond during a CGS event. The KI had an expiration date of March 2022. No dosimetry or monitoring equipment was housed at the DOE EOC, because the facility was located well outside of the 10-mile Emergency Planning Zone and approximately 285 miles South of CGS.

Criterion 2.a.1:

Upon arrival to the ODOE EOC, the Oregon Health Advisor (OHA), from the Oregon Health Authority and the Technical Advisor (TA), from Oregon State University Radiation Center, were

briefed by the Radiological Emergency Manager (REM) on the current emergency status at CGS. The OHA notified the Radiological Emergency Response Teams (RERT) at 0855, and requested them to report to the Portland State Office Building to obtain their dose and contamination control kits, sampling equipment, instrumentation, and communications gear. They were to inspect their equipment, receive their personal emergency worker exposure control kit and briefing, and then deploy to Hermiston Fire Station. The travel time from Portland, OR, to Hermiston, OR, was three hours and the OHA wanted the teams to depart Portland as soon as possible.

Through an interview with the OHA, he stated that the teams would review their protective equipment kits and receive just-in-time training prior to reporting to their designated staging area. The training would include a review of how to read their pocket ionization chamber dosimeters every half-hour, how to record their data, a reminder that they must turn-back if their dose rates exceed 300mR/hr. and they were provided with a point of contact in case dose rates were exceeded. They reviewed how to place their permanent record thermo luminescent dosimeter on their upper torso, and how and where to return their personal exposure equipment. The OHA stated that the issuance and use of potassium iodide (KI) may or may not be used, based on the location assignment of the deployed teams and he explained that all potassium iodide supplies were provided to the teams by Washington Health or CGS, if the Oregon radiological field teams were requested to enter within 10-miles of the plant. The Safety Officer/Team Coordinator, with advisement, could authorize additional exposure, if appropriate, as it was stated in the Oregon Health Procedures for CGS and Hanford Emergency Response, dated March, 2014.

Criterion 2.d.1:

The Governor of Oregon was responsible for directing and controlling all state activities to protect the lives and property of Oregon residents. However, as her designee, the Radiological Event Manager (REM) assumed control of emergency operations and made ingestion exposure pathway decisions during the demonstrated radiological exercise. Oregon was considered an Ingestion State, due to having two counties located within the Columbia Generating Station's 50-mile Ingestion Pathway Zone (50-mile IPZ). The main risk to the public was due to the possible ingestion of food, water and/or milk products that could possibly have been contaminated with radioactive materials released from CGS.

The REM assembled an Assessment Group from agency representatives who were currently in the EOC. The group consisted of the Technical Advisor from Oregon State University, the Oregon Health Advisor, and the Oregon Agriculture Advisor. The REM participated in all the discussions and included the Public Information Officer in their discussions so that she could prepare a media briefing or a news release. The Assessment Group's objective was to begin advance planning as to the precautions they would advise for the public even before the results from field sampling had been returned.

During the Plume Phase of the exercise, the Oregon Health Authority officials monitored movement of filtered radioactive material that had been released from CGS for approximately three hours. Emergency New Release #2 issued at 1050 by the State of Oregon, provided several precautionary measures that were advised for Oregon residents. Health and agriculture officials recommended that local residents do not consume fresh food products grown or produced in the area in and around the northern portion of Umatilla and Morrow counties until agricultural testing can be performed. The news release also recommended that all livestock in the area be sheltered and provided with feed and water only from protected sources. Residents in that area were advised not to drink fresh milk produced after 0943 on March 29, 2016, and not to pick or harvest fruits, vegetables or grain. Milk and agricultural products would not be allowed to be transported out of the area. The Assessment team realized that the monitoring and gathering of samples could take several weeks.

The Oregon Emergency Management Liaison to the Counties was in contact with the Morrow and Umatilla counties informing their officials that Field Monitoring Teams representing the Oregon Health Authority, the 102nd Civilian Support Team, and the Oregon Department of Agriculture would be in their counties and he requested their assistance in providing someone to guide those teams within their respective county. The Liaison also requested for the counties to provide the teams with suggestions for lodgings and meals.

During Ingestion Exercise day 2, mapping and information was provided to the ODOE EOC participants from the Federal Radiological Monitoring and Assessment Center (FRMAC). The State of Washington requested FRMAC to conduct surveys with a specially equipped aircraft that would detect and measure radioactive contamination on the ground. The survey information was provided to both Washington and Oregon State EOCs in order to assist with a timely and accurate assessment of the affected area. FRMAC also provided the EOC with plots, maps, and shape files of Predicted Areas of Concern for Milk Products and Predicted Areas of Concern for Crop or Agriculture Products.

After seeing the map from FRMAC, the Assessment Group and REM began a new precautionary action discussion with regards to drawing a Food Control Boundary around the aerial modeling map. There were two large dairies and two small independent dairies within the Predicted Area of Concern for Milk Products. A Food Control Boundary was drawn larger than the FRMAC modeling, but the intention was to keep the area as small as possible. By using two lane county roads, and not gravel roads, the boundary could be verbally described as well as visually understood. The Food Control Boundary for Oregon was coordinated with Washington State, Walla Walla County, Morrow County, and Umatilla County. One of the two Food Control Points was in Umatilla County at the junction of I84 and County Road 395 in Pendleton and the other Food Control Point was in Morrow County at the Columbus River and Heppner Junction.

With this information, the Assessment Group developed a sampling/testing plan for the Health and Agriculture field teams to utilize within a more specific area as they tested milk, water, and crops. In accordance with the Oregon Health Procedures for CGS and Hanford Emergency

Response, March, 2014, the radiological release will not be known until sample analysis have been completed. The Response Plan included Preventive and Emergency Protective Action Guidelines (PAGs) with one set for the ingestion pathway. The PAGs were 5 mSV (0.5rem) for CEDE (Committed Effective Dose Equivalent) or 50 mSv (5 rem) CDE (Committed Dose Equivalent). Sampling priorities were: Fresh milk and surface water drinking supplies; Feeds for dairy herds; Short shelf life vegetables and fruit produce; Vegetables, fruits, and nuts having long shelf life; Feeds for non-dairy animals.

The Assessment Group conveyed the plan to Morrow and Umatilla County officials and requested that the Hanford Emergency Preparedness in Oregon brochures be distributed again to the pre-designated locations. The Counties were able to provide support at the control points.

Criterion 3.e.1:

During the plume activation phase of the Columbia Generating Station (CGS) exercise, the ODOE EOC staff monitored activities closely, took precautionary actions to protect food sources and prevent contamination, and prepared to make further decisions as data was provided predicted deposition of radiation locations in Oregon. During the Ingestion Exercise day 2 the EOC staff worked to implement protective actions as more information was obtained on predicted deposition areas and potentially impacted populations.

The Radiological Event Manager convened the Assessment Group regularly throughout the two-day exercise to gather information and discuss protective actions. The Assessment Group consisted of the Technical Advisor from Oregon State University (Assessment Group Lead), the Agricultural Advisor from the Oregon Department of Agriculture (ODA), and the Health Advisor from the Office of Health Authority (OHA). The Agricultural Advisor and Health Advisor also were in regular contact with their field teams and were able to provide additional input from those teams during the Assessment Group discussions. The Radiological Event Manager participated in all Assessment Group discussions and, upon making precautionary or protective action decisions, included the Public Information Officer (PIO) to walk through the recommended actions and begin preparing an emergency news release.

The first news release with precautionary measures for Oregon residents was Oregon News Release #2 issued on March 29th at 10:50 a.m. The news release advised of the potential for deposition of radioactive material in northeast Oregon as a result of the incident at CGS earlier that morning. The news release provided a number of precautions to prevent radiation exposure in the event that any radioactive material had entered the state. Among the precautions taken were ODA contacting agricultural producers in portions of Umatilla and Morrow counties to inform them that radioactive material could potentially reach their farms. A number of recommendations were provided in the news release to protect against potential contamination including sheltering livestock, restrictions on ingesting food and water, and not transporting milk or other agricultural products out of the area.

As noted above, ODA contacted agribusiness facilities in Morrow and Umatilla counties. This was coordinated by the Agricultural Advisor in the ODOE EOC through the use of an ODA database that contains all licensed agribusiness facilities. All of the facilities in ODA's database were contacted via group or "robo" email. ODA also deployed two 2-person field teams to assist with making door-to-door contacts when needed. The field teams were also set up to work with local farmer's markets, county agents and other local entities to locate and contact non-licensed food producers, for which ODA does not currently have records.

The registered agribusiness facilities were also identified in the DOE EOC geographical information system "Real Time Assessment and Planning Tool" (RAPTOR) operated by DOE GIS staff. The RAPTOR database was used to project a map onto the wall of the EOC identifying the area in Umatilla and Morrow Counties that were in the path of the projected plume. Agribusiness facilities were highlighted on the map with icons that represented different types of businesses. For each business, the name of the business, physical address, phone number, license number and risk class were all contained in the RAPTOR database.

On Ingestion Exercise Day 1, after predictive deposition information was received, the Assessment Group identified the food control boundaries around the predicted deposition area in Morrow and Umatilla counties. RAPTOR was used to draw the boundaries of the food control area and these boundaries were also displayed on the map image projected on the wall. Once drawn, one could clearly see which facilities fell within the boundaries of the Food Control Area and this information could be used to ensure that all those locations had been contacted. The map also clearly identified transportation routes that could be used out of the affected areas to monitor and sample foods on vehicles leaving the area.

The Food Control Area map generated by Raptor was included with News Release #8 released on March 30th at 1:00. In addition to the map, the news release provided detailed description of the boundaries identifying roads and other boundaries. It also provided protective actions for people in the Food Control Area. Restricted foods and food sources identified in the news release included fresh garden produce and fresh milk from cows or goats in the specified zone.

The Assessment Group convened one final time to discuss and identify Food Control Points to ensure that potentially contaminated foods were not transported outside the Food Control Area. The Agricultural Advisor explained that the Food Control Points would be staffed by ODA representatives with support from local government law enforcement and public works agencies if available. The county liaison in EOC indicated that both Morrow and Umatilla counties had indicated that they would be able to support the control points. From the Food Control Points, vehicles would be inspected to check for food being transported from within the Food Control Area.

Ingestion Exercise Day 1culminated with a mock media conference during which the map showing the Food Control Area was discussed and displayed. The PIO introduced the Assessment Team and the Agriculture Advisor, Technical Advisor, and Radiological Event

Manager/Incident Manager all took turns at the podium explaining the purpose for and boundaries of the Food Control Area, as well as protective actions precautions to take. A question and answer period ensued after which the exercise was soon concluded.

Criterion 3.e.2:

Throughout the two-day exercise, the ODOE EOC worked to ensure that measures and decisions involving the ingestion pathway in Oregon would be implemented in a coordinated fashion within and outside state boundaries. This included coordinating with Umatilla and Morrow Counties to ensure that ODOE protective action brochures were distributed for the public in each of the counties. The Counties provided brochures at several different locations and submitted those location names to the ODOE EOC which issued Oregon News Release #7 to assist the Counties in notifying the public. The news release also provided several websites and the telephone number for the ODOE EOC information center in Salem for additional information.

At approximately 1000 on Ingestion Exercise day 1, the ODOE EOC received the predicted deposition areas of concern map which was generated based on information obtained through the Federal Radiological Monitoring and Assessment Center. Upon receiving the map from the ODOE liaison at CGS, the Radiological Event Manager convened the Assessment Group to discuss and identify the Food Control Area (FCA) for Oregon which encompassed parts of Umatilla and Morrow Counties. In addition to the Radiological Event Manager from ODOE, the Assessment Group consisted of the Technical Advisor from Oregon State University, the Agricultural Advisor from the Oregon Department of Agriculture, and the Health Advisor from the Oregon Health Authority.

The Technical Advisor led the discussion for the food control boundary and used a printed map of the predicted deposition area to hand-draw a boundary around the area using roads/highways as boundary lines. He also worked with the group to identify areas in Washington that would closely match up with the Oregon boundary lines. The Assessment Group concurred on the boundaries and the Radiological Event Manager then contacted two different Washington Department of Agriculture representatives from whom he eventually received concurrence on the food control boundary. He then contacted the Walla Walla County, Washington EOC to discuss the eastern boundary of the FCA that linked with Walla Walla County and received their concurrence as well. The western boundary of the FCA linked with Klickitat County, Washington which was not participating in the exercise; therefore, no coordination was required. Both Umatilla and Morrow Counties were also advised on the FCA and concurred with the boundaries as drawn.

Once concurrence on the food control area with all affected jurisdictions was achieved, the Technical Advisor and the Radiological Event Manager coordinated with the ODOE GIS staff to develop an automated version of the map using the RAPTOR system. The map was then approved by the Radiological Event Manager and provided with News Release #8 which detailed the boundaries of the FCA. The news release also provided protective actions for people in the

FCA and provided details on the types of foods affected. Restricted foods and food sources identified in the news release included fresh garden produce and fresh milk from cows or goats in the specified zone.

Criterion 5.b.1:

Oregon Department of Energy Emergency Operations Center
After receiving notification to report to the Emergency Operations Center, the Public Information Officer (PIO) arrived in the EOC and was briefed immediately by the Radiological Event Manager (REM). The PIO briefed the Deputy PIO and they began gathering information regarding the reported earthquake in the Pacific Northwest and the ongoing radiological release from the Columbia Generating Station. The PIO and the Deputy PIO used pre-scripted messages and news release information to assist them to assure that the essential information was communicated to the public and media outlets. According to the approved extent of play agreement, the EOC would conduct two news conferences; one conference on the Plume Exercise and the other on Ingestion Exercise day 1. Both conferences will be at the end of each day. During an interview, the PIO stated that in a real event at CGS, an initial news conference would take place much sooner, as soon as reasonably possible, followed by additional news conferences, as needed.

The Joint Information Center (JIC) located in Richland, WA, was in constant communications with the PIO and Deputy PIO via emails and phone calls. News releases were received and sent electronically between the JIC and ODOE EOC during the exercises.

Five news releases were developed in the ODOE EOC during the Plume Exercise. Information was discussed before each news release was drawn up and the PIO was made well aware of the circumstances or situation by the REM or his designee who approved all messages prior to release. News release content included clear instructions and accurate information. Each news release stated information regarding how residents could tune in to 610AM and 105.3 FM radio stations for updates. Every news release had social media information listed clearly. All news releases were issued a timely manner, disseminated appropriately, and contained the following:

Name of the issuing agency
Name of the affected facility (CGS)
Location of the CGS plant
The date and time the event was declared
Radiation release information
Instructions to stay tuned for additional information
Statements referring to the Governor’s continued awareness of the situation
Instructions to listen to local radio or television for further instructions
Social Media information and where to find additional information

TELEPHONE INFORMATION CENTER

The ODOE opened a Telephone Information Center in Salem, OR, in order to provide details to the general public about Oregon's response to the incident at CNG. Three stations were activated to handle incoming calls with one station available for the Supervisor to staff, if needed. Telephone lines were equipped to handle all calls in a timely manner. Inquiries averaged 45 seconds to 1 minute per call. Approximately two dozen incoming calls were individually and systematically rolled from telephone #1, the Supervisor's number and if she did not pick up the call would roll to telephone #2, then to telephone #3, then to #4. Each Assistant had a folder with appropriate procedures pre-scripted statement, and phone numbers to use for referrals. The Phone Assistants did not monitor media broadcasts.

Before opening the lines to the public, the PIO briefed the Assistants and presented them with the current news releases, answered any questions, and confirmed each Assistant had appropriate procedures and pre-scripted statements, if needed. A Spanish speaking Assistant was available, but was not needed.

The Assistants answered calls in clear, calm voices directing callers to visit the ODOE website, Twitter, and Facebook, which appeared to reduce the amount of repeat callers. Many of the calls came from the Media and the PIO gave the Assistants her number so she could answer those questions from the Media. The PIO checked in with the Assistants twice during the approximately 60-minute activation. If the phone Assistants could not answer a specific question the caller was asked for a name and phone number in order to have his/her call returned. Two such calls were taken with return calls made by the EOC PIO providing the specific information requested. A rumor was tracked and given to the PIO who closed the rumor by addressing it in the following News Release.

NEWS CONFERENCE

A News Conference was demonstrated on the Plume Exercise day at approximately 1330 hours in a large conference room within the ODOE EOC. Four reporters (mock media) were present. The PIO was designated to introduce the speakers and describe the format of the briefing. The Radiological Event Manager was the overall spokesperson for the facility. The Technical Advisor, from Oregon State University Radiation Center, was there to explain the severity of the radiological emergency at CGS; the Oregon Agriculture Advisor, was present and available to answer media questions and to address food-products related concerns. The Oregon Health Advisor was monitoring calls from the FMT teams and could not attend. The Technical Advisor and the Radiological Event Manager were able to present the field information.

The conference started promptly. The PIO introduced herself and explained that there was a packet of informational materials prepared for each Media Representative. The packets contained general information about CGS, maps, emergency response information, social media sites, contact information, and copies of news releases. The PIO indicated that on-going and current information continued to be available on the ODOE website, also via social media avenues like Twitter, Facebook.

The PIO's presentation emphasized the importance of maintaining diligence in reporting accurate information specific to Oregon. She was empathetic yet direct in her requests to the Media for their help in "calming" the public. She used the term "we" and reiterated "I understand your frustration", she re-directed her response to engage the Media's help to present the CGS event as it related specifically to Oregon.

The questions were primarily focused on the radiological release at CGS. The Oregon State Agriculture Advisor addressed concerns from farmers regarding not being able to harvest their crops or market the milk from their cows and goats.

News Releases Subject Matter on Tuesday, March 29, 2016

1. Oregon Monitors Pacific Northwest Earthquake and Nuclear Incident
2. Precautions Advised for Oregon Residents
3. Oregon Sets Up Information Number
4. Guidance Issued for Dairies
5. Media Advisory

News Releases Subject Matter on Wednesday, March 30, 2016

6. Oregon Continues to Monitor Nuclear Incident
7. Protective Action Brochure Locations
8. Oregon Officials Establish Food Control Area in Northern Umatilla and Morrow Counties
9. Media Advisory
10. Nuclear Event Insurance Office Established

News Conference Ingestion Pathway and Food Control Boundary and Food Control Points
This News Conference was attended by the same Advisors as the Plume Exercise day conference. The PIO provided the format of the conference and introduced the participants. There were considerably more questions regarding the Food Control Area (FCA), which comprised 1,447 square miles. The presentation slide of the controlled area made it easier for those in the room to understand where the boundary was and exactly where the Food Control Points were established. Mock media asked intense questions and the advisors were compassionate, thorough, and assuring with their answers.

The visuals utilized by the Advisors were well used and appreciated by the audience and the media. The PIO was professional and kept the conference brief. The Deputy PIO was the scribe and had any questions not been answered, the scribe would have provided that Advisor a note of reminder to have the answer for the media during the next conference.

Demonstrated Strengths

- The Oregon Department of Energy (ODOE) Emergency Operations Center staff worked as an integrated team in all areas. An exemplary demonstration of direction and control was rendered by the ODOE Radiological Event Manager. Documentation of events, communications, and activities were commendable.
- All the participants from ODOE, State Health Services, State Department of Agriculture, Oregon Emergency Management, and Oregon State University were very professional. They were knowledgeable, well trained, experienced, and provided complete and thorough demonstrations of their responsibilities and adherence to their procedures.
- The entire facility, served primarily as a day-to-day office facility, was set up in such a way that it could be transformed into an emergency operations system in very short order. This was due to excellent overall management, smart placement of emergency equipment/supplies for easy access and trained staff assigned to specific roles and responsibilities for EOC activation.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.1.2 Oregon Field Monitoring Team A

Staff at the Oregon Health Authority (OHA), Radiation Protection Services, Radiological Emergency Response Team Alpha (RERT A) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

At 0851 the Oregon Department of Energy (ODOE) Response Manager (RM), located in Salem, OR, notified the OHA Duty Officer (DO) via telephone by of CGS's declaration of an Alert Emergency Classification Level (ECL). The RERT team members were at work in their offices in Portland, OR and the OHA Duty Officer was able to verbally notify each person. They were instructed to ready their equipment and report to the equipment room for a pre-deployment briefing.

When interviewed, RERT A team members stated that at an Alert ECL or higher, the ODOE RM who would contact the OHA Radiation Protection Services DO. The DO would contact RERT

team members and instruct them to report to the OHA offices in Portland. Team members would typically be notified via office or cellular telephone. A call list was included in RPS procedures. Additionally, each RERT member had a listing of OHA RPS personnel names and contact telephone numbers on a card attached to their normal work identification badge. Team members would report to the RPS offices in Portland. They would go to the equipment storage area on the second floor to ready their equipment and be briefed.

At 0909, Radiological Emergency Response Teams A and B were briefed at the OHA offices in Portland, OR by the OHA Duty Officer. Once the briefing was complete, both RERT teams loaded their equipment and deployed to the designated Staging Area at Fire Station #3 located in Hermiston, OR. Teams expected a travel time of 3-3.5 hours to Hermiston. The RERT A left the Portland office at approximately 0955 and arrived in Hermiston, OR at 1303.

While en route to Hermiston, RERTs were advised via cellular telephone of the CGS upgrade to a Site Area Emergency and a General Emergency ECL. At 1000, RERTs were advised of CGS's escalation to a Site Area Emergency ECL; they were notified of the General Emergency ECL at 1048. Throughout the exercise, the Oregon Health Advisor periodically contacted RERT A to keep them informed of emergency classification, plant status, radiological release information and meteorological conditions. It is noted that although the RERTs responded real time, they conducted their monitoring and sampling activities late in the exercise when most other exercise participation was complete. At 1237, a the Staging Area Incident Commander was contacted by the Oregon Health Advisor with direction for RERT A to go to Harrison Park, NW 13th Street, in Hermiston, OR. When the team arrived at Harrison Park, they were to take air, soil, vegetation, water, and crop samples.

The OHA, Radiation Protection Services, is responsible for 24-hour staffing of RERTs. Based on interview with the OHA Duty Officer, OHA would provide two field teams for 24-hour operation. The teams would be supplemented with personnel from Oregon Public Health Division, an Oregon Civil Support Team, and HAZMAT teams, until assistance arrived from the Federal Radiological Monitoring and Assessment Center. Additional ingestion pathway RERT assistance would be provided from the Oregon Department of Agriculture for milk sampling. Just-in-time training would be provided, as needed.

Criterion 1.d.1:

The primary communication system consisted of cellular telephones. Each team member had a personal cellular telephone; AT&T and Sprint were the cellular service providers. Team members each had a card listing the emergency phone numbers of various Oregon Department of Energy and Oregon Health Authority personnel. Most exercise communication was via cellular telephone between the RERT A and the Oregon Health Advisor located in Salem, OR.

The RERT A had radios and a satellite telephone for backup communications. Each team member had a hand held Motorola XPR6530 and the vehicle had an installed Motorola XPR4350

radio. The radios were tested between teams prior to leaving the OHA offices in Portland, OR. The radio worked satisfactorily at that time. It was noted that the Motorola radios had a limited range and were not on a repeater system. They were not used by RERT A during the day one of the exercise; however, they were used effectively during the ingestion sampling day two to communicate with Oregon Department of Agriculture milk sampling personnel. The RERT A said the radio was also a backup method for communicating with the Staging Area Incident Commander and for communication between RERTs.

Prior to leaving the staging area, one RERT A team member called another team member to test the Iridium satellite telephone. It was tested again on the Plume Exercise day by calling the Duty Officer at 1427. It was tested on the Ingestion Exercise day by calling the Oregon Health Advisor in Salem, OR. On all three occasions, the satellite telephone worked satisfactorily.

There was minimal exercise message traffic and no delays occurred that would interrupt emergency operations. Since plume phase monitoring and sampling activities were completed late in the day, little communication with outside organizations was required. As needed, one RERT member would talk on the phone while the other two team members continued monitoring and sampling activities.

Criterion 1.e.1:

Equipment provided to the RERT A was consistent with the role assigned to the team in support of field survey and sampling activities. The equipment and supplies demonstrated under this criterion include potassium iodide (KI) inventories, dosimetry, monitoring equipment, and other equipment, as follows:

Potassium Iodide: RERT A did not have KI because the team's responsibilities were well outside of the 10 mile plume Emergency Planning ne. If Oregon RERTs were to be assigned to close in locations to assist the Washington State Field Monitoring Teams, they would be issued KI and briefed on its use at that time.

Dosimetry: To monitor their permanent record of radiation exposure, each RERT A team member had a Landauer Luxel optically stimulated dosimeter (OSL) that is changed monthly or quarterly (depending on their occupational job assignment). Two team members had quarterly OSLs, one had a monthly OSL. Additionally, RERT A had ad hoc dosimetry to be issued to individuals assigned to supplement the OHA RERT (e.g. dosimetry was issued to Department of Agriculture personnel on day two for milk sampling). They had six OSL cards that were changed out annually and were dated Jul 01-June 30. The team also had seven Arrowtech Model 725 0-5 Roentgen (R) Direct-Reading Dosimeters and seven Dosimeter Corporation of America (DCA) Model 622 0-20 R Direct-Reading Dosimeters. The Arrowtech and DCA Direct-Reading Dosimeters were all leak checked in February 2016.

Each RERT A team member was issued a Canberra Ultra Radiac digital alarming electronic dosimeter. All Canberra Ultra Radiac electronic dosimeters were calibrated in February 2016. The issued electronic dosimeters had exposure measurement capability up to 999 rem and could toggle between radiation exposure rate and accumulated exposure. The provided electronic dosimeter allowed individuals to read their administrative radiation exposure limits of 300 mR/hr, 3 R and 5 R. At the end of an incident, dosimetry would be turned in as directed by the Staging Area Incident Commander.

Monitoring Instruments: RERT A was equipped with instrumentation capable of measuring gamma exposure rates and detecting the presence of beta radiation. The provided instruments were capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on air sample collection media, consistent with the intended use of the instrument and Radiological Emergency Response Team procedures. Each field team instrument was labeled with calibration information as well as the range of readings acceptance criteria for source checking the instrument.

The RERT A was equipped with a Ludlum Model 19 microR meter (serial number 14511, annual calibration due July 15, 2016), a PIC 6A ionization chamber (serial number 2187, annual calibration due July 22, 2016), and a Ludlum Model 12 survey meter coupled with a Ludlum model 44-9 pancake Geiger Muller detector (serial number 14809, annual calibration due July 23, 2016). Survey instrument calibration information was affixed to each survey instrument's case.

All three survey meters were operationally checked (visual check and battery check) and source checked prior to use on both Plume Exercise day and Ingestion Exercise day. The instruments and associated detectors were exposed to a 9.58 microcurie Cesium 137 source. Each instrument responded within the range of readings specified on the applicable instrument case. Operational and source checks for each instrument were documented on "Attachment A, Radiation Instrument QC Check" form. No special procedures were needed to source check high range instruments.

Miscellaneous Equipment and Supplies: The RERT A arrived at Hermiston Fire Department #3 in a Ford F150XL truck specifically equipped for response to a radiological incident. The team had two air samplers: a Hi-Q Environmental Products model S235V low flow rate portable air sampler and a Hi-Q CF902 high flow rate air sampler. The RERT A was assigned to take a low flow rate sample; the calibrated and operationally checked their Model S235V air sampler prior to leaving the Staging Area. A Hi-Q Model Hi-Q D-AFC-50 calibrator was used to calibrate the low flow rate air sampler to a flow rate of three cubic feet per minute for day one, two cubic feet per minute for day two. The provided low flow air sampler and sampling methodology was appropriate to ensure the RERT could measure 1 x 10-7 microcuries/cubic centimeter under field conditions.

The RERT had multiple pre-assembled bags and boxes that contained survey and sampling equipment as well as current procedures, forms and maps, protective clothing and safety equipment, air sampling supplies, silver zeolite cartridges for iodine sampling, sample packaging supplies and decontamination supplies. Ample supplies were available for various types of ingestion field sampling. Monitoring and sampling equipment were fully inventoried prior to leaving Portland, OR. A Garmin Global Positioning System unit was included to aide in navigation to their sampling location. Each team member also had their own "go bag" that contained personal protective equipment and rain gear.

Additional backup survey instruments, sampling supplies and miscellaneous equipment was transported from the OHA offices in Portland, OR to the Hermiston Staging Area. If needed, additional supplies could be transported from the OHA offices in Portland or arrangements made by the Oregon Health Advisor.

Criterion 3.a.1:

Each RERT A team member had a Landauer Luxel optically stimulated dosimeter (OSL) and a Canberra UltraRadiac digital alarming electronic dosimeter. The electronic dosimeters had exposure measurement capability up to 999 rem and could toggle between radiation exposure rate and accumulated exposure. The provided electronic dosimeter allowed individuals displayed exposure in microR/hr and allowed individuals to read their radiation exposure limits of 3 Roentgen (R), 5 R and a radiation exposure turn-back rate of 300 mR/hr.

On day two, ad hoc dosimetry was issued to Oregon Department of Agriculture milk sampling personnel. Each individual was issued an OSL, and two Direct-Reading Dosimeters (0-5 R and 0-20R). Just in time training was provided to the Oregon Department of Agriculture personnel on exposure limits, use of dosimetry and use of a hand held radiation survey instrument that would be in their vehicle while traveling to the milk sample location.

On both day one and two, the Radiation Safety Officer held a pre-deployment briefing. She referenced a briefing checklist to ensure she covered all pertinent information. She reminded team members to that their dose of concern to report to the Oregon Health Advisor at the State Emergency Operations Center was 3 R and their turn-back exposure rate was 300 mR/hr. The briefing also included proper use of dosimetry, recording dosimeter readings, reporting exposures, turn-back limits (3 R and 5 R), contamination levels, and decontamination procedures, use of personal protective equipment, safety concerns and radio communications.

After leaving the staging area on plume day, one RERT A team member set a timer to alarm every thirty minutes. At thirty minute intervals, each team member read their dosimeter and the team recorder documented each person's exposure reading on Attachment C-2: Individual Dose Control Form. On day two, the Safety Officer gave the instruction to read their dosimetry at hourly intervals if they measured two times background (background was 8 uR/hr). The highest

measurement made throughout the day was 14 uR/hr; therefore only initial and final dosimeter readings were recorded on each individual's, Attachment C-2: Individual Dose Control Form.

The Oregon RERT A did not have KI because the team was well outside of the 10 mile plume exposure planning zone. When interviewed, RERT A team members explained that KI would be used to saturate the thyroid with stable iodine. Once the thyroid was saturated, it would limit the uptake of radioactive iodine. If Oregon RERTs were assigned to assist the Washington State Field Monitoring Teams inside the 10 mile Emergency Planning Zone (EPZ), they would be issued KI and provided further information on its use.

The RERT A team members were interviewed on radiation exposure limits. They demonstrated an understanding of the radiation exposure limits as specified in their procedures. Team members understood that they were well outside the 10 mile EPZ and would not expect to incur any significant radiation exposure. Team members were able to explain the 300 mR/hr turn-back limit described above and indicated that they would record their accumulated exposures, typically every thirty minutes. They knew that they should report accumulated radiation exposures of 3 R and 5 R. At 3 R the Health Advisor in Salem, OR would determine if the team should continue with their assignment. Five Roentgen was considered a turn-back radiation exposure limit. They would not exceed either limit unless approved by the Oregon Health Advisor and instructed to do so. In Oregon, radiation workers are assigned to categories. A conversion factor would not typically be applied to workers outside the 10 mile EPZ. The 3 R administrative radiation exposure limit was set low enough so RERTs could work inside the 10 mile EPZ and allow for subsequent calculation of Total Effective Dose Equivalent (TEDE) dose within the Environmental Protection Agency guidelines.

Team members stated that they would turn in their dosimetry and Attachment C-2 at the direction of the Staging Area Incident Commander or the Oregon Health Advisor.

PLANNING ISSUE: YES

ISSUE NO.: 69-16-3.a.1-P-03

CONDITION: (Criterion 3.a.1) – Oregon Health Procedures, Tab C, Staging Area, Standard Operating Guidelines, includes a note with outdated radiation exposure limits for emergency workers. (This issue applies to both Field Monitoring Teams)

POSSIBLE CAUSE: The note indicated radiation exposure up to 25 R could be authorized for protection of property and 75 R for lifesaving. These limits are outdated and it may have been an oversight when procedures were revised to include 1992 EPA guidelines for radiation exposure to emergency workers.

REFERENCE: Oregon Health Procedures, Tab C, Staging Area, Standard Operating Guidelines, dated February 2014;

Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, United States Environmental Protection Agency (400R92001), 1992;
NUREG-0654/FEMA-REP-1, K.4

EFFECTS: Inexperienced Radiological Emergency Response Team could read the referenced OHA procedure section and misunderstand that they had higher exposure limits than the current EPA limits for protection of property and lifesaving.

RECOMMENDATION: Update Tab C, Staging Area, Standard Operating Guidelines, to include current EPA guidelines (10 rem for protection of property, 25 rem for lifesaving, and >25 rem for lifesaving if the individual is a volunteer who is fully informed of the risks).

Criterion 4.a.3:

The RERT A demonstrated the capability to make and report measurements of ambient radiation to the Oregon Health Advisor in Salem, OR. The RERT A adequately demonstrated the capability to obtain an air sample for measurement of airborne radioiodine and particulates. Particulate and iodine air samples would not typically be analyzed in the field. If directed to count the sample media in the field, the team explained that they would move to an appropriate low background location to determine whether any significant amount of radioactivity had been collected on the sampling media.

At 0909, two RERTs were provided an initial briefing by the OHA Duty Officer in Portland, O. During that briefing, teams were advised of the Alert Emergency Classification Level (ECL) at CGS, plant status, and weather. Team assignments were made. Teams were told that the Oregon Health Advisor would update them while en route to the Staging Area in Hermiston, OR. While traveling to Hermiston, teams were advised of the escalation to a Site Area Emergency ECL, General Emergency ECL, and notified of a release of radioactive material.

After deploying from Portland, OR, RERT A responded to the Hermiston, OR Fire Station #3. The drive to Hermiston took approximately four hours. The Hermiston Fire Station functioned as a Staging Area Incident Command for RERT operations. The staging area was approximately 40 miles south of CGS and well outside the 10 mile Emergency Planning Zone. Since the Oregon border and the staging location were so far from CGS, RERTs would not typically be tasked with locating the plume edges or centerline. Their monitoring and sampling activities were primarily intended to support upcoming ingestion pathway decisions, not early phase protective action decisions.

The Staging Area Incident Commander communicated with the Oregon Health Advisor located in Salem, OR. The Health Advisor and Technical Advisor would determine appropriate locations for field monitoring and sampling and communicate the request to the Staging Area Incident Commander. The Staging Area Incident Commander would direct RERT monitoring

and sampling activities; however, since RERT monitoring and sampling activities were conducted late in the exercise, RERT activities were directed by the Oregon Health Advisor. The RERT would communicate survey results to the Staging Area Incident Commander or Oregon Health Advisor, as appropriate.

At 1430, RERTs A and B were briefed by the Radiation Safety Officer. Teams were provided information on plant status (General Emergency ECL) and were advised that the release of radioactive material had terminated at 1249. They were informed of the wind direction and speed, reminded of radiation exposure control measures, communication requirements, and were each assigned monitoring locations. The wind was blowing from the north toward Oregon; however the Oregon Health Advisor did not anticipate significant radioactive material deposition in Oregon. The RERT A was assigned to go to Harrison Park (in Hermiston, OR) and take ambient radiation measurements, an air sample, water sample, soil sample, vegetation sample and a food crop sample.

The team readied their vehicle and completed survey meter and air sampler equipment checks. Background radiation measurements were taken at the staging area. The team left the staging area at 1524. They used a Garmin Global Positioning System to direct them to Harrison Park. While en route, they had their Ludlum Model 19 microRoentgen (uR) meter turned on and placed on the vehicle dash. This allowed them to monitor for changing radiological conditions.

The team arrived at Harrison Park at 1531. They determined that it was a suitable location to obtain an air sample. Prior to getting out of the vehicle, all team members donned disposable shoe covers (simulated) and two pair of disposable gloves. One team member acted as the recorder; she read procedures and did all paperwork. The other two team members conducted monitoring and sampling.

One team member took waist level and ground level radiation measurements. She used a Ludlum Model 19 uR meter to take waist level measurements (reported as normal background, approximately 12-14 microRoentgen/hr (uR/hr). A ground level measurement was made using a Ludlum Model 12 coupled with a 44-9 pancake Geiger Mueller detector. The ground background reading was measured at 40-60 counts per minute (cpm).

The Hi-Q low volume air sampler was set up to take a particulate and iodine sample. The air sampler and generator were placed on plastic bags as a precaution for contamination control. The air sample flow rate was three cubic feet per minute. The team was directed to take a 60 minute sample. The team recorder set a timer to ensure they stopped the air sampler at 60 minutes (60 minutes was simulated; the actual sample time was 10 minutes). While the air sample was running, the other two team members took a vegetation sample.

At the appropriate time, the air sampler was stopped and the sample head removed. The entire sample head was placed into a Ziploc type bag and was sealed. The sample was labeled with a sample number. Appropriate contamination controls were demonstrated while handling the

sample head to preclude cross contamination of the sample. The bagged sample head was placed into a larger bag along with Attachment B-6, Air Sampling Worksheet. The collection information section of Attachment B-6 was completed; the remainder of the form would be completed wherever the sample was counted (analyzed). The sample was placed in a white bucket in the back of the RERT A truck.

During all sampling and monitoring activities, the team used appropriate contamination controls. They limited what they placed on the ground and used bags to prevent equipment from becoming contaminated. After using sampling equipment, they wiped it down with paper towels and then monitored the towels for radioactive contamination. When sampling activities were complete, they took turns surveying each other using the Ludlum Model 12 with the pancake Geiger Muller detector. They said if they were contaminated above 100 counts per minute, they would contact the Staging Area Incident Commander or Oregon Health Advisor for direction. If needed, he would arrange for them to go to a monitoring/decontamination facility.

Throughout the exercise, the team stayed in touch with the Oregon Health Advisor. They kept him informed of their monitoring and sampling activities.

When monitoring and sampling activities were complete, the team was advised to return to the Staging Area. The team arrived back at the staging area at 1725. The team lead said that if directed, they would do a field count on the air sample at the Staging Area, but they would likely transfer samples to an Oregon State Police courier. The courier would take samples to the laboratory at Oregon State University in Corvallis, OR. The team described how they would take contact radiation level measurements on each sample. They completed Attachment 8, Chain of Custody Form, and explained how it would be used to maintain sample chain of custody during transport and handling.

Although the RERT teams would not typically be tasked with locating the plume, they described how they would monitor radiation levels to locate the plume. They said they would survey with the Ludlum microR meter while en-route. If they measured 10 times background, they would consider that the plume edge. If they found the plume edge, they would stop the vehicle and take waist and ground level measurements. The ground level measurement would be made with the Ludlum Model 12 coupled with a pancake Geiger Muller detector. They would then continue driving into the plume and take additional measurements. If they measured 2 mR/hr or greater, they would switch to the Eberline PIC6A. This instrument would allow the team to take survey meter beta shield open and closed window measurements to determine if they were in the plume. They would continue driving across the plume and try to locate both edges. They noted that their turn-back exposure rate was 300 mR/hr, but they did not anticipate measuring radiation exposures that high as they were approximately 40 miles from the plant. All monitoring information would be communicated to the Staging Area Incident Commander or Oregon Health Advisor. They would obtain a particulate and iodine air sample if directed. If an air sample were taken inside the plume, they would analyze the sample in a low background area.

On Ingestion Exercise day, the team was briefed on ingestion sampling activities and directed to go to the Willow Creek Dairy where they would take an air sample and ambient radiation measurements. They were informed that the release of radioactive material from the plant had terminated and little deposition was expected. When they arrived at the dairy, one team member got out of the vehicle and took waist level ambient radiation measurements. She also did a contamination survey of the ground using the Ludlum Model 12 coupled with a pancake Geiger-Muller detector. Both radiation measurements were normal background levels.

Once ambient radiation measurements were complete, the team set up their low volume air sampler and attached a sample head containing particulate and iodine sample media. The Honda electric generator was started and a 90 minute air sample collected with the sample pump running at 2 cubic feet per minute (90 minutes was simulated; actual sample time was 10 minutes). After sampling was complete, the sample head was removed and placed in a Ziploc type bag. The collection information of Attachment B-6, Air Sampling Worksheet, was completed along with Attachment B-8, Chain of Custody Form. Samples would be transferred to a courier as described above.

Over the two days, additional environmental samples were obtained (soil, water, and vegetation, milk, and food crops). Refer to criterion 4.b.1 for additional detail.

Criterion 4.b.1:

On Plume and Ingestion Exercise days, the RERT A was directed to take ambient radiation measurements and one low volume air sample each day. Details are provided in criterion 4.a.3. On both exercise days, the RERT A was also directed to take samples of soil, water, vegetation and a food crop. Milk samples were also collected. The Oregon Technical Advisor in Salem, OR was responsible for identifying the radiological area of concern due to potential plume deposition and development of a sampling plan. Since all sampling locations were in low background areas with very little radioactive deposition, minimal radiation exposure controls were required.

On Plume Exercise day, RERT A was assigned to drive to Harrison Park in Hermiston, OR to obtain a vegetation sample. Upon arrival at the sampling location, team members donned booties and double gloves for contamination control. They conducted a visual analysis of the location to determine if overhanging trees, buildings, or overpasses could interfere with the sampling site. Once an appropriate sampling spot was determined, one team member took a 360 degree radiation measurement approximately three feet above the ground using a Ludlum Model 19 microRoentgen (uR) meter. The radiation measurement was 12-14 microR/hr. She also took a contamination survey approximately one inch above the ground using a Ludlum Model 12 with a 44-9 Geiger Mueller pancake probe and found the area to be normal background at 40-60 counts per minute (cpm).

Two team members conducted vegetation sampling. One team member marked off a one meter square area using an expandable tape rule. Using grass cutting shears, she cut the vegetation (grass). She explained that she would minimize inclusion of roots and soil in the sample. A second person held open a one gallon Ziploc type bag. Vegetation was placed into the bag. The bag was sealed and they placed a sample collection sticker on the outside of the bag. The team recorder completed Attachment B-7: Sample Collection Form. The sample was placed in another bag (double bagged) and stored in a large bucket inside the vehicle.

A soil sample was obtained from a one square foot area with loose soil. The sample area was marked off using the expandable tape rule. The top layer of soil was removed with a trowel. They removed all of the soil to a depth of approximately one inch and placed it into a Ziploc type bag. The soil sample was double bagged and a copy of "Attachment B-7, Sample Collection Form" was filled out and placed inside the outer bag.

The team was directed to take a water sample while at Harrison Park. The team leader evaluated a small nearby pond and found a suitable location for sampling. Waist level (three feet) radiation measurements were taken near the water's edge. The water sample was taken using a one liter bottle on an extension pole. The water sample container lid was labeled with a sample number and the sample was double bagged. The recorder completed Attachment B-7, Sample Collection Form and placed a copy in the outer bag.

The RERT A team was also directed to take a sample of a food crop. Since the exercise demonstration was early spring, no local fruits or vegetables were available for the RERT to sample. Therefore, fresh fennel was provided so the RERT team could demonstrate how they would obtain and handle the sample. As described in prior sampling, the team took a three foot above ground radiation measurement prior to obtaining the fennel sample. One team member held a Ziploc type bag, the other simulated cutting fennel from the field. They simulated collecting two liters of fennel. The sample was labeled and double bagged as described above. Attachment B-7: Sample Collection Form was completed and the sample stored in the bucket awaiting transfer to a courier.

Throughout ingestion sampling procedures, contamination controls were utilized to preclude cross contamination of samples. Gloves were changed at appropriate times and samples double bagged and stored in an appropriate container so the samples could be transferred to a courier. Collection tools were wiped down and surveyed to ensure they were not contaminated prior to re-using.

Once sampling activities were complete, the RERT A returned to the staging area. In an actual emergency, when they arrived at the staging area, they would take contact radiation measurements on each sample and transfer samples to a courier. A separate Attachment B-8: Chain of Custody Form was completed for each of the samples. The team explained how they would transfer chain of custody to an Oregon State Police courier. The courier would take samples to Oregon State University in Corvallis, OR.

On Ingestion Exercise day, RERT A was assigned by the Oregon Health Advisor to take samples at two locations. They were directed to go to River Lodge in Boardman, OR to take a representative soil sample and a water sample from the Columbia River. After completing the two samples, they were to go to Willow Creek Dairy and take air, vegetation and crop samples. They would provide support to the Oregon Department of Agriculture (ODA) at Willow Creek Dairy while the ODA collected milk samples.

When they arrived at River Lodge, one team member got out of the vehicle and took waist and ground level radiation measurements. Surveys indicated normal background radiation levels. Team members got their water sampling apparatus and walked to the river behind the lodge. One team member used an expandable pole and plastic sample bottle to take a one liter sample from the surface of the river. A second team member assisted with handling and packaging. The sample was labeled and packaged as described during Plume Exercise day sampling activities.

A soil sample was obtained from an area near the river bank. The sample area was marked off using the expandable tape rule. The top layer of soil was removed with a trowel and placed it into a Ziploc type bag. The soil sample was double bagged and a copy of Attachment B-7, Sample Collection Form was filled out and placed inside the outer bag.

Once water and soil sampling were complete, the team drove to Willow Creek Dairy. Three representatives from the Oregon ODA followed them in a separate vehicle. When they arrived at the dairy, the team once again took waist and ground level radiation measurements. Normal background levels were found. The RERT A team lead provided direction to the ODA personnel regarding glove changes and contamination control. The ODA followed their procedures and collected two milk samples from different holding tanks. The RERT A requested the ODA collect approximately one liter of milk per sample. After each milk sample was collected, it was labeled, bagged, and packaged for the Oregon State Police for transport to the Oregon State University laboratory for analysis.

After milk sampling was complete, the team lead found a suitable location away from trees and buildings to take a deposition vegetation sample. Grass/weeds from a one square meter area was collected using grass shears. The sample was placed in a pock type bag. It was labeled and packaged as previously described.

The final sample was romaine lettuce. The team followed their procedure and used the grass shears to cut approximately two liters of romaine and place in a Ziploc type bag. The lettuce sample was labeled and packaged as described for collection of fennel.

All samples were placed into a plastic bucket in the back of the RERT A truck. Contact dose rates would be taken on samples and the measurement recorded on the Sample Collection Form. The team explained that they would complete a separate Attachment B-8: Chain of Custody Form for each sample. They would meet a courier at a location determined by the Oregon Health Advisor. During Ingestion Pathway activities, the Oregon Health Advisor contacted the

team and told them a simulated Oregon State Police officer would come to the dairy and pick up samples for transport.

After each sample was taken, the team used paper towels to wipe down sampling equipment. They surveyed the paper towels with the pancake Geiger-Muller detector to determine if any removable contamination was present. They explained how they could decontaminate their equipment, if needed.

At approximately 1329 on Ingestion Exercise day, all required samples were complete.

Demonstrated Strengths:

- Based on recommendations from the February 23, 2016 Dress Rehearsal, the Oregon Health Authority (OHA), Radiological Emergency Response Teams (RERTs), developed an "Incident Safety Briefing Checklist" that comprehensively addressed necessary radiological and physical safety concerns.
- A "Department of Agriculture Briefing Checklist" was developed to provide "just in time" training for agriculture staff supporting RPS in post-plume sampling. Per the RERT B Team Leader, these checklists will be incorporated into RPS procedures on their next scheduled plan update.
- FMT Survey instruments were prominently labeled with action levels. For example, their radiation survey instrument had a label indicating their turn back exposure limit of 300mR/hr.
- Teams had pre-packaged "kits" for each environmental sample type. This allowed for efficient sampling, packaging and labeling.
- RERTs demonstrated effective contamination control methods. Specified clean and contaminated activities were completed by designated individuals to minimize cross-contamination of samples, equipment and personnel.
- RERT team members demonstrated proficient knowledge of their procedures and job skills as they provided detailed explanations/training to new OHA personnel observing the exercise.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: 69-16-3.a.1-P-03
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.1.3 Oregon Field Monitoring Team B

Staff at the Oregon Health Authority (OHA), Radiation Protection Services, Radiological Emergency Response Team Bravo (RERT B) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

In accordance with the extent-of-play agreement, the RERT Alpha and Bravo teams were activated and dispatched in real time per the plume phase scenario.

At 0851, the Oregon Department of Energy Response Manager (RM), located in Salem, OR, notified the OHA RPS Duty Officer (DO) via telephone of an Alert Emergency Classification Level (ECL) at CGS. The RM directed the DO to dispatch two RERTs to the staging area at Fire Station #3 located at 78760 Westland Road in Hermiston, OR. Since the RERT members were already at work in the RPS offices, the DO was able to notify them personally and directed them to respond to the RPS equipment room on the second floor of the same building for their initial briefing.

At 0909, the DO conducted the initial operations and safety briefing for the RERTs. The briefing consisted of: Emergency Operations Center Incident Commander contact information; the Radiation Safety Officer (RSO) assignment, and that the RSO would provide a safety briefing at the staging area; RERT Alpha and Bravo team composition; RERTs were to proceed to the staging area with an estimated travel of 3 - 3.5 hours, and break for lunch upon arrival; conduct equipment checks and air sampler calibrations at the staging area; the ECL remained at Alert; updates would be provided every 15 minutes while en route to the staging area; a reminder of “safety first” in all RERT activities; and for RERTs to take UltraRadiacs and radios with them.

Following the initial briefing, RERT B members obtained their pre-packaged and inventoried emergency response kits, monitoring equipment, dosimetry and assigned vehicle. Equipment operational checks were conducted prior to their deployment to the staging area.

During the exercise, the RERT B Team Leader was interviewed to determine the process that would be used to notify and mobilize personnel during an off-hours incident at CGS. He stated the DO would be notified of an Alert, Site Area Emergency or General Emergency ECL at CGS. The DO would then use the Response Plan Call List to notify RPS personnel by telephone and to staff at least two RERTs. The call list included landlines, and personal and state issued cell phone numbers. The call list was included in RPS procedures, and printed on small laminated cards provided to RPS personnel. These cards were placed on a lanyard along with their work identification badges.

At 1000, while en route to the staging area, the OHA Health Advisor notified the Staging Area Incident Commander (SAIC) via cellular telephone that CGS had declared of Site Area Emergency ECL. At 1016, an update indicated an earthquake had occurred affecting CGS, and that a radiological release had begun. At 1048, an update indicated a General Emergency ECL, and a two-hour release was expected. Regional HAZMAT teams and CST 102 from Salem, OR were en route to Hermiston, OR to provide support to RPS. At 1208, an update indicated that conditions at CGS had stabilized and radioactive release magnitudes were low. At 1237, a notification was received for RERT B to dispatch to Riverfront Park, at Westland Road at SW 23rd to begin taking air, vegetation, soil, water, and crop samples. The SAIC promptly notified the RERTs of all updates received.

The RERT B arrived at the staging area at 1254. From the initial DO notification at 0851, the total response time was four hours and three minutes.

The DO, by interview, indicated that RPS had sufficient personnel trained as RERT members, in addition to support, as needed, from Oregon Civil Support Teams (CST) and regional HAZMAT teams, to staff at least two RERTs for 24-hour operation. Additionally, the Oregon Department of Agriculture would provide support for milk sampling. Long-term support would be available from the Federal Radiological Monitoring and Assessment Center.

Criterion 1.d.1:

Cellular telephones served as the primary communication system. Each team member had a personal and/or a state issued cellular telephone on either AT&T or Sprint service networks. Cellular telephones were used effectively in most areas.

Backup communications consisted of radios and satellite telephones. Each team member was issued a hand held Motorola XPR6530 radio, and a Motorola XPR4350 radio was mounted in the vehicle. The radios were operated on channel 1. The Motorola radios had a limited range as they were not linked to a repeater system. Each team had one Iridium satellite telephone. The RERT B Team Leader indicated that communications checks had been successfully conducted prior to departing the RPS offices in Portland, OR. The RERT B received routine exercise updates while en route to the staging area at Fire Station #3 in Hermiston, OR. At 1520, before departure from the staging area to their assigned sampling location, all primary and

backup communications were successfully tested by contacting the Staging Area Incident Commander and RERT Alpha. The sample location on Plume Exercise day at Riverfront Park was only minutes away from the staging area. No communications issues were identified.

On Ingestion Exercise day, at 0825, Motorola XPPR6530 radios were assigned to Oregon Department of Agriculture (ODA) representatives at the staging area. The attending ODA staff was supporting acquisition of milk samples at local dairies. At 0947, RERT B was dispatched to River Lodge in Boardman, OR, to take water and soil samples. At 0948, before departure from the staging area, all primary and backup communications were successfully tested by contacting the Staging Area Incident Commander, RERT Alpha, and the ODA. No communications issues were identified.

At 1050, RERT B was dispatched to the Columbia River Dairy, in Boardman, OR, to take milk, air, crop, and vegetation samples. The RERT B Team Leader called the OHA Health Advisor on the satellite phone to inform him the team was en route to the dairy and, since cellular service was marginal in that area, that communications should be via satellite phones.

During both Plume and Ingestion Exercise days, communications capabilities were adequate, with at least one system operable at all locations, and there was no interruption of emergency operations.

Criterion 1.e.1:

Equipment and supplies demonstrated under this criterion included potassium iodide (KI), dosimetry, monitoring equipment, and other equipment and supplies. The RERT B was adequately equipped for their assigned emergency functions.

Note: Potassium iodide (KI) does not apply to RERT activities in Oregon, as their operational area would be well outside the 10 mile Emergency Planning Zone. Only when supporting the State of Washington under mutual aid for a CGS event would Oregon RERT members be issued and briefed on KI.

Each RERT B member was issued a Landauer Luxel optically stimulated dosimeter (OSL) as a permanent record dosimeter. The OSLs are changed monthly or quarterly depending on the team member's routine occupational job assignment. The issue date of monthly OSLs was March 1, 2016, and January 1, 2016 for quarterly OSLs.

Each RERT B member was issued a Canberra UltraRadiac digital alarming electronic dosimeter. These devices were calibrated on February 19, 2016, February 22, 2016, and March 28, 2016. The UltraRadiac has a dose rate range up to 500 R/hr, and maximum dose logging up to 999 rem. These ranges are sufficient for team members to read established radiation limits of 300 mR/hr, 3 Roentgen (R) and 5 R. Team members recorded dosimeter readings on Attachment C-2:

Individual Dose Control Form. The device could toggle between exposure rate and cumulative exposure, as needed.

The team carried additional dosimetry for personnel supporting their field operations. Six additional annual OSL cards were available with an issue date of July 1, 2015. The team also had seven Arrowtech Model 725 0-5 Roentgen (R) Direct-Reading Dosimeters (DRDs) and seven Dosimeter Corporation of America (DCA) Model 622 0-20 R DRDs. All DRDs were leak checked on February 12, 2016. An annual OSL, 0-5 R DRD, and 0-20 R DRD were each assigned to Oregon Department of Agriculture personnel supporting milk sampling activities. Issued dosimetry was be returned to the Staging Area Manager following the event.

The RERT B was equipped with instrumentation capable of measuring gamma exposure rates and detecting beta radiation. These instruments were capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on air sample collection media, consistent with the intended use of the instrument and RPS procedures. Each instrument was labeled with calibration information as well as the range of readings acceptance criteria for source checking the instrument.

The team was equipped with: one Ludlum Model 19 microR meter, serial # 14508, with annual calibration due on April 28, 2016, and quality control range of readings from 2,330 uR/hr - 4,320 uR/hr; one Eberline PIC 6A ionization chamber, serial #2156, with annual calibration due April 27, 2016, and quality control range of readings from 4.0 - 6.0 mR/hr; and one Ludlum Model 12 survey meter, serial #13333, with annual calibration due on March 30, 2016, coupled with a Ludlum model 44-9 pancake Geiger Muller detector, serial #13319, with annual calibration due March 30, 2016. Scale corrections for the Ludlum 12 were 1.00 for the X1, X100, and X1000 scales, and 1.05 for the X10 scale.

All three survey meters and associated detectors were operationally checked and source checked prior to use with a 9.65 uCi Cs-137 check source, serial #0106102. Each instrument responded within the range of readings label on the applicable instrument case, and documented on "Attachment A, Radiation Instrument QC Check" form.

One backup Ludlum Model 19 microR meter, serial #225068, with annual calibration due on December 19, 2016, was available as a backup. This device was provided to the Oregon Department of Agriculture team for monitoring while en route to the dairy farm for milk sampling, and was returned to the Staging Area Manager at the end of the event. Additional backup equipment and supplies could be requested via the OHA Health Advisor, as needed.

The RERT B was assigned a Ford F150XL truck specifically equipped for response to a radiological incident. The cab held up to five persons. The cargo area had been customized with storage compartments on both sides, and a retractable shelf in the truck bed for storing equipment and supplies.

There were two air samplers: a Hi-Q Environmental Products model S235V low flow rate portable air sampler and a Hi-Q CF902 high flow rate air sampler. The high flow rate air sampler was calibrated each exercise day, on March 29 and 30, 2016, using a Hi-Q D-AFC-50 calibrator and operationally checked prior to leaving the staging area. The Hi-Q D-AFC-50 calibrator annual calibration is due on January 27, 2017. The RERT B was only assigned high volume air sampling during the exercise.

The RERT B had multiple pre-assembled bags and boxes that contained survey and sampling equipment, current procedures, forms and maps, protective clothing and safety equipment, air sampling supplies, silver zeolite cartridges, sample packaging supplies and decontamination supplies. The team fully inventoried the monitoring and sampling equipment prior to leaving their RPS offices in Portland, OR. A Garmin Global Positioning System unit was included to aide in navigation to their assigned sampling locations. Each RERT member had a "go bag" that contained personal protective equipment and rain gear to meet individual size requirements.

Criterion 3.a.1:

Each RERT B member was issued a Landauer Luxel optically stimulated dosimeter (OSL) as a permanent record dosimeter. The OSLs are changed monthly or quarterly depending on the team member's routine occupational job assignment. Additionally, each RERT B member had a Canberra UltraRadiac digital alarming electronic dosimeter with a dose rate range up to 500 R/hr, and maximum dose logging up to 999 rem. These ranges are sufficient for team members to read established radiation limits of 300 mR/hr, 3 Roentgen (R) and 5 R. The device could toggle between exposure rate and cumulative exposure, as needed. Team members recorded dosimeter readings on Attachment C-2: Individual Dose Control Form.

On Ingestion Exercise day, the Staging Area Manager used the "Department of Agriculture Briefing Checklist" to provide "just in time" training for Oregon Department of Agriculture personnel supporting milk sampling. The training including exposure limits and control, purpose and use of dosimetry, and operation of a Ludlum Model 19 uR meter that would be used to monitor ambient radiation levels while en route to the dairies assigned for milk sampling. The team issued dosimetry to agriculture personnel, including an OSL and two Direct-Reading Dosimeters (0-5 R and 0-20R). Dosimeter readings were logged for support personnel at the beginning and end of milk sampling activities on individual dose control forms. Issued dosimetry and meters were returned to the Staging Area Manager following the event.

On both Plume and Ingestion Exercise days, the Radiation Safety Officer (RSO) conducted a pre-deployment briefing using the "Incident Safety Briefing Checklist" that comprehensively addressed necessary radiological and physical safety concerns. The briefing included: current CGS status and Emergency Classification Level; radiological release status; expected deposition in Oregon; weather conditions; UltraRadiac readings to be recorded every 30 minutes (Plume Exercise day) and one hour (Ingestion Exercise day) if two times background was measured; conduct and document equipment operational checks; turn-back exposure rate of 300 mR/hr, and

3R and 5R dose limits; contact the Staging Area Incident Commander of any dose accrual; 10 Rem limit for protecting property/infrastructure; 25 Rem for lifesaving; contamination level of 100 cpm; personal protective equipment level requirements and contamination control measures; conduct communications checks on primary and backup systems; environmental and physical safety considerations; wear identification badges; expected response to be four days; and safety first in all activities.

On Plume Exercise day, after leaving the staging area, the team recorder set a timer for thirty minutes for recording UltraRadiac readings on individual dose control forms. On Ingestion Exercise day, guidance was for recording UltraRadiac readings at one hour intervals if ambient measurements exceeded two times background. The measured background at the staging area was 8 uR/hr. Two times background, or 16 uR/hr, was not reached during the exercise; so only initial and final UltraRadiac readings were recorded on individual dose control forms.

The RERT B team members were interviewed on exposure limits and the use and precautions of KI. Team members explained the 300 mR/hr turn-back limit and stated they would report their accumulated exposures per the frequency directed by the RSO. They were aware of requirements to report exposures of 3 R and 5 R, and that the Staging Area Incident Commander would contact the Health Advisor in Salem, OR when doses of 3 R were reached to determine if the team should continue their assignment. The team indicated that 5 R was considered a turn-back exposure limit that would not be exceeded without prior approval by the Oregon Health Advisor. Team members were aware that stable iodine from KI will saturate the thyroid and minimize uptake of radioactive iodine, and that allergies to shellfish could prohibit its use. The team members indicated they would turn in their dosimetry and individual dose control forms to the Staging Area Incident Commander, as directed.

Note: Use of KI does not apply to RERT activities in Oregon, as their operational area would be well outside the 10 mile Emergency Planning Zone (EPZ). Only when supporting the State of Washington under mutual aid for a CGS event would Oregon RERT members be issued and briefed on KI.

Note that a Total Effective Dose Equivalent (TEDE) correction factor would not typically apply to emergency workers outside the 10 mile EPZ; however, if required, the 3 R limit is sufficiently low to allow a TEDE correction and still remain below Environmental Protection Agency guidance.

Criterion 4.a.3:

The RERT B demonstrated the capability to make and report measurements of ambient radiation to the Oregon Health Advisor in Salem, OR, and to obtain an air sample for measurement of airborne radioiodine and particulates. Particulate and iodine air samples would not typically be analyzed in the field. If directed to count the sample media in the field, the team indicated they would move to a low background area for counting to determine if significant amounts of

radioactivity had been collected. Attachment B-6 Air Sample Worksheet would be used to calculate the iodine activity in uCi/cc.

At 0909, the OHA Duty Officer (DO) conducted the initial operations and safety briefing for responding RPS staff. The briefing consisted of: Emergency Operations Center Incident Commander contact information; the Radiation Safety Officer (RSO) assignment, and that the RSO would provide a safety briefing at the staging area; RERT Alpha and Bravo team composition; RERTs were to proceed to the staging area with an estimated travel of 3 - 3.5 hours, and break for lunch upon arrival; conduct equipment checks and air sampler calibrations at the staging area; the Emergency Classification Level (ECL) remained at Alert; updates would be provided every 15 minutes while en route to the staging area; a reminder of "safety first" in all RERT activities; and for RERTs to take UltraRadiacs and radios with them.

Routine updates were provided to the RERTs while en route to the staging area at Fire Station #3 in Hermiston, OR. The teams were notified of escalation to a Site Area Emergency ECL, General Emergency ECL, and that a radiological release had occurred. RERT B arrived at the staging area at 1254, in just over four hours from the initial DO notification of the CGS event at 0851. The staging area was located about 40 miles south of CGS, well outside the 10 mile plume exposure pathway Emergency Planning Zone (EPZ). Oregon RERTs would not typically be tasked with plume phase assignments to locate and quantify the radioactive release, unless supporting the State of Washington within the 10 mile EPZ per mutual aid agreements. As such, the RERTs activities were to support post-plume sampling for the 50 mile ingestion exposure pathway EPZ.

The Oregon Health Advisor in Salem, OR, communicated with the Staging Area Incident Commander (SAIC) to determine locations for RERT post-plume monitoring and sampling. The SAIC would then direct RERT monitoring and sampling activities. Due to the real time arrival of the RERTs at the staging area, followed by onsite equipment operational checks and preparation, RERT B was dispatched to the field at 1520, after the plume exercise had ended. The Oregon Health Advisor continued to participate and direct RERT monitoring and sampling activities in support of required sampling per the extent-of-play agreement.

At 1430, RERTs A and B were briefed by the Radiation Safety Officer. The briefing included: plant status and General Emergency ECL; radioactive release terminated at 1249; wind speed at 10 mph from the north (toward Oregon); minimal radioactive deposition expected in Oregon; radiation exposure control measures; communication requirements; and RERT monitoring location assignments. The RERT B was assigned to take ambient radiation measurements, and air, water, soil, vegetation, and crop samples at Riverfront Park, located at Westland Road and SW 23rd Street in Hermiston, OR.

The RERT B conducted all pre-deployment preparations, including equipment operational checks, pre-packaging sample media into separate 1-gallon bags, and preparing sample paperwork and chain of custody forms. A background radiation measurement of 8 uR/hr was

taken at the staging area using a Ludlum Model 19 microRoentgen (uR) meter. Communications checks were successfully conducted. The team departed the staging area at 1520. The Ludlum Model 19 uR meter was monitored while en route for potential changes in radiation levels. A Garmin Global Positioning System was used to locate Riverfront Park.

The team arrived at Riverfront Park at 1523. They determined the location was a suitable for collecting all required samples. Team members donned disposable shoe covers and two pair of disposable gloves prior to leaving the vehicle. One team member acted as a procedure reader and data recorder. The two remaining team members conducted monitoring and sampling activities.

Waist level dose rate measurements were taken using the Ludlum Model 19 uR meter, and ground level count rate measurements were taken using a Ludlum Model 12 with a 44-9 Geiger Mueller pancake probe at each sampling location. Respective readings ranged from 5.5 to 8.5 microRoentgen/hr (uR/hr), and 30 to 40 counts per minute (cpm). All readings were at background levels. The Ludlum devices were placed in gallon plastic bags for additional contamination control.

A large sheet of black plastic was laid on the ground for contamination control. All equipment and supplies used for sampling was placed on the plastic. The Hi-Q high volume air sampler was set up on a tripod to take a particulate sample and connected to a portable Honda generator. The air sample flow rate was 35 cubic feet per minute, with a sample time of 20 minutes. The team recorder set a timer for 20 minutes to ensure an accurate sample time. The air sample was run from 1540 to 1600. While the air sample was running, the team members made efficient use of their time and took a vegetation sample.

A vegetation sample was taken in accordance with procedures from 1550 to 1558.

At 1600, the air sampler was stopped and the particulate filter removed using tweezers. The filter was placed into a Ziploc plastic bag and sealed. The sample was labeled with a sample number and double bagged. The Attachment B-6, Air Sampling Worksheet was appropriately filled in and inserted into the outer bag. Effective contamination controls were demonstrated while handling the filter paper to prevent potential cross contamination of the sample. The sample was placed in a white bucket in the back of the RERT B vehicle.

A soil sample was taken in accordance with procedures from 1615 to 1629.

A water sample was taken in accordance with procedures from 1640 to 1650.

A crop sample was taken in accordance with procedures from 1655 to 1700.

The team took contact radiation level measurements on each sample using the Ludlum Model 19 uR meter. Swiping the outer sample bags and counting with the Ludlum Model 12 and 44-9 pancake probe confirmed the sample bags were not contaminated.

Note that full post-plume sampling details are included under criterion 4.b.1.

During all monitoring and sampling activities, the team used effective contamination controls. Team members were cognizant to bag items, as appropriate, and placing them on the clean black plastic to avoid potential contamination. After use, sampling equipment was cleaned with paper towels. The towels and equipment were then monitored for contamination using the Ludlum Model 12 and 44-9 pancake probe. When sampling activities were complete, team members surveyed each other using the Ludlum Model 12 and 44-9 pancake probe. All potential radioactive trash was collected in a marked bag and sealed.

Team members knew the 100 cpm contamination limit, and were familiar with basic field decontamination methods such using baby wipes and sticky tape. The RERT B Team Leader stated they would contact the SAIC or Oregon Health Advisor if anyone was contaminated, and ask for further instructions if field decontamination was not effective.

Attachment B-8: Chain of Custody Forms were completed for each sample taken. By interview, the RERT B Team Leader stated that samples would be transferred to samples to an Oregon State Police courier at the staging area. The courier would take samples to the designated analysis laboratory at Oregon State University in Corvallis, OR. The RERT B Team Leader explained that the chain of custody process was designed to ensure sample integrity during transport and handling. Note, however, that the existing chain of custody form is not a multi-part (carbon) form. As such, the only copy goes with the sample. *A recommendation was made that RPS consider a three-part carbon form where the first copy stays with RPS, the second copy stays with the courier, and the third copy remains with the sample at the analysis laboratory. Additionally, tamper seals were recommended for all sample containers/bags (similar to those used by the Oregon Department of Agriculture for milk samples).*

Throughout the exercise, RERT B informed the Oregon Health Advisor of their monitoring and sampling activities. Monitoring and sampling activities were completed at 1708, and the team returned to the staging area at 1714.

The Oregon RERTs would not typically be tasked with locating the plume unless providing support to the State of Washington within the 10 mile EPZ of CGS. The team described, by interview, how they would monitor radiation levels to locate the plume. They said they would survey with the Ludlum microR meter while en-route. A measurement of 10 times background would be considered the plume edge. If they found the plume edge, they would stop the vehicle and take waist and ground level measurements (as described above). The ground level measurement would be made with the Ludlum Model 12 and 44-9 pancake probe. They would continue to traverse the plume and take additional measurements. If measurements were $\geq$ 2

mR/hr using the Ludlum Mode 19 uR meter, they would switch to the Eberline PIC6A, and take open and closed window measurements to determine if they were immersed in the plume. The traverse would continue across the plume to locate both edges. Low volume particulate and iodine air samples would be taken, at locations directed by the Staging Area Incident Commander or Oregon Health Advisor. If an air sample were taken inside the plume, the team would relocate to a low background area to analyze the sample.

On Ingestion Exercise day, the team was briefed on ingestion sampling activities and directed to go to the Columbia River Dairy to take an air sample and ambient radiation measurements. They were informed that the release of radioactive material from the plant had terminated and low level deposition was expected. Upon arrival at the dairy, the team members donned booties and double gloves. A team member then got out of the vehicle and took waist level measurement using the Ludlum Model 19 uR meter, and ground measurements using the Ludlum Model 12 and 44-9 pancake probe. Both radiation measurements were at background levels.

A large sheet of black plastic was then laid on the ground for contamination control. The Hi-Q high volume air sampler was set up on a tripod to take a particulate sample and connected to a portable Honda generator. The air sample flow rate was 35 cubic feet per minute, with a sample time of 20 minutes. The team recorder set a timer for 20 minutes to ensure an accurate sample time. The air sample was run from 1138 to 1158. While the air sample was running, the team members made efficient use of their time and worked with Oregon Department of Agriculture staff to take milk samples. One team member remained to monitor the air sample. At 1158, the air sampler was stopped and the particulate filter removed using tweezers. The filter was placed into a Ziploc plastic bag and sealed. The sample was labeled with a sample number and double bagged. The Attachment B-6, Air Sampling Worksheet was appropriately filled in and inserted into the outer bag. Attachment B-8, Chain of Custody Form was completed for the air sample. The sample transfer to a courier would be conducted as described above.

Criterion 4.b.1:

On Plume and Ingestion Exercise days, the RERT B was directed to take ambient radiation measurements and one low volume air sample each day. Details are provided in criterion 4.a.3. On both exercise days, the RERT B was also directed to take soil, water, vegetation and crop samples for criterion 4.b.1. Two milk samples were collected on Ingestion Exercise only. The Oregon Technical Advisor in Salem, OR was responsible for identifying the radiological area of concern due to potential plume deposition and development of a sampling plan. Since all sampling locations were in low background areas with very little radioactive deposition, minimal radiation exposure controls were required.

On Plume Exercise day, RERT B was assigned to take air, soil, water, vegetation, and crop samples at Riverfront Park, located at Westland Road and SW 23rd Street, in Hermiston, OR. Team members donned booties and double gloves for contamination control. Upon arrival at the sampling location, the team conducted a visual analysis of the location to determine if

overhanging trees, buildings, or overpasses could interfere with the sample quality. Appropriate sampling locations were identified for all samples. A team member took waist level dose rate measurement at each sample locations using a Ludlum Model 19 microRoentgen (uR) meter. The radiation measurements varied from 6 to 8 uR/hr. Ground level count rate measurements were taken at each sample location using a Ludlum Model 12 with a 44-9 Geiger Mueller pancake probe. The count rate measurements varied from 30 to 40 counts per minute (cpm). All readings were at background levels.

An air sample was taken in accordance with procedures from 1540 to 1600, as described in criterion 4.a.3.

A vegetation sample was taken in accordance with procedures from 1550 to 1558. One team member marked off a one square meter area in a grassy area using a folding ruler, and used a pair of shears to cut the top portion of the grass where plume deposition would most likely occur. Another team member held open a one gallon Ziploc plastic bag in which the cut grass was placed. Air was forced from the bag before sealing. The sample was double bagged and the completed Attachment B-7: Sample Collection Form was placed in the outer bag. A sample collection sticker was placed over the seal of the outer bag. The vegetation sample was then stored in a large bucket inside the vehicle.

A soil sample was taken in accordance with procedures from 1615 to 1629. A folding ruler was used to mark a one square foot sample area over loose soil. The top layer of soil, to a depth of one inch, was removed with a trowel and placed into a Ziploc plastic bag. Air was forced from the bag before sealing. The sample was double bagged and the completed Attachment B-7: Sample Collection Form was placed in the outer bag. A sample collection sticker was placed over the seal of the outer bag. The soil sample was then stored in a large bucket inside the vehicle.

A water sample was taken in accordance with procedures from 1640 to 1650. A suitable location for sampling was found on the bank of the Umatilla River. The water sample container was labeled with a sample number before the sample was taken. The water sample was collected using a one liter bottle on an extension pole. Air was forced from the bag before sealing. The sample was double bagged and the completed Attachment B-7: Sample Collection Form was placed in the outer bag. A sample collection sticker was placed over the seal of the outer bag. The water sample was then stored in a large bucket inside the vehicle.

A crop sample was taken in accordance with procedures from 1655 to 1700. Since the exercise demonstration was in early spring, no local fruits or vegetables were available for the RERT to sample. Therefore, fresh romaine lettuce was provided so the RERT team could demonstrate the capability to obtain a crop sample. One team member held a Ziploc plastic bag while the other simulated removing the lettuce from an open air vegetable stand and placing it into the bag. Air was forced from the bag before sealing. The sample was double bagged and the completed Attachment B-7: Sample Collection Form was placed in the outer bag. A sample collection

sticker was placed over the seal of the outer bag. The crop sample was then stored in a large bucket inside the vehicle.

Throughout the post-plume sampling process, contamination controls were utilized to preclude cross contamination of samples. Team members were cognizant of "clean" and "dirty (contaminated)" gloves during the acquisition of each sample. Gloves were changed at appropriate times when handling potentially contaminated equipment or samples. Hands were monitored routinely using a Ludlum Model 12 and 44-9 pancake probe. All samples were double bagged and stored in a large bucket for eventual transfer to a courier. Collection tools were wiped down with towels, and the towels and equipment surveyed using a Ludlum Model 12 and 44-9 pancake probe to ensure they were not contaminated.

The team took contact radiation level measurements on each sample using the Ludlum Model 19 uR meter. Swiping the outer sample bags and counting with the Ludlum Model 12 and 44-9 pancake probe confirmed the sample bags were not contaminated.

Plume Exercise day sampling activities ended at 1709. The RERT B then returned to the staging area. A separate Attachment B-8: Chain of Custody Form was completed for each of the samples. The RERT B Team Leader described the sample transfer chain of custody to an Oregon State Police courier. The courier would then take the samples to the analysis laboratory at Oregon State University in Corvallis, OR.

On Ingestion Exercise day, the Oregon Health Advisor assigned RERT B to take samples at soil and water samples at the River Lodge in Boardman, OR, followed by air, vegetation, crop, and milk samples at the Columbia River Dairy. The team was to provide radiological support to the Oregon Department of Agriculture (ODA) at the dairy while milk samples were collected.

Upon arrival at the River Lodge at 1008, team members donned booties and double gloves. A team member took waist level dose rate measurement at each sample locations using a Ludlum Model 19 uR meter. The radiation measurements varied from 6 to 8 uR/hr. Ground level count rate measurements were taken at each sample location using a Ludlum Model 12 with a 44-9 Geiger Mueller pancake probe. The count rate measurements varied from 40 to 60 cpm. All readings were at background levels.

A water sample was taken in accordance with procedures from 1017 to 1029. The water sample was taken from the Columbia River. Sample collection, packaging, labeling, completion of sample and chain of custody forms, and contamination control measures were as described during Plume Exercise day sampling activities.

A soil sample was taken in accordance with procedures from 1035 to 1046. The soil sample was obtained from a dry, flat area about 50 meters from the river. Sample collection, packaging, labeling, completion of sample and chain of custody forms, and contamination control measures were as described during Plume Exercise day sampling activities.

At 1055, the RERT B departed River Lodge for the Columbia River Dairy, arriving at 1125. Two ODA staff followed in a separate vehicle. Air, vegetation, crop and two milk samples were to be taken at this location. Team members donned booties and double gloves. The ODA staff donned double gloves and knee-high rubber boots. A team member took waist level dose rate measurement at each sample locations using a Ludlum Model 19 uR meter. The radiation measurements varied from 8 to 9 uR/hr. Ground level count rate measurements were taken at each sample location using a Ludlum Model 12 with a 44-9 Geiger Mueller pancake probe. The count rate measurements varied from 30 to 50 cpm. All readings were at background levels.

While the ODA staff gathered their equipment and prepared their paperwork for the milk samples, the RERT B placed a large sheet of black plastic on the ground for contamination control. All equipment and supplies used for sampling was placed on the plastic.

An air sample was taken in accordance with procedures from 1138 to 1158, as described in criterion 4.a.3. While the air sample was running, the team members made efficient use of their time and supporting ODA staff taking the milk samples. One team member remained to monitor the air sample.

The RERT B Team Leader provided direction to the ODA personnel regarding glove changes and contamination control, as well as monitoring exposure control. The ODA followed their procedures and collected two milk samples from different holding tanks. The RERT B requested the ODA collect approximately one liter of milk per sample. The RERT members were cognizant of potential contamination and monitored equipment and personnel using a Ludlum 12 with a 44-9 pancake probe. Each milk sample was labeled and paperwork completed per ODA procedures. The ODA used multi-part carbon forms, maintaining their copy, and placing remaining copies with the sample, and a tamper seal was placed on the outer sample bag. Upon completion, RERT B members received the milk samples in a separate gallon Ziploc plastic bag, completed an Attachment B-7: Sample Collection Form, and double bagged the sample placing the form in the outer bag. A sample label was placed over the seal of the outer bag. The milk samples were then placed in a large bucket in the back of the vehicle.

A vegetation sample was taken in accordance with procedures from 1226 to 1234, in a grassy area about 75 meters from the Columbia River Dairy milk storage tanks. Sample collection, packaging, labeling, completion of sample and chain of custody forms, and contamination control measures were as described during Plume Exercise day sampling activities.

A crop sample was taken in accordance with procedures from 1237 to 1244. Fennel was provided for this sample. Sample collection, packaging, labeling, completion of sample and chain of custody forms, and contamination control measures were as described during Plume Exercise day sampling activities.

The team took contact radiation level measurements on each sample using the Ludlum Model 19 uR meter. Swiping the outer sample bags and counting with the Ludlum Model 12 and 44-9

pancake probe confirmed the sample bags were not contaminated. All samples were placed into a plastic bucket in the back of the RERT B vehicle.

Attachment B-8: Chain of Custody Forms were completed for each sample taken. By interview, the RERT B Team Leader described the chain of custody process as shown above for Plume Exercise day, and in criterion 4.a.3. *Also, note that a recommendation was made that RPS consider a three-part carbon chain of custody form and to consider use of tamper seals for all sample containers,* as described in criterion 4.a.3.

At 1245 on Ingestion Exercise day, all required samples were complete.

Demonstrated Strengths:

- Based on recommendations from the February 23, 2016 Dress Rehearsal, the Oregon Health Authority (OHA), Radiological Emergency Response Teams (RERTs), developed an "Incident Safety Briefing Checklist" that comprehensively addressed necessary radiological and physical safety concerns.
- A "Department of Agriculture Briefing Checklist" was developed to provide "just in time" training for agriculture staff supporting RPS in post-plume sampling. Per the RERT B Team Leader, these checklists will be incorporated into RPS procedures on their next scheduled plan update.
- FMT Survey instruments were prominently labeled with action levels. For example, their radiation survey instrument had a label indicating their turn back exposure limit of 300mR/hr.
- Teams had pre-packaged "kits" for each environmental sample type. This allowed for efficient sampling, packaging and labeling.
- RERTs demonstrated effective contamination control methods. Specified clean and contaminated activities were completed by designated individuals to minimize cross-contamination of samples, equipment and personnel.
- RERT team members demonstrated proficient knowledge of their procedures and job skills as they provided detailed explanations/training to new OHA personnel observing the exercise.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: 69-16-3.a.1-P-03
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.1.4 Morrow County Emergency Operations Center

Staff at the Morrow County Emergency Operations Center (EOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

An initial notification was made over commercial telephone to the Morrow County Undersheriff/Emergency Manager at 0950 from the Oregon Department of Energy Emergency Operations Center (ODOE EOC) County Liaison. This initial call was to confirm Morrow County telephone numbers and to confirm notification "that there had been an event" at CGS. The Undersheriff/Emergency Manager could confirm the phone numbers, but had not been notified of any event. The ODOE EOC County Liaison immediately told the Undersheriff/Emergency Manager he would check into this and terminated the initial call. The ODOE EOC County Liaison called back at 0958. He notified the Undersheriff/Emergency Manager that there was an event at CGS, that there had been a release of radioactive material, but that it did not affect Oregon or Morrow County at that time. No mention of the Emergency Classification Level (ECL) was made. No actions were requested of Morrow County at that time. Subsequently it was found that the County Liaison was unable to send information to Morrow County EOC by facsimile. The reason was not determined as the facsimile machine located in the 911 Center was functioning and documents from other sources were received during the exercise period. It was also found the County Liaison was using a wrong email address for the Morrow County Undersheriff/Emergency Manager and when the Liaison discovered this and corrected it, emailed information began arriving starting at 1059. The communications problems were fully resolved during the Ingestion Exercise on March 30, 2016 when Morrow County was provided access to the ODOE WebEOC system.

With the information provided during the 0958 phone call, the Undersheriff/Emergency Manager decided to make notifications (real and simulated) of key personnel in the event the situation worsened and a full activation of the County EOC was needed. These notifications were to the County Sheriff (real), the County Health Department (real), the County Commissioners (simulated), the County Court (simulated), the County Administrator (real), all local Fire Departments (simulated), and all local Emergency Medical Services (simulated). These key personnel and entities were given what information that was available and they were told stay accessible for deployment. The Morrow County EOC was operational at 0958 with the notification of the Undersheriff/Emergency Manager and all key personnel had been notified and placed on stand-by by 1059.

No formal notifications of subsequent ECL changes were made to the Morrow County EOC. The Undersheriff/Emergency Manager became aware of the Site Area Emergency ECL at 1032

during a conference call with the ODOE EOC and of the General Emergency ECL at 1334 during another conference call. There was no provision for confirmation of notifications found in the "Oregon CGS/Hanford Emergency Response Plan" revised April 2015 or in the "Morrow County, Oregon Radiation Ingestion Pathway Response Plan" dated March 2013.

No other personnel were called in for this exercise. A roster of available trained personnel to provide 24 hour Staffing of the Morrow County EOC was available and maintained in the office on computer and would be updated as needed.

Criterion 1.b.1:

The Morrow County Emergency Operations Center (EOC) was located at 325 Willow View Drive, Heppner, OR. The EOC was collocated with the Morrow County Sheriff's Office and 911 Communications Center.

The main room of the EOC also served as the office of the Undersheriff/Emergency Manager. The room was furnished with a large desk and conference table that could easily manage approximately 10 people. The EOC was of adequate size to accommodate anticipated EOC staff as well as supporting equipment and supplies.

The main room of the EOC was adjacent to the 911 Communications Center. Copiers, facsimile machines, and additional supplies and communications equipment were located in the 911 Communications Center as well as in a room designated as the Records Room.

Lighting was bright, indirect and even throughout the facility. The HVAC system was operable and made the working areas comfortable. Backup power to the building was provided by a propane-powered generator. The generator and stored fuel had the capability to power the entire building for approximately two weeks.

There was one main entrance, and two additional emergency exits. Access control was maintained electronically 24/7 for the Sheriff's Office. Employees and visitors had to move through two locked doors to gain entry to the Morrow County EOC. Between the two locked doors was a foyer area, with a glass window, looking into an office area, where visiting individuals could provide their credentials or identification before entering.

Three restrooms were located in the facility. There was a vending area, and a coffee maker, a microwave and refrigerator.

Layout of this facility was not documented in Oregon or Morrow County plans or procedures.

Criterion 1.c.1:

Morrow County did not call additional staff in for this exercise. The Undersheriff/Emergency Manager simulated notifications and updates to key elected and throughout the event. Actual "Exercise" updates were emailed to the Court Administrator and simulated to County Sheriff, the County Health Department, the County Commissioners, the County Administrator, all local Fire Departments, and all local Emergency Medical Services. These occurred at 1007, 1039, 1112, and 1240.

The Undersheriff/Emergency Manager was responsible for decision making and coordination with the State of Oregon Department of Energy EOC and with all local jurisdictions and entities. This was accomplished during conference calls initiated by the State and by simulation to County assets.

There were copies of the Oregon Department of Energy "Oregon CGS/Hanford Emergency Response Plan" Revised April 2015 and the "Morrow County, Oregon Radiation Ingestion Pathway Response Plan" dated March 2013 in the County EOC and available for use.

Criterion 1.d.1:

The primary means of communication was the use of a combination of commercial telephones and email. Commercial telephone lines were supported by fiber optics, with backup provided by microwave capability. The Undersheriff/Emergency Manager sent and received emails via MS Outlook.

Backup communications were available via cellular telephone, facsimile machine, and the 911 Call Center. Primary and backup means of communication were regularly used on a day-to-day basis by the Morrow County Sheriff's Department, which was collocated with the EOC, so no special setup or operational testing was conducted prior to the exercise.

The 911 Call (Dispatch) Center was supported by a 450 MHz radio system, which was interoperable with the Fire and Police Departments. Backup was provided by a VHF radio system that had been recently upgraded and a mobile communications truck with an onboard generator. Four CAD computer dispatch workstations were installed in the 911 Call Center. It was noted by the Undersheriff/Emergency Manager that Umatilla County used the same CAD system, and if either County's system became inoperable, the other County's system could be utilized. Using the current repeat tower, cellular telephone reception (e.g., voice, text, email) was described by the Undersheriff/Emergency Manager as "robust". The EOC was also supported by an ARES/RACES amateur radio system and licensed operators.

Consistent with Table 7-1 of the Oregon CGS/Hanford Emergency Response Plan, as revised March 2013, communications between the Oregon Department of Energy (ODOE) and Morrow

County, specifically, is supported by the use of commercial telephone lines, email, cellular telephones, and amateur radio services.

There were no communications equipment failures observed during the exercise.

Communications traffic was managed without delay, even with the occurrence of two isolated challenges. At 0907, ODOE contacted the 911 Call Center to say that an exercise was to be conducted. Notification of this initial contact was not transmitted to the Undersheriff/Emergency Manager located in the Morrow County EOC. Once discovered, dispatchers were advised to transmit any such communications to the Undersheriff/Emergency Manager. At another time, during the same morning, the ODOE attempted to transmit a facsimile to the Morrow County EOC, but received continuous busy signals. During this time, the facsimile machine, which was called at the Morrow County EOC, received one one-page fax from another source, but otherwise was unavailable. Thereafter, information and documents were forwarded to the Undersheriff/Emergency Manager by email.

Criterion 1.e.1:

The Undersheriff/Emergency Manager was assigned a desktop computer with two screens from which he could email and monitor the activities of Umatilla County and the State of Oregon. During the exercise, Oregon Department of Energy (ODOE) utilized WebEOC 8.0. Historically and during the plume phase of this exercise, it was not made available to the Morrow County EOC. During the Ingestion Exercise, on March 30, 2016, at approximately 1130, ODOE provided direct access to WebEOC to the Undersheriff/Emergency Manager and the Morrow County EOC. The Undersheriff/Emergency Manager noted that access to WebEOC made a tremendous difference in his ability to know what was going on in his State and in Umatilla County, and to his ability to anticipate potential actions and support needs. The Undersheriff/Emergency Manager confirmed with his contact at Oregon Emergency Management (OEM) that this capability and access would continue uninterrupted after the exercise. OEM had an established capability of providing a record of actions and status updates with Morrow County via Ops Center software, but it was not utilized during the exercise.

The Undersheriff/Emergency Manager had both video-conferencing and teleconferencing capabilities. Multiple facsimile and copy machines were available. A Panasonic Panaboard was available for maintaining a handwritten timeline. A flat-screen monitor and a flat-screen TV with DirecTV cable and recording capability were available. Two oversized maps: a 50 mile Emergency Planning Zone (EPZ) map and a 50 mile Ingestion Pathway Zone (IPZ) map, were displayed.

Multiple copies of plans and procedures were available, including: “Morrow County Oregon Emergency Operations Plan,” dated March 2012, “Umatilla/Morrow Emergency Service Radio Operator’s Emergency Communications Plan,” “ODOE EOC Activation,” dated April 2015,

"Morrow County Oregon Radiation Ingestion Pathway Response Plan," dated March 2013, and "Oregon CGS/Hanford Emergency Response Plan," as revised, April 2015.

Sampling equipment, dosimetry and potassium iodide (KI) were not stored at the Morrow County Sheriff's Office/Morrow County EOC. On page 6-9 of the Oregon CGS/Hanford Emergency Response Plan, it was stated that "sampling equipment, sample containers, packing materials, labels, and other supplies will be stored at the Morrow County Sheriff's Department," and that "additional supplies and equipment will be brought by OR Health personnel upon their staging." When asked, the Undersheriff/Emergency Manager confirmed that no such equipment was stored at the Morrow County Sheriff's Department.

Criterion 2.d.1:

Morrow County has no authority to make ingestion pathway decisions. Their role was limited to coordinating and providing any information requested by the ODOE EOC. The Morrow County Undersheriff/Emergency Manager specifically assisted in the identification of temporary food control area boundaries within the County. He reviewed maps with the proposed boundaries from the ODOE WebEOC site and relayed his concurrence with the maps accuracy to the ODOE EOC by telephone at 1302.

Criterion 3.e.1:

A Liaison with Oregon Emergency Management (OEM) at the Oregon Department of Energy Emergency Operations Center exchanged emails and phone calls with the Morrow County Undersheriff/Emergency Manager, informing him of actions taken or to be taken in response to events at Columbia Generating Station (CGS). For instance, at 1021, the Morrow County Undersheriff/Emergency Manager was informed by the State that deposition and plume maps were in progress, but no action was required of Morrow County at that time. At 1122, the State called and notified the Undersheriff/Emergency Manager that the State (GIS) was still working on the maps, including food control maps.

During the call at 1122, the Undersheriff/Emergency Manager said that he had access to the Ops Center software, but that there was no status or log posted. The Liaison provided the Undersheriff/Emergency Manager with access to WebEOC, and the Undersheriff/Emergency Manager logged in at approximately 1130. He then reviewed the Event Activity Log, and at 1140, the Undersheriff/Emergency Manager noticed that at 1009 teams had arrived at sampling sites along Marine Drive in Boardman. This was documented in the Event Activity Log at 1022. There had been no notification of Morrow County that teams were driving to, or operating in, Morrow County. Also, at approximately 1200, the Undersheriff/Emergency Manager found a proposed food control boundary map, created at 1120 and posted at 1157. There was no notice given that this had been posted for review and informational purposes.

At 1220, there were three ARGIS Web Maps forwarded to the Undersheriff/Emergency Manager for review. At 1226, the Liaison called to notify the Morrow County Undersheriff/Emergency Manager of a conference call scheduled for 1230. The subject was to be the agricultural advisories, the food control area, and traffic control points. In the interim, the Undersheriff/Emergency Manager identified the dairies and food processing plants, e.g., Tillamook Cheese, likely to be affected, and thought through a number of what-if scenarios involving traffic control and possible requirements for additional support.

At 1230, the conference call commenced. The Oregon Department of Agriculture (ODA) maintained the list of permanent agribusiness facilities within the affected area, and identified those impacted. The Undersheriff/Emergency Manager verbally added the identification and location of two unlicensed dairies to the list read. During the call, the State identified three control points, and asked if Morrow County agreed with the boundary set. The Undersheriff/Emergency Manager agreed. It was noted by the State that notification of agribusinesses was a shared responsibility of ODA and Morrow County Emergency Management (MCEM).

At 1247, the OEM Liaison called and informed the Undersheriff/Emergency Manager that no control points were going to be established within Morrow County. The two points identified were at the intersection of Interstate 84 and 395, and at the junction of Interstate 84 and Highway 74 (Heppner Junction). The latter was approximately eight miles west of the Morrow County line in Gilliam County. The Liaison said that the Morrow County Sheriff's Department might be called upon to provide relief to the other two Oregon counties. At 1302, the OEM Liaison called and said that currently no resources were needed from Morrow County.

At 1300, Oregon Press Release No. 8 was issued, which documented the establishment of a food control area in northern Morrow and Umatilla Counties. In the press release, it was noted that the boundary for the food control area was developed by State officials using predictive models based on radiological and meteorological data. It also noted that all farms and dairies in the area were advised on March 29, 2016 to place and maintain all milk cows and livestock on stored feed.

At 1315, the Undersheriff/Emergency Manager called into the press conference. The press conference covered the restriction of food products in Morrow and Umatilla Counties, the control of food and the commercial food supply, and performance of sampling of water, grass, milk, and agricultural products over a period of weeks. It was also noted that the 102nd National Guard unit was assisting in the effort.

Criterion 3.e.2:

A Liaison with Oregon Emergency Management (OEM) at the Oregon Department of Energy Emergency Operations Center exchanged emails and phone calls with the Morrow County Undersheriff/Emergency Manager, informing him of actions taken or to be taken in response to

events at Columbia Generating Station (CGS). At 1220, three ARGIS Web Maps were forwarded for review by the State to the Undersheriff/Emergency Manager, identifying the proposed food control boundary and area. At 1230, a conference call commenced regarding agricultural advisories, the food control area, and traffic control points. During the call, the State identified three control points, and asked if Morrow County agreed with the boundary set. The Undersheriff/Emergency Manager agreed. Immediately before and after this call, the Undersheriff/Emergency Manager talked through several what-if scenarios, including the participation of the National Guard and Department of Transportation.

At 1247, the OEM Liaison called and informed the Undersheriff/Emergency Manager that no control points were going to be established within Morrow County. The two points identified were at the intersection of Interstate 84 and 395, and at the junction of Interstate 84 and Highway 74 (Heppner Junction). The latter was approximately eight miles west of the Morrow County line in Gilliam County. The Liaison said that the Morrow County Sheriff's Department might be called upon to provide relief to the other two Oregon counties. At 1302, the OEM Liaison called and said that currently no resources were needed from Morrow County.

At 1300, Oregon Press Release No. 8 was issued by the State, which documented the establishment of a food control area in northern Morrow and Umatilla Counties. It outlined in detail the food control boundary and the foodstuffs that would be affected. In the press release, it was noted that the boundary for the food control area was developed by State officials using predictive models based on radiological and meteorological data. It also noted that all farms and dairies in the area were advised on March 29, 2016 to place and maintain all milk cows and livestock on stored feed.

At 1315, the Undersheriff/Emergency Manager called into the press conference. The press conference covered the restriction of food products in Morrow and Umatilla Counties, the control of food and the commercial food supply, and performance of sampling of water, grass, milk, and agricultural products over a period of weeks. It was also noted that the 102nd National Guard unit was assisting in the effort.

Brochures (January 2004) had been produced in both English and Spanish, and were available for distribution to the four pre-assigned distribution points: Boardman City Hall, Boardman Columbia River Processing Plant, Boardman Lamb Weston Processing, and Irrigon City Hall. On March 29, 2016, during the plume phase of the exercise, the State had requested that they be distributed (simulated). Though published in 2004, the content of the brochures were current.

Criterion 5.b.1:

The Undersheriff/Emergency Managers role during this exercise was to review News Releases prepared by the Oregon Department of Energy at their Emergency Operations Center for accuracy as it pertained to Morrow County. This he did for the Oregon News Release No. 8 entitled "Oregon Officials Establish Food Control Area in Northern Umatilla and Morrow

Counties." The Undersheriff/Emergency Manager received the draft of this by email at 1224 and confirmed the accuracy of the description and advised the ODOE EOC County Liaison of this prior to its release at 1300.

The Undersheriff/Emergency Manager was emailed news releases, and proactively monitored WebEOC to track the news releases posted there, to monitor information that was being released to the public. He also had the ability to monitor television and radio in the County EOC and in addition would monitor various social media sites. Other news releases were provided from the ODOE via email and WebEOC for informational purposes, however News Release No. 8 was the only one with specific Morrow County information he was asked to review.

The Undersheriff/Emergency Manager simulated providing the Information Center 800 telephone number to the 911 Center to refer any calls about the event that were not pertaining to Morrow County.

Additionally, on March 29, 2016 during the Plume Phase of the exercise, Morrow County was requested by the ODOE EOC to deliver informational pamphlets for the public, stored at the County EOC, to pre-designated distribution points in the County. These were: Boardman Columbia River Processing Plant, Boardman Lamb Weston Processing, Irrigon City Hall, and Boardman City Hall. They were also available at the Sheriff's Office in Heppner. The brochures were available in both English and Spanish and were provided by the Oregon Department of Energy. It is noted that the cover of the Spanish version is in English.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.1.5 Umatilla County Emergency Operations Center

Staff at the Umatilla County Emergency Operations Center (EOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

With Umatilla County (UC) being an ingestion county, limited emergency personnel were mobilized. The Oregon Office of Emergency Management (OEM) notified the Umatilla County Sheriff's Dispatch Center by phone at 1006 of an event at the Columbia Generating Station. The

dispatch center transferred the call to the UC Emergency Manager (EM). The UC Commissioners were notified of the event at 1032. The EM was also the county Public Information Officer. No additional personnel were required for the exercise early on. The county used the statewide Ops Center Program and the county email system to receive emergency classification level (ECL) changes, messages and Press Releases from OEM.
The facility was declared operational at 1038. At 1201, Oregon requested field team assistants to guide the field teams during the sampling protocols. At 1217, UCEM mobilized two assistants from the Sheriff's Office to direct the teams to the sampling locations, as requested.

Criterion 1.b.1:

Access to the EOC facility was tightly controlled through the use of locked doors with electronic security locks for ease of entry by authorized personnel. Only those personnel having authorized access were permitted to enter the EOC. During the emergency operations, all access was restricted to the main entry door. The security was established and maintained by the Umatilla County Sheriff's Office (UCSO) at the EOC. All personnel accessing the EOC were required to sign the Security Log at the main entry door, providing their name, signature, time of arrival, time of departure, and representing agency. EOC access authorization was controlled by the UCSO through the use of a pre-approved personnel list.

Sufficient work areas are designated for use by personnel assigned to support the EOC. Each station was equipped with at least one chair, a telephone, sufficient supplies, and appropriate plans and/or procedures relevant to the station's support function were pre-distributed to all EOC personnel. There were computer connections with wireless internet connections available to all personnel. The EOC also maintained a facsimile machine, several copiers, computers, two ceiling mounted projectors, and televisions for news and weather monitoring.

The EOC operations were conducted in an area that was adequate to support the necessary direction and control for the required emergency response functions. The EOC facility included additional office space which may have been utilized for smaller meetings and/or work areas along with a small kitchenette that contained a sink, microwave, coffee maker, a refrigerator, tables and chairs. Separate male and female restrooms with shower facilities, were located in close proximity to the EOC operations area. The EOC also contained adequate space necessary for supplies and equipment storage.

The EOC provided adequate lighting and ventilation to support emergency response capabilities and maintained sufficient power to operate all necessary equipment and operations simultaneously. A Spectrum Detroit Diesel, 500 Kilowatt (KW), diesel fuel powered generator was available should the necessity arise to provide back up, stand-alone electricity to the EOC in the event of a generalized power failure during an emergency response operation. The backup generator was capable of providing adequate power to run the EOC equipment and operations without interruption. The backup generator was operationally tested on a monthly basis with

scheduled maintenance provided two times annually to ensure full functional capability of the unit should the need arise during an emergency.

The personnel, equipment and supplies available at the EOC were adequate to support all emergency operations, such as communication, duplication, distribution, and command and control.

Criterion 1.c.1:

The Emergency Manager (EM) was in charge of the response to the Columbia Generating Station event. The EM coordinated with the Oregon Office of Emergency Management on a regular basis by telephone. Messages were received by email and entered on a communications log. The County Commissioners were notified of the event at 1032. The EM participated in two conference calls with Oregon Office of Emergency Management (OEM) and participated in one Joint Information Center briefing.

The EM was proactive in receiving the Emergency Classification messages, press releases and other message traffic from Oregon OEM by email. Each email message was printed and distributed within the EOC. All Press Releases were distributed to the media for broadcast when received, to include precautionary agricultural and dairy advisories. Calls were simulated to the city managers for Hermiston and Umatilla to notify them of the advisories and field team arrival. At 1201, Oregon OEM requested personnel resources to direct the Oregon field teams to the designated sampling locations and lodging and food vendor information for the teams. The EM called the Hermiston Chamber of Commerce and requested information packets for distribution to the field team members. The required field team guides were identified at 1217 and dispatched to Hermiston Fire Station #3 for assignment.

The EM provided plans and procedures for participants and all messages were logged and maintained. The State provided all decision-making and message information to the county for distribution.

Criterion 1.d.1:

The EOC served as the primary countywide coordinating facility and centralized contact point for directing emergency response actions in Umatilla County during a radiological event at the Columbia Generating Station (CGS).

The personnel relied on the cellular telephone as their primary communications link, while the traditional landline telephone system provided a secondary communications link. The EOC personnel also had access to a countywide radio system; a satellite telephone, ARES/RACES, pagers, teleconferencing, internet, and facsimile as additional secondary communications networks.

Throughout the exercise, the EOC personnel maintained direct communications links and radio checks with all required locations. The specific communications links available for the EOC personnel were commensurate with county plans and procedures. The EOC personnel all had access to at least one additional communications system that was independent of the primary communications link.

The EOC personnel were adequately trained to transmit and receive messages making use of the available communications networks during the radiological emergency response operation. There were no communications problems or failures experienced by the EOC personnel. Had the EOC personnel experienced communications problems with their primary link, there were adequately accessible secondary communications systems.

The EOC personnel demonstrated the capability to manage all available communications links during the radiological emergency, while ensuring that all communications were handled in a manner to prevent delays, which may have disrupted the emergency response operations.

Criterion 1.e.1:

The EOC served as the primary countywide coordinating facility and centralized contact point for directing emergency response actions in Umatilla County during a radiological event at the Columbia Generating Station (CGS).

The EOC was well equipped and capable of supporting all radiological emergency operations. The substantial EOC area available provided space for 11 computer workstations each capable of interfacing with all other EOC computer workstations through the use of a countywide internet email system. The email system was designed specifically to collect, share and log all relevant data throughout the radiological emergency action. The computers all maintained the specific capability to link up with a state-wide emergency management information sharing network system (Ops Center), in addition to the internet email system. Each workstation was identified by a sign denoting the EOC Emergency Support Function (ESF).

All available EOC workstations were determined to be adequately equipped with a commercial telephone providing personnel communications capability, a desk, a chair, a two drawer filing cabinet, a desk top computer/laptop computer, a communications and power strip, a set of Standard Operating Procedures (SOPs) and an ample quantity of office supplies.

In addition, the EOC was equipped with an adequate number of overhead projectors, dry erase boards, podiums, televisions, printers, facsimile machines, copiers, a digital clock, commercial telephones, plans and procedures for use by EOC personnel during the radiological emergency response operation.

The EOC also maintained a comprehensive communication package that included access to cellular telephones, landlines, countywide radio system; satellite telephones, ARES/RACES, pagers, teleconferencing, internet, and facsimile.

There were two elevated projectors and screens located throughout the EOC used to project updated and pertinent emergency response information on a regular basis, including emergency classification status, reporting and recording meteorological data, and updated current plant condition.

The EOC utilized a series of individual laminated reference maps as static displays throughout the primary EOC space. The reference maps on display included the following: a 50–mile Ingestion Exposure Emergency Planning Zone map and a State of Oregon road map for CGS.

A podium was also accessible, providing EOC network access and a microphone. The EOC maintained the specific capability to manage video teleconferences (VTCs) from the media room adjacent to the primary EOC space.

The distribution of dosimetry, survey instrumentation and Potassium Iodide (KI) was not demonstrated since the EOC location was more than 35-miles from the CGS. Therefore, it was not necessary to issue dosimetry, survey instrumentation and/or Potassium Iodide (KI) to EOC personnel.

Criterion 2.d.1:

The Oregon Department of Energy (ODOE) as the lead nuclear response agency in conjunction with the Oregon Department of Agriculture (ODA) were responsible for evaluating the radiological consequences and making protective action decisions for implementing food, milk and water control measures. Those emergency preparedness and response action recommendations were sent to the Governor and the ingestion county officials for concurrence and then sent to the general public within the Ingestion Pathway Zone (IPZ).

The State of Oregon issued recommendations to the public via Emergency News Releases sent from the Joint Information Center (JIC) in Salem, OR. Prior to receipt of actual data from the Federal Radiological Monitoring and Assessment Center (FRMAC) flyover and monitoring team data assessment, the ODEO issued 3 advisory news releases to the public:

1) March 29, 2016 at 1050 – Precautions Advised for Oregon residents – News Release #2
   a) Possible deposition of radioactive material
   b) Recommend not to consume fresh foods grown or produced in the area
   c) Livestock should be sheltered
2) March 29, 2016 at 1155 – Guidance issued for Dairies – News Release #4
   a) Remove lactating cows and goats from pasture
   b) Use uncontaminated supplies and sources for feed and water

c) Empty open tanks and troughs
d) Keep animals away from ponds
e) Continue to milk animals but be prepared to dump milk if necessary

3) March 30, 2016 at 0930 – Protective Action Brochure Locations – News Release #7
   a) List of locations to pick up brochures on protective actions
   b) Emergency broadcast announcement radio stations

The State of Oregon received the deposition maps from FRMAC at 1030 and began discussions on additional protective actions based on that data map and Oregon field team readings and data. The EOC received a call from the state with information that the Food Control Area (FCA) map was being developed. The Oregon ODOE and ODA developed the FCA map and sent a preliminary copy to Umatilla County at 1225 with a draft News Release #8 message. During a conference call at 1234, the ODOE requested concurrence on the FCA boundaries from both counties. Following concurrence and determination of a Food Control point in Umatilla County at Route 84 and Route 395, the call was ended. At 1300, the JIC released Emergency News Release #8 that detailed the road boundaries for the FCA. It also reminded resident of previous recommendations dealing with produce and milk products and to not remove food products from the FCA, before inspection.

Criterion 3.e.1:

On the simulated second day of the CGS exercise, and based specifically on the results of the flyover monitoring data acquired from the U.S. Department of Energy's Federal Radiological Monitoring and Assessment Center (FRMAC), the Oregon Department of Energy (ODOE) in conjunction with other state agencies began identifying agribusiness and food processing facilities within the 50-mile Ingestion Pathway Zone (IPZ) for the Columbia Generating Station (CGS).

The Oregon Department of Energy (ODOE) as the lead nuclear response agency in conjunction with the Oregon Department of Agriculture (ODA) were responsible for providing the emergency preparedness and response action recommendations to the Governor, the ingestion county's officials, and the general public within the 50- mile IPZ.

The Oregon Emergency Management (OEM) provided communication support and assisted the ODOE in coordinating specific state resources to the ingestion counties.

The ODA maintains a data base of farms/ranches, crop locations, dairies, other livestock businesses and food processing plants, as well as the harvest times for individual crop plantings. The ODA also developed a specific sampling strategy to establish contamination boundaries based on applicable Food and Drug Administration Derived Intervention Levels (DILs). The ODA dispatched field monitoring teams to the ingestion counties to collect agricultural and environmental samples.

Umatilla County agencies were available to assist ODA in the protective action notification process, assistance in control measure implementation, distribution of pre-printed instructional pamphlets, provide escorts and to staff Food Control Points (FCPs) established in the county when requested to do so by the ODOE.

During the exercise, Umatilla County was requested by ODOE to distribute their pre-printed instructional pamphlets (simulated) and to provide personnel (simulated) to assist in the staffing of the established county FCP (Route 84/ and Route 395) along with ODA and Oregon State Police (OSP) personnel. Umatilla County personnel were not specifically requested to assist ODA staff with escorts or protective action notification activities.

Umatilla County maintained the personnel and resources available to implement any requested assistance activities from the ODOE during an ingestion exposure pathway emergency at CGS.

Criterion 3.e.2:

The Umatilla County Emergency Manager (EM) maintained , stored and updated all the required pre-printed Hanford Emergency Preparedness in Oregon pamphlets and information developed and obtained from the Oregon Department of Energy (ODOE).

All the individually packaged and pre-printed material included an attached local site distribution list. The pamphlets were stored in secure cabinets in anticipation of their distribution when requested to do so by the ODOE. The pamphlets were prepared for specific distribution to the general public, local farmers, milk producers and food processors from designated locations throughout Umatilla County.

Through direction from the Oregon Department of Emergency Management (OEM) liaison at the State EOC, the Umatilla EM was requested to forward a copy of the pamphlet distribution location list to the ODOE. Additionally, the ODOE requested that the EOC distribute the pamphlets to the distribution points in the county (simulated) based on protective action decision recommendations.

The associated pamphlet materials contained directions for the implementation and determination of ingestion pathway protective actions decisions for contaminated water, food products, milk and agricultural production in Umatilla County.

The Umatilla County EM indicated that the Oregon Department of Agriculture (ODA) was responsible for the delivery of any condemnation or embargo notices to local agribusiness facilities with support from Umatilla County, if requested. The current Oregon plan calls for guidance from the State DOA for disposal of contaminated food products. They also control transportation of these good to the sites.

The EM also indicated that any agricultural issue related guidance would be requested specifically from the ODOE and/or the ODA through their assigned Oregon Department of Emergency

Management (OEM) liaison at the State EOC. The OEM liaison provided specific communications support to Umatilla County while assisting ODOE in coordinating any specifically required state resources to the county.

Criterion 5.b.1:

The PIO received the Emergency News Releases from the JIC via email and/or WebEOC. The news releases were then sent (simulated) to the local media outlets for broadcast. One news release was sent to provide residents with an Oregon telephone information center number at 1115 on March 29, 2016, for questions concerning the event at CGS. Two additional news releases were sent out concerning media advisories announcing news conferences in Salem. The Umatilla County PIO referred any calls to the information center number in Salem.

Three Emergency News Releases concerning the Umatilla County agricultural food producer and growers and dairy farms were immediately sent to local media outlets and the ODA was contacting producers in the county. Further information and testing of products was to follow by field monitoring teams from Oregon. A Food Control Area was established at 1300 on March 30, 2016 to restrict movement of local food products within that area.

At 1051 on March 29, 2016, Umatilla County received a call from ODOE to distribute the Emergency Preparedness Information pamphlets to the assigned locations. An Emergency News Release #7 listed the locations that residents could access the brochures for protective actions. Residents were remind in each news release that emergency broadcast announcements were being made on KONA radio, 610 AM or 105.3 FM.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.2 Washington Jurisdictions

3.2.2.1 Washington State Emergency Operations Center (SEOC)

Staff at the Washington State Emergency Operation Center (SEOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The Washington State Alert and Warning Center (AWC) serves as Washington's Primary Warning Point operating 24/7. It was immediately adjacent to the SEOC.

At 0829, a State Emergency Operations Officer (EOO) responded to an activation of the dedicated Crash Call telephone by the CGS. The Officer was informed of an ALERT Emergency Classification Level (ECL) declaration at 0820. The call was terminated at 0835. The EOO could have contacted CGS via telephone or radio however, verification was not required.

The SEOC Emergency Operations Officer/EOC Manager, who had observed the Crash Call, stated that the SEOC was starting full activation to Phase 3 at 0830. He directed that Emergency Support Functions (ESFs) 1, 5, 7, 8, 11, 13, 14, 15 and 20 be mobilized.

Three EEOs utilized Alert Sense – Quick Alert, telephones, facsimile machines, email and the National Warning System (NAWAS) to complete notifications/mobilizations identified on the CGS ALERT Emergency Classification Level Notification List. Notifications were completed at 0847. The SEOC staff began arriving immediately and the facility was declared operational at 0915.

Responsibility for answering Crash Calls and performing notifications passed from the AWC to the SEOC Operations Section at 0915. The Operations Section handled nine Crash Calls and completed designated notifications as per their procedures.

Emergency information was relayed clearly, accurately and in a timely manner.

Requests for additional resources were processed by appropriate SEOC personnel.

Criterion 1.b.1:

The SEOC is a 28,000 square foot facility that provides for 72 permanent and approximately 236 disaster staff with 135 parking spaces. The building is designed to continue to operate with minimal damage following a 1000-year earthquake or allows for up to 20 inches of ground movement under the building. The Operations Room is 3,600 square feet, the Policy Room is 600 square feet, Computer and Telecom Support is 1,850 square feet, Executive Offices is 1,000 square feet and Staff Area 17,500 square feet.

Electrical power has the capacity to power the SEOC for seven continuous days at disaster staffing levels. Three 500-kilowatt back-up generators with 8,000 gallon diesel above ground fuel tank supplies back-up power. An Uninterruptible Power Supply (UPS) systems are in place to keep computer, branch exchange (PBX), local area network (LAN) and other critical systems running.

The Executive Room has the capacity for 20 persons and overlooks the Operations Room. The Room includes computers, printer, television monitors, teleconference system, two smart boards. The Executive Room contains dedicated "CRASH" lines to the CGS, Hanford Site and Umatilla Chemical Depot.

Located in the center of the building is the SEOC Operations Room which contains 70 computer workstations arranged in Emergency Support Function (ESF) Pods. Two of the Pods contain dedicated "CRASH" lines to the CGS, Hanford Site and Umatilla Chemical Depot. Computers in the SEOC Operations Room. Three 12 foot by 10 foot large screens in the front of the SEOC Operations Room can be set up to display images and information from computers in the SEOC Operations Room. 16 television monitors in banks of four in the corners of the SEOC Operations Room can display what is on the large screens or additional information. Along the sides of the SEOC Operations Room are various maps, status boards, and six smart boards, one HP DESIGN Jet T1300 Plotter, three SHARP FO-DC600 fax machines, 1one KYROCERA M2535dn fax machine, 10 PHASER 6360 Printers and three XEROX Work Center 7545 Copies/Printers.

The SEOC also contains the Alert and Warning Center (AWC) which is staffed 24/7 and is the central facility for the day-to-day management of emergency operations. The AWC handles an average of 4,000 requests every year. The AWC is the primary warning point for all natural and technological hazards in the State. Telecommunications systems include PBX, LAN, radio and microwave control systems and satellite terminals.

There is space and equipment for food preparation as well as gender specific bunking, restroom and shower facilities.

Dosimetry, Potassium Iodide (KI) and radiation equipment are not stored at this location.

Criterion 1.c.1:

The Disaster Manager (DM) is in charge of the response effort at the SEOC. The DM is assisted in the Policy Room by Washington Department of Health (WDOH), Washington State Department of Agriculture (WSDA), Washington State Patrol (WSP) and Washington State Emergency Management Division Staff. The Policy Room staff was supplemented by Nuclear Regulatory Commission (NRC) Response Staff from NRC Region IV Office.

Plans and procedures for each SEOC position were available at all workstations. Message logs and all information on significant actions were maintained using WEB-EOC Version 7.5 on a computer-generated display viewable by all SEOC staff.

At approximately, 0830, the SEOC Communications Room received notification of an ALERT Emergency Classification Level (ECL) at CGS The Response Section Manager informed the

Communications Room Staff to make notifications in accordance with their procedures. This was complete via the ALERT SENSE paging system at 0840 and activated the notification of SEOC staff at 0849. SEOC Communications Room is staffed continuously on a 24 hour basis to receive emergency notifications.

Responding organizations included: American Red Cross, NRC, WSP, Washington State Emergency Management Division, WSDA, WDOH, WDOT, Washington Army National Guard, DES, Pacific Northwest National Laboratories, Energy Northwest, and the State of Oregon Department of Energy.

At 0915, the SEOC Manager (SEOCM) declared the SEOC operational when all key positions were filled by the appropriate representatives. There were subsequent notifications that SEOC received via the CRASH line which included the SITE AREA EMERGENCY ECL at 0923. The CGS recommended Automatic Protective Actions (PARs) of EVACUATE the Columbia River, Horn Rapids Recreation Area/ORV Park, Ringold Fishing Area, Wahluke Hunting Area and relocate school children in the 10-mile emergency planning zone (EPZ). The Counties of Benton and Franklin made the decision on the aforementioned recommendation at 0959 and conducted an Alert and Notification (A&N) Sequence at 1005.

The SEOCM conducted periodic briefings for staff at approximately 30 to 45 minute intervals and on an as needed basis as events unfolded.

There were subsequent notifications that SEOC received via the CRASH line which included the start of a postulated radiological release at 0953 and GENERAL EMERGENCY ECL at 1034. The CGS recommended additional PARs of EVACUATE 0-2 miles 360 degrees, Sections 2, 3 and SHELTER Sections 1 and 4 in the 10-mile EPZ. The Counties of Benton and Franklin made the decision on the aforementioned recommendation at 1037 and conducted an Alert and Notification (A&N) Sequence at 1045.

At approximately 1102 the SEOC was informed that the iodine component of the postulated radiological release at CGS resulted in the threshold of 250 mrem/hr was exceeded and therefore Emergency Workers should administer potassium iodide (KI).

The Washington SEOC revised their procedures to include procedures for Incident Action Planning (IAP). Those procedures were used in this exercise. The Disaster Manager (DM) conducted two Incident Action Plan Update Briefings conducted at 1100 and 1400 for Washington SEOC Staff and two conference calls with the Risk Jurisdictions, CGS Emergency Operations Facility (EOF) facilitated by the SEOC Manager at 1200 and 1600. The Incident Action Plan Briefings were conducted in accordance with revised plans and Planning Section Procedures. This documentation satisfied the requirement of the prior planning issue 69-14-1.c.1-P-01.

The DM declared the SEOC was now in charge of the response at 1412 since the plume phase of the emergency was completed and the State was in charge of the Meteorological Unified Dose Assessment Center (MUDAC).

The SEOCM completed the Incident Action Plan #1 for the next 24 hour Operational Period and a Governors Proclamation of Emergency was completed at 1725. Major objectives for the next operational period include situational awareness, assist local jurisdictions with the implementation of protective action decisions, implement precautionary food control measures and provide a coordinated State messaging strategy.

PRIOR Planning Issue – UNRESOLVED:

ISSUE NO.: 69-14-1.c.1-P-05

DESCRIPTION: The Washington State Comprehensive Emergency Management Plan (CEMP) with associated Procedures and the Washington State Comprehensive All Hazard Plan does not accurately describe the functions and responsibilities of Senior Officials in the WA DOH's role as a key position for response to a radiological emergency at the Columbia Generating Station at the State Emergency Operations Center (SEOC) as required by Nuclear Regulation (NUREG-0654/FEMA-REP-1) and Radiological Emergency Preparedness Program Manual (RPM)

RECOMMENDATION: Revise the Washington State CEMP and WA DOH Plans and Procedures (including Director's portion) to accurately describe and proceduralize the duties of the senior WA DOH representative to the SEOC.

CORRECTIVE ACTION DESCRIPTION: Coordinate with Washington EMD and revise the CEMP and associated Plans & Procedures (Director) to accurately describe and proceduralize the duties of the Senior WA DOH representative to the SEOC.

Criterion 1.d.1:

The Washington State Alert and Warning Center (AWC), immediately adjacent to the SEOC, serves as Washington's Primary Warning Point. The primary communication system between the Columbia Generating Station (CGS) and the AWC and SEOC was the dedicated Crash Call Circuit. Commercial landline telephones, cellular phones, satellite phones and facsimile machines provided backup.

Alert Sense (paging), telephones, facsimile machines, email and the National Warning System (NAWAS) were utilized to complete notifications/mobilizations. Additional radio capabilities included the Amateur Radio Emergency Service (ARES)/Radio Amateur Civil Emergency Service (RACES), Comprehensive Emergency Management Network (CEMNET), Emergency

Alert System (EAS), FEMA National Radio System (FNRS) and various 800MHz, high and low band VHF/UHF/VOIP State and local networks. All systems are tested regularly.

All work stations were equipped with landline telephones and Internet capable computers operating WebEOC. No equipment failures were observed.

Criterion 1.e.1:

The SEOC is located in Building 20 on Camp Murray, WA, 98430-5122. The facility is outside of the 50 mile Ingestion Pathway Emergency Planning Zone; the SEOC did not maintain nor issue dosimetry and potassium iodide (KI).

Video display systems included; three, large overhead display screens, mounted high on the front wall, capable of displaying WebEOC status, maps, live press briefings, real-time informational logs, local and national news channels and other pertinent information. In addition, each corner of the room had installed, four quads of monitors. The display identified the emergency classification level. A pair of atomic clocks were mounted in the front and rear of the SEOC.

The Emergency Support Function (ESF) staff worked from PODs, there were a group of 12 Pods strategically located in the room. Each POD supported 6 workstations. Each work station had a keyboard and at least one monitor of a various size, and a multi-line telephone. The center had more than adequate quantity of printers, copiers and map printers, connected in a network.

The supporting administrative equipment included white boards, agriculture maps, contact information, layout of the room, and list of key personal and 10 and 50 mile EPZ/IPZ maps. The SEOC maintains the WebEOC system for use by the State and the counties. There was an issue with the date in WebEOC which affected Benton County TCPs.

Criterion 2.a.1:

Washington Department of Health (WDOH) personnel at the SEOC, were very knowledgeable about the exposure control system for emergency workers. They were available for consultation with their counterparts at the Emergency Operations Facility (EOF), the Meteorological and Unified Dose Assessment Center (MUDAC) and other locations.

Crash Call #5 stated that the release of radiation at the Columbia Generating Station (CGS) had exceeded the threshold of 250 mrem/hr thyroid. The Office of Radiation Protection Office Director thereby recommended the ingestion of KI by emergency workers. The WDOH Lead Health Physicist announced the recommended to the SEOC at 1102.

The Director would also have been responsible for authorizing exposure levels in excess of those pre-authorized. Adjustments to Turn around Values (TAVs) would have been approved by the WDOH staff in the MUDAC.

No exposure control supplies were maintained at or distributed from the SEOC.

Criterion 2.b.2:

The Disaster Manager (DM) is in charge of the response effort at the SEOC. The DM is assisted in the Policy Room by Washington Department of Health (WDOH), Washington State Department of Agriculture (WSDA), Washington State Patrol (WSP) and Washington State Emergency Management Division Staff. The Policy Room staff was supplemented by Nuclear Regulatory Commission (NRC) Response Staff from NRC Region IV Office.

Plans and procedures for each SEOC position were available at all workstations. Message logs and all information on significant actions were maintained using WEB-EOC Version 7.5 on a computer-generated display viewable by all SEOC staff.

At approximately, 0830, the SEOC Communications Room received notification of an ALERT Emergency Classification Level (ECL) at CGS The Response Section Manager informed the Communications Room Staff to make notifications in accordance with their procedures. This was complete via the ALERT SENSE paging system at 0840 and activated the notification of SEOC staff at 0849. SEOC Communications Room is staffed continuously on a 24 hour basis to receive emergency notifications.

Responding organizations included: American Red Cross, NRC, WSP, Washington State Emergency Management Division, WSDA, WDOH, WDOT, Washington Army National Guard, DES, Pacific Northwest National Laboratories, Energy Northwest, and the State of Oregon Department of Energy.

At 0915, the SEOC Manager (SEOCM) declared the SEOC operational when all key positions were filled by the appropriate representatives. There were subsequent notifications that SEOC received via the CRASH line which included the SITE AREA EMERGENCY ECL at 0923. The CGS recommended Automatic Protective Actions (PARs) of EVACUATE the Columbia River, Horn Rapids Recreation Area/ORV Park, Ringold Fishing Area, Wahluke Hunting Area and relocate school children in the 10-mile emergency planning zone (EPZ). The Counties of Benton and Franklin made the PAD on the aforementioned recommendation at 0959 and conducted an Alert and Notification (A&N) Sequence at 1005.

The SEOCM conducted periodic briefings for staff at approximately 30 to 45 minute intervals and on an as needed basis as events unfolded.

There were subsequent notifications that SEOC received via the CRASH line which included the start of a postulated radiological release at 0953 and GENERAL EMERGENCY ECL at 1034. The CGS recommended additional PARs of EVACUATE 0-2 miles 360 degrees, Sections 2, 3

and SHELTER Sections 1 and 4 in the 10-mile EPZ. The Counties of Benton and Franklin made the PAD on the aforementioned recommendation at 1037 and conducted an Alert and Notification (A&N) Sequence at 1045.

At approximately 1102 the SEOC was informed that the iodine component of the postulated radiological release at CGS resulted in the threshold of 250 mrem/hr was exceeded and therefore Emergency Workers should administer potassium iodide (KI).

The WSDA issued an Agricultural Advisory at 1135 which recommended precautions for portions of Benton County, Franklin County, Klickitat County, Walla Walla County and Yakima County. The recommended precautions were as follows:

> Put dairy cows, goats and other valuable livestock inside barns or enclosed covered sheds;
> Restrict dairy cows, goats and other valuable livestock to feed that has been in enclosed or covered storage;
> Restrict dairy cows, goats and other valuable livestock to water sources that are covered or are from enclosed underground storage;
> Do not drink fresh milk produced since 0943 March 29, 2016;
> Do not drink from streams, lakes or ponds;
> Do not pick or harvest fruits, vegetables or grain and
> Do not transport uncovered agricultural products through the advisory area.

Then DM conducted two Incident Action Plan Update Briefings conducted at 1100 and 1400 for SEOC Staff and two conference calls with the Risk Jurisdictions, CGS Emergency Operations Facility (EOF) facilitated by the SEOCM at 1200 and 1600. Issues identified by the Risk Jurisdictions included constituting an Incident Management Team, continuous staffing of Traffic and Access Control Points and consolidating Emergency Worker Monitoring and Decontamination. The Incident Action Plan Briefings were conducted in accordance with revised plans and Planning Section Procedures.

The DM declared the SEOC was now in charge of the response at 1412 since the plume phase of the emergency was completed and the State was in charge of the Meteorological Unified Dose Assessment Center (MUDAC).

The SEOCM completed the Incident Action Plan #1 for the next 24 hour Operational Period and a Governors Proclamation of Emergency was completed at 1725. Major objectives for the next operational period include situational awareness, assist local jurisdictions with the implementation of protective action decisions, implement precautionary food control measures and provide a coordinated State messaging strategy.

Criterion 2.c.1:

Based on legal authorities, emergency plans and procedures, protective action decisions for special populations are determined at the local jurisdictions in response to the postulated event at the CGS. The Disaster Manager (DM), SEOC Manager (SEOCM) and the Planning Section Chief stated the SEOC was purely a support entity in the event the local jurisdictions required assistance.

Criterion 2.d.1:

The SEOC utilized flow chard diagrams to chart the progress of relocation, transportation corridors, Food Control and return. The diagrams clearly identified who was responsible for accomplishing what tasks in what order.

The following Emergency Support Functions (ESFs) played key roles in managing the Intermediate Phase activities in the SEOC: 1) Transportation, 7) Resource Support, 8) Public Health and Medical Services, 11) Agriculture and Natural Resources, 13) Public Safety and 15) External Affairs.

Based on field team data, computer projections and calculated dose limits, the relocation and Food Control Areas were identified by the Meteorological Unified Dose Assessment Center (MUDAC). Eventually, these areas were to be further refined through extensive field team sampling and laboratory analysis.

The affected counties recommend identifiable boundaries for relocation and food control around the areas identified. Coordination conference calls were managed by the SEOC to seek concurrence on boundaries and implementation times for establishing controls and moving forward with activities.

Upon reaching concurrence, news releases communicating Protective Action Decisions (PADs) were prepared accurately and in a timely manner by ESF 15. The news releases were approved by all parties before dissemination.

For Relocation, Reentry, and Return, ESF 8 used Field Monitoring data, data and computer modeling from the American Metrological Society, fixed wing fly over data and computer modeling from the Federal Radiological Monitoring and Assessment Center (FRMAC). An Isopleth map was generated which projected connected dose contour lines on a map of the effected Emergency Planning Zone. This Isopleth map used the dynamic plan in Procedure 2A of Intermediate Phase Operations which included the mix of radionuclides and calculated the exposure rates using the most restrictive Environmental Protection Agency Protective Action Guides. 500uR/hr was used for modeling and mapping. Franklin and Benton Counties staffed and controlled access to evacuated and restricted areas. Ongoing discussions were observed with ESF 8, Benton and Franklin County Emergency Managers regarding Emergency Worker dose

limits, general public dose limits, maintenance of essential services, the care of farm animals, and reentry for important possessions. The dose limit for Emergency Workers was 5 Rem. Total Effective Dose Equivalent (TEDE) for the General Public was 1 Rem.

For reentry, Benton and Franklin County posted law enforcement, health physics personnel, public information and medical aid personnel at the traffic and access control points. Evacuees entering were interviewed to verify their address and need for entering. All persons reentering were directed on areas to avoid. Evacuees were given a permanent record dosimeter, a self-reading dosimeter/instructions for use, recording forms and a time limit. Upon exit, personnel were surveyed for surface contamination, dose was recorded and they were directed to the Emergency Worker/Assistance Center for further monitoring and decontamination. Returning Evacuees were allowed as far as the boundaries of the restricted area based on the risk was below the Environmental Protection Agency Protection Action Guidelines. The return decision was supported by the needs of families and businesses and the Protective Action Guidelines. Evacuees were provided medical and social assistance at monitoring, decontamination, and care centers.

Criterion 2.e.1:

For Relocation, Reentry, and Return, during the March 29 and 30 2016 CGS exercise, ESF 8 used Field Monitoring data, data and computer modeling from the American Metrological Society, fixed wing fly over data and computer modeling from the Federal Radiological Monitoring and Assessment Center (FRMAC). An Isopleth map was generated which projected connected dose contour lines on a map of the effected Emergency Planning Zone. This Isopleth map used the dynamic plan in Procedure 2A of Intermediate Phase Operations which included the mix of radionuclides and calculated the exposure rates using the most restrictive Environmental Protection Agency Protective Action Guides. 500uR/hr was used for modeling and mapping. Franklin and Benton Counties staffed and controlled access to evacuated and restricted areas. Ongoing discussions were observed with ESF 8, Benton and Franklin County Emergency Managers regarding Emergency Worker dose limits, general public dose limits, maintenance of essential services, the care of farm animals, and reentry for important possessions. The dose limit for Emergency Workers was 5 Rem. Total Effective Dose Equivalent (TEDE) for the General Public was 1 Rem.

The Disaster Manager (DM) in the Policy Room was in charge of the Unified Coordination Group (UCG) which was responsible for coordinating the development of protective action decisions (PADs) based on protective action recommendations (PARs) from the Meteorological Unified Dose Assessment Center (MUDAC).

The SEOC received the return PAR from the MUDAC at approximately 0745 and the Planning Section, Washington State Department of Agriculture (WSDA) and WDOH coordinated the development of areas that met return requirements with Benton and Franklin Counties.

The Planning Section developed the return locations and included areas in Benton and Franklin Counties.

A coordination teleconference was conducted by the SEOC Manager, Planning Section, WDOH, WSDA, MUDAC, Joint Information Center (JIC) and the risk jurisdictions at approximately 0844 to review the Draft return locations to ensure that the areas eligible for return were correctly identified by the correct geo-political boundaries and determine the correct implementation time.

The Planning Section incorporated comments from the aforementioned coordination meeting and presented the Draft areas for return to the UCG for a PAD teleconference which was conducted at 0945. The areas for return were approved and signed by the Senior State Official at 1002 and was provided to Emergency Support Function (ESF) 15 for the development of a news release. The news release was submitted to the JIC at approximately 1015.

The SEOC received the relocation PAR from the MUDAC at approximately 1330 and the Planning Section, WSDA and WDOH coordinated the development of areas that met the relocation requirements with Benton and Franklin Counties.

The Planning Section developed the areas for relocation and included areas in Benton and Franklin Counties.

A coordination teleconference was conducted by the SEOCM, Planning Section, WDOH, WSDA, MUDAC, JIC and the risk jurisdictions at approximately 1030 to review the Draft areas for relocation to ensure that the areas eligible for relocation were correctly identified by the correct geo-political boundaries and determine the correct implementation time.

The Planning Section incorporated comments from the aforementioned coordination meeting and presented the Draft areas for relocation to the UCG for a PAD teleconference which was conducted at 1550. The areas for relocation were approved and signed by the Senior State Official at 1630 and was provided to Emergency Support Function (ESF) 15 for the development of a news release. The news release was submitted to the JIC at approximately 1637. The re-entry point for the relocation area was identified as Columbia Basin College.

For reentry, Benton and Franklin County posted law enforcement, health physics personnel, public information and medical aid personnel at the traffic and access control points. Evacuees entering were interviewed to verify their address and need for entering. All persons reentering were directed on areas to avoid. Evacuees were given a permanent record dosimeter, a self-reading dosimeter/instructions for use, recording forms and a time limit. Upon exit, personnel were surveyed for surface contamination, dose was recorded and they were directed to Columbia Basin College for further monitoring and decontamination. There were 12 houses in the evacuated zone in Franklin County and 301 houses in Benton County. Returning Evacuees were allowed as far as the boundaries of the restricted are based on the risk was below the

Environmental Protection Agency Protection Action Guidelines. The return decision was supported by the needs of families and businesses and the PAGs. Evacuees were provided medical and social assistance at monitoring, decontamination, and care centers.

Criterion 3.e.1:

ESF 8 uses current data bases of permanent agribusiness facilities including dairies, meat and poultry producers and processors, fisheries, nurseries, fruit and vegetable growers and processors, grain production and processors, and farmers markets. A spread sheet documenting usual planting and harvesting dates in Washington was provided for evaluation.

The Disaster Manager (DM) in the Policy Room was in charge of the Unified Coordination Group (UCG) which was responsible for coordinating the development of protective action decisions (PADs) based on protective action recommendations (PARs) from the Meteorological Unified Dose Assessment Center (MUDAC).

The SEOC received the Food Control PAR from the MUDAC at approximately 1147 and the Planning Section, Washington State Department of Agriculture (WSDA) and WDOH coordinated the development of a Food Control Area with the State of Oregon, Klickitat, Yakima, Benton, Franklin and Walla Walla Counties.

The State of Oregon developed Food Control boundaries at 1300.

The Planning Section developed the Draft Food Control Area with approximately 15 Food Control Points to be staffed by WSDA Food Safety Officers and a law enforcement representative to extend approximately 50 miles from CGS and included areas in Klickitat, Yakima, Benton, Franklin and Walla Walla Counties.

A coordination teleconference was conducted by the SEOC Manager, Planning Section, WDOH, WSDA, MUDAC, Joint Information Center (JIC) and the risk jurisdictions at approximately 1530 to review the Draft Food Control Area to ensure that the Food Control Area was correctly identified by the correct geo-political boundaries and determine the correct implementation time.

The Planning Section incorporated comments from the aforementioned coordination meeting and presented the Draft Food Control Area to the UCG for a PAD teleconference which was conducted at 1745. The Food Control Area was approved and signed by the Senior State Official at 1818 and was provided to Emergency Support Function (ESF) 15 for the development of a news release. The news release was submitted to the JIC at approximately 1930.

Requirements delineated in the Food Control Area are as follows:

Commercial Food Producers and Dairies

Commercial producers are required to stop harvesting and transporting fresh food products.
Commercial dairies are required to stop transporting fresh milk.
Processors should not accept milk or food originating from the Food Control Area.
Farms and dairies should place or maintain milk-producing animals and livestock on stored feed and covered water sources. Farmers that do not have stored feed, or do not have sufficient supplies, should contact their producer associations for assistance.

Residents, home gardeners and non-commercial farmers

Residents should drink bottled water, water from covered sources, or water brought in From outside the Food Control Area. Municipal water systems are filtered, treated and tested and are considered a covered water source and thus safe to drink.
Residents should not consume fresh milk from their farm. They also should not harvest or consume fresh vegetables or fruits from their garden until further notice.
Homegrown produce should be tested for radioactive contamination, but testing by WDOH and WSDA may not commence for many days and further announcements will be made before such testing begins. Radiation monitoring teams are concentrating their efforts on commercial food producing facilities at this time.

Criterion 3.e.2:

Protective actions for contaminated water, food products, milk and agricultural production facilities are delineated in the "Radiological Emergency Information for Farmers, Food Processors and Distributors". This document was prepared by the Washington Military Department Emergency Management Division (WEMD) in cooperation and distributed by the Washington State Department of Health (WDOH) and Washington State Department of Agriculture (WSDA).

At approximately 0700 The SEOC Manager (SCOEM) and the Disaster Manager (DM) provided a briefing on the Incident Action Plan #1 discussing the objectives of maintaining situational awareness, supporting the risk jurisdictions in implementing protective actions, implementing precautionary food control measures, promulgation of the Governor's Proclamation and the provision of a coordinated messaging strategy. An additional objective discussed was responder safety.

Responding organizations included: American Red Cross, Nuclear Regulatory Commission (NRC), Washington State Patrol (WSP), WEMD, WSDA, WDOH, Washington State Department of Transportation (WDOT), Washington Army National Guard, Department of Enterprise Services (DES), Pacific Northwest National Laboratories, and the State of Oregon Department of Energy.

The DM in the Policy Room was in charge of the Unified Coordination Group (UCG) which was responsible for coordinating the development of protective action decisions (PADs) based on

protective action recommendations (PARs) from the Meteorological Unified Dose Assessment Center (MUDAC).

The SEOC received the Food Control PAR from the MUDAC at approximately 1147 and the Planning Section, WSDA and WDOH coordinated the development of a Food Control Area with the State of Oregon, Klickitat, Yakima, Benton, Franklin and Walla Walla Counties.

The State of Oregon developed Food Control boundaries at 1300.

The Planning Section developed the Draft Food Control Area with approximately 15 Food Control Points to be staffed by WSDA Food Safety Officers and a law enforcement representative to extend approximately 50 miles from CGS and included areas in Klickitat, Yakima, Benton, Franklin and Walla Walla Counties.

A coordination teleconference was conducted by the SEOCM, Planning Section, WDOH, WSDA, MUDAC, Joint Information Center (JIC) and the risk jurisdictions at approximately 1530 to review the Draft Food Control Area to ensure that the Food Control Area was correctly identified by the correct geo-political boundaries and determine the correct implementation time.

The Planning Section incorporated comments from the aforementioned coordination meeting and presented the Draft Food Control Area to the UCG for a PAD teleconference which was conducted at 1745. The Food Control Area was approved and signed by the Senior State Official at 1818 and was provided to Emergency Support Function (ESF) 15 for the development of a news release. The news release was submitted to the JIC at approximately 1930.

Requirements delineated in the Food Control Area are as follows:

Commercial Food Producers and Dairies

Commercial producers are required to stop harvesting and transporting fresh food products.
Commercial dairies are required to stop transporting fresh milk.
Processors should not accept milk or food originating from the Food Control Area.
Farms and dairies should place or maintain milk-producing animals and livestock on stored feed and covered water sources. Farmers that do not have stored feed, or do not have sufficient supplies, should contact their producer associations for assistance.
Residents, home gardeners and non-commercial farmers
Residents should drink bottled water, water from covered sources, or water brought in from outside the Food Control Area. Municipal water systems are filtered, treated and tested and are considered a covered water source and thus safe to drink.
Residents should not consume fresh milk from their farm. They also should not harvest or consume fresh vegetables or fruits from their garden until further notice.

Homegrown produce should be tested for radioactive contamination, but testing by WDOH and WSDA may not commence for many days and further announcements will be made before such

testing begins. Radiation monitoring teams are concentrating their efforts on commercial food producing facilities at this time.

Criterion 3.f.1:

At approximately 0700 The SEOC Manager (SEOCM) and the Disaster Manager (DM) provided a briefing on the Incident Action Plan #1 discussing the objectives of maintaining situational awareness, supporting the risk jurisdictions in implementing protective actions, implementing precautionary food control measures, promulgation of the Governor's Proclamation and the provision of a coordinated messaging strategy. An additional objective discussed was responder safety.

Responding organizations included: American Red Cross, Nuclear Regulatory Commission (NRC), Washington State Patrol (WSP), WEMD, WSDA, WDOH, Washington State Department of Transportation (WDOT), Washington Army National Guard, Department of Enterprise Services (DES), Pacific Northwest National Laboratories, and the State of Oregon Department of Energy.

The DM in the Policy Room was in charge of the Unified Coordination Group (UCG) which was responsible for coordinating the development of protective action decisions (PADs) based on protective action recommendations (PARs) from the Meteorological Unified Dose Assessment Center (MUDAC).

The SEOC received the return PAR from the MUDAC at approximately 0745 and the Planning Section, WSDA and WDOH coordinated the development of areas that met return requirements with Benton and Franklin Counties.

The Planning Section developed the return locations and included areas in Benton and Franklin Counties.

A coordination teleconference was conducted by the SEOCM, Planning Section, WDOH, WSDA, MUDAC, Joint Information Center (JIC) and the risk jurisdictions at approximately 0844 to review the Draft return locations to ensure that the areas eligible for return were correctly identified by the correct geo-political boundaries and determine the correct implementation time.

The Planning Section incorporated comments from the aforementioned coordination meeting and presented the Draft areas for return to the UCG for a PAD teleconference which was conducted at 0945. The areas for return were approved and signed by the Senior State Official at 1002 and was provided to Emergency Support Function (ESF) 15 for the development of a news release. The news release was submitted to the JIC at approximately 1015.

The SEOC received the lifting of transportation restrictions PAR from the MUDAC at approximately 0928 and the Planning Section, WSDA and WDOH coordinated the development of areas that met the lifting of transportation requirements with Benton and Franklin Counties.

The Planning Section developed the areas for lifting transportation restrictions and included areas in Benton and Franklin Counties.

A coordination teleconference was conducted by the SEOCM, Planning Section, WDOH, WSDA, MUDAC, JIC and the risk jurisdictions at approximately 1030 to review the Draft areas for the lifting of transportation restrictions to ensure that the areas eligible for the lifting of transportation restrictions were correctly identified by the correct geo-political boundaries and determine the correct implementation time.

The Planning Section incorporated comments from the aforementioned coordination meeting and presented the Draft areas for the lifting of transportation restrictions to the UCG for a PAD teleconference which was conducted at 1130. The areas for the lifting of transportation restrictions were approved and signed by the Senior State Official at 1143 and was provided to Emergency Support Function (ESF) 15 for the development of a news release. The news release was submitted to the JIC at approximately 1157.

The SEOC received the relocation PAR from the MUDAC at approximately 1330 and the Planning Section, WSDA and WDOH coordinated the development of areas that met the relocation requirements with Benton and Franklin Counties.

The Planning Section developed the areas for relocation and included areas in Benton and Franklin Counties.

A coordination teleconference was conducted by the SEOCM, Planning Section, WDOH, WSDA, MUDAC, JIC and the risk jurisdictions at approximately 1030 to review the Draft areas for relocation to ensure that the areas eligible for relocation were correctly identified by the correct geo-political boundaries and determine the correct implementation time.

The Planning Section incorporated comments from the aforementioned coordination meeting and presented the Draft areas for relocation to the UCG for a PAD teleconference which was conducted at 1550. The areas for relocation were approved and signed by the Senior State Official at 1630 and was provided to Emergency Support Function (ESF) 15 for the development of a news release. The news release was submitted to the JIC at approximately 1637. The re-entry point for the relocation area was identified as Columbia Basin College.

Criterion 5.b.1:

The SEOC Emergency Support Function (ESF)-15 staff performed as a cohesive, well-trained unit. They processed information quickly and produced six clear, concise news releases on day one (plume phase) of the CGS exercise.

News Release #1 reported that the State Emergency Operations Center (SEOC) at Camp Murray had been activated in response to an incident at CGS.

News Release #2 announced that Benton County and Franklin County had declared county-wide states of emergency and the Governor signed a proclamation at 1118 declaring a State of Emergency for Adams, Benton, and Franklin, Grant, Kittitas, Klickitat, Walla Walla and Yakima counties. It also reported the establishment of a Joint Information Center (JIC), identified Emergency Alert System (EAS) stations and provided public inquiry telephone numbers.

News Release #3 relayed details of an agricultural advisory issued by the Washington Department of Agriculture for portions of Benton, Franklin, Klickitat, Walla Walla and Yakima Counties...

News Release #4 addressed the Washington Department of Health's position on Potassium Iodide not being recommended for use by the general public.

News Release #5 provided updates on actions being taken by Washington State agencies including the Governor's Office, Department of Agriculture, Department of Health, Transportation, State Patrol and National Guard.

News Release #6 stated that the Governor had requested federal assistance from the President. It also mentioned that CGS's insurance would be available to reimburse public losses.

News Release #6 reported that the State Emergency Operations Center (SEOC) at Camp Murray had been activated in response to an incident at CGS.

News Release #7 relayed details of the relaxing of the Shelter Protective Action Decision and areas for the public to return.

News Release #8 relayed details of the lifting of transportation corridor restrictions.

News Release #9 addressed the areas in Benton and Franklin County identified for relocation and the re-entry location established at Columbia Basin College.

News Release #10 provided updates on actions being taken by Washington State agencies including the Governor's Office, Department of Agriculture, Department of Health, Transportation, State Patrol and National Guard.

News Release #11 identified the Food Control Areas by the Washington State Department of Agriculture (WSDA) in the State of Oregon, Klickitat, Yakima, Benton, Franklin and Walla Walla Counties. This news release also detailed actions on what to do regarding consumption of food, milk and water.

In addition to creating and disseminating six press releases, ESF 15 staff assisted the JIC as requested and monitored Social Media. They also responded to Public Inquiry phone calls. Some calls were forwarded to the JIC while others were handled at the SEOC. All conversations were logged into WebEOC for tracking by SEOC and JIC personnel.

All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

PRIOR LEVEL 2 FINDINGS – RESOLVED:

ISSUE NO.: 69-14-5.b.1-P-02

DESCRIPTION:
The External Affairs Section and the Health Section in the State Emergency Operation Center answered public inquires through phone, email and social media and did not forward them to the Joint information Center. This was identified in 2012 as a potential issue and specific injects to the exercise were created to cause the SEOC to respond to public inquiries and forward them to the JIC to provide the coordinated messaging to the public.

CORRECTIVE ACTION DEMONSTRATED:
The Washington Department of Health and ESF 15 responded to public inquiry phone calls at the SEOC. Some were handled in house but others were forwarded to the JIC for resolution. All conversations were logged into WebEOC for tracking by SEOC and JIC personnel.

The Washington State Fixed Nuclear Facility Protection Plan Annex E: Emergency Public Information – VI Procedures 2 Washington State Emergency Operations Center / Joint Information Center (JIC) a. *"Coordinate public in formation activities to support the fixed nuclear facilities to maximize resources and mitigate misinformation and rumor. Ensure two-way communications are maintained between the SEOC (External Affairs Section Chief /Deputy) and the affected facility's JIC via WebEOC, telephone, and email. The ESF 15 Lead within the SEOC is responsible for ensuring the information exchange takes place between PIO staff at the JIC and other locations using the aforementioned methods (NUREG G.4.b).*

Demonstrated Strengths:

- The ability of Franklin and Benton counties to coordinate and activate EAS in a reasonable time during the failure of Benton County's EAS computer is considered a strength.

- ESF 15 remained aware of developments throughout exercise. They anticipated the need for preparing news releases and were always ahead of the curve leading to timely message development.
- They showed great resourcefulness demonstrating media monitoring by tracking comments posted relating to the previous day's non-emergency event at CGS.
- The State of Washington and the counties displayed a commendable level of cooperation in clarifying issues and overcoming obstacles.
- ESF 15 remained aware of developments throughout exercise. They anticipated the need for preparing news releases and were always ahead of the curve leading to timely message development.
- WA SEOC showed great resourcefulness demonstrating media monitoring by tracking comments posted relating to the previous day's non-emergency event at CGS.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: ***69-14-1.c.1-P-01, 69-14-5.b.1-P-02***
e. PRIOR ISSUES – UNRESOLVED: ***69-14-1.c.1-P-05***

3.2.2.2 Washington State Department of Health Emergency Operations Center

Staff at the Washington State Department of Health Emergency Operation Center (WADOH EOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The Duty Officer for the Washington Emergency Management Division (WEMD) at the State Emergency Operations Center) Alert and Warning Center (AWC) was notified by the CGS at 0840 of an Alert Emergency Classification Level (ECL) event at CGS. The Duty Officer immediately notified the WDOH Division of Radiation Protection via pager alert and phone text. The WDOH Incident Management Team assembled in Room 163 arranged the tables and chairs, activated secure dedicated phone systems and computers using Web-EOC. Communication links were verified and the ACC was operational at 0951. All ECL notifications were via Classification Notification Forms (CNF). The Incident Management Team positions in the ACC were, Incident Commander, Operations, Finance, Logistics, Planning, Public Information, and ACC/Emergency Operations Center Liaison. The Division of Radiation Protection staff were briefed at 0851 regarding the CGS event and were told that they would be assigned to a 24 hour roster as replacements for ACC as needed. The Incident Commander conferred with ACC staff

regarding anticipated needs including, federal radiation experts, available airports, air assets ground support, vehicle parking, additional health physicists, and staging areas for response personnel and equipment, and additional potassium iodide (KI).

Criterion 1.b.1:

The ACC is located in Training Room 163 with space for 30 persons seated at tables and chairs. Well lighted and ventilated. There were two exits, one to the immediate outside. Access to room 163 is through a secure entrance with a posted officer and log in requirements for visitors. Department of Health staff had security identification badges that allow access through electronic locked doors. Building One is the Information Technology Facility for the WDOH and there were several levels of redundancy and sustainable power. Alternate locations were readily available.

Criterion 1.c.1:

The Incident Commander (IC) was in charge of the ACC group during the CGS exercise. He conducted briefings and provided oversight as room 163 was being set up for ACC response to the emergency exercise. The IC notified and briefed the Washington State Secretary of Health. He conducted a detailed briefing with the Deputy Washington State Secretary of Health. The Lead Health Physicist from the Office of Radiation Protection was the liaison between ACC, Benton, Franklin, and Walla Walla County Emergency Operations Centers and the Washington State Emergency Operations Center (SEOC), Emergency Support Function 8 (ESF 8). The IC was observed to confer with ACC staff in key positions and made timely decisions. During the emergency exercise anticipated needs were requested in a timely manner. Protective Action Decisions (PADs) were authorized by Benton and Franklin County Emergency Directors after conferring with ACC, and ESF-8 in the SEOC.

Criterion 1.d.1:

The primary communication system used by ACC was WDOH, Division of Radiation Protection laptop computers using secure servers. The secondary communication was dedicated land line telephones that used secure links to each key position in the ACC and were independent of the commercial system. All key positions in ACC also had WDOH cellular phones. Communications links were all verified with the Washington State Emergency Operations Center (SEOC). There were no communications failures in response to the postulated event.

Criterion 1.e.1:

Displays that were used in ACC were maps of the 10- mile emergency planning zone (EPZ) CGS, meteorological data postings, white boards and easel pads listing expected actions and current conditions at CGS. A large organization chart was used with key positions, point of contact assignments and phone numbers. Kits containing computers, telephones, procedures,

plans, and Standard Operating Procedures (SOPs) were at each key position. Large amounts of office supplies were readily available. All Office of Radiation Protection personnel have potassium iodide (KI) available.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: ***69-16-1.e.1-P02 (see WAFMT), 69-16-3.a.1-P-04 (see MUDAC)***
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.2.3 Washington State Department of Agriculture Emergency Operations Center

Staff at the Washington State Department of Agriculture Emergency Operation Center (WSDA EOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercises conducted March 30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The Alert and Warning Center (AWC), located in Building 20 on Camp Murray, WA, a function of the Emergency Management Division (EMD), received a phone call from the Columbia Generating Station (CGS) via the dedicated crash call circuit system (Crash phone) that an Alert had been declared at 0833.

At 0849, the WSDA Emergency Management Specialist received an email notification from the Washington State AWC stating that the CGS had declared an Alert. Following notification, the Liaison then mobilized the WSDA team with representation from the WSDA Directors Office, Food Safety and Consumer Services Division, and the Plant Protection Division to report to the State Emergency Operations Center (SEOC). Titles utilized by the team throughout the exercise were Executive Liaison, Emergency Management Liaison, Emergency Operations Liaison, and Emergency Management staff. Additionally, two Food Safety Officers were sent to Benton and Franklin Counties and a Public Information Officer to the Joint Information Center located in the Richland Federal Building.

The WSDA representatives arrived at the SEOC at 0916. By 0928, the team was ready to support the State Operations Section Chief. Upon notification of any critical information or change to the Emergency Classification Level (ECL), the ESF-11 lead would contact by email or phone the Food Safety Officers and Public Information Liaisons of the updates.

Criterion 1.b.1:

The WSDA EOC is an office room located on the 2nd Floor of the Natural Resources Building, 1111 Washington Street S.E., Olympia WA. The Natural Resources Building is a government building that houses Washington State's Department of Natural Resources, Department of Fish and Wildlife, and Department of Agriculture. The facility is located outside the 50 mile Ingestions Planning Zone.

The WSDA EOC had sufficient space and lighting to support the twelve staff required to accomplish a full response and accomplish core tasks, as staff are primarily deployed to coordinate communications/specific field work in support of the WSDA (ESF-11) staff, assigned to the State EOC.

The restrooms and ventilation are intrinsic to the building. There is no generator or back up power, the WSDA will revert to the agency Continuity of Operations Plan and relocate as directed.

The access to the workforce offices within the facility are secured by card key. There is a main entrance for the public that is not secure.

Criterion 1.c.1:

The WSDA Executive Liaison deployed to the State Emergency Operations Center (SEOC) following Alert emergency classification level (ECL). Throughout the exercise, he continually provided input to support protective action recommendations (PAR) and protective action decisions (PAD) for the ingestion pathway emergency planning zone (EPZ).

The Executive Liaison participated in all decision package meetings to ensure appropriate actions were taken by his staff to implement a blanket embargo following the release at the Columbia Generating Station (CGS) which affected multiple counties. Following each Unified Command Group (UCG) meeting, the Executive Liaison briefed his staff on the decisions made and actions to accomplish before the next meeting. He ensured communications were maintained between the WSDA liaisons at the counties and the Joint Information Center (JIC).

The team was made up of an Emergency Management Liaison, an Emergency Operations Liaison, and three general emergency management staff who were equally as knowledgeable and resourceful; working diligently to create and disseminate an Agriculture Advisory during the Plume exercise and a Blanket Embargo for the Ingestion Exercise. Both the advisory and the embargo included maps of the affected area with an isopleth depicting the boundary. Food Control Points (FCP), as well as all dairies and food processors located within the isopleth were noted as well. During SEOC emergency support function (ESF) briefings, the Emergency Management Liaison and Operations Liaison would brief their progress including a description of the maps created. These tasks were developed and released to the PIO by each days end.

Criterion 1.d.1:

The WSDA EOC is an office room located on the 2nd Floor of the Natural Resources Building, 1111 Washington Street S.E., Olympia WA. The Natural Resources Building is a government building that houses Washington State's Department of Natural Resources, Department of Fish and Wildlife, and Department of Agriculture.

The primary means of communication for the WSDOA EOC was the Satellite phones, cellular telephones, email and WebEOC.

During the Ingestion Exercise (Day 1), the Emergency Manager, using a cellular telephone, dialed into the Washington State Emergency Operations Center to participate (voice only) in the 0730 meeting. In addition, the video equipment was used to display the WebEOC activity board

on the front overhead screen. The satellite phone is available for use during power outages and is capable of transmitting data, sending texts and email. The phone is stored in a closet in the EOC. There is a satellite dish mounted on the roof of the Natural Resources Building.

Criterion 1.e.1:

The Washington Military Department Emergency Management Division State Emergency Operations Center (SEOC) is located in the center of the building and contains 70 computer workstations arranged in Emergency Support Function (ESF) Pods. Two of the Pods contain dedicated "CRASH" lines to the Columbia Generating Station. Three large screens in the front of the SEOC can be set up to display images and information from computers in the SEOC. 16 television monitors in banks of four in the corners of the SEOC can display what is on the large screens or additional information such as WebEOC status, maps, live press briefings, real-time informational logs, local and national news channels and other pertinent information.

There were displays used to identify the emergency classification level as well as current plant conditions. A pair of atomic clocks were mounted in the front and rear of the SEOC. Along the sides of the SEOC are various maps, status boards, six smart boards, one plotter, four facsimile machines, 10 printers and three copiers/printers.

Dosimetry, Potassium Iodide (KI) and radiation equipment are not stored at this location.

The supporting administrative equipment included white boards, agriculture maps, contact information, layout of the room, a list of key personnel and 10-mile Emergency Planning Zone and 50-mile Ingestion Pathway Zone maps.

Criterion 2.a.1:

Washington State Department of Agriculture (WSDA) successfully demonstrated a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, was in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.

Fifteen Food Safety Officers (FSO) from the WSDA were dispatched to the WSDA Field Coordination Office located at the Franklin County EOC, 502 Boeing St., Pasco, WA to receive emergency assignments. Emergency Worker Kits are maintained for WSDA staff by Franklin County Emergency Management.

If entering the Ingestion Planning Zone to collect samples, the Field Office Coordinator provides FSOs training and instructions to obtain and use Emergency Worker Kits including dosimetry and the use of KI when instructed by the WADOH. At 1102 ingestion of KI for emergency workers was approved. WADOH also authorizes emergency worker exposure limits in excess of

administrative limits. Food Control Point Workers are considered Class 3 emergency workers and only required to wear TLDs.

Criterion 2.d.1:

Washington State Department of Agriculture (WSDA) successfully demonstrated that the radiological consequences for the ingestion pathway were assessed and appropriate protective action decisions were made based on planning criteria, to include the 50 mile ingestion pathway Emergency Planning Zone (EPZ).

Meteorological Unified Dose Assessment Center (MUDAC), Washington State Department of Health (WADOH), Washington Emergency Management Department as well as the State of Oregon and local jurisdictions coordinated to develop public information announcements before releasing to the public. As technical information became available updates were issued to clarify the areas affected and the status of protective action decisions (PAD).

During Plume Phase, WSDA issued an automatic agricultural advisory following the release at Columbia Generating Station (CGS) as a preliminary protective action recommendation (PAR) for the protection of livestock and crops in the 10 mile plume EPZ from the effects of a radiological release before the extent of the release was determined.

The advisory included PARs for portions of Benton County, Franklin County, Klickitat County, Walla Walla County and Yakima County. Pre-determined geographical descriptions were included in the advisory for each of the affected areas.

At day’s end of the Ingestion Exercise, WSDA developed a Blanket Embargo for the food control area (FCA) based upon information from the MUDAC, WADOH, and after consultation with the affected counties. The counties concurred with the embargo restrictions at 1812.

The Blanket Embargo included a map which defined the geographical boundaries of the FCAs. The pamphlet "Radiological Emergency Information for Farmers, Food processors and Distributors" were distributed at all 14 FCPs.

Criterion 3.e.1:

Washington State Department of Agriculture (WSDA) successfully demonstrated the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone (EPZ) for implementation of protective actions.

WSDA had a statewide database with locations for dairy farm operations, crops and the harvest periods as well as food processing plants. Water supply in the affected area was known to be well water. A report could be generated by calling personnel located at the WSDA facility in Olympia, WA. Following receipt of the isopleth created by the Washington State Department of

Health, the WSDA Emergency Operations Liaison created a map of the food control zone which included 11 dairy farms and 25-30 wholesale food production sites. This information was then used to develop food control points (FCP) and the estimated number of Food Safety Officers (FSO) to conduct sampling.

Criterion 3.e.2:

Washington State Department of Agriculture (WSDA) successfully demonstrated appropriate measures, strategies, and pre-printed instructional material were developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production.

The coordination and decision making for all support activities were made at the Washington State Emergency Operations Center (SEOC), located in Building 20 on Camp Murray, WA. The Washington State Patrol, Department of Transportation, Department of Health (WADOH) and County extension Agents all supported the WSDA in a level of play established in the WSDA Radiological Plan.

Frequent contacts were made by telephone to update and coordinate with the Oregon Department of Agriculture and the Oregon Department of Energy working at the Oregon State EOC. No additional requests for Federal agency resources were required to perform the tasks associated with implementing WSDA protective action decisions (PADs). All decisions to implement protective actions were made during the Unified Command Group (UCG) decision package meetings.

The Emergency Management Liaison, deployed 15 Food Safety Officers (FSOs) to the following county EOCs; Adams, Grant, Benton, Franklin, Yakima. When requested, the FSOs supported the embargo efforts at 14 food control points (FCPs).

Milk Sampling teams were deployed at 0830 and activities to sample agricultural products followed shortly thereafter. Crop lists were developed and at 1133, an agriculture advisory was drafted. Beef farmers were informed to shelter their animals and feed at 1419.

Maps were created that provided names, addresses, contact information of distributors, farmers and the types of crops affected. These products and any updated materials were distributed to key locations within the Ingestion Pathway emergency planning zone (EPZ).

WADOH field teams identified deposition areas and contamination concentrations. This data was used to develop the strategy for food sampling and supported the implementation of food embargoes. Food Safety Officers (FSO) sent food and dairy samples to the State laboratory for testing, utilizing specified levels adopted by the WADOH to determine the need to implement the embargo.

At 1304, the WSDA Emergency Operations Liaison; in coordination with the WADOH, WSDA FSOs and County leadership, established (FCP) and food control areas (FCA) prior to submitting the draft approval package to the UCG for approval.

The WSDA Executive Liaison coordinated the efforts of the FSOs and County emergency management at the EOCs to notify affected farms, food processors and haulers of the terms of the embargo. If required, WSDA would oversee the destruction of contaminated agricultural products, as approved by the UCG. This activity was not demonstrated during the exercise. Implementation of the Embargo Advisory for food and animal products, as well as the established FCPs, were sent out by the Public Information Officer (PIO) at the SEOC after a few modifications. Then it was sent to Yakima, Benton and Franklin counties at 1727. The UCG was very thorough preparing the draft approval package, ensuring all counties were in concurrence of the PADs to implement.

The FSOs had agricultural protective action literature, such as the educational booklet "Radiological Emergency Information for Farmers, Food Processors and Distributors" which was published by Washington Emergency Management Department (WAEMD) for annual distribution within the 10 mile EPZ and the agricultural protective action tri-fold brochure. This information was also available on the WSDOA website: http://agr.wa.gov/foodsecurity/attachments/radiologicalemergencybook.pdf and was available in Spanish translation.

At points in the exercise, FCAs crossed state lines. Decision makers at the Oregon Department of Agriculture coordinated with Washington State decision makers and the affected counties to develop consistent geo-political boundaries at the state border.

Criterion 5.b.1:

Washington State Department of Agriculture (WSDA) successfully demonstrated actions to provide accurate emergency information and instructions to the public and the news media in a timely manner.

Washington State Department of Agriculture (WSDA) coordinated with the Washington State Department of Health (WADOH), Washington Emergency Management Department as well as the State of Oregon and local jurisdictions to develop public information announcements before releasing to the public. As technical information became available updates were issued to clarify the areas affected and the status of protective action decisions (PADs).

During Plume Phase, WSDA issued an automatic agricultural advisory following the release at Columbia Generating Station (CGS) as a preliminary protective action recommendation (PAR) for the protection of livestock and crops in the 10 mile plume EPZ from the effects of a radiological release before the extent of the release was determined.

The advisory was released to the public at 1133 and included PARs for portions of Benton County, Franklin County, Klickitat County, Walla Walla County and Yakima County. Pre-determined geographical descriptions were included in the advisory for each of the affected areas.

At day's end of the Ingestion Exercise, WSDA developed a Blanket Embargo for the food control area (FCA) based upon information from the Meteorological Unified Dose Assessment Center (MUDAC), WADOH, and after consultation with the affected counties. The counties concurred with the embargo restrictions at 1812. A press release was scheduled for 1930 following the Unified Command Group meeting.

The Blanket Embargo included a map which defined the geographical boundaries of the FCAs. The pamphlet "Radiological Emergency Information for Farmers, Food processors and Distributors" were distributed at all the FCPs.

Demonstrated Strengths:

- WSDOA has a well-organized and thorough emergency operations plan for a radiological response. The WSDOA Radiological Emergency Procedures (plan) was well written and included all aspects of a response.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.2.4 Washington State Department of Health Field Monitoring Team 1

Staff at the State of Washington Department of Health Field Monitoring Team 1 (WADOH FMT 1) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

Pre-positioning of Field Team 1 was not necessary during this exercise because the team members were notified at, and deployed from, their normal workplace.

At 0839 the WA Department of Health (WADOH) Office of Radiation Protection Emergency Response Duty Officer notified the FT1 members that a page had been received from the

Columbia Generating Station stating that an Alert had been declared at 0820. Per WADOH procedures, the FT 1 members gathered their field equipment and began operational checks.

At 0951 the Field Team Coordinator (FTC) notified FT 1 that a Site Area Emergency had been declared at 0946, and that a release was in progress. At 1028 the FTC notified the team that a General Emergency had been declared at 1024. At 1032 the FTC dispatched the team to begin taking environmental measurements. Each communication from the FTC included updates on plant and environmental conditions.

Criterion 1.d.1:

The primary means of voice communication between Field Team 1 and the Field Team Coordinator was cellular telephone. Backup voice communication was available using the emergency radio system which communicates with the utility's Emergency Operations Facility. Both systems were tested prior to Field Team 1 being dispatched and both functioned throughout the exercise. Field team 1 survey, air sampling and dosimetry data were transmitted to the Field Team Coordinator in spreadsheet form using an iPad with a mobile internet connection.

Criterion 1.e1:

The equipment used by the Field Team 1 (FT 1) was pre-packaged in sealed, inventoried plastic tubs stored at the WA Department of Health Office of Radiation Protection in Richland, WA.

Prior to being dispatched the FT 1 members opened their kits and performed instrument and dosimetry checks. Instruments available to FT 1 included: two Ludlum model 12 rate meters, serial numbers 242305 and 242290, both calibrated on February 29, 2016, and each connected to a Ludlum model 44-9 pancake detector with serial number PR255303 and PR255377 respectively; a Ludlum model 19 microR meter, serial number 37419, calibrated on September 4, 2015; and, an Eberline model RO20 ion chamber, serial number 12042, calibrated on September 4, 2015. The Ludlum model 12/pancake detector combinations were response checked with a technetium-99 check source displaying an activity of "15,330 cpm". The Ludlum model 19 and the Eberline RO20 were checked with a 1 µCi cesium-137 check source. Response data for each of these instruments is contained in the Instrument Response Record Book which is part of the instrument kit, and all instruments responded within ± 20% of the expected reading. Additional instruments, if needed, were available at the Office of Radiation Protection.

Each team member was supplied with the following dosimetry: a Dosimeter Corporation model 622 pencil ion chamber with a range of 0-20 R, two of which were calibrated on January 14, 2016 and the third calibrated on February 9, 2016; a Canberra Ultra Radiac Plus electronic dosimeter with an exposure range of 0-999 R, one of which had a calibration due on June 8, 2016 and the other two had calibrations due on July 14, 2016; a Landauer Radwatch mission-specific OSL dosimeter which can be read in-house at the Office of Radiation Protection; and, a Landauer OSL permanent record dosimeter valid until April 1, 2016. Dosimetry would be turned in at the Emergency Worker and Assistance Center at the end of the emergency workers'

shift. A supply of 200 Thyrosafe 65 milligram potassium iodide (KI) tablets with an expiration date of April 2024 was part of the FMT dosimetry and equipment inventory. More KI would be available if needed at the Office of Radiation Protection.

A Radeco Model H-810 air sampler with serial number 0058 012-21, and with calibration due on April 27, 2016, was part of the equipment inventory. The FMT Captain ensured that the air sampler was loaded with a filter paper and cartridge, and then operated the sampler for 30 seconds to ensure that the appropriate flow rate of two cubic feet per minute could be obtained.

Additional supplies available to the Field Team included surgical gloves, Tyvek booties and Tyvek suits with hood. Also provided were: rolls of clear cellophane tape; a supply of paper particulate filters; a supply of air sample cartridges; a supply of data forms used to record survey, sampling and dosimetry results in case of failure of the iPad recording system; and, plastic sheeting and paper for establishing contamination control areas.

PLANNING ISSUE: YES

ISSUE NO.: 69-16-1.e.1-P-02

CONDITION:

The Washington State Department of Health Radiological Emergency Response Plan refers to the air sampling cartridge different ways in two areas of the plan. In Procedure 6.3, Field Team Sampling, paragraph 5.1.2 (2) the cartridge is referred to as a “silver zeolite” cartridge, while in paragraph 5.1.2 (12) of the same procedure the cartridge is referred to as a “charcoal/iodine” cartridge. (This issue applies to both Field Monitoring Teams)

POSSIBLE CAUSE:

WA DOH is no longer using silver zeolite cartridges and is using charcoal cartridges exclusively for collecting airborne radioiodine samples. The plan was not revised in every instance when referring to these cartridges.

REFERENCE: NUREG-0654/FEMA-REP-1; I.9

EFFECT: Internal inconsistencies in the plan could lead to confusion in the field when an emergency worker is expecting to have silver zeolite cartridges on hand when there are none available.

RECOMMENDATION:

Revise the plan to reflect actual sampling equipment used

Criterion 3.a.1:

Emergency worker exposure control was exercised by: establishing administrative control exposure limits and a Turn-Around Value (TAV); by requiring the Field Team members to read their dosimeters periodically and report the exposures to the Field Team Coordinator (FTC); by requiring the wearing of personal protective clothing (gloves, booties, Tyvek suits); and, by providing workers with KI tablets.

Each Field Team member was issued dosimetry as specified in the plan. A dosimeter correction factor for the electronic dosimeter was not specified in the plan, but a TAV of 2.5R was established as the default, subject to modification as the plume became characterized. The electronic dosimeters have upper ranges of 200R/hr exposure rate, and accumulated exposure of 999R, which are adequate for measuring exposures at the administrative limit. There is an issue however with the Plans and Procedures relating to a "default" TAV that must be resolved.

Prior to dispatch the Field Team Captain briefed the team members on the TAV of 2.5 R, on the possibility they would need to ingest potassium iodide (KI) and the purpose and risks of ingesting it, on the need to read their dosimeters periodically, and on the need to report to the Emergency Worker and Assistance center for monitoring and decontamination at the end of their shift. All team members were present when the initial notification was received, so were already aware of the plant and meteorological conditions.

Every 30 minutes during the demonstration the team member who recorded doses requested that each member read his dosimetry. The team members did so and the readings were entered into the electronic data log and transmitted to the FTC. When the Site Area Emergency was declared and it was revealed that a release was in progress, the FTC recommended that the team members ingest KI and this was simulated at 0951. KI ingestion was recorded electronically.

Field Team 1 members demonstrated the appropriate use of gloves and booties during sample collection, and one team member successfully demonstrated the correct method for donning and doffing a hooded Tyvek suit, including gloves and Tyvek booties.

Two emergency workers were interviewed and demonstrated awareness of: the administrative Turn-Around Value of 2.5 R; the maximum 5 rem annual dose limit recommendation for emergency workers; the fact that approval to exceed the TAV and the annual permitted dose would need to come from the Director of the Office of Radiation Protection; and, details of the purpose of KI, why it is ingested and the need to have the ingestion recorded electronically.

Criterion 4.a.3:

WA Field Team 1 consisted of three employees of the WA DOH Office of Radiation Protection. Prior to dispatch from the Richland office, the team set up the rear compartment of their vehicle as a radiological work area using plastic and paper sheeting, and they taped plastic bags to the

inside of the doors of the vehicle for radiological waste collection. Before being dispatched they collected a baseline air sample.
Background readings were obtained for the Ludlum model 12 and model 19 instruments. The air sampler was deployed on a tripod approximately 3 feet tall, and a 10 cubic foot air sample was drawn with the sampling snout pointed toward the power station. One Field Team member donned double surgeon's gloves to disassemble the filter housing in the radiological work area of the truck after the sample had been drawn. Using tweezers, the filter paper was removed from the holder, transferred to a petri dish and counted using the Ludlum model 12 with the pancake detector. The counting results were entered into the electronic spreadsheet maintained by the team recorder. The petri dish was placed into a plastic Ziploc bag, a label was attached, and the bag was taped shut. This bag was placed into a second Ziploc bag for transport to the lab. The team member performing sample manipulation removed his outer gloves and replaced them with a clean pair. The charcoal cartridge was removed from the sampler and placed in a plastic bag which was taped shut. It was counted using the Ludlum 12 with the pancake detector and the results were entered into the electronic spreadsheet. A label was affixed to the plastic bag and this bag was placed into a second plastic Ziploc bag for transport to the lab.

The WA DOH plan specifies that an ambient exposure rate of approximately 100 µR/hr would likely indicate the edge of the plume. After dispatch the Field Team Captain monitored the Ludlum model 19 micro-R meter continuously in order to detect any rise in radiation reading. When the ambient exposure rate reached 94 µR/hr by controller inject the team stopped to collect an air sample.

The Field Team Captain used the Ludlum model 12 with the pancake detector to take readings at waist-level and one inch above the ground with the detector cap on and off. Readings at these locations with the cap off were approximately double the readings with the cap on, indicating that the location was in the plume. The air sampler was set up as before. The surveyor took additional readings with the Ludlum models 19 and 12 before, during and after air sampling to confirm that the sampling location remained in the plume during the time that the sample was being drawn. At the end of sampling, the snout of the air sampler was bagged to prevent the spread of contamination during transport to the next location. The Field Team moved to an area of low background radiation to count the sample. The air sampler was run for 30 seconds at this location to purge the sampler with uncontaminated air. Sample handling and counting was as described above. Movement to another location was simulated, and a second air sample was obtained. All survey and sampling procedures were identical to those utilized for the first two air samples.

Sample information for the charcoal cartridge and the filter paper were recorded on Emergency Environmental Sample Chain of Custody forms. These forms contain detailed entries of the type of sample, location and time it was collected, and show chain-of-custody signatures of each person who receives or relinquishes the sample. An arrangement exists with the WA State Patrol for them to transport samples to the DOH laboratory in Shoreline, WA.

All ambient radiation readings, as well as radiation readings taken from the samples, were entered into the electronic record-keeping system and transmitted to the FTC.

Criterion 4.b.1:

The collection of food crops, non-food vegetation, soil, and water samples was performed during the plume phase demonstration on March 29, 2016.

In order to collect a water sample, the Field Team moved to the shore of the Columbia River directly across from Howard Amon Park in Richland, WA. Team members donned double surgeon's gloves, and using a permanent marker, a one-gallon cubitainer was marked with sample identification. Waist level and ground level surveys using the Ludlum model 19 and the Ludlum model 12 were made of the area where the water was to be collected. Using a paper cup and paper funnel, enough water was transferred from the river to half fill the cubitainer. The lid was screwed onto the cubitainer and tape was used to seal the lid. The cubitainer containing the water was surveyed with the Ludlum model 19, and the results were recorded on the electronic sample data spreadsheet. The cubitainer was taken to the vehicle where a sample label was attached to it, and the container was double bagged for transport. The team members' gloves were removed and placed in the rad-waste bag. After simulating a move to a different location, a second water sample was collected as above.

Two types of commercially purchased edible crop were used to simulate field grown crops. These were placed outdoors and the Field Team harvested them as they would in an actual emergency. A survey of the ground around the crop was performed using the Ludlum 19 and Ludlum 12 instruments, and then each crop type was harvested one at a time and placed into a plastic bag. Each bag of crop was surveyed with the two Ludlum instruments and then taken to the vehicle for labeling and sealing. As with the other environmental samples, a label was affixed to the bag, the bag was sealed with tape, and then placed into a second bag in preparation for transport. Sample data and radiation readings were entered into the electronic spreadsheet.

Two types of non-edible vegetation were sampled. Collection techniques, radiation surveys and sample labeling and packaging were performed exactly as they were in the case of the edible crops. One of the non-edible vegetation samples consisted of dry leafy litter from the surface of the ground, and the other was live grass clipped at ground level.

Two soil samples were collected. The team members involved in the collection donned double surgeon's gloves and, using the Ludlum model 19 and Ludlum model 12 instruments, surveys were made of the soil to be sampled. Using a carpenter's square, an area of one square foot was outlined on the ground. Using a trowel, the soil inside this outline was excavated to a depth of one inch, and the soil was transferred into a plastic bag. The soil bag was surveyed using the two Ludlum meters and a sample label placed on the bag. The bag was taped shut and placed into a second bag for transport. A second soil sample was collected using techniques identical to those used for the first sample.

Two milk samples were collected on March 30, 2016. The FMT met with the WA Department of Agriculture (WSDA) sampling team at the Franklin County EOC. Both teams traveled to the selected dairy where the WSDA members collected a milk sample from a storage tank in accordance with WSDA procedures. The sample was collected into a one-gallon cubitainer, which was then placed into a Styrofoam cooler containing ice. The cooler was taped shut and WSDA security seals were applied to it. The area outside the door to the milk house was selected as the sample transfer point, and after donning double surgeon's gloves, the FMT members made surveys of the ground in this area using the Ludlum 19 and Ludlum 12 instruments. The WSDA members transferred the sealed cooler to the WA DOH FMT 1 outside the milk house using each agency's chain-of-custody procedures and documentation. The cooler was surveyed to ensure that it was not contaminated, a DOH sample label was applied to it and it was bagged and sealed with tape. This bag was placed into a second bag for transport. A second milk sample was collected in the same manner from a separate location on the same farm. All procedures used were identical to those used in the case of the first milk sample.

An arrangement exists with the Washington State Patrol for them to transport environmental samples to the DOH laboratory in Shoreline, WA.

Demonstrated Strengths:

- The WADOH FMT 2 Team Captain gave a very detailed and descriptive radiological briefing. Emphasis was placed on use, side effects, and reason for taking KI in a CGS emergency. He made sure each member understood each point in the briefing and was thorough in covering all applicable radiological and other safety issues.
- FMT 2 personnel exhibited excellent contamination control. The sampler for the team changed gloves whenever any potential for contamination existed and used a meter to check her hands for contamination often. The team took great care to limit exposure and spread of contamination.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: ***69-16-1.e.1-P-02, 69-16-3.a.1-P-04***
d. PRIOR ISSUES – RESOLVED: ***69-14-1.e.1-P-03, 69-14-4.a.3-P-04***
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.2.5 Washington State Department of Health Field Monitoring Team 2

Staff at the State of Washington Department of Health Field Monitoring Team 2 (WADOH FMT 2) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based

on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion: 1.a.1

Staff rallied at the WADOH Richland Field Office (RFO) located at 309 Bradley Boulevard, Richland, WA. The WADOH FMT 2 consisted of a Field Team Captain and two Field Team Members and were all employees of WADOH. Two of three staff are permanently station at RFO and the third team member works at the Tumwater, WA office and was pre-positioned at the RFO.

At 0841, RFO was notified that an Alert Emergency Classification Level (ECL) had been declared at CGS. The WADOH FMT 2 personnel were advised of the declaration by their supervisor and via the pager-auto dialer system. According to the Field Team Captain, if after hours, the team members would be activated through the automated system and a call from a supervisor. The Field Team Captain also stated that replacements for 24-hour operations would be placed on stand-by by personnel at headquarters in Tumwater.

At 0958 the Field Team Coordinator notified WADOH FMT 2 via a cellular telephone call that a Site Area Emergency had been declared at 0946 and a release was in progress. The General Emergency (GE) declaration was received by Feld Team 2 at 1030. At 1033 the FMT 2 was dispatched to a staging location in preparation of environmental sampling. Periodic updates from the Meteorological Unified Doses Assessment Center were relayed to the field team during the exercise.

Criterion: 1.d.1

The Field Team Coordinator was stationed at the Meteorological Unified Doses Assessment Center (MUDAC). The primary communication with the Field Team Coordinator was via cellular telephone. The field team was also equipped with an 800-Mega Hertz radio supplied to the WADOH by CGS. A tablet device was used to log field data and the capability to e-mail the data to the MUDAC was demonstrated.

Prior to departing the WADOH Richland Field Office, the team performed a check of radio communications at 1014. At one point during the exercise, there was some confusion in completing a cellular telephone call with MUDAC, but was quickly remedied when a team member used a different phone and completed the call. No other communications concerns were noted.

Criterion: 1.e1

An ample supply of personal protective equipment (PPE) was stored at RFO, including protective suits, boot covers, gloves, safety vests, KI, dosimetry, and monitoring instruments. At 0850 WADOH FMT 2 obtained dosimetry kits. Each member was The State of Washington

Department of Health Field Monitoring Team 2 (WADOH FMT 2) had sufficient equipment, maps, dosimetry, potassium iodide (KI) and supplies to support field monitoring team functions during the Columbia Generating Station (CGS) exercise on March 29, 2016. The field teams were dispatched from the WADOH Richland Field Office (RFO) where equipment and supplies are stored. At 0841 FMT 2 was made aware of an Alert declaration at CGS. At that time, WADOH FMT 2 began preparing and inventorying equipment, supplies, and the vehicle.

Issued a Dosimeter Corporation of America Model 622, 0-20 R dosimeter, a Landauer RadWatch OSL dosimeter (permanent record dosimeter), and a Canberra Ultra Radiac Plus electronic reading dosimeter (all due for calibration on April 14, 2017). The Direct-Reading Dosimeters were last tested on January 14, 2016 and due for testing January 14, 2017. Dosimetry is returned at the Emergency Worker and Assistance Center at the end of the team's mission. The WADOH FMT 2 was supplied with ten packs of Thyrosafe KI. Each pack contained twenty 65 mg tablets (ten adult doses). The KI expires in April 2024.

Radiation detectors were unpacked and source checked, prior to loading into the vehicle. A Ludlum Model 12 equipped with a 44-9 pancake probe (calibration due November 2, 2016) and a Ludlum Model 26 frisker (calibration due September 8, 2016 were source checked with a technicium-99 check source. Two meters were checked using a cesium-137 check source; a Ludlum Model 19 meter (calibration due October 23, 2016) and an Eberline RO-20 (calibration due February 25, 2016). A Ludlum Model 12 equipped with an alpha detector was source checked, but not utilized during the exercise. All meters were within the plus or minus 20% acceptable level indicated in the instrument logs. The operational check information was logged in the log book.

The WADOH FMT2 team utilized a Radeco H-810 air sampler (due for calibration April 27, 2016). A baseline sample was collected prior to being deployed. Proper air flow (about 2 cfm) was verified prior to collecting the baseline sample.

Supplies, sampling equipment, sample containers, gloves, forms, tape and other necessary supplies were stored in sealed totes. Inventory lists were attached to the totes listing supplies in the tote. If the seal was intact, then the inventory was accurate. Any additional supplies, equipment, monitors, KI or other needs would be supplied from WADOH in Richland or Tumwater.

Criterion: 3.a.1

Upon arrival at the WADOH Richland Field Office (RFO), one FMT 2 member successfully demonstrated proper donning and doffing of personal protective equipment (PPE). Step-by-step procedures were read by one team member while the other properly dressed in protective gloves, boots covers, and protective suit. The Team 2 member then was directed by procedure and properly removed the PPE.

An Alert Emergency Classification Level (ECL) was declared at CGS and received by WADOH FMT 2 at 0841. The team was stationed at the RFO and began an inventory check of equipment.

The three-member FMT 2 retrieved dosimetry kits from equipment stored at RFO. Each team member received an Electronic Direct-Reading Dosimeter (EDRD) – Canberra Ultra Radiac Plus, an optically stimulated thermo luminescent dosimeter – a Landauer RadWatch, and a 0-20 R Direct-Reading Dosimeter (DRD) – Dosimeter Corporation Model 622. Potassium Iodide (KI) (10 - 20 pill packs of 65 mg tablets), dose/KI records, and personal protective clothing was included in the field team equipment and supplies. The DRD, EDRD, and RadWatch were placed on a safety vest and worn at chest level for the remainder of the exercise. The WADOH FMTs worked with an original turn-back of 2.5R – later changed to 2.3R. The EDRD and DRD supplied to each team member can provide adequate readings for these levels. The plan indicated that the Filed Team Coordinator was to be contacted if the radiation dose rate exceeded 100 micro-R/hr instructed the team to report to a decontamination center upon completion of mission. There were ample supply of dosimetry equipment available at the RFO and more could be obtained from WADOH Radiation Protection if necessary.

At 1000 the FMT 2 Captain briefed the team on radiological exposure control and plant updates. The Field Team Captain reported that CGS had declared a Site Area Emergency ECL and there was a radiological release in progress. Meteorological data was provided (wind at 10 mph from 345 degrees, stability class E). The team was advised no personal protective clothing was needed at the time and may be upgraded if entering an area in excess of 8,000 cpm. If below that level, boot covers and two layers of gloves would be worn. The Team Captain reminded the team to read dosimetry every 45 minutes and remember the turn-back of 2.5R. The RO instructed that if the rate exceeded 100 micro-R/hr that the team has detected the edge of the plume and that would be reported to the Field Team Coordinator. The FMT personnel was advised that since a release was in progress that all should take KI (simulated). Each FMT 2 member ingested two 65 mg tablets of KI (simulated) and recorded the ingestion information at 1005.

During the exercise WADOH FMT 2 read their dosimetry and results were recorded by the field team logger every 45 minutes. Each team member knew they would report back to the FMT command when their dose reached 2.5R (changed to 2.3 R by a call from the Field Team Coordinator at 1120). The decision for replacement would be made by the Field Team Coordinator at that time. The team members were knowledgeable of the turn-back limits; KI use, dose, and side effects; to return dosimetry to the Emergency Worker and Assistance Center; and that to call in if ever in a field reading above 500 micro-R/hr. The WADOH FMT 2 was also aware only to take KI when instructed by the Team Captain.

Criterion: 4.a.3

Field Monitoring Team 2 was comprised of three staff members from WADOH. An Alert Emergency Classification Level (ECL) was declared at CGS and received by the FMT 2 at the Richmond Field Office (RFO) at 0841. Two of the three team members normal work location is

the RFO, the third team member works at the Tumwater WADOH Office and was pre-staged at RFO. After receipt of the Alert, the team began an inventory and instrument check. The team received a radiological briefing from their Team Captain at 1000.

Upon completion of the briefing the team collected an ambient baseline air sample from the parking lot of the RFO. A Radeco H-810 air sampler was set up on a tripod and connected via a 12-volt cable to the vehicle. The sampler head was situated toward CGS to collect the 10-cubic foot background sample. The filter paper was removed from the sampler head using tweezers and placed in a petri dish and monitored with the Ludlum 12 with 44-9 detector. The cartridge was removed and placed in a plastic bag and monitored also. Results were recorded. The filter paper and charcoal cartridge were labeled and packaged for shipment to the lab. A proper chain-of-custody form was completed for future transfer to the laboratory.

The Field Team Coordinator, located at the MUDAC, dispatched FMT 2 to a staging position within the 10-mile EPZ at 1030. All preparatory work, including background measurements with the Ludlum Model 12 and Ludlum Model 19, and Ludlum Model 26 was completed prior to dispatch. The team arrived at the staging area at 1058 and took survey readings at the site. Readings were taken using the Ludlum 19 and Ludlum Model 26 (with probe cover on and off) at waist and ground level. All readings were at background per controller injects. The results were called in to the Field Team Coordinator at the MUDAC. While at the site three separate readings were taken using the same meters and protocol. All readings were background. NOTE: Initially readings were reported for this site by the Controller who was mis-reading the data. The results were corrected to background.

At 1202 FMT 2 was advised to move to a second location. The team arrived at 1207 when they noticed dose rates rising on their meters. The team explained WADOH FMTs define the edge of the plume, which per procedures is when dose rates reach 100 micro-R/hr. The WADOH Field Teams do not enter into the plume or define the center-line. The team stopped at a safe location when the dose rate was recorded at 148 micro-R/hr. Waist high and ground level readings were taken and reported to the MUDAC. Readings were collected with the probe covered and uncovered with the manufacturer's plastic cover. The readings were twice as high when the probe was uncovered – indicating being in the plume. The team was advised to collect an air sample at the location. The team followed the air sampling procedures (read aloud during sample collection). A 10 cubic-foot air sample was collected when the sampler shut down at 1224. Survey readings were repeated mid-sample to confirm no significant change during sample collection. The team bagged the sampler and moved to a background area. At 1236 the team reconnected the air sampler, purged the intake cartridge and removed the filter paper and cartridge. The filter paper and charcoal cartridge were measured using a Ludlum Model 12 with a 44-9 pancake probe. Readings were taken by placing the filter paper in a petri dish and using the probe just off the surface of the filter. The cartridge was placed in a plastic bag and read in a similar manner. All readings were recorded and sent to the MUDAC at 1252. The team took great care not to cross contaminate the samples by changing gloves after contact with any potentially contaminated object and checking their hands with the Ludlum 12/44-9 meter/probe.

At 1325 the team was sent to a third location where the sampling procedures were repeated. An air sample was collected, the team moved to a low background area, and the filter and cartridges were removed, monitored and packaged for delivery to the laboratory. The results were sent to the MUDAC via a cellular call. This third air sample was completed at 1400.

In the WADOH plans and procedures there are instances where silver zeolite cartridges are mentioned. According to FMT 2 staff, only charcoal cartridges are used by WADOH. The plan needs changed to remove the references of the silver zeolite cartridges.

Criterion: 4.b.1

During the two day exercise WADOH FMT 2 collected or assisted with collection of soil, vegetation (edible and forage), water and milk samples and prepared the samples for transport to the state laboratory.

When the plume exercise had terminated on March 29, 2016, WADOH FMT 2 was dispatched by the Field Team Coordinator to begin ingestion sampling (out of sequence). The Team was directed to a location in north Richland, WA and advised to collect water samples from two locations. Background radiation readings had been recorded earlier as part of the plume event. The team arrived at the location at 1427 and a water sample was collected from the first site. Two FMT 2 team members exited the vehicle and monitored the area for contamination. Per inject from the Controller – none was observed. The team sampled from the downwind end of the pond and free of overhang, where contamination would most likely be discovered. The team used a disposable cup and funnel and placed water from the pond into a 1-gallon plastic container. An estimated ½ to ¾ gallon is required for analysis. The team filled the container to about ¾ level, placed the cap on the lid, taped the lid to avoid spillage, labeled the sample and double bagged it for shipment to the laboratory.

The team then moved to the second water sample location. The sample was collected from a stream leading to a second pond. The team again chose a location free of overhang and in an eddy area where contamination might collect. A new disposable cup and funnel were used and an appropriate volume collected. The sample was labeled, taped, and bagged for transport.

The Team Captain reported to the Field Team Coordinator that water sampling had been completed and the team was dispatched to a location for soil, crop and vegetation sampling. The team arrived at the location at 1515 and began soil sampling. The team surveyed the area and found no increased radiation readings (per Controller). The team laid a clean plastic sheet on the ground to aid in contamination control. Soil was collected in a location free from overhang and with no vegetative cover. A ruler was used to mark an area about 12”x12”. A small garden shovel was used to excavate the soil to a depth of one-inch and the soil was placed in a plastic bag. The bag was placed in a second bag monitored, labeled and readied for transport to the laboratory. Upon completion of the sample the team used disposable moistened wipes and cleaned the shovel and ruler. The wipes, ruler, shovel, and sample were then monitored to

determine any signs of radioactive contamination, none was found. The team moved to a second location and completed the same procedure to collect a soil sample. The tools were cleaned and prepped for additional sampling if needed. All trash was collected and placed in a trash bag in the rear of the team vehicle. The team explained if radiation readings began to increase in the vehicle, the team would contact the Field Team Coordinator for instructions to remove the trash.

The team then collected edible vegetation (staged at the site per the extent-of-play agreement). The team collected two separate samples by placing the lettuce and fennel in a plastic bag. A scale was used to determine if an appropriate amount of sample was collected. One kilogram is required. The samples were labeled, monitored, and bagged per procedures.

The team then collected the next set of vegetation samples. One sample was from hay staged at the location as stated in the extent-of-play agreement. The hay was placed in a plastic bag wrapped securely and weighed using the field scale. An ample amount was collected – over one kilogram. The sample was properly monitored, labeled and prepped for transport. The team then collected a vegetation sample from an area of taller grass located nearby. The team was careful to pick a location free from overhanging trees. Hand-held grass snippers were used to collect the sample and was placed in a plastic bag. The sample was weighed to confirm the needed one kilogram amount. The sample was properly labeled monitored and placed in the vehicle for transport to the laboratory. The shears were cleaned after use and monitored.

The FMT 2 members were very cautious and used good techniques to limit contamination of themselves and cross contamination of the samples. Team members changed gloves after taking the sample and prior to placing it in the outer bag. Gloves were changed in between each sampling event and hands were frisked for contamination throughout the sampling process. The samples were monitored with a Ludlum 19 low dose rate meter and a Ludlum 12 with a 44-9 pancake robe. Both meters are very sensitive and could detect the slightest increase over background levels.

Each sample was logged into the electronic database using a tablet device. Proper analysis forms and chains-of-custody (COC) were completed for all the samples. The Team Captain explained the samples would be driven to the laboratory, probably by a WADOH colleague. The COC would be signed (releaser and receiver) whenever the samples changed hands, ultimately being delivered the WA DOH Laboratory.

During the second day of the exercise, play resumed and WADOH FMT 2 accompanied Washington Department of Agriculture (WSDA) samplers to two dairy locations to collect milk samples. The two agencies rallied at the Franklin County Emergency Management Office. The Franklin County staff provided a radiological briefing to the WSDA personnel prior to departure to the field. Upon completing the radiological briefing the WADOH FMT 2 Team Captain updated the WSDA staff on sample transfer and contamination control.

The teams departed and arrived at the first dairy location at 0915. The WADOH FMT 2 staff waited outside the milk tank building and the WSDA team collected the milk sample from the large storage tank, per their procedures. Once collected the WSDA staff brought the sample (a one-gallon container packed with ice and sealed in a Styrofoam cooler) to the doorway. A FMT 2 team member monitored the container. The sampler was then monitored by WADOH FMT 2 personnel for contamination. Any cross contamination would be discovered by monitoring the sampler and sample. A WADOH label was placed on the sealed container and it was prepped for transport to the laboratory. The WSDA sampler signed the COC at 0925 and the team departed to the second dairy location.

The WSDA began the second sample at 0930 and the same procedures were followed. The COC was signed at 0935 and the WADOH FMT 2 took custody of the milk sample cooler.

Demonstrated Strengths:

- The WADOH FMT 2 Team Captain gave a very detailed and descriptive radiological briefing. Emphasis was placed on use, side effects, and reason for taking KI in a CGS emergency. He made sure each member understood each point in the briefing and was thorough in covering all applicable radiological and other safety issues.
- The WADOH FMT 2 personnel exhibited excellent contamination control. The sampler for the team changed gloves whenever any potential for contamination existed and used a meter to check her hands for contamination often. The team took great care to limit exposure and spread of contamination.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: ***69-16-1.e.1-P-02, 69-16-3.a.1-P-04***
d. PRIOR ISSUES – RESOLVED: ***69-14-4.a.3-P-04, 69-14-1.e.1-P-03***
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.2.6 Meteorological Unified Dose Assessment Center (MUDAC)

Meteorological Unified Dose Assessment Center

Staff at the Washington State Department of Health (DOH) State Health Liaison (SHL) and the personnel assigned to the Meteorological Unified Dose Assessment Center (MUDAC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

At 0840, the Washington Department of Health (DOH) CGS Program Manager (CGSPG) located in the DOH Richland Office received a message by the CGS Auto Dialer CGS had declared an Alert. He immediately relayed this information verbally to DOH management and personnel. The emergency responders immediately began preparing to deploy. At 0844, the CGSPG had received a Classification Notification Form and, at 0844, he briefed the staff that the Alert had been declared at 0820.

At 0910, the MUDAC emergency responders departed the Richland DOH Office and arrived at the CGS Emergency Operations Facility (EOF) at 0945. Within minutes, the MUDAC was fully staffed and operational.

At 0945, the DOH Dose Assessment Coordinator (DAC) was told by the CGS Dose Assessor that CGS was still in an Alert, but a release to the atmosphere was in progress.

At 0946, during an EOF update, it was announced that CGS had declared a Site Area Emergency (SAE) at 0946.

At 0952, the Field Team Coordinator (FTC) telephoned Field Team-1 Captain that CGS had declared an SAE, a release was in progress, the Captain should discuss KI with the field team members, and to acquire background measurements and an air sample in the DOH Richland Office parking lot. At 0958, the FTC provided the same information to the Field Team-2 Captain.

At 0959, the DAC emailed the DOH Radiation Health Physicist located in the State EOC that CGS declared an SAE and a release was in progress. He then immediately provided this information to the Joint Information Center.

At 1023, the DAC requested, via the SHL, DOE emergency response assets including FRMAC.

At 1025, the EOF briefed that CGS had declared a General Emergency at 1024.

At 1336, the DAC developed a second shift roster and submitted it to the SHL.

At approximately 1345, a representative from FRMAC arrived at the MUDAC. A FRMAC Advance Party Meeting was scheduled for 1700 in the Benton County EOC.

Criterion 1.b.1:

The Meteorological Unified Dose Assessment Center (MUDAC) was located adjacent to the Columbia Generating Station Emergency Operations Facility (EOF) in the utility's engineering and technical support facility. It had adequate floor space, restroom facilities, lighting and

ventilation. The MUDAC workspace was a set of tables arranged in a horse-shoe shape with seating for the Offsite Response Organization (ORO) technical staff.

There were computer workstations maintained by the utility with the dose assessment software installed. The other workstations had landline telephones and computer network connections for the OROs laptop computers. There were adequate printer, scanner and facsimile hardware to support dose assessment operations.

Backup power was not evaluated. An alternative EOF is maintained at the Energy Northwest Multi-Purpose Facility in Richland, WA.

Criterion 1.c.1:

The Washington State Health Liaison (SHL) lead the staff in the MUDAC which was located as part of the Columbia Generating Station (CGS) Emergency Operation Facility. He was highly efficient and always considered what was needed at the time. On the Plume Exercise day, the primary concern was the implementation of appropriate protective actions for the population in the 10-mile Emergency Planning Zone. The CGS staff are assigned the responsibility for recommending protective actions during the plume phase of an incident. The SHL supported the CGS protective action recommendation. He reminded the Field Monitoring Team Coordinator to keep the field monitoring teams aware of the onsite release, and to always protect themselves.

He maintained contact with the Washington Department of Health staff in the State EOC and in the JIC. During the Plume Exercise day response, the SHL maintained support for the licensee Radiological Emergency Manager (REM) who in the plan is shown as the technical lead during the early phase of an incident. He was always helpful and always kept the goal at the time in mind.

After the release had terminated, the scenario specified that a larger release had occurred than had be considered during the day. This was necessary to impact Oregon. According to plans and procedures, the SHL lead technical responder in MUDAC with the CGS REM in a support role. During Ingestion Exercise day 2 of the exercise the CGS technical support was available but was not present in the EOF.

The SHL had 5 major items to consider during Ingestion Exercise day 2 using a staff that included the Dose Assessment Coordinator, Field Monitoring Team Coordinator, Dose Assessor and a FRMAC liaison. In addition, an Oregon responder and a WAEMD responder were helpful on many occasions. A Washington Department of Agriculture was extremely helpful with knowledge of actual agricultural activities. The SHL reviewed the needs with his staff and allowed them to provide needed support.

Criterion 1.d.1:

The MUDAC's primary systems for communicating with the Washington State Emergency Operations Center and the Joint Information Center were the commercial telephone and email. Cellular telephones were available as backup. The Field Team Coordinator employed Cellular telephones and email as the primary systems for communicating with the State field monitoring teams and two-way radios were also available for backup.

All communication systems were successfully demonstrated and no communication failures were experienced.

Criterion 1.e.1:

The MUDAC was equipped with maps of the CGS 10 mile Emergency Planning Zone and 50 mile Ingestion Pathway Zone, and other large maps of Washington and Oregon. The MUDAC staff had access to copiers, printers, scanners, telephones and facsimile machines in the EOF, which was sufficient to receive and transmit dose assessment information to other facilities. The utility provided a computer workstation with the Unified RASCAL Interface (URI) dose assessment software. This workstation had a color printer to print the dose assessment plots and worksheets.

The MUDAC staff generally were Washington or Oregon personnel who had their own dosimetry that they wore routinely. This was supplemented as needed by the utility health physics program dosimetry. The MUDAC was monitored by area radiation monitors and continuous air monitors maintained by the utility. No Potassium-Iodide (KI) was needed in the MUDAC in this exercise scenario, was not issued.

Criterion 2.a.1:

As stated in the Washington State Department of Health (DOH) Radiological Emergency Response Plan, Rev 10, September 2015 (Plan), Attachment 6.1, page 4, "There is a default TAV [Turn-Around Value] of 2.5 rem for CGS, DOE, and NPPP accidents as read on their dosimeter. A revised TAV must be determined by the dose assessment staff once a release has occurred." Also stated on page 4, "All additional exposures require the permission of the Office Director." As stated in the Exercise Controller and Evaluator Handbook, Appendix G: Extent-of-Play Agreement, Rev 3b, pages G-21 & 22, "The exercise scenario will not require an extension of dose limits."

At 1123, with a release to the atmosphere in progress, the DOH Dose Assessor calculated an adjusted TAV of 2.314 rem for routine emergency related work, 4.629 rem for protecting valuable property, and 11.57 rem for life saving activities. The 0-20 R DRDs and the electronic personal dosimeters could easily read the rounded-off adjusted Turn-Around Values. At 1125, the Field Team Coordinator notified the two field teams of the new TAV. The new TAV was

also transmitted to the Oregon Liaison in the MUDAC, State Emergency Operations Center (SEOC), and the impacted Counties EOCs.

The Plan, page 1-13 & 1-14 states, "The Office Director and the County Health Officer review and acknowledge that radioiodine trigger levels have been reached to initiate self-administration of potassium iodide for emergency workers." In addition, the DOH Field Monitoring Teams were authorized to self-administer KI at the direction the Field Monitoring Team Captain.

Criterion 2.b.1:

Columbia Generating Station (CGS) issued an Alert emergency classification level (ECL) at 0840. The WADOH MUDAC staff assembled at the WADOH offices in Richland, WA and traveled to the CGS Emergency Operations Facility, and arrived at about 0930. The MUDAC was staffed and operational by 0950. A containment building high-radiation alarm had occurred at 0940, and the WADOH dose assessor performed a dose projection using URI based on this high radiation alarm. A Site Area Emergency was announced at 0954.

The CGS stack monitors began rising at 1030 and continued to rise until the low-range and intermediate-range stack monitors were at the top of their range, and the high-range stack monitor indicated about 2000 counts per second (CPS) at 1035. The dose assessors projected a release exceeding the 1992 EPA Protective Action Guides (PAGs) with the following conditions: Wind from 345 degrees at 10 miles per hour with stability class E. CGS issued a protective action recommendation (PAR) to evacuate 360 degrees around CGS for two miles, and evacuate sections 1, 2, and 3.

The WADOH dose assessor calculated a Direct Reading Dosimeter (DRD) – TEDE dosimeter correction factor of about 1.1 based on the release sampling information provided by CGS. This was compared with the dosimeter correction factor provided by the CGS dose assessor from URI, and they were in good agreement. A revised turn-back radiation limit was calculated using this DRD – TEDE dosimeter correction factor.

The leak from containment was isolated at about 1205. Stack monitor readings gradually declined and the release was terminated at about1250. The exercise ended at 14:13.

Criterion 2.b.2:

The MUDAC staff did not make protective action decisions for the general public. The Columbia Generating Station EOF staff made recommendations which were announced in the EOF and were transmitted to offsite responders via a CRASH call.

Criterion 2.d.1:

The MUDAC staff make appropriate protective action recommendations for the ingestion pathway which were distributed to the impacted offsite Counties, the State EOC and the JIC.

Oregon was also provided with the PAR. The FRMAC liaison provided projected deposition maps for milk products and for mature produce. The projected deposition maps were provided for I-131 and Cs-134/137. The deposition patterns were very similar for all the isotopes and the decision was made to use a single map rather than trying to make minor adjustments based on specific isotopes. Washington was responding to necessary changes in the relocation area response which delayed implementation of the ingestion concerns. This minor delay caused some concern for the Oregon responders who only had ingestion pathway concerns.

The footprint where there were ingestion pathway concerns extended into Oregon for several miles beyond the 50-mile EPZ. The Washington Department of Agriculture representative who was present in the MUDAC on Ingestion Exercise day 2 was very helpful because of his knowledge concerning the location of various types of agribusiness.

The DAC and the State Health Liaison prepared a Protective Action Recommendation which prohibited sale of products in the areas in Washington which were in the areas where the PAGs could have been exceeded. The PAR was sent to all impacted Washington Counties, the State EOC and the JIC. A discussion of the PAR was scheduled but it was after the termination of the exercise.

Criterion 2.e.1:

The decision to lift the evacuation recommendation and return the evacuees to evacuation area 1 was made in a timely manner, based on the projected plume direction and field monitoring team (FMT) samples that showed no contamination in areas north of Columbia Generating Station (CGS).

The WADOH dose assessment staff developed a 500 micro-roentgen (uR) isopleth plot based on FMT radiation measurements. The WADOH dose assessment staff then conferred with the Federal Radiological Monitoring and Assessment Center (FRMAC) advance party representative and obtained a FRMAC aerial measurement system (AMS) fixed wing fly-over plot showing normalized 1 meter gamma-exposure measurements. The WADOH 500 uR isopleth agreed with the FRMAC AMS measurements. The WADOH then obtained a NARAC relocation projection plot. The NARAC projection used a calculated derived relocation level (DRL) of about 750 uR, with a smaller size and similar shape as the 500 uR isopleth. The Meteorological Unified Dose Assessment Center (MUDAC) dose assessor recommended using the FRMAC's projected DRL, and transferred the FRMAC relocation shape file to a relocation recommendation map.

The Field Team Coordinator obtained a NARAC plot from FRMAC that showed the projected area of concern for mature agricultural products, and for milk and dairy products, for cesiums (cesium 134 and 137) and iodine-131. The larger of these projection's shape files was transferred to a map and used to define the agricultural embargo area. The Field Team Coordinator used this map to develop a detailed sampling plan, and dispatched FMTs to appropriate areas to obtain soil, vegetation, milk and other agricultural product samples.

Criterion 3.a.1:

All DOH emergency responders had their occupational Landauer Optically Stimulated Luminescent Dosimeter (OSL). These OSLs were exchanged quarterly, had an initial date of 04/01/2016, and were color coded. Emergency responders deploying to the MUDAC were each provided a position specific binder. A dosimeter kit was in each binder. The dosimeter kit contained a 20 R Dosimeter Corporation direct reading dosimeter (DRD), calibrated on 01/14/2016 and due for calibration on 01/14/2017; a package of 20 potassium iodide tablets (65 mg) with an expiration date of 04/2024; and a Landauer rad watch OSL. The State of Oregon Liaison located in the MUDAC had obtained an identical dosimetry kit from the Benton County Emergency Operations Center prior to reporting to the MUDAC.

The MUDAC responders were instructed to read their DRDs at 30 minute intervals. As a reminder, the DOH Dose Assessor set his cellular telephone to alarm every 30 minutes.

The MUDAC was collocated in the CGS Emergency Operations Facility (EOF). The EOF habitability was continuously monitored by CGS personnel.

At 0952, the Field Team Coordinator (FTC) reminded Field Monitoring Team-1 (FMT-1) Captain to discuss KI with the FMT-1 members. This same reminder was provided to FMT-2 at 0958. The FMT-2 Captain stated that they had just ingested KI. At 1016, the FMT-1 Captain informed the FTC that they had ingested KI at 0955.

By interview, the DOH personnel in the EOF knew that their default TAV was 2.5 R as read on their DRDs and exceeding the 2.5 R TAV or the dose limit of five rem Total Effective Dose Equivalent required the consent of the Director, DOH Office of Radiation Protection. At 1123, an adjusted TAV was calculated to be 2.3 rem. The 0-20 R DRDs and the electronic personal dosimeters could easily read the adjusted TAV.

Washington State Department of Health Radiological Emergency Response Plan (September 2012), Procedure 2.2.3, page 6, states “There is a default TAV [Turn-Around Value] of 2.5 rem for CGS accidents as read on the pocket dosimeter.” In addition, Procedure 2.2.4, page 3, states, “The dose limit for field team members as emergency workers is 5 rem…To ensure field team members do not exceed 5 rem TEDE. A default TAV of 2.5 rem for CGS accidents has been established.” The NUREG Criterion K.3.a states, “It can be shown that for the less severe, but more probable, reactor accident sequences, the TEDE to emergency workers who have taken KI would not likely exceed five times their measured external dose as shown on DRDs [direct reading dosimeters]. Therefore, if the external dose measured by a DRD is limited to 1/5 of the applicable limit, the TEDE would not likely exceed the limit.” This is also documented in the FEMA guidance document, *Summary of Federal REP Agencies Guidance on State Implementation of EPA Guidance on Inhalation Dose for Emergency Workers* (July 1994), page 3; and FEMA’s Radiological Emergency Preparedness Program Manual (January 2016), page 111.

By interview, at the conclusion of the incident response, the DOH personnel would return their dosimetry kits to the Richland DOH office and the State of Oregon Liaison would return his dosimetry kit to the Benton County Emergency Operations Center.

PLANNING ISSUE: YES

ISSUE NO.: ***69-16-3.a.1-P-04***

CONDITION:
Washington State Department of Health Radiological Emergency Response Plan (September 2012), Procedure 2.2.3, page 6, states "There is a default TAV [Turn-Around Value] of 2.5 rem for CGS accidents as read on the pocket dosimeter." In addition, Procedure 2.2.4, page 3, states, "The dose limit for field team members as emergency workers is 5 rem…To ensure field team members do not exceed 5 rem TEDE. A default TAV of 2.5 rem for CGS accidents has been established."

The NUREG Criterion K.3.a states, "It can be shown that for the less severe, but more probable, reactor accident sequences, the TEDE to emergency workers who have taken KI would not likely exceed five times their measured external dose as shown on DRDs [direct reading dosimeters]. Therefore, if the external dose measured by a DRD is limited to 1/5 of the applicable limit, the TEDE would not likely exceed the limit." This is also documented in the FEMA guidance document, *Summary of Federal REP Agencies Guidance on State Implementation of EPA Guidance on Inhalation Dose for Emergency Workers* (July 1994), page 3; and FEMA's Radiological Emergency Preparedness Program Manual (January 2016), page 111.

POSSIBLE CAUSE:
There was confusion between the **external** dose in units of rem measured by an emergency worker's DRD and the emergency worker's TEDE dose limit (also in units of rem), but the TEDE dose limit is the sum of the **external** dose plus the **internal** dose as affected by taking KI.

REFERENCE:
NUREG K.3.a.; Washington State Department of Health Radiological Emergency Response Plan (September 2012), Procedures 2.2.3 & 2.2.4; *Summary of Federal REP Agencies Guidance on State Implementation of EPA Guidance on Inhalation Dose for Emergency Workers* (July 1994); and Radiological Emergency Preparedness Program Manual (January 2016).

EFFECTS:
A TAV of 2.5 rem as measured on a DRD could result in an emergency worker receiving a TEDE dose of 12.5 rem or 2.5 times the dose limit of 5 rem.

RECOMMENDATION:

Provide training that focuses on the difference between external dose measured with a DRD and a TEDE dose limit (external dose plus internal dose). For emergency workers who ingest KI, institute an emergency worker default TAV measured by a DRD that is no greater than 1/5 of the applicable dose limit.

Criterion 3.b.1:

The State of Washington does not plan to issue KI to the general public. It is the States position that evacuation would be the best protective action. Emergency workers were issued dosimetry kits which contained 20 KI tablets (65 mg) with an expiration date of 4/2024. The workers were to log the ingestion of KI on their documentation when the KI was ingested. Field monitoring teams were authorized to ingest KI and both teams reported to the Field Team Coordinator in MUDAC that KI had been ingested (simulated).

According to plans and procedure, the use of KI by institutionalized individuals would be considered on a case by case basis. MUDAC had no involvement with these decisions.

Criterion 4.a.2:

At 0952, the DOH Field Team Coordinator (FTC) contacted Field Monitoring Team-1 (FMT-1) and performed a communications check. He also stated to the FMT-1 Captain that CGS had declared a Site Area Emergency, a release to the atmosphere was in progress, current meteorological data, FMT-1 Captain should provide team members a briefing on KI, the team should acquire background radiation measurements, and they should collect a background air sample. This same information was provided to the FMT-2 Captain at 0958.

The FTC and the CGS FTC discussed the location and activities of the CGS field monitoring teams. At 1020, the DOH Dose Assessment Coordinator (DAC) and the FTC discussed deployment and the initial monitoring locations for FMT-1 and FMT-2.

The FMTs mission was to locate the edges of the plume and to collect plume air samples. Traversing the plume and identifying the centerline was the responsibility of CGS monitors. At 1025, FMT-1 was deployed to the intersection of I-82 and Road 100 and, at 1030, FMT-2 was deployed to the RV Park on Route 240. This positioned one FMT on each side of the predicted plume pathway.

At 1049, both FMTs were on location and detected background radiation levels.

The river was being evacuated. At 1057, the DAC contacted the DOH Eastern Deputy Director located in the DOH Richland Office and requested two DOH field monitors to deploy to the Leslie Groves Boat Launch to monitor the evacuating boaters. At 1105, two health physics technicians had been identified, formed FMT-3, and were deploying to the boat launch (simulated).

Beginning at 1145, FMT-1 and FMT-2 were instructed to traverse various roads on each side of the predicted plume to identify the edges of the plume and to collect air samples. Both teams were successful.

At 1226, FMT-3 began to detect positive radioactivity at the Leslie Groves Boat Launch (simulated).
At 1235 the DAC was informed by Benton County EOC that the evacuation of the river had been completed. The DAC immediately instructed the FTC to have FMT-3 return to the DOH Richland Office.

Demonstrated Strengths:

- The MUDAC emergency responders functioned as a well-trained and highly experienced team. Each individual displayed in-depth knowledge and expertise in executing his responsibilities and duties. Their high level of competency, their great attitude, and their close working relationships were very impressive

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: ***69-16-3.a.1-P-04 (assessed to WA DOH)***
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.2.7 Columbia Generating Station Joint Information Center (JIC)

Columbia Generating Station Joint Information Center

Staff at the Columbia Generating Station (CGS) and Offsite Response Organizations' Joint Information Center (JIC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

Public Information Officers and staff from Washington State Emergency Management Division, Washington State Department of Health, Washington State Department of Agriculture, Oregon State Department of Energy, Benton County Emergency Services, Franklin County Emergency Management and Energy Northwest (ENW) were notified by telephone, text, e-mail or pager according to their agency procedures. The JIC staff were all notified after receipt of the Alert Emergency Classification Level (ECL) declaration which was declared by CGS at 0820 and transmitted to offsite agencies at 0831.

ENW staff began arriving at 0844 and offsite personnel were all in place by 1006. The ENW JIC Manager declared the JIC operational at 0915 when the minimum required ENW staff were in place.

The JIC received the Site Area Emergency ECL notification at 0950 and notification of General Emergency ECL at 1028. All notifications were received over the secure Crash line. At 1245 the JIC Manager announced to the facility that 24 hour staffing roster had been established and that shift turnover would take place at 1900.

Criterion 1.b.1:

The JIC was set up as shown in the floor plan. There was adequate space and furnishings for ENW staff functions, Public Inquiry/ Media Monitoring staff, offsite Public Information Officer Staff, media and media briefings.

The main work room provided space and furnishings for a central meeting area and space around the perimeter of the room for ENW technical personnel, administrative personnel, offsite local, state and federal agencies. A room adjacent to the JIC workroom provided space for Public Inquiry and Media Monitoring. These areas were secure and separated from the public areas where the media had access.

Security was established at the entrance to the building and space was provided for a media work area. The auditorium adjacent to the media work area provided sufficient space to hold media briefings.

The facility had sufficient restrooms, lighting, heating and air conditioning. The JIC was supported by a backup diesel generator with sufficient fuel to operate for two weeks in case of a power failure. The alternate JIC was located at the U. S. Department of Energy Joint Information Center, located in the U.S. Courthouse and Federal Building. 825 Jadwin Avenue, Richland, WA.

Criterion 1.c.1:

The JIC Manager had the main responsibility for direction and control at the JIC. Whenever the JIC Manager stepped out of the facility he ensured he turned over responsibility of direction and control to either the Assistant JIC Manager or the New Release Editor. Positive direction and control was maintained at all times. Public Information Officers from Washington State Emergency Management Division, Washington State Department of Health (DOH), Washington State Department of Agriculture, Oregon State Department of Energy, Benton County Emergency Services, Franklin County Emergency Management and Energy Northwest (ENW) all played a role in direction and control at the JIC based on their responsibilities. Each PIO coordinated response activities with their corresponding jurisdictions and per procedures.

The JIC Manager was the first person to arrive at the JIC. He instructed each staff member as they arrived to initiate their position, start their checklists and prepare for a staff briefing. At

0906 the JIC Manager announced that they had minimum required staff to activate and that phone teams were able to activate. He provided direction to the Information Manager to activate the Public and Media Phone Teams. The Information Manager suggested that they wait to activate the phone teams until the whole JIC was ready to be declared activated. The JIC Manager concurred and stated that the activation briefing would be held at 0910. At 0912, the JIC Manager initiated the briefing to staff and had the Plant Technical Spokesperson provide plant status. After the JIC Manager communicated his expectations for performance and asked if there were any questions, he declared the JIC activated at 0915. He then announced that the first press conference would take place at 0925. The first brief ended at 0919. As personal reported to the JIC, the Assistant JIC Manager provided briefings and reminded participants on how the review process for press/news releases would work and to review procedures and references. Each JIC staff position had an instructional book including checklists and appropriate references for that position. Each offsite responder within the JIC was provided general guidelines entitled "Energy Northwest JIC Expectations for Participating Offsite Agencies" which outlined key points of communication and expectations for personal conduct while working in the JIC. At 0943 the JIC Manager announced that the next JIC brief would take place at 0948 and requested that all JIC staff prepare to brief out on their current status.

The JIC Manager initiated the next JIC brief at 0949. The brief included information on the event, CGS status, and all staff current status via a roundtable type approach. Prior to the end of the brief, the JIC Manager requested that the Phone Team Supervisor repeat back releasable information so that there was no question as to what information could be reported to the media or public when calls were received by the Phone Team members. The JIC Manager consistently required repeat back of information so that information was not only noted but understood. The brief ended at 1003.

Throughout the response, there would be urgent information provided to various staff members. When significant information was made know the staff would announce "attention in the facility" and provide their update. This happened whenever significant information became available. For example, at 1009, the Franklin County PIO declared an update for the facility and announced that at 1005, sirens were sounded, she summarized the Emergency Alert System message that was broadcast and asked if there were any questions about the announcement.

At 1018, the JIC Manager announced a "Real World" brief, ensuring that JIC staff understood that there was a real world situation that was not exercise related. The JIC Manager informed staff that a non-exercise related caller has called into one of the emergency response facilities and that when challenged, the caller hung up. The caller had not used the term "This is a drill" nor did the properly identify themselves. The JIC Manager reiterated the need to ensure calls that were received were validated as exercise calls and note the caller ID if available.

Additional briefs for the entire staff were conducted at 1100, 1220, 1340 and 1500. Updates were announced at various times to maintain all staff situational awareness. All briefs included roundtable input, challenges and repeat back of releasable information. Throughout the

demonstration as each challenge presented itself, the JIC Manager would explain the situation at hand, provided his anticipated course of action and asked for any feedback or challenges as to if it was the best course of action and if it could be implemented. The decision-making process was concise and direct as the JIC Manager took staff input and altered the facility course of action accordingly.

In addition to the general JIC briefs, the JIC Assistant Manager who facilitated the press conferences, conducted staff briefings prior to each one. All the PIOs would assemble and discuss what information was going to be provided to the media and how they would conduct the press conference. Prior to the 1025 press conference, the preparatory brief included information that CGS was close to the threshold of declaring an Emergency Classification Level (ECL) of General Emergency. The PIOs mentioned that this might occur during the press conference and that someone would bring that information to the Assistant JIC Manager in the press conference to share with the media. This caused some confusion later as the PIOs did not specifically address how the Assistant JIC Manager would alter the press conference, if at all, based on the General Emergency ECL. Although the group thought ahead as to what might transpire during the press conference, they didn't realize they didn't have the same expectations as to how to address any change during the press conference. Although they could've briefed a more detailed response, this did not affect overall response to the events in progress.

A JIC Distribution Team Document Log was maintained throughout all exercise demonstration. Each document that was provided to the Distribution Team was logged and tracked as to when the document was received, time fax was sent to appropriate entities and time distribution of each document was completed.

The Ingestion portion of the exercise began with the Washington State Public Information Officer assuming one of the Assistant JIC Manager positions to the ENW JIC Manager. Her role became one of coordination with the Washington State Emergency Management Division Emergency Operations Center. She participated in conference calls with the state and counties as they discussed decision packages for Initial Return Protective Action Decision (PAD); Transportation Corridors PAD; Relocation PAD and Food Control Area PAD. She ensured the JIC staff was kept informed of how the decisions were progressing and when they could expect to receive completed news releases on the PADs.

The JIC Manager held the initial briefing of the day at 0830 and the spokespersons provided a current status on the actions of their agencies and prepared for the first media briefing held at 0903. During the first JIC briefing the Washington Agriculture Spokesperson stated that there were no Food Control Areas identified at that time. He stated that the precautionary agriculture advisories that had been issued on March 29 were still in place. The Washington DOH Spokesperson stated that the initial Return PAD package had been sent to the Washington State Emergency Operations Center decision makers and they were contacting the county personnel to coordinate the Return PAD package. He also stated that DOH had eight field monitoring teams deployed. The Oregon Spokesperson stated that Oregon staff were monitoring the situation. The

Benton and Franklin County Spokespersons stated that the main focus of County decision makers was getting people back to their homes and then dealing with the agriculture situation. The American Nuclear Insurance Spokesperson stated that their focus was on evacuees and getting them the financial funds to help them with being evacuated. The CGS Spokesperson stated that the plant was stable, personnel were working on restoring power and they were evaluating the damage. Following the JIC brief a Media Pre-Brief was held and the agencies reviewed information that was appropriate to release the media and public. The JIC Manager and Assistant JIC Manager stressed that the information being released to the media reinforced public confidence and trust in CGS as well as the states and counties ability to protect the public.

The WA State Assistant JIC Manager participated in conference calls with the states and counties when they discussed the Decision Packages. The first conference was held at 0900 to discuss the initial Return PAD Package followed by a second conference call at 0945 with a decision to implement the Return PAD and a news release to be issued at 1100. She briefed the Center personnel as she received updated information. The JIC Manager held at JIC briefing 1035 to discuss Return PAD and timing of news release and times for Media Briefing.

The WA State Assistant JIC Manager participated in conference calls on Transportation Corridor PAD at 1030 and again at 1130 and relayed decision the JIC staff during the JIC briefing held at 1156. She stated that the Transportation Corridor PAD would be implemented at 1300 and a news release issued. The JIC Manager called for a Media pre-brief at 1211 to be followed by a Media Briefing at 1300 to coincide with the issuing of the News Release.

The JIC Manager held a JIC briefing at 1330 to give the Oregon Spokesperson the opportunity to present the decision by Oregon decision makers to issue a Food Control Area PAD for Oregon.

The WA State Assistant JIC Manager participated in conference call on the Relocation PAD package at 1330 and 1530. Center briefing was held at 1610 to relay information on Relocation PAD and the decision to implement the Relocation PAD and news release at 1730.

The WA State Assistant JIC Manager participated in conference calls on Food Control Area PAD Packages at 1500 and 1630. JIC Manager held a JIC briefing at 1910 to discuss the Food Control Area PAD implementation and news release at 1930.

Criterion 1.d.1:

The JIC staff received emergency classification notifications over the dedicated Crash line and by fax.

Each agency in the JIC maintained contact with their offices using telephones, fax, e-mail, WebEOC and/or cellular telephones.

There were sufficient telephone lines for the Public Inquiry staff. Media Monitoring, in addition to monitoring television and radio stations, also monitored internet sites such as twitter activity, Facebook, and media web pages.

There were no system failures noted throughout the exercise.

Criterion 1.e.1:

The JIC consisted of several rooms and areas: the JIC Operations Room, the Public Inquiry Room, the Media Briefing Room, and the Media Holding Area. Each was large enough and well equipped to support the agencies and function it served.

The JIC Operations Room held 30 work stations with telephones. The work stations were divided equally into two groups, an inner group surrounded by an outer group. Maps, displays and audio/visual equipment visible to all included three large televisions for displaying plant conditions, two medium televisions displaying public inquiry information, and maps of the CGS 10-mile EPZ, 50-mile Ingestion Planning Zone (IPZ), CGS 10-mile Field Team Map, and a large pull-down projection screen. Suspended signs identified the agencies and positions assembled in the JIC. The work stations reserved for the State of Washington and the Oregon Department of Energy and Benton and Franklin Counties each contained some pre-positioned documents, including a Resource Book (a binder with instructions, contacts and other pertinent information produced by the respective organization), a 2016 Emergency Calendar, and a 50-mile IPZ Map Booklet.

The Public Inquiry Room had 18 work stations. Each station had a telephone with voice and listening headset. Two wall-mounted televisions displayed public inquiry information. Maps and displays included several maps of the 10-mile EPZ, Emergency Alert System stations and frequencies, three wall-mounted white boards, an easel with chart paper, mounted placards with emergency classification level definitions, and wall signs displaying Public Inquiry telephone numbers for calls to the Public Phone Team and the Media Phone Team. The rear section of the Public Inquiry Room was set aside as the Media Monitoring Center. Four large television sets were used in monitoring media reporting. Each set was independent of the others, had multi-channel access, and was connected to a DVD recorder. Media monitoring occurred throughout the exercise.

The Media Briefing Room, approximately 50 feet x 50 feet, was setup in a horseshoe pattern with 12 long folding tables and 26 chairs. Located at the open end was a lectern, two area microphones atop a communications box, a large projection screen, and a ceiling-mounted projector. On the wall nearest the lectern was a small table, chair, and laptop computer for the audio/visual ceiling-mounted projector. Around the horseshoe walls were an additional 27 chairs. Media access to the Media Briefing Room was through a single doorway that when locked could be opened only from the inside.

The Media Holding Area was a roped-off space outside the Media Briefing Room in the lobby of the building. For this exercise, it was setup with two long folding tables and twelve chairs. The Media had to enter the Holding Area through the Receptionist's Station. Media sign-in and verification was processed there, as was issuance of the CGS Media Kit. Copies of news releases produced in the JIC and from State and County sources were made available to the media in the Holding Area.

Several small rooms adjacent to the JIC Operations Room were used for document production and distribution and to store technical and administrative supplies in support of the JIC.

Criterion 5.b.1:

The JIC was established within the Richland, WA corporate headquarters building of Energy Northwest (ENW). The property abutted and was outside the 10-mile Emergency Planning Zone of the CGS. The alternate JIC was located at the U. S. Department of Energy Joint Information Center, located in the U.S. Courthouse and Federal Building. 825 Jadwin Avenue, Richland, WA.

On the first day of the exercise (plume phase, March 29, 2016), the JIC was declared activated by the JIC Manager at 0837, during the Alert Emergency Classification Level (ECL). The JIC and Information Section, consisting of the Media and Public inquiry call takers, became operational at 0915. Governmental representatives present included the States of Washington and Oregon, and Benton and Franklin Counties.

Eight news releases were produced and released by ENW during the plume phase of the exercise. The first, News Release D 16D-01 (Joint Information Center Established), was released and transmitted during the Alert ECL at 0921. The last, News Release D 16D-07 (Radiation Release Ends at Nuclear Plant), was released and transmitted during the ECL of General Emergency at 1316. Each message focused on the situation at the CGS and efforts of ENW to correct the problems and protect the health and safety of the public. Each message listed the JIC phone number (509-372-5100) as well as KONA Radio AM 610 and FM 105.3. No governmental organization participated in the production of any of the eight news releases. Copies of each message were available to the media assembled at the JIC.

The JIC also received news releases from four governmental sources; the State of Washington Emergency Operations Center (SEOC) (four news releases), the State of Oregon Department of Energy (DOE) (five news releases), Benton County (three news releases), and Franklin County (six releases). Copies were given to each staff position at the JIC and were available to the media assembled at the JIC.

Five media briefings were held on the first day of the exercise. The first Media Briefing was held with only Utility personal as the local and state Public Information Officers (PIOs) were not yet available. Each subsequent Media Briefing involved ENW and substantial governmental participation. The Assistant JIC Manager coordinated and moderated all briefings. Each media briefing was preceded by a short but comprehensive pre-briefing. The pre-briefing served to

order the topics, identify presenters, and discuss anticipated media questions. A post-briefing of each media briefing was held in the corridor between the Media Briefing Room and the JIC Operations Room to identify follow-up or new requirements generated from the meeting. The methodology was well executed throughout.

Media Briefing #1 began at 0931, during the Alert ECL. It was preceded by the pre-briefing that started at 0922. The presenters, in order, were the Assistant JIC Manager and the JIC (Utility) Spokesperson. Briefing items included plant status, technical evaluations underway, no threat to health and safety at the time, and first priority of CGS was safety. Five media persons attended. Six questions were fielded concerning, preventing further deterioration of the plant, who was in charge of the plant, evacuation of the plant, the cause of the meltdown, release of radiation, and other environmental impact. The questions were answered appropriately (with sufficient information or the intent to obtain and pass the requested information to the questioner in a timely manner). After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 0938.

Media Briefing #2 began at 1026, during the Site Area Emergency ECL. It was preceded by the pre-briefing that started at 1019. The presenters, in order, were the Assistant JIC Manager, Benton County PIO, Franklin County PIO, the JIC (Utility) Spokesperson, the Washington State PIO, and the Oregon DOE. Briefing items included effect of the earthquake at plant, release of radiation, and pointing out affected areas of the plant (slide projected on media screen), and precautionary actions underway in Benton and Franklin Counties. At 1032, the Assistant JIC Manager interrupted to announce that the ECL had escalated to the General Emergency ECL. The briefing items that followed included field monitoring teams stood up in Washington and dispatched in Oregon, and the Oregon Governor's State of Emergency Declaration. Five media persons attended. Three questions were fielded concerning deployment of Washington field monitoring teams, the "meaning of emergency power" at the plant, and the meaning of "Division 1." Citing the escalation to the General Emergency ECL, the JIC Assistant Manager abruptly terminated the questioning and the briefing at 1041.

All subsequent media briefings were conducted during the General Emergency ECL. Media Briefing #3 began at 1137. It was preceded by a pre-briefing that started at 1122. The presenters, in order, were the Assistant JIC Manager, the Benton County PIO, the Franklin County PIO, the Washington State PIO, the Washington Department of Agriculture (WSDA), the Washington State Department of Health (DOH) the Oregon DOE, and the JIC (Utility) Spokesperson. Briefing items included evacuations of Sections 2, 3a, and 3b, and shelter-in-place of Sections 1 and 4, the Governor's State of Emergency (SOE) Proclamation at 1130, locating and determining the nature of the plume, the WSDA Agricultural Advisory issued at 1135, agricultural advice contained in Oregon Press Release #2, Oregon field team deployments, and CGS status update. Seven media persons attended. Nine questions were fielded concerning rationale of evacuations, consequences of the emergency to plant, disposition of contaminated water at the plant, strength of the radiological material, location of the plume and the associated risk, and the location of the Washington field monitoring teams. The questions were answered

appropriately. After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1212.

Media Briefing #4 began at 1313, following the pre-brief that started at 1300. The presenters, in order, were the Assistant JIC Manager, the Franklin County PIO, the Washington DOH, and the JIC (Utility) Spokesperson. Briefing items included termination of the radiological release at 1249, plume boundaries identified, correction to Franklin County traffic advisory information, and safe and stable condition achieved at the plant. Seven media persons attended. Seven questions were fielded concerning extent of the plume, compensation to individuals, number of radiation exposure cases, amount of radiological material released, and when can evacuees return home. The questions were answered appropriately. After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1324.

Media Briefing #5 began at 1411, following the pre-brief that started at 1401. The presenters, in order, were the Assistant JIC Manager, the Washington DOH, the Franklin County PIO, and the JIC (Utility) Spokesperson. Briefing items included no contaminated arrivals at the reception center, 1,300 evacuees so far, internal power restored at plant, source of plant radioactive leakage discovered and isolated, and CGS field teams continue field monitoring and reporting. Seven media persons attended. Four questions were fielded concerning status of ongoing protective actions, southern extent of the plume, and length of time animals can remain sheltered and on stored feed. The questions were answered appropriately. After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1425.

Pubic inquiry and media monitoring activities occurred throughout the plume phase of the exercise and were conducted by the JIC Information Section in a room connected to the JIC Operations Room. Consisting of ENW personnel, the Section was operated under the direction of the Information Manager and a 14-person ENW staff. The staff was broken down into two team supervisors, one 6-person media inquiry team, and one 6-person public inquiry team. One team member was dedicated to monitor the commercial and social media.

The Information Manager, assisted by the two Team Supervisors, coordinated information between the JIC and the phone teams. The Information Manager and one of the Team Supervisors was present at each JIC Operations briefing. Applicable briefing information was promptly briefed to the phone teams. The Information Manager also requested other JIC spokespersons brief the phone teams as time permitted. The phone teams also had live feed of all JIC media briefings.

The phone teams received about 70 calls per hour. The origin of the calls was about half from the public and half from the media. On day one they identified eight rumors, only one of which was found to be true.

All inquiries were processed in a timely manner. The JIC Information Section exhibited excellent teamwork and responsiveness.

On the second day of the exercise (ingestion phase, March 30, 2016), the JIC resumed operations at 0835 with the "Day-2" Start-up Briefing given to the JIC staff by the JIC Manager.

The General Emergency ECL, in effect at the end of the first day, continued throughout the second day. Government organizations present on day one were present throughout day two. An important addition to the JIC staff at 0835 was made by the arrival of a representative from the American Nuclear Insurance (ANI) Corporation.

Six news releases were produced and released by ENW during the second day. The first, News Release D 16D-09 (Update: Columbia Generating Station General Emergency), was released and transmitted at 0945. The last, News Release D 16D-14 (Update: Environmental Monitoring Field Teams) was released and transmitted at 1613. Each message focused on the situation at the CGS and efforts of ENW to correct the problems and protect the health and safety of the public. Each message listed the JIC phone number (509-372-5100) and KONA Radio AM 610 and FM 105.3. No governmental organization participated in the production of any of the six ENW news releases. Copies of each message were available to the media assembled at the JIC.

Also during the second day, the JIC received news releases from the four day one governmental sources; the State of Washington SEOC (three releases), the State of Oregon DOE (four releases), Benton County (two releases), and Franklin County (three releases), and one additional source; Walla Walla County (two releases). Copies were given to each staff position at the JIC and were available to the media assembled at the JIC.

Six media briefings were held on the second day of the exercise. Each involved ENW and substantial governmental participation. The Assistant JIC Manager coordinated and moderated all briefings. Each media briefing was preceded by a short but comprehensive pre-briefing. The pre-briefing served to order the topics, identify presenters, and discuss anticipated media questions. A post-briefing of each media briefing was held in the corridor before returning to the JIC Operations Room to identify follow-up or new requirements generated from the meeting. As on day one, the methodology was well executed throughout.

Media Briefing #1 began at 0935. It was preceded by the pre-briefing that started at 0903. The presenters, in order, were the Assistant JIC Manager, the Washington State DOH, the WSDA, the Washington State PIO, the Benton County PIO, ANI, the Oregon DOE, and the JIC (Utility) Spokesperson. Briefing items included WSDA Agricultural Advisory remained in effect, Governor's SOE Proclamation authorized establishment of Food Control Areas (FCA), State requesting Presidential Emergency Declaration, identifying long-term relocation requirements, working with ANI, precautionary closings still in effect, Federal and State assets in the area and engaged, evacuated schools remain closed, overview of what ANI does, toll-free information and registration line, plant safe and shut down at 1300, release terminated March 29. Four media persons attended. Eight questions were fielded concerning how ENW will rectify the situation, the future of CGS, field team readings, exposure levels received by sheltered persons, and determination of cause of plant emergency. The questions were answered appropriately (with

sufficient information or the intent to obtain and pass the requested information to the questioner in a timely manner). After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1014.

Media Briefing #2 began at 1053. It was preceded by the pre-briefing that started at 1040. The presenters, in order, were the Assistant JIC Manager, the Washington State PIO, the Benton County PIO, and Franklin County PIO. Briefing items included opening of hunting and fishing areas, shelter order still in effect for Section 1, food advisory still in effect in Section 1, and Sections 2, 3a, and 3b remain under evacuation order. Four media persons attended. Six questions were fielded concerning why the river was still closed, how radiation levels were measured on rivers, relocations planned, and why the food advisory was still in effect in Section 1. Four media persons attended. Six questions were fielded concerning the continued river closing, receiving radiation levels while on the river, relocation possibility, and when State might allow evacuees to return to their homes. The questions were answered appropriately (with sufficient information or the intent to obtain and pass the requested information to the questioner in a timely manner). After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1102.

Media Briefing #3 began at 1300. It was preceded by the pre-briefing that started at 1041. The presenters, in order, were the Assistant JIC Manager, the Washington State PIO, and ANI. Briefing items included opening of selected transportation corridors (airspace into and around the Pasco airports, four major roadways, Columbia River-partial), insurance priority to evacuees, ANI field office to open March 31 in Pasco, call toll-free number before going to field office, Sector 1 no longer required to shelter, and Section 2, 3a, and 3b evacuation order still in effect. Five media persons attended. Five questions were fielded concerning what is done for a person who does not evacuate, how complete were the evacuations, the effect of re-suspension on soil, when can evacuees return home, and estimate on which areas were affected the least. The questions were answered appropriately (with sufficient information or the intent to obtain and pass the requested information to the questioner in a timely manner). After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1315.

Media Briefing #4 began at 1358. It was preceded by the pre-briefing that started at 1341. The presenters, in order, were the Assistant JIC Manager, the Oregon DOE, and the WSDA. Briefing items included Oregon FCA, Oregon area of concern smaller than Washington, Oregon levels of radiation low, Washington Food Advisory in effect in five counties, advisory comparable to a FCA, and anticipate a FCA in Washington within hours. Five media persons attended. Four questions were fielded concerning harvesting of asparagus, Washington State slow to act, inclusion of counties in creating a FCA, and policies for crops already planted. The questions were answered appropriately (with sufficient information or the intent to obtain and pass the requested information to the questioner in a timely manner). After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1409.

Media Briefing #5 began at 1732. It was preceded by the pre-briefing that started at 1720. The presenters, in order, were the Assistant JIC Manager, the Washington State PIO, the Benton County PIO, the Franklin County PIO, and the Washington DOH. Briefing items included announcement of relocation recommendation, access restrictions to be put in place, all persons evacuate proceed to reception center at Columbia Basin Community College for monitoring and decontamination, requests and instructions for brief re-entry period available at reception center, relocation area identified, 50-year 5 rem level exceeded in relocation area, and availability of ANI assistance. Five media persons attended. Six questions were fielded concerning the return of families, no relocations required in Benton County, aerial assessment modelling, paying for relocation, replacing lost power resulting from CGS shutdown, and re-entry permission, The questions were answered appropriately (with sufficient information or the intent to obtain and pass the requested information to the questioner in a timely manner). After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1753.

Media Briefing #6 began at 1928. It was preceded by the pre-briefing that started at 1922. The presenters, in order, were the Assistant JIC Manager, the Washington State PIO, the Benton County PIO, the WSDA, and the Franklin County PIO. Briefing items included establishment of a FCA established in five Washington counties, testing food products for radiation, contaminated food to be destroyed, establishment of food control points, continuous sampling, and FCA plot for Benton and Franklin Counties. Five media persons attended. Six questions were fielded concerning the accuracy of the boundary plot, disposition of contaminated products, restrictions for planting, government subsidies to producers, restoration of a viable agricultural business, and trucks transiting the FCA. The questions were answered appropriately (with sufficient information or the intent to obtain and pass the requested information to the questioner in a timely manner). After asking that the public tune and listen to KONA FM 105.3 or AM 510, the Assistant JIC Manager closed the briefing at 1753.

As with their first day demonstration, the public inquiry and media monitoring functions were executed efficiently and accurately. On day two, six rumors were identified. All were verified to be false.

Demonstrated Strengths:

- Direction and Control was very well maintained throughout the demonstration with use of JIC briefings and updates when significant event occurred. The use of repeat-backs ensured messages were understood and that information provided was properly transmitted. The use of the News Release Coordination Cover Sheet ensured that all agencies in the JIC were aware of all news or press releases being distributed to the public or media, so that each agency was kept up to date and had a chance to review and suggest revision to all releases.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.3 Local Jurisdictions

3.2.3.1 Adams County

Staff at the Adams County Emergency Operations Center successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 31, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The emergency operation center (EOC) staff were pre-staged per the extent of play agreement. The staff notifications were made using the Adams County call list. The Emergency Manager stated he would make calls via phone message, email and text message to the Adams County staff at the Emergency Classification Level (ECL) of Site Area Emergency. There is also a call list he could use to contact essential personnel on the telephone if needed.

The EOC was declared activated and operational at 0804. Representatives present were from the Adams County Sheriff, Adams County Public Works, Adams County Health Department, Adams County Fire District #5, and Othello Police Department representing the City of Othello.

All EOC members had copies of the plan and task books with maps at the positions within the EOC.

Criterion 1.b.1:

The facility was set up and operated according to the Adams County Radiological Emergency Response plan and procedures (2015). The building itself, is a spacious facility and access to the Adams County EOC was through the main entrance of the building. Security was provided by the Adams County Sheriff Department, which restricts access to the EOC at the front door, by signage and locked doors throughout the building, and by a sign in/out desk. The structure had appropriate ancillary spaces including: emergency operation manager room; operations room; public information officer room, one communications support section, and the facility is approximately 1300 square feet, with the ability to expand into other rooms within the building. Both male and female restrooms were available.

In the event the Adams County EOC becomes unable to adequately maintain operations the Public Works Building located in Ritzville, WA will serve as the backup facility.

Criterion 1.c.1:

The Adams County EM executed command and control of operations for the Emergency Operations Center (EOC) according to the Adams County Radiological Emergency Response Plan. Key positions in the EOC were staffed and personnel understood the roles and responsibilities for the respective functions. Position checklists and binders were provided to assure the aspects of the emergency plan were implemented in a timely manner.

Implementation of the emergency plan were coordinated and communicated with the Grant County and Franklin County EOCs as well as the State of Washington. The EM utilized the administrative assistant to make contact with the adjacent counties and the State by telephone.

All messages and events were logged by the administrative assistant.

Timely decisions were made by the Adams County EM. The EM briefed the EOC staff regularly and got consensus on action plans and mapping decisions. Briefs were clear, concise, and ensured that all staff had an understanding of the current situation and future steps. The Adams County EM along with EOC staff members assured logs were maintained and helped each other in a very collaborative manner throughout the exercise.

Working in cooperation with the Grant and Franklin County EOCs, protective action decisions were implemented for the county to set up food control points, traffic control points, and developed a restriction zone for agricultural products. The restriction zone was developed with information provided by the State of Washington and was confirmed with the adjacent counties along with Yakima County on a conference call.

Criterion 1.d.1:

This facility is located in Adams County Sheriff's Othello Substation, 2069 W Highway, Othello, WA. All systems were operationally checked and communication tests were conducted. The Adams County EOC primary means of communicating is by telephone. In addition to 800 MHz radios, e-mail/text messaging, pagers, facsimile, landlines and cellular telephones were available to be used as backup communication for the Adams County EOC. Sufficient communications systems were maintained throughout the exercise, there were no failures of communications equipment. Message traffic was managed to ensure that all messages were handled without delay. Hard copies were distributed to key players and electronic copies were provided to Adams County EOC staff.

Criterion 1.e.1:

The Adams County EOC consisted of several work areas. There was wireless network connectivity throughout the EOC for those exercise players who brought their own laptops, there were flat panel monitors mounted on the wall. The EOC was also equipped with desktop computers, two printers, and one facsimile machine. Two Adams County maps, two aerial maps

of the Emergency Planning Zone (EPZ), three digital wall clocks, and two large white boards were on the wall for all participants to see.

A Geographic Information System map printer was available to print large maps as well as being displayed on a screen mounted on the wall. There were copies of plans, procedures, and ample administrative supplies available at all positions within the EOC.

The Adams County EOC is located outside the 10-mile EPZ, dosimetry and potassium iodide (KI) are not stored at the Adams County EOC and would not be issued to the staff. If needed the County could request dosimetry and KI from the State. Adams County does not have any monitoring equipment, the State has the responsibility to do radiological monitoring within in the county.

Criterion 2.d.1:

The State of Washington does all radiological monitoring for the Adams County. The Washington State Department of Agriculture (WSDA) contacted the affected jurisdictions and provided detail to establish a Food Control Area as a result of the incident at CGS. The Adams County EOC staff immediately coordinated with Grant County to set up the Food Control Points (FCP) designed to prohibit contaminated products from entering into or Adams County as well as prevent people from consuming the contaminated food. The EOC also communicated traffic control points with Franklin County. All protective action decisions are made and coordinated through the Emergency Manager (EM) and approved by the County Board of Supervisors representative.

The Adams County EOC staff were aware of all the agribusinesses located in that area of the county. The area contained five orchards, two cattle operations and hay producers. They immediately simulated telephone calls to those individuals and stated if not available deputies would be dispatched to notify the owners and provide educational material to secure the cattle and hay. The agriculture embargo only affected a small are in the Southwest corner of Adams County.

Criterion 3.e.1:

The Washington State Department of Agriculture (WSDA) contacted the affected jurisdictions and provided detail to establish a Food Control Area as a result of the incident at CGS. The Adams County EOC staff reviewed the Agricultural Advisory conditions and identified the Food Control Boundary areas within the county limits.

The Washington State Department of Health (WADOH) and WSDA requested Adams County to assist with the identification and security of the area. All monitoring and sampling as well as handling any contaminated fresh food and milk products that would need to be condemned and disposed is the responsibility of the state of Washington.

The Adams County EOC staff were aware of all the agribusinesses located in that area of the county. The area contained five orchards, two cattle operations and hay producers. They immediately simulated phone calls to those individuals and stated if not available deputies would be dispatched to notify the owners and provide educational material to secure the cattle and hay.

Adams County coordinated with Grant County to set up a FCP on Hwy 24 and created three traffic control points to secure people from entering the affected area or anything to be brought out of the area. The area has a natural boundary of mountains to the south with no roads crossing in Adams County.

Criterion 3.e.2:

The Washington State Department of Agriculture (WSDA) contacted the affected jurisdictions and provided detail to establish a Food Control Area (FCA) as a result of the incident at CGS. The Adams County EOC staff reviewed the Agricultural Advisory conditions and identified the nine Food Control Boundary areas within the city limits. The FCA are designed to prohibit contaminated products from entering into Adams County areas as well as prevent people from consuming the contaminated food.

The State Department of Health (WADOH) and WSDA will test for radioactive contaminated food. State inspection teams will go to commercial food producers, dairies and milk processing plants within the area and send samples to the state health laboratory for testing. The WADOH and WSDA will provide written certification that the uncontaminated food from the Adams County area is safe for consumers. Contaminated fresh food and milk products will be condemned and disposed of under the direction of the Washington State Officials.

All checkpoints within Adams County will be provided with pamphlets and brochures on Radiological Emergency Information for the Farmers Food Processors and Distributors, and "Emergency Preparedness for Nuclear Facilities in the Washington State". These brochures were provided by the WSDA and WADOH.

Criterion 5.b.1:

All emergency information provided to the public and media was consistent with protective action decisions (PADs) and protective action recommendation (PARs) made by appropriate decision makers. The Public Information Officer (PIO) was located in the Public Information Room of the Adams County EOC. The PIO maintained constant contact throughout the exercise with the Joint Information Center. The PIO issued three news releases at the Adams County EOC.

All information was communicated in a timely manner and reviewed by Adams County EOC Emergency Management Director and Commissioner.

During the exercise, the Communications Support Assistant handled all incoming telephone calls that came into the Adams County EOC and routed public inquiry questions to the PIO, who then referred calls to the JIC. The PIO was able to respond to media inquiries via, telephone, email or facsimile machine. There was discussion of using the ability to put messages out regarding the agricultural embargo and restricted area on social media but was not demonstrated during this exercise.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.3.2 Benton County

Staff at the Benton County Emergency Operations Center (BCEOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

Activation of the BCEOC was prompt and efficient. Notification and mobilization of personnel was coordinated starting at 0828 by the SECOMM supervisor upon receipt of the Alert Emergency Classification Level using SECOMM emergency dispatch radio frequencies and alerting systems. Landline and cellular telephones were available as back-up. The first CGS Classification Notification Form was logged at 0859. All key positions were staffed, including the County Emergency Director, the Public Information Officers, the Operations Section Chief, and other county emergency services support staff, the Benton-Franklin Health District, Richland and West Richland Police Departments, Benton County Sheriff, Washington State Highway Patrol, Benton County Fire Departments, and the American Red Cross. Representatives from the State of Washington Emergency Management Division, the state Department of Agriculture, the State of Oregon emergency management, and a liaison from Energy Northwest also provided support to the EOC operations. Access to the county emergency services building was controlled. The EOC was declared to be operational at 0925.

Criterion 1.b.1:

The BCEOC is located at 651 Truman Avenue, Richland, WA. It shares its building with the Southeast Communications Center (SECOMM), which is the Benton County emergency dispatch and early warning point. The BCEOC design was consistent with its description in the

Benton County Columbia Generating Station Emergency Response Plan (the Plan). The floor plan was consistent with the diagram contained in the Plan. Adequate space existed to comfortably accommodate the expected number of responders that would be present. Furnishings were sufficient for 24 responders and four command staff. The facility was designed to provide effective key card access control to the facility as a whole and to several critical access areas within the facility. The normal offices of the Benton County Emergency Services personnel were co-located in the building, making rapid mobilization and activation possible during normal business hours.

The BCEOC is largely powered from an 80 kVA uninterruptible power supply (UPS) that provides a high quality voltage for reliable operation of computers and sensitive electrical equipment. The UPS capacity is nearly twice the normal running load for the facility when fully activated, so a large power margin exists. Backup power is available from a 250 kVA diesel generator located behind the structure. The diesel generator is tested weekly to power the facility. The 500 gallon diesel fuel oil tank has capacity to power the facility for greater than two days.

Ventilation during the exercise was adequate and comfortable. Lighting was sufficient for normal emergency response operations. Restroom facilities are available in the building and there is a potable water connection for supply from a truck in the event the normal municipal water supply is lost.

The BCEOC is located beyond the 10-mile plume exposure pathway emergency planning zone boundary so protection from radiation exposure is not required. No pre-identified alternate facility is described in the Plan.

Criterion 1.c.1:

At 0828, the Benton County Emergency Operations Center (BCEOC) received notification of an Alert via CRASH Call and fax regarding an incident at (CGS). The BCEOC EMC serving as the Incident Commander (IC) provided an initial briefing to EOC staff at 0910 which included an overview of the incident at CGS, no release, and instructions to the EOC staff to begin reviewing their Alert procedures. The facility was declared operational at 0926, with all BCEOC positions filled. At 0954 and included a State Emergency Management (EMA) Liaison, a State Department of Agriculture representative, and a State Health Department Representative.

At 0954, a Site Area Emergency (SAE) was declared and received via CRASH call. The Benton County IC through coordinated (Unified Command Group (UCG) call with the State of Washington Emergency Management Agency, Franklin County, and CGS made precautionary action decisions immediately at SAE for the closure and evacuation of the Columbia River between Vernita Bridge and Leslie Groves Park, Horn Rapids Recreation Area, Rattlesnake Mountain Shooting Facility, Horn Rapids Off- Road Vehicle Park and closure of schools. Information concerning a radiological release was received at 0956. At 0958, the first

Protective Action Decision (PAD) was made by the Benton County IC based on Protective Action Recommendation (PAR) information relayed by CGS and included the evacuation of 0-2 miles in sections 2 and 3 and shelter of 2-10 miles in sections 1 and 4. A sounding siren coordination was determined for 1005 followed by the first Emergency Alert System (EAS) initial message to be released at 1014. A second briefing from the Benton County IC was provided at 1020 which included the current SAE is still in place, a request for the Department of Energy (DOE) monitoring team was submitted, and a rehash of precautionary actions including closure of boat launches, looking at shelter needs, requesting of 4 buses, long term dosimetry and Potassium Iodide (KI) needs, and dispatch of the second news release referencing river closures.

At 1038, BCEOC received notification of a General Emergency (GE) via CRASH phone line. Updated PAR information included the evacuation 0-2 around the plant; evacuate Sections 2 and 3; and shelter in Sections 1 and 4. Benton and Franklin Counties Emergency Directors conferred and adopted these PARs received from CGS to arrive at a coordinated (PAD). A coordinated second siren sounding was made at 1045 followed be an EAS broadcast message at 1048 in which notification was released to the general public. The criteria for administering Potassium Iodide (KI) was met by the unfiltered release which triggered the GE, and at 1100 the Health and Safety Officer in the Benton County EOC coordinated with Franklin County and the Washington State Department of Health about issuing a decision for emergency workers to ingest KI. At 1101 emergency workers were notified to ingest their KI tablets.

Briefings by the Benton County IC were regular, organized and detailed. Expeditious decision making by the Benton County IC directly impacted the effective protection of the health and safety of the public and Emergency Workers (EWs). Conflicts were directly resolved through regular discussion through communications via UCG calls. Plans and procedures for each BCEOC position were made available to staff at the entrance of the BCEOC. Message logs and all information on significant actions and events were maintained using WEB-EOC along with an organized method of number messages and briefing staff on changing conditions. There were 3 press releases scripted and dispersed during the exercise. No shortfalls or unmet needs of resources were identified.

Criterion 1.d.1:

There were numerous communications systems available. The primary communications system between CGS, Washington State Emergency Operations Center (SEOC), Oregon State Emergency Operations Center, and the Risk Counties Emergency Operations Centers was a dedicated phone line system called the CRASH Line. CRASH Line telephones were available in the main EOC room, the EOC conference room, and the communications room. During the exercise, this system was used extensively, and functioned well. Backup to the CRASH line was a dedicated phone line for dial up and facsimile to the same parties as were served by the CRASH Line. During the exercise, CGS Notification Forms were received over this line.

Numerous commercial telephone lines were available for use in the EOC. Additionally, the EOC's communications room contained several radio systems which could be utilized if necessary. Included were an Ultra High Frequency system called Security Net, a low band Very High Frequency system called CEMNET, National Warning System, and Amateur Radio Emergency Service (ARES) system. All radio systems had the ability to provide communications with the SEOC and other risk counties. It should be noted that although the extent of play called for a demonstration of the ARES system, it was not demonstrated due to the ARES volunteer not being available for the exercise. Through interview, it was determined that several ARES volunteers could be available to support this activity in a real event. There were also two satellite phones available for EOC use. WebEOC was available at each work station, and was used extensively throughout the exercise. All systems were functional during the exercise.

Criterion 1.e.1:

The operations area of the BCEOC contained a sufficient complement of 24 workstations with computers and telephones for the expected number of responders. Four command stations were similarly outfitted. County maps, plume pathway emergency planning zone maps, tables of emergency action levels and several white boards and projected wall displays were all available for use. The projected wall displays displayed a county map and the latest classification notification form from Columbia Generating Station throughout the exercise. Four television monitors were available but not used during the exercise.

Benton County Emergency Services managed an in-service inventory of 400 emergency worker kits, each containing one box of 20 65 mg Thyrosafe Potassium Iodide (KI) tablets, Emergency Worker (EW) radiological briefing sheets, EW radiation exposure log sheets, one Landauer Optically-Stimulated Luminescence (OSL) dosimeter, and one Arrow-Tech 0-20R Direct Reading Dosimeter (DRD). An inventory sheet listed 150 of the 400 kits to be located in the Benton County Emergency Operations Center (BCEOC). The remaining kits were distributed in the field to various Benton County response agencies.

A sample of the kits showed that the KI tablets were within their expiration date of April, 2024. Leak test dates for the DRDs were staggered; however, all inspected DRDs had been leak tested within the last year. An inspected batch of EW kits also included an SE International dosimeter charger for zeroing the DRDs' readings prior to issuance.

Benton County Emergency Services also maintained an in-service inventory list of 50 Ludlum Model 12 General Purpose Survey rate meters. Inventory sheets listed 35 of these to be present at the BCEOC; however, 20 of them were staged for deployment to the Southridge High School Emergency Worker/Assistance Center (EWAC) when that facility is activated. The Model 12s used at the EWAC each contained two probes, a PR 44-9 for beta-gamma detection and a PR 43-5 probe for detection of alpha contamination. All other Model 12s had only beta-gamma probes. Calibration dates for the Model 12s were staggered; however, all survey meters had been calibrated within the last year. A sample of survey meters inspected had calibration stickers

affixed and included a range of expected readings for the installed check source. Inventory sheets also documented check source expected values.

PLANNING ISSUE UNRESOLVED: 69-14-1.e.1-P-06

CRITERION: Equipment, maps, displays, dosimetry, KI, and other supplies are sufficient to support emergency operations.

CONDITION: Continued Planning Issue From The 2014 HAB Exercise. The Washington State Patrol and the Benton County Sheriff's Office still did not have accurate WebEOC resource/reference documents available to assist the implement the staffing of the Traffic and Access Control Points (TACPs) in response to a postulated event at the Columbia Generating Station (CGS).

POSSIBLE CAUSE: While this did not affect the performance of Benton County in meeting the 3.d.1 criteria successfully for the 2016 exercise. The underlying issues from the 2014 HAB (1.e.1) planning issue is still there and still has the potential for the same level of confusion if the EOC staff again relies on just WebEOC. While the correct locations for ACPs for a CGS emergency are listed in the BCEM written procedures, the DOE and CGS TACPs continue to not be sufficiently differentiated in WebEOC to allow for easy reference which still could contribute to the potential for error.

EFFECT: The potential still exists for insufficient differentiation of the CGS ACPs from the DOE ACPs creating the potential for under or over commitment of scarce resources. Staffing of additional TACPs as shown in WebEOC currently could cause the exhaustion of resources and the deployment of unnecessary emergency workers in the 10-mile emergency planning zone (EPZ).

RECOMMENDATION: Finish the work with Washington Emergency Management Division and get the WebEOC information corrected or subdivided into one "book" for CGS and one for Hanford-DOE.

Criterion 2.a.1:

The radiological officer/Benton County Emergency Planner distributed emergency worker (EW) exposure control kits as needed. No emergency workers were actually dispatched to the field, so the distribution was simulated. Adequate supplies of emergency worker exposure control kits, containing 0-20R Direct Reading Dosimeters (DRDs), Radwatch Landauer Optically Stimulated Luminescence, Potassium Iodide (KI) packets of 20 Thyrosafe 65 mg tablets with an expiration April 2024, a form for recording DRD readings, and instructions (including use of dosimetry, KI, what to do at the end of a shift, and dose limits) were available at the Benton County Emergency

Operations Center. All equipment was within calibration, included range of reading sticker, and leak tested with appropriate documentation.

If emergency workers needed to perform duties that would have caused them to exceed pre-authorized exposure levels, the Benton Franklin Health District (BFHD) representative would have provided authorization. The BFHD representative also authorized ingestion of KI. Information that the threshold for KI had been met was received at 1100; at 1101the BFHD representative made the decision to recommend that all EWs ingest KI, and the Emergency Management Director directed the law enforcement agencies to communicate the decision to their personnel in the field.

Calculated dose correction factors were provided by the utility or the Washington State Radiation Protection Division. They were intended to relate DRD readings to total effective dose equivalent, based upon calculated plume composition. The basis for the calculations is retained by the state and the results communicated to the counties.

Criterion 2.b.2:

Risk Counties in Washington have the responsibilities for developing Protective Action Decisions (PADs) for the general public during radiological emergencies at nuclear plants.

Developing and making Protective Action Recommendations (PARs) for the general public is the responsibility of the Columbia Generating Station (CGS), until such time that the State of Washington assumes direction and control of the State and local response. Then it would be the State's responsibility to develop PARs for the risk counties. During this exercise, the State of Washington did not assume control. The CGS PAR can be based either on plant conditions or relevant radiological data. There are also certain Early Precautionary Protective Action Decisions which are made at both the State and Risk County levels. During this exercise, both types of recommendations and decisions were made.

At 0954 the CGS notified the State and Risk County EOCs that a Site Area Emergency (SAE) had been declared at 0943, along with Precautionary Action Recommendations (PARs) to close the Columbia River between Vernita Bridge and Leslie Groves Park; close the Horn Rapids Recreation Area Off Road vehicle park; close the Ringold Fishing Area; close the Wahlake Hunting area; and evacuate schools located in the 10 mile Emergency Planning Zone (EPZ). At 0958 the Benton and Franklin Counties Emergency Directors conferred and adopted these PARs received from CGS to arrive at a coordinated Protective Action Decision (PAD). The public was notified of these decisions through activation of the Emergency Alert System at 1005.

At 1031 the CGS notified the State and Risk County EOCs that a General Emergency (GE) had been declared at 1024, along with (PARs) to evacuate 0 to 2 miles around the plant; evacuate Sections 2 and 3; and shelter in Sections 1 and 4. At 1037 the Benton and Franklin Counties Emergency Directors conferred and adopted these PARs received from CGS to arrive at a coordinated (PAD). The public was notified of these decisions through activation of the

Emergency Alert System (EAS) at 1045. The criteria for administering Potassium Iodide (KI) was met by the unfiltered release which triggered the GE, and at 1100 the Health and Safety Officer in the Benton County EOC coordinated with Franklin County and the Washington State Department of Health about issuing a decision for emergency workers to ingest KI. At 1101 emergency workers were notified to ingest their KI tablets.

Criterion 2.c.1:

There were no special facilities located within the Benton County portion of the 10 mile EPZ. Benton County Emergency Management maintains a list of (58) special needs individuals needing assistance during an evacuation and is updated on an annual basis along with test notifications delivered by a Benton County contractor to all households over a tone alert radio and a solicitation as to whether there are any special needs.

Under the direction of the Benton County EMC following the receipt of an Alert at 0828, the Benton County Fire District 4 representative was directed to contact all special needs persons, and determine individual needs if a decision for an evacuation was made. A CODE RED reverse 911 system (simulation) was made by the Benton County Fire District 4 representative with a report back to the Benton Count EMC upon completion. Following an escalation to Site Area Emergency (SAE) at 0954, the EMC directed the Fire District 4 representative to establish an evacuation task force at Fire Station 410 in West Richland, and ready establish this location as a staging area for transportation resources in the event they are needed by special needs individuals. The task force, consisting of two ambulance units, four lift buses from Ben Franklin Transit, and Fire Station 410 personnel serving as coordinators simulated they were in a ready state and a report to the Benton County EMC was relayed. Additional resources were available along with a directive from the EMC to report any unmet needs. Backup transportation needs are arranged for through Richland School District and were coordinated through simulation and interview with the EMC. In the event that bedridden individuals are in a shelter situation, dosimetry and Potassium Iodide (KI) are arranged for delivery by and Emergency Worker (EW) along with coordination for the use of dosimetry, monitoring the individual, and instructions for KI ingestion through a care giver such as family member or medical personnel.

At 1134, a SimCell message was received requesting ambulance evacuation for an elderly female who was bed bound. It was determined that the address given was in Section 3b, which was an evacuation area under the Protective Action Decision (PAD) issued at 1037. It was simulated that an ambulance was dispatched from the task force set up at Fire Station 410. There were no PADs for special needs populations, other than schools, during this exercise.

The Benton County EMC continued to provide immediate and effective PADs, brief EOC staff, and direct necessary coordination for the purpose of providing assistance to special needs individual through the exercise.

Criterion 2.d.1:

The State of Washington retains authority for assessing radiological consequences for making ingestion pathway PADs and Benton County supports the State by providing information about local agricultural operations and geographic features. The Benton County Emergency Management Director (BCEMD) does, however, participate in Unified Coordination Group (UCG) teleconferences in which protective action recommendations for the ingestion phase are discussed and PADs are developed based on those recommendations.

The BCEMD participated in two such teleconferences during the March 30, 2016 Columbia Generating Station Ingestion Exercise. The BCEMD was the concurring official for Benton County on the decision package that was developed for control of food products, and he was able to positively contribute to the outcome PAD despite the County's designated support role in making such decisions. For example, he informed the UCG of the level of safety offered by the Richland municipal water supply source (the Columbia River) and his insights resulted in that water source being recognized by the UCG as a sustainable resource for residents. The BCEMD also informed the UCG that Benton County resources would be available to support Food Control Point inspections for a short while, providing the State of Washington time to implement the PAD earlier and to mobilize State resources efficiently. Finally, the BCEMD was able to alert the UCG to the fact that Benton County was challenged in its ability to coordinate with adjacent Counties, which were not participating in the exercise that day. Despite that challenge, Benton County was able to support the State of Washington in developing an effective geopolitical food control boundary during the exercise.

Criterion 2.e.1:

Members of the public desiring to reenter an evacuated area are required to complete a request form identifying the purpose of reentry, destination within the evacuated area, number of persons who will be reentering, and expected length of time the reentry party will be inside the evacuated area. After the evacuations were executed, Benton County received several requests from individuals to re-enter the evacuated areas for various reasons. The basis for determining whether the requests would be granted was based on public health and safety concerns.

The first re-entry request concerned a situation whereby a hot metal works might explode. The Safety Committee indicated that this request would be granted and the persons entering the evacuated area would be provided with dosimetry kits. The second request was from an individual who wanted to go back home to retrieve a CPAP system. It was determined that this was not sufficient reason to allow re-entry (and subsequent exposure to the individual) since this type of equipment can be obtained elsewhere (from the American Red Cross, for example). The third request was from an individual who wanted to retrieve their dogs. The Safety Committee decided that this request might be granted depending on whether the radiation levels were low enough. The request would have to be delayed pending receipt of accurate data. The requests for re-entry were thoughtfully considered, with particular concerns and emphasis paid to public health and safety.

Criterion 3.a.1:

Benton County Incident Commander (IC) gave a directive following declaring his EOC operational at 0926 to begin preparation of Emergency Worker (EW) kits. Following this order, an interview and inspection of equipment began. Benton County utilizes a turn-back value of 2.0R with an exposure limit set at 5R for all Emergency Workers (EWs) activities unless involved in protection of valuable property 10R or voluntary life-saving activities set at 25R. Exception to exceed exposure limits must be granted by a Washington State Health Officer. Benton County Emergency Services managed an in-service inventory of 400 emergency worker kits, each containing on box of 20 65 mg Thyrosafe Potassium Iodide (KI) tablets, KI instructions including adverse effects, Emergency Worker (EW) radiological briefing sheets, EW radiation exposure log sheets, one Landauer Optically-Stimulated Luminescence (OSL) dosimeter, and one Arrow-Tech 0-20R Direct Reading Dosimeter (DRD). An inventory sheets listed 150 of the 400 kits to be located in the Benton County Emergency Operations Center (BCEOC). The remaining kits were distributed in the field to various Benton County response agencies. Upon activation of EW personnel, EW kits are delivered to locations such as an EW Assistance Center EWAC, in which a Radiological Officer (RO) briefing will be provided prior to deployment. An example of this would be Traffic and Access Control (TACP) personnel or River Patrol. Benton County EOC did not conduct an RO briefing at the EOC during this exercise but did successfully demonstrate appropriate equipment and inventory logs to verify their state of readiness.

A sample of the kits showed that the KI tablets were within their expiration date of April 2024. Leak test dates for the DRDs were staggered; however, all inspected DRDs had been leak tested within the last year. An inspected batch of EW kits also included an SE International dosimeter charger for zeroing the DRDs' readings prior to issuance.

Benton County Emergency Services also maintained an in-service inventory list of 50 Ludlum Model 12 General Purpose Survey rate meters. Inventory sheets listed 35 of these to be present at the BCEOC; however, 20 of them were staged for deployment to the Southridge High School Emergency Worker/Assistance Center (EWAC) when that facility is activated. The Model 12s for use at the EWAC each contained two probes, a PR 44-9 for beta-gamma detection and a second PR 43-5 probe for detection of alpha contamination. All other Model 12s had only beta-gamma probes. Calibration dates for the Model 12s were staggered; however, all survey meters had been calibrated within the last year. A sample of survey meters inspected all had calibration stickers affixed and included a range of expected readings for the installed check source. Inventory sheets also documented check source expected values.

During this exercise, there was one request (simulated) at Alert for a Department of Energy (DOE) monitoring team. DOE is self-sustaining with their own radiological instrumentation and dosimetry and would not need support from Benton County. Benton County (IC) did maintain communications and coordination with neighboring jurisdictions throughout the exercise but never identified a need for other government assistance or private resource support.

Planning Issue Unresolved: 69-14-3.a.1-P-10

Issue Description: The Special Weapons and Tactics (SWAT) Emergency Workers were equipped with Arrow-Tech 730, 0-20R (calibration due date of 5/2015) direct reading dosimeters (DRDs). The Benton County Health Officer has pre-authorized SWAT team members for exposure limits up to 25R Total Effective Dose Equivalent (TEDE), and the equipment provided was not adequate to measure these limits.

Recommendation: The plan has been corrected, however documents in the kits still refer to exposure limits of 25R. Update the kits with correct documents.

Criterion 3.b.1:

Washington State and Benton County store KI for distribution to emergency workers and institutionalized persons within the Benton County Plume Emergency Planning Zone. While there are no institutionalized people within the Benton County Plume Emergency Planning Zone (EPZ), the Benton-Franklin District Health Officer or their designee shall make ad hoc decisions concerning the distribution and use of dosimetry and KI to residents of the Plume EPZ who due to illness or infirmity or the need to care for the ill or infirm cannot be readily evacuated. In the event that KI use is recommended in connection with someone who cannot be readily evacuated, an emergency worker will be assigned to deliver KI and necessary dosimetry.

Criterion 3.c.1:

There were no special facilities located within the Benton County portion of the 10 mile Emergency Planning Zone (EPZ). Benton County Emergency Management maintained a list of special needs individuals who have indicated that they may need assistance during an evacuation. 58 individuals were on the list which was updated annually.

The Benton County Fire District 4 (BCFD4) representative at the EOC was responsible for contacting all persons on the special needs list, and determining what assistance, if any, those individuals would require should an evacuation become necessary. Shortly following the Alert Emergency Classification Level (ECL) declaration at 0828, the BCFD4 representative simulated that each individual on the list was contacted utilizing the CODERED system to determine if they would require any special assistance. At 1000, following the Site Area emergency ECL, the BCFD4 representative established an evacuation task force at Fire Station 410 in West Richland which would serve as a staging area for transportation resources possibly needed by special needs individuals. The task force consisted of two ambulance units, four lift buses from Benton-Franklin Transit, and Fire Station 410 personnel to serve as coordinators. Additional resources could be obtained, if needed.

At 1134, a SimCell message was received requesting ambulance evacuation for an elderly female who was bed bound. It was determined that the address given was in Section 3b, which was an

evacuation area under the PAD issued at 1037. It was simulated that an ambulance was dispatched from the task force set up at Fire Station 410. There were no PADs for special needs populations, other than schools, during this exercise.

Criterion 3.c.2:

Benton County has no schools within the 10-mile Emergency Planning Zone (EPZ). During an incident at CGS, Benton County EMC makes notification at Alert to the four Benton County Schools located outside the EPZ and informs them of the event, and to ensure buses do not enter the EPZ. In addition, all Benton County school notifications occurred at the initial declaration of Alert at 0828, Site Area Emergency (SAE) at 0954, and General Emergency (GE) at 1038. The Emergency News Release also included Protective Action Decision (PAD) information, initiation of CODE Red, and social media sites that ensured as much information as possible was available for parents.

Criterion 3.d.1:

Pre-identified TACPs in the Benton County CGS Incident Action Plan, were established at the Site Area Emergency at 1016 and manned by the Richland and West Richland Police Departments. This occurred before the General Emergency was declared, and a Protective Action Decision for evacuation of Section 3 in Benton County was made. Once that had occurred, the updated information was conveyed to the officers in the field. There were no shortfalls in resources identified. However, if there had been, Benton County also had representatives of the county sheriff and the Washington State Highway Patrol available to assist with traffic and access control.

The radiological officer briefed the police officers (and troopers) on the content and use of their emergency worker exposure control equipment before dispatching them to the field, including reading their Direct Reading Dosimeters (DRDs) every 30-minutes, recording any dosage incurred, and to be aware of the turn back limit of 2.5R. The decision to ingest Potassium Iodide (KI) was communicated to the Emergency Workers who were deployed (simulated) for this exercise.

Criterion 3.d.2:

At 1238, during the evacuation of Sections 3B and 3C in Benton County, a controller inject was given to the representatives from the West Richland Police Department, the Richland Police Department, the Washington State Patrol, and the Benton County Sheriff's Department that a collision occurred between a delivery truck coming from the Shrub Steppe Brewery and a tanker truck containing 5000 gallons of gasoline at the junction of Highway 240 and Hagen Drive. The delivery truck had overturned and spilled its load and the fuel truck was burning. Due to the location of the accident, the Richland Police Department representative took the lead. Since there was a spill and fire, the City of Richland Fire Department representative was included. It was

determined that the police would manage the traffic and access control, and the fire department would assume incident command for the cleanup.

The police representatives quickly determined that there were already three access control points established to support the evacuation, located at; the intersection of Highways 24 and 240, 240 and Stevens Road, and 240 and Twin bridges. The only additional access control point necessary was to close Hagen Road at Highway 240, and route any traffic on Hagen Road South to Route182. The police felt that this accident would have minimal impact on the overall evacuation, since access to 240 was already being restricted at points north and south of the accident. The Fire Department representative explained that a HAZMAT team would be dispatched to the accident site, along with two ambulances in case they were needed for the drivers of the trucks. The HAZMAT team would determine whether to let the fire consume all of the spilled gasoline, or whether full environmental containment measures were necessary.

The EM Director was briefed at 1257, approved the proposed actions, and the information was simulated as being given to the PIO for inclusion in New Releases.

Criterion 3.e.1:

At 0840, after declaring the Emergency Operations Center operational, the Benton County EMC (Incident Command) directed the emailing of an Emergency Preparedness for Nuclear Facilities in Washington State brochure to all fire stations within Benton County. The pamphlet includes an overview of radiation, preparedness, and protection of animals and animal products and is also published in Spanish. Through interview with the Benton County IC and Washington State Agriculture Liaison it was explained that in addition, there are annual Emergency Information Calendars published by the Hanford Site and distributed to residence, fire stations, and public parks and recreational facilities annually. Additional materials include CODE Red pamphlets and booklets titled Radiological Emergency Information for Farmers, Food Processors, and Distributors which are mailed out and available upon request to the farm community.

Benton County has a small array of agribusiness facilities with oversight by the Washington State Department of Agriculture oversight of licensed facilities only and include dairies, meat and poultry producers, fisheries, nurseries, fruit and vegetable growers, honey producers, grain producers, food processing plants, farmer markets, farm stands, and surface water supplies and water supply intakes which are overseen by the Washington Department of Health. A list of annual harvest season calendar was provided with current harvest information. The Washington State Department of Agriculture maintains a list of agribusiness via a database along with a helpful website to obtain information for farmers.

During this exercise, precautionary and protective action such as placing livestock on stored feed and water, agricultural advisories, and information for farmers were either simulated through phone calls or provide to the public in press releases. Direct phone calls to farmers are executed from the State Agriculture headquarters in Olympia, WA. Necessary maps indicating impacted

farm and food processing and production areas were clearly identified along with identification on the harvest season chart of the various growing season crops impacted.

Through an interview with the Washington Department of Agriculture Liaison at Benton County, an Agriculture Liaison at the State EOC, and a Washington State Highway Patrol Trooper, it was explain how food control points would be setup and operated. Commercial products would be stopped at established control points with bill of lading inspected by law enforcement. Once designated food items are identified, a legal embargo legal notice and embargo letter would be provided by law enforcement and State Agriculture Food Service Officers augmenting the control point to the transporter of the vehicle. Embargoed items are turned around and returned to their facilities. If transporters refuse to return, the vehicle and its contents will we taken out of service and confiscated by State officials.

There are 12 potential locations that are pre-identified for Food Control Point activities. In the event of manpower strains, the Washington State National Guard may be activated to assist control points. Federal support may be provided by FRMAC to provide information concerning restricted zones and through coordination with state officials, assist with technical identification of contamination food, crops, and vegetation.

Dispatch of Emergency Workers (EWs) such as the Washington State Highway Patrol requires a Radiological Officer's (RO) briefing, issue of dosimetry, recording and reporting exposure limits in accordance with Benton County plans and procedures. Through interview, a Washington State Highway Patrol officer demonstrated the use of an EW dosimetry kit, described exposure limits, reporting, and contamination control. In addition, it was explained that return after mission would require reporting to the EWAC for turn in of dosimetry, paperwork, monitoring and debriefing. A list of supplies required to maintain Food Control Points was provided along with identification of signage required and the coordination with Washington State Department of Transportation for delivery of signs, barricades, and traffic cones. There were no gaps identified during this demonstration.

Criterion 3.e.2:

At 0840, after declaring the Emergency Operations Center operational, the Benton County EMC directed the emailing of an Emergency Preparedness for Nuclear Facilities in Washington State brochure to all fire stations within Benton County. The pamphlet includes an overview of radiation, preparedness, and protection of animals and animal products and is also published in Spanish. Through interview with the Benton County EMC and Washington State Agriculture Liaison it was explained that in addition, there are annual Emergency Information Calendars published by the Hanford Site and distributed to residence, fire stations, and public parks and recreational facilities annually. Additional materials include CODE Red pamphlets and booklets titled Radiological Emergency Information for Farmers, Food Processors, and Distributors which are mailed out and available upon request to the farm community. Other support staff included Washington State Department of Health, Washington State Highway Patrol, Fire Station 4,

Public Information Officer, Operations Chief, and EOC staff that contributed to the execution of decisions made by the EMC.

A request for Federal FRMAC support was simulated early on in the exercise with a request for monitoring support. Additional agencies included the Food and Drug Administration and Washington State National Guard. Although Benton County does not have the legal authority to embargo, an interview between State Agriculture and State Highway Patrol satisfied the requirement to deploy, establish, and maintain Food Control Points. A discussion of identifying impacted foods, location of impact, and disposition of contaminated food took place. Maps were available along with harvest schedules to assist in identifying impacted areas. The Benton County EMC demonstrated timely and accurate decision making and utilized key agencies that provided assistance in protecting the citizens of the county. There were no shortfalls, unmet needs, or inadequacies noted during the demonstration.

Criterion 3.f.1:

The State of Washington Emergency Management Division (EMD) coordinates Protective Action Decisions (PADs) regarding re-entry, relocation and return of the public through discussions with a Unified Coordination Group (UCG). Benton County is part of this group and the Benton County Emergency Management Director (BCEMD) is a concurring official for the County for PADs developed by the UCG.

The UCG developed three PADs related to this criterion during the exercise; one initial return PAD, one transportation corridor restoration PAD for re-entry and one relocation PAD. The initial return PAD had no impact on Benton County since it was issued only for Emergency Planning Zone (EPZ) Section One. This section involved only areas of Franklin County and the Hanford Site and thus did not affect Benton County. No residents had been directed to evacuate from this EPZ section. They were only directed to shelter.

The teleconference that discussed the recommendation for the initial return occurred at 0900 and the BCEMD participated on the call. A UCG call to formalize the initial return PAD occurred at 0945 and again the BCEMD participated and concurred for the County.

Although the initial return PAD did not affect his County, the BCEMD did participate in implementation of this PAD when he coordinated with the Franklin County Incident Commander to provide rapid dissemination of the PAD to residents through electronic broadcasts. The two Counties simulated these broadcasts at 1100, which was the implementation time designated for the initial return PAD.

The EMD convened a teleconference to discuss a recommendation to restore certain transportation corridors at 1030 and again the BCEMD participated on the call. One recommendation was to open highway WA-240 from the Columbia River to the Hanford Site. The BCEMD recommended that the road use be restricted to emergency responders and Hanford Site essential personnel. A UCG call at 1135 formalized this recommendation into a PAD and

the BCEMD mobilized resources to establish traffic access points to verify the travelers' need to enter the area. A second recommendation to re-open both Tri-Cities and Richland Airports fully was also approved on the 1135 UCG call. The BCEMD coordinated with his Franklin County counterpart to provide information to the public about the airport re-opening via electronic broadcasts at 1300. He also ensured that his Public Information Officer (PIO) in the Joint Information Center (JIC) was properly briefed on the conditions of the PAD so that she could draft an accurate press release.

At 1205, Benton County received a radiation exposure isopleth map that indicated which areas would be subject to relocation of residents. Only a small portion of the non-Hanford site area of Benton County was impacted by this map. The Operations Section Chief in the BCEOC quickly worked to define the boundary of the relocation area using geographic features (i.e., streets) for use in developing a formal relocation PAD. He also coordinated the results of his efforts with counterparts in the Franklin County EOC to ensure continuity of the relocation zone boundaries. The BCEOC staff realized that no Benton County residents were impacted by the relocation zone but that some businesses were. The boundaries were later revised to reflect a property transfer from the Hanford Site to the City of Richland that affected the number of people in the zone.

The EMD convened a teleconference at 1330 to discuss the relocation recommendation and the BCEMD participated on this call. He stated his desire to shut down the Emergency Worker Assistance Center (EWAC) at Southridge High School in Kennewick so that the high school could re-open. He also reported that his relocation zone could be effectively managed with seven traffic and access control points. The EMD convened a follow-up UCG teleconference at 1555 that formalized the details of the relocation PAD and set its implementation time for 1730. The BCEMD coordinated with his PIO in the JIC to ensure that the press release discussing relocation was complete and accurate.

Criterion 5.a.1:

Three methods of alerting and notifying the public were described in the Benton County Columbia Generating Station Emergency Response plan. These three are outdoor sirens with public address capability and radio Emergency Alert System (EAS) broadcast, a CodeRED® electronic notification method for land-line telephone, mobile telephone or e-mail, and EAS activation of tone alert radios distributed to residents in the plume exposure pathway Emergency Planning Zone (EPZ). The plan requires a public Alert and Notification Sequence (ANS) whenever a Site Area Emergency (SAE) or General Emergency (GE) is declared at CGS.

Benton and Franklin Counties had redundant capability to activate the entire ANS (i.e., all sirens, CodeRED® activation and EAS messaging for all residents of the EPZ for both Counties). The Emergency Managers for both counties decided that Benton County would simulate activating the sirens and sending the EAS messages and Franklin County would simulate activation of the CodeRED® system. Benton County had the capability of activating select sirens for alerting the public; however, the protocol used by both counties was to activate all sirens and alert the entire EPZ for any ANS.

The BCEOC had the capability to override local radio programming and directly transmit EAS messages, so coordination with radio stations at time of transmission is not required. EAS messages in both English and Spanish were pre-recorded for transmission and BCEOC personnel need only select the appropriate message for the currently occurring emergency scenario. A total of ten pre-scripted EAS messages were uploaded to the EAS encoder deck. The BCEOC gave a BCEM procedure to KORD for implementation that was incomplete, missing key elements required, and had not been reviewed or approved by the RAC Chair.

All of the initial EAS messages contained the four FEMA-required elements and both English and Spanish versions of each message were able to be broadcast in the two minute time limit for EAS alerts. Each message references the agencies and officials providing the notification, describes an emergency occurrence at the Columbia Generating Station, referred residents to the Hanford Site Neighbors Calendar for detailed emergency information and directs them to tune to one of the two EAS radio stations for further broadcasts.

The first alert and notification sequence for the exercise was initiated when the Counties received notification of the SAE declaration at 0954. The Incident Commander at the BCEOC consulted with his counterpart in Franklin County and decided that the appropriate EAS message for the public notification was CGS SA-2 since the SAE declaration indicated that a release of radioactive material was occurring. The Emergency Managers agreed on a siren sounding time of 1005 and an EAS and CodeRED® activation to occur after the three minute siren sounding. Benton County assumed responsibility for siren activation and EAS broadcast and Franklin County assumed responsibility for CodeRED® activation.

The Benton County Emergency Manager elected to simulate sounding the sirens and transmitting the EAS message himself. At 1005, he rapidly accessed the siren activation menu on the computer and confidently explained how the sequence would be performed. He simulated waiting the full three minutes for siren timeout prior to broadcasting the EAS message. Due to a software problem, he was unable to get the appropriate window to open. Rather than delay the EAS broadcast while troubleshooting the issue, he quickly contacted Franklin County to initiate the EAS message broadcast. He reported this completed while BCEOC staff determined that a re-boot of the EAS system would correct the problem. The Operations Chief subsequently demonstrated that successful EAS broadcast was capable from the BCEOC. Since there was no real consequence from the short delay, this problem was not identified as a performance issue.

The second and final ANS was demonstrated when the Counties were informed of the GE classification by CGS at 1038. Again, the Emergency Managers for both Counties correctly selected EAS message CGS EVAC 23BC for this broadcast and again decided to sound the sirens and broadcast the EAS message from the BCEOC and to activate the CodeRED® system from Franklin County. This time the Emergency Manager assigned the Operations Section Chief to simulate activating the sirens at 1045 and the EAS broadcast three minutes later. The Operations Section Chief completed this assignment exactly as directed and with no delay.

PLANNING ISSUE: Yes

ISSUE NO.: 69-16-5.a.1-P-06

CONDITION: The implementing procedure as created in the Benton County procedures for KORD Radio was insufficient and did not meet the guidance give for correction of the issue found in the February 2016 Dress Rehearsal. It is incomplete and did not fully address responsibilities and responsible persons for KORD. Nor was it approved as required by the RAC Chair prior to use in the exercise.

POSSIBLE CAUSE: Benton County was supposed to provide to KORD a one page direction sheet for station personnel to guide them on doing ANS and follow on messages show who is responsible, the backup people to them and the detailed step by step direction required to do the ENS and follow on messaging. Benton chose to isse a Benton County new procedure to their plan instead. It wa incomplete, contained blank fill-ins, didn't have full directions and it had not undergone review and approval by the RAC Chair as is required for plan changes.

REFERENCE: NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10.g; Benton County Emergency Response Plan pages 47, 101 and 102.

EFFECT: Internal inconsistencies in the procedure would lead to the station not aware of responsibilities or having clear direction as to how to proceed.

RECOMMENDATION: Revise the procedure to prove the required information and get approval from the RAC Chair for its inclusion and implementation in to the BCEM Plans & Procedures.

Criterion 5.b.1:

The detailed emergency information that the BCEOC provided to the public following an alert and notification sequence was contained in a single, FEMA-approved follow-on message that was pre-recorded in both English and Spanish and kept ready for broadcast at KONA and KORD Emergency Alert System (EAS) radio stations. Benton County Emergency Services personnel stated that the broadcast protocol with the EAS radio stations was for the stations to re-broadcast the follow-on message at appropriate intervals following the broadcast of an EAS message by either Benton or Franklin County EOC.

The follow-on message contained comprehensive emergency preparedness information for members of the public who may be asked to take protective actions. Geographic boundaries of the four sections of the Emergency Planning Zone (EPZ) were described. The message listed the essential items for evacuating populations to bring with them to the Emergency Worker Assistance Centers (EWACs). The message also contained the addresses of the two EWACs used by Benton and Franklin County residents. The message did not describe evacuation routes; however, it referred listeners to check the Hanford Site Neighbors Calendar, which described

evacuation routes in detail. The County's policy regarding pets at the EWACs was explicitly stated, saying that only service animals were allowed at the centers. The message provided instructions for the evacuation trip and encouraged evacuating drivers to help others who need transportation. It also listed telephone numbers for those with transportation needs to call for assistance and listed instructions for those directed to shelter-in-place. The follow-on message did not provide a general information telephone number; however, it did direct people to refer to the Hanford Site Neighbors Calendar that contained that number.

The information that the BCEOC provided to the media was coordinated by two public information officers (PIOs); one that was located at the BCEOC and the other that was located at the Joint Information Center (JIC) in Richland. The PIO at the JIC assumed a leadership role and coordinated the information to be provided to the media via press releases and press briefings. The PIO in the BCEOC provided effective support to her colleague, keeping her informed of the activities and developments in the BCEOC via e-mail and telephone calls. The BCEOC PIO demonstrated a pro-active attitude by developing draft press releases well in advance of the time they were needed and forwarding the drafts to the JIC PIO for her further refinement.

The PIOs collaborated to develop a total of three press releases during the plume exposure phase of the exercise. The press releases were reviewed and approved by the Incident Commander in the BCEOC prior to issuance. The first press release was issued at 0926 and informed the media of the activation of the BCEOC. The information in that news release was appropriate for the level of emergency occurring at the time of its issuance. The second news release was issued at 0951 and informed the media of the declaration of the Site Area Emergency. It did not inform the media of the release of radioactive material that occurred with the Site Area Emergency (SAE) initiating condition; however, it correctly listed the appropriate protective actions for a SAE that involved a radiological release. The second press release listed general information telephone numbers for both the media and the public and referred residents to both the Hanford Site Neighbors Calendar and the two EAS radio stations for additional information. The third and final press release for the plume exposure phase of the exercise was issued at 1039. It informed the media of the declaration of the General Emergency (GE) and listed the correct protective actions the public should take for the conditions existing at the time. This third press release also listed the general information telephone numbers for both the media and the public and referred residents to the Hanford Site Neighbors Calendar and to the EAS radio stations for additional information.

Demonstrated Strengths:

- The Benton County Emergency Management Emergency Manager (BCEM EM) demonstrated an aptitude to gather additional weather information by submitting a Spot Forecast Request through the National Weather Service in order to gather specific meteorological data that may impact his jurisdiction.

- The BCEM EM and the Ops Chief performing the public alert and notification sequence were very familiar with the complex procedure used to activate emergency sirens and EAS messaging. The PIO had an excellent awareness of her duty to keep the PIO at the JIC informed of what was occurring at the BCEOC via e-mail and telephone communication. The PIO was forward-leaning and always had the next appropriate press release generated and awaiting approval by the BCEM EM. All three individuals were able to perform highly without frequent referral to their procedures.
- The BCEM EM demonstrated an exceptional ability to perform Direction and Control duties by making timely and precise Protective Action Decisions throughout the Ingestion Phase of the exercise. The Incident Commander displayed a keen sense for identifying shortfalls, deciphering Protective Action Recommendations, aptitude for collecting critical information from his key staff, and implementing necessary actions to carry out decisions.
- The BCEM EM, the Public Information Officer and the Operations Section Chief in the Benton County Emergency Operations Center (BCEOC) demonstrated excellent knowledge of complex tasks which they were responsible to perform.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: ***69-16-5.a.1-P-06***
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: ***69-14-1.e.1-P-06, 69-14-3.a.1-P-10***

Benton County River Patrol

Staff at the Benton County Emergency Operations Center (BCEOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.d.1:

Two Deputies from the Benton County Sheriff's Department River Patrol conducted an out-of-sequence interview of this criterion during the Columbia Generating Station Biennial Exercise conducted on March 29, 2016. The demonstration took place at the Benton County EOC in Richland, WA.

The communications equipment available to the deputies on the Benton County River Patrol were a permanently mounted 800 MHz police radio and marine radio in their boat. In addition, the Deputies were each equipped with 800 MHz portable radios, County issued cellular telephones with email and texting capabilities, and personal cellular telephones as an added

backup. Operation of all communication systems were observed during the exercise with no communication failures noted.

Criterion 1.e.1:

The Benton County Sheriff's Office (BCSO) staffing the Benton County Sheriff River Patrol demonstrated equipment, maps, displays, dosimetry, KI, and other supplies are sufficient to support emergency operations. Law Enforcement Officers from the BCSO were interviewed at the BCEOC. The officers each kept Emergency Worker kits in their vehicles for use on the River Patrol as well. Each kit was equipped with a one DRD, one OSL and one strip (14) of potassium iodide (KI) IOSAT 65 mg. tablets with a current expiration date. The kit also contains a consumer package insert for the KI, along with Emergency Worker Kit just in time training guide and the EW exposure record form. These kits are maintained by the BCEOC. The River Patrol boat was fully equipped with all the required safety and communication equipment as well as communications radios and the officer had their cell phones and their portable radios. The boat was sufficient for sustained operations on the river system. All material was in sufficient quantity to support River Patrol operations.

Criterion 2.a.1:

Both Deputies were aware that authorization to exceed the dose limits set forth in their plans and procedures would come through their supervisor over the emergency services radio system or by cellular telephone. They were aware that any recommendation to take potassium iodide (KI) would come communicated through the same system and was a voluntary action on their part.

Criterion 3.a.1:

The deputies were equipped with, an emergency worker exposure kit which contained an Arrow Tech model 730, 0-20R Direct Reading Dosimeter (DRD), Optically Stimulated Luminescence Dosimeter. Deputies were aware that this was a permanent record dosimeter that could not be read in the field. The kit also contained an emergency worker instruction guide, a copy of the dosimetry briefing, 20 Thyrosafe 65mg Potassium Iodide (KI) tablets with an expiration date of April 2024 as well as an information sheet on KI included in the manufacturers consumer package insert. They understood that two KI tablets for a total of 130 mg were to be taken as a single dose once in a 24 hour period and KI was to be taken only if instructed by their supervisor and on a voluntary basis. If instructed to take KI they knew that the date and time was to be recorded on the Emergency Worker Exposure Form.

One deputy had to leave during the interview for a real world event so the interview was completed with just one deputy.

The deputy was aware that the DRD was to be read, and that reading recorded on the Emergency Worker Exposure Form, at least every 30 minutes while on his assignment. The deputy understood his turn-back value was 2.5R per his emergency worker instruction guide as briefed

when issued the kit and as provided in the emergency worker exposure kit. This differs from the Benton county plan which states the turn-back value is 2.0R.

The deputy understood their administrative reporting limit was any change in dosimeter readings and would need to be reported immediately to their supervisor. The exposure limit was 5R, the limit for protecting valuable property was 10R, and their limit for lifesaving activities was 25R. Further, they understood that anything over the 5R limit would be voluntary and need to be authorized by their supervisor.

The deputy stated that at the end of shift they would be sent for monitoring and possible decontamination at the South Ridge High School, where they would turn their dosimetry and records into their supervisor or radiation officer for processing.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

Benton County Traffic and Access Control Points (TACP)

Staff at the Benton County Traffic and Access Control Points (TACP) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.d.1:

The Washington State Patrol (WSP) and the West Richland Police Department (WRPD) staffing the Benton County Emergency Operations Center (BCEOC) successfully demonstrated at least two communications systems were available, at least one operated properly, and communication links were established and maintained with appropriate locations. Law Enforcement Officers from the WRPD and the WSP demonstrated that each agency had effective communications capabilities with staff assigned to Traffic and Access Control Points (TACPs). Vehicle mounted radios and laptops, portable radios, cell phones, 800 MHz digital radios were on hand and demonstrated. All equipment worked properly and the ability to communicate with other organizations such as fire, EMS and emergency Services was demonstrated.

Criterion 1.e.1:

Washington State Patrol (WPS) and the West Richland Police Department (WRPD) staffing the Benton County Emergency Operations Center (BCEOC) demonstrated equipment, maps, displays, dosimetry, KI, and other supplies are sufficient to support emergency operations.

Law Enforcement Officers from the WRPD and the WSP were interviewed at the BCEOC. The officers each kept Emergency Worker kits in their vehicles. Each kit was equipped with a one DRD, one OSL and one strip (14) of potassium iodide (KI) IOSAT 65 mg. tablets with a current expiration date. The kit also contains a consumer package insert for the KI, along with Emergency Worker Kit just in time training guide and the EW exposure record form. These kits are maintained by the BCEOC.

The WSP and WRPD patrol cars were equipped with functioning emergency lights and flares. The Officers stated they would request barricades, traffic cones and other items needed beyond what was in their patrol cars through their dispatch point. The State of Washington Department of Transportation would provide signage as needed. All material was in sufficient quantity to support T/ACP operations.

Criterion 3.a.1:

Emergency workers periodically and at the end of each mission read their dosimeters and recorded readings on the appropriate exposure record or chart. The Offsite Response Organization maintained appropriate record keeping of the administration of KI to emergency workers.

At the General Emergency, Emergency Classification Level, two Emergency Workers (EWs), were briefed by the Benton County Radiological Officer (RO), and instructed to check their direct reading dosimeters (DRD), every 30 minutes, for any change in the readings, from the initial readings when they received their emergency worker kit. EW's were aware of the requirement to report any change in the readings of their DRDs to their supervising during the emergency response and to the Benton County Emergency Operations Center (EOC).

EWs were also briefed that if their DRD readings increased, Benton County would send field team personnel or other health physics support to their location to determine if their DRDs were working properly or if the EW needed to be turned back and removed from the location. Benton County would also need to consider if additional evacuations of the public were needed to meet Washington State or EPA requirements. Administrative turn-back values for Benton County EWs is set at 2.0R with maximum exposure limits set at 5R. Permission to exceed limits needed to come from the Benton Franklin Health District representative located at the BCEOC. EWs were briefed on the risks associated with higher radiation exposure levels and informed that it would be voluntary and for life saving or to protect valuable property if asked to exceed 25R.

Persons receiving permission to reenter evacuated areas shall receive similar instruction as to where and how to turn in any direct reading or permanent record dosimeters they were provided

prior to reentry. The EWs were instructed to contact their supervisor during the emergency response to receive directions regarding where to go at the end of their shift and to be checked for contamination, or decontamination, if necessary. They were instructed to turn in their DRDs for reuse and their permanent record dosimeters for processing. They were told that at the end of their shift they would be processed at the emergency worker/assistance center located at South Ridge High School.

The RO also explained the reason for ingesting KI, and the possible side effects of taking it. He instructed the EWs to record when they ingest KI on their EW personal information form, including documenting exposure levels, and the date(s) and time(s) taken. One EW kit was examined and contained one 0-20R Model 622 Arrow-Tech DRD with leak test documented and due Jan. 18, 2017, one Optically Stimulated Luminescence RadWatch with hook and loop band, one blister pack of ThyroSafe Potassium-Iodide tablets, 20 tablets, 65 mg each, expires April 2024, one KI drug information sheet, an EW Kit Instructions, and an EW Personal Information Form.

EWs were instructed to take two 65 mg KI tablets daily. Benton County prepares and maintains the supplies referred to as the EW Kits, for use by the EWs who would be exposed to radiation or radiological materials during a CGS incident. EW kits would be given to individuals who have received permission to reenter evacuated areas for the protection of human or animal life or valuable property. Through an interview with two Police Officers, assigned to Traffic Control Point, duty it was determined that they knew the administrative limits, the time frames for taking dosimeter readings, how to read their dosimeters and how to record the information on the EW Personal Information Form, as well as, what to do in the event their exposure limits were exceeded, and what to do with the forms and equipment at the end of their shift. They also knew the procedures for ingestion of KI and who has the authority to direct them to take it, and how they would be notified.

Criterion 3.d.1:

Before an evacuation Protective Action Decision (PAD) was released, TACPs were established and manned (simulated) by West Richland Police Department (WRPD), County law enforcement, and the Washington State Police (WSP). It is noted that the CGS is on the Hanford reservation and access to the reservation is controlled at all times. The Emergency Director (ED) briefed the police officers and troopers on the content and use of their emergency worker exposure control equipment before dispatching them to the field, including reading their Direct Reading Dosimeters (DRDs) every 30 minutes, recording any dose incurred, and to be aware of the turn back limit of 2R. If an emergency worker (EW) gets an increased reading, the Field Monitoring Team (FMT) or other health physics support go to the EW's location to check the DRD and determine if the EW needs to leave the field. The decision to ingest KI was based on projected thyroid dose compared with the PAGs; this information was initially provided by CGS on the Classification Notification Form (CNF) and communicated to the EWs that were deployed.

The TACP response was conducted by interview with a representative from the West Richland Police Department (WRPD), Benton County Emergency Services (BCES), Washington State Police, and Benton County Fire District Number 4 Fire Chief. The postulated inject messages were provided at approximately 0954, to close boat launch, evacuate the Columbia river between Vernita Bridge and Leslie Grove Park, Horn Rapids Recreation areas, Rattlesnake Mountain shooting facility and the Horn Rapids off-road vehicle park.

Demonstrated Strengths:

- West Richland Police Department (WRPD), Benton County Emergency Services (BCES), Washington State Police, and Benton County Fire District Number 4 Fire Chief demonstrated outstanding professionalism in their collaboration efforts with each other, and excellent tactical decisions as a group, based on good cognitive planning.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

Southeast Communications (SECOMM)

Staff at the Southeast Communications (SECOMM) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

At 0828 CGS notified SECOMM dispatch of an Alert Emergency Classification Level (ECL), at the utility. The notification was made using a dedicated phone system called the Crash line, a direct phone line between CGS's Emergency Operation Facility (EOF), SECOMM dispatch, and other offsite response organizations.

At 0828, SECOMM dispatch also received a facsimile confirmation, notification from CGS with the same information about the Alert ECL that was relayed over the Crash line. SECOMM dispatchers immediately began notifying key EOC personnel. All notifications were complete by 0841.

At 0926 BCEOC notified SECOMM dispatch that the EOC facility was declared operational; and that all future communications with CGS would come directly to the BCEOC.

All notifications that were received and/or relayed were clear and consistent.

Criterion 1.b.1:

SECOMM facility is a spacious office located adjacent to the Benton County EOC and includes sufficient space, furnishings, lighting, ventilation, bathroom facilities, access control, and backup power to support an extended emergency response operation within Benton County EOC.

The lighting in the facility was indirect and evenly projected throughout the room. There were 10 large dispatch workstations all equipped with computers with Wi-Fi capability, and digitized switchboard telephone systems for emergency calls coming in from the public. There was a copier machine, facsimile machine, and other necessary administrative supplies and equipment available to support an emergency response operation.

Computer servers and additional communication equipment was stored in a locked room adjacent to the SECOMM facility. A Generac 480 VAC 50/60 Hz large diesel generator was located outside the building, and capable of fueling the entire building for at least 72 hours.

A Heating, Ventilation, and Air Conditioning (HVAC) system was used to keep the SECOMM offices comfortable, regardless of the temperatures outside. A second generator outside would be used to power the HVAC system and the rest of the building, if necessary. Access to the Benton County EOC, and the SECOMM facility, including employee parking, was controlled by electronic door locks that only opened with employee ID cards. Restrooms were located within the building and easily accessible from SECOMM offices. There was a kitchen within the building, and separate bathrooms with shower facilities for both men and women.

SECOMM dispatch normally staffs a minimum of 4 dispatchers daily, with an on-call dispatch supervisor available 24/7, and capable of arriving onsite within an hour response time.

The SECOMM facility was set up in accordance with the floor plans, and operated according to the plans and procedures.

Criterion 1.d.1:

The primary means of communication between Columbia Generating Station (CGS), Emergency Operation Facility (EOF), and the SECOMM dispatch was a dedicated telephone system called the Crash line. The crash line is a telephone system that works in conjunction with the public switchboard network communication system; but is a separate and direct line between CGS's, EOF, and SECOMM dispatch, or Benton County's Emergency Operation Center (EOC).

At 0828 CGS used the crash line to notify SECOMM dispatch of an Alert Emergency Classification Level (ECL), at the utility.

The backup communication system used between CGS's EOF and SECOMM dispatch was a facsimile notification. At 0828 SECOMM received a facsimile confirmation of the Alert ECL notification sent by CGS. SECOMM can also use a Site Wide Security Radio system to communicate directly with CGS's EOF, as another backup communication system.

Additional means of communication systems available were: Benton County 800 MHZ system talk groups, Fire agency VHF radio frequencies, Amateur Radio, Satellite telephones, Email, WebEOC, cellular telephone providers, NAWAS, and Radio systems that could be ordered from fire and law enforcement agency caches.

Criterion 1.e.1:

SECOMM dispatch is the primary mechanism for notifying Benton County's officials and response agencies of an incident at CGS. There were no white boards, chalk boards, or easel charts within SECOMM office. There were various displays of Fire, Police and rescue information; and displays pertaining to SECOMM and the dispatcher's mission. Sufficient administrative supplies included paper and record keeping forms available, for continued operations, in the event of a power outage or a computer failure.

SECOMM dispatcher's workstations were aligned closely together, which allowed for easy communications between personnel, without them having to leave their workstations. This was demonstrated several times and flowed well with the arrangement of the workstations. There were no requirements for barricades, protective equipment, dosimetry, Potassium Iodide (KI), or monitoring equipment inside of the SECOMM office space in accordance with their plans and procedures.

Demonstrated Strengths:

- Benton County Southeast Communications (SECOMM), dispatcher's demonstrated exceptional work ethics and commendable professionalism in their ability to manage their day to day functions, while readily willing and able to assist any colleague, emergency responders or members of the public in any way they that can. Thank you for your services.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

KORD Radio Station

Staff at the KORD Radio Station successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.d.1:

The two KORD radio station Directors of Engineering participated in the Columbia Generating Station Plume Exercise out-of-sequence interview on March 29, 2016. The demonstration took place at the KORD studio in Pasco, WA. Through interview, it was determined that the KORD radio station has the ability to provide an initial instructional message to the public including the minimum elements required.

The communications equipment available at KORD radio station were a commercial telephone land line, a cellular telephones, as well as staff having personal cellular telephones. The KORD radio station also had access to email and SMS texting through their computers and cellular telephones. All communications equipment was utilized during the exercise with no failures identified.

Criterion 5.a.1:

The KORD radio station successfully demonstrated the completion of primary alerting and notification of the public were completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation during the Columbia Generating Station (CGS) Biennial Plume Exercise conducted on March 29, 2016. Two KORD Radio Station Directors of Engineering participated out-of-sequence via interview to complete this criterion. The demonstration took place at the KORD studio in Pasco, WA. By interview, it was determined that the KORD radio station has the ability as the established backup radio station to provide an initial instructional messages to the public including the minimum elements required.

The Benton County EOC has the capability to broadcast Emergency Alert System (EAS) messages directly to radio station KORD which is the backup 24/7 EAS station supporting Benton County. The EOC has the EAS messages pre-recorded into the EAS Decoder with the capability to send those EAS messages from the EOC. The times the sirens are sounded and the EAS messages to be broadcast are coordinated by the EMD's from Benton and Franklin Counties.

The various messages were identified by a number and title that fit the current event at CGS. The messages are both electronic audio files and Word documents, which could be used for manual transmission if necessary. The messages are broadcast in English as well as in Spanish. Each of the EAS messages announces the identification of the CGS, the level of emergency classification

and the general reference as to the protective action or emergency information required. The message also refers the public to the Hanford Neighbor calendar for more detailed information and also states to tune to radio station KORD for additional detailed information. Radio Station KORD rebroadcasts each of the EAS messages once every thirty minutes after the initial transmission per the instructions received from the Benton County EOC.

The KORD studios do not have a written procedure or action plan for staff should the Director of Engineering or his designated backup (Operations Manager) not be available. The Director of Engineering and Operations Manager had the ability to transmit messages remotely as well as the ability to transmit from the station studio or station transmitter located 15 minutes away.

There is no backup power at the studio but there is backup power for the transmitter. The system is tested monthly per Federal Communication Commission (FCC) regulations and has no failures identified in the last year.

Criterion 5.b.1:

The Benton County Emergency Operations Center (BCEOC) develops, approves, and sends the Emergency Alert System (EAS) prerecorded messages and any subsequent messages. The Director of Engineering is the individual responsible for transmitting subsequent emergency messages and gets an email notification the moment the BCEOC starts an EAS message using the KORD radio station.

There were no emergency messages transmitted to the backup radio station (KORD) during this exercise.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: ***69-16-1.e.1-P-02, 69-16-5.a.1-P-07***
d. PRIOR ISSUES – RESOLVED: ***69-14-1.e.1-P-06***
e. PRIOR ISSUES – UNRESOLVED: ***69-14-3.a.1-P-10***

3.2.3.3 Franklin County

Staff at the Franklin County Emergency Operations Center (FCEOC) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The ORO was notified via Franklin County/Pasco 911 Dispatch Center of the Columbia Nuclear Power Plant emergency at the Alert Emergency Classification Level (ECL) at 0841. After the initial call from dispatch, all future calls were directed through the "Crash Phone." The calls were clear and consistent, the caller went through each line and asked if anyone needed clarification. The Site Area Emergency (SAE) came in on the "Crash Phone" at 0956, and the General Emergency (GE) at 1035.

The Franklin County/Pasco Dispatcher who receives the notification of emergency will use the Energy Northwest Dial-Up Phone System and confirm the emergency notification with the Columbia Generating Station Security Communications Center Duty Officer.

All communication with the State of Washington and Benton County EOC were all made through the "Crash Phone."

At the Alert ECL, the Franklin County/Pasco 911 Dispatch Center called commissioners to notify them of the situation, per the direction of Franklin County EOC Emergency Manager (EM). At 0849, the Franklin County (EM) and the Operations director split the list of EOC staff and called them to report to the EOC. If they don't get an answer, no messages are left. They then go on to the next person and call back if needed. The call tree was completed at 0857. Staff started showing up immediately, as some work in the Franklin County Emergency Management office, per the extent of play agreement.

Staffing periods will consist of 12 hour shifts. Individuals from other agencies are responsible for assigning personnel to staff 24-hour-per-day emergency worker field operations positions assigned to their agencies. The 24 hour roster for Franklin County is taken from the FRANKLIN COUNTY IMPLEMENTING PROCEDURE IP D-0 EMERGENCY MANAGER Section. It describes who can be called for each ECL. Each section has at least three people to call, and many have more.

In order to declare the EOC operational the key decision makers are to be in place. The staff from the decision group include the Emergency Chair from the Franklin County Board of Commissioners, Franklin County Sheriff or Designated Representative, Franklin County Emergency Management Director, Emergency Operations Center Public Information Officer, Health Officer and Legal Advisor from Franklin County Prosecutors Office. Some of the staff for operations would include the Operations/Support Coordinator, Communications Coordinator, Fire Coordinator, Public Works Coordinator, Law Enforcement Coordinator, Transportation Coordinator, American Red Cross, Department of Agriculture Washington State Emergency Management Liaison Officer, and Energy Northwest (Columbia Generating Station) Facility Liaison Officer. The EOC was declared operational at 0920.

Criterion 1.b1:

There was more than adequate space for emergency operations in the EOC. There were three tables in the main EOC area. The Operations Table had representatives from FC Emergency Management (EM) Operations, the FC Sheriff's Department, FC Public Works Department, Washington State Department of Transportation, Pasco School District and the Pasco Fire Department. The Decision Makers Table had representatives from FCEM, the FC Board of Commissioners, Benton-Franklin County Health District, FC Prosecutor's Office, and the FC Sheriff's Department. There were computers and phones available as needed.

There were additional offices and a conference room available within the facility. There were a kitchen area, restrooms, and storage rooms available. There were hard copy and electronic maps available. There were a copier, a printer and fax machine available. Digital clocks were available within the EOC.

There was a separate communications room within the facility where the Tri-Cities Amateur Radio representatives operated and where Alert and Notification/Emergency Alert System activation were simulated.

The facility had three emergency generators available. There were one 50 Kw diesel generator with a 60 gallon tank; one 30 Kw propane generator; and one 20 Kw propane generator. The generators are tested monthly under load. The generators were last tested on March 7, 2016.

A floor plan was provided and the setup of the space was laid out as describe. The facility is dedicated to emergency response.

Criterion 1.c.1:

The Emergency Chairperson from the County Board of Commissioners was responsible for the overall response effort and including direction and control of the FCEOC. This authority included the provision for Protective Action Decisions (PADs), with the exception of authorizing the use of Potassium Iodide (KI). The Emergency Chair was supported by the Franklin County Emergency Management (FCEM) and by other County Officials (Sheriff, Legal Officer, and Health Officer).

The emergency response effort in the FCEOC was facilitated by the FCEM. The EM conducted continuous staff briefings and associated communications with EOC personnel to assure that the latest available information was shared. A total of nine EOC-wide briefings were conducted. The EM communicated and coordinated PADs with Benton County during the exercise to enhance the coordinated-joint response and all essential functions of the response effort were managed effectively. Messages and logs were maintained, messages numbered and distributed by the messenger.

The PADs were made in a coordinated manner with Franklin County and Benton County by utilizing the Crash line. At 0847 Franklin County and Benton County made a joint PAD to activate the alert and notification system which included the sounding of sirens and activation of the Emergency Alerting System (EAS). This process was consistent throughout the exercise, when PADs were made, each EAS message and each press release included a coordinated message to the public. The EM obtained input from all organizations in the EOC in making timely decisions on operations and the EM ensured that all requirements and requests were properly processed and completed.

At 1240 the EM successfully resolved conflict regarding an inaccurate alternate evacuation route due to an impediment. The Emergency Manager instructed the PIO to share corrected information with the public and media.

A total of five resource requests were sent to the state of Washington by the EM and three were successfully received and two were outstanding or in process by the end of the exercise.

Criterion 1.d.1:

The primary communication system is The "Crash Phone". This is a dedicated landline phone used for most communication throughout the drill. Alternate means of communication are via commercial telephone or radio. WebEOC, Amateur radio, two-way radio, Comprehensive Emergency Management Network (CEMNET) Law Enforcement Radio Network (LERN) and cellular telephones are all other ways to communicate. They also have a satellite phone available.

Two way radio checks were completed. No failures of communication equipment. The Crash phone and two-way radio are independent of commercial telephones.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures and extent of play agreement.

Criterion 1.e.1:

Equipment, maps, displays, and other supplies at the Franklin County Emergency Operations Center (EOC) were sufficient to support emergency operations. There were phones and computers available as needed and appropriate for positions staffed in the EOC. There were large screen electronic displays that allowed for display of WebEOC and maps as necessary. A Geographic Information System position allowed staff to develop and control data for display. Hard copy maps of the 10 mile Emergency Planning Zone (EPZ) and of the 50 mile Ingestion Planning Zone (IPZ) were available. There were plans and procedures available. There was a copiers, printers and fax machines available. Digital clocks were available within the area.

Franklin County had 58 survey instruments, 20 Bicron Surveyor X, and 38 Ludlum Model 12. All except 18 that were out for calibration were calibrated. There were four Johnson Portal

Monitors, Model AM 801, were available at the EOC. Two of the monitors had equipment to allow expansion for vehicle monitoring use. The portal monitors had been tested and calibrated.

Franklin County had 259 dosimetry kits listed on the Emergency Worker Kit Master List. Each kit consisted of one 0-20R dosimeter; one Ludlum Optically Stimulated Luminescence (OSL) dosimeter; 20 tablets of Thyrosafe potassium iodide (KI), 65mg each; two pencils; Emergency Worker Kit instructions; and a "Just in Time Training for Emergency Worker During a radiological Incident" pamphlet. The KI had an expiration date of 4/2024. All dosimetry listed had been tested and was up to date.

As simulated during exercise play, the Franklin County Public Works Department had sufficient barricades and traffic equipment to support traffic and access control.

PLANNING ISSUE NO.: 69-16-1.e.1-P-01

CONDITION: IP-3 Inventory and Inspection of Radiation Detection Equipment. There are 52 Radiation detection kits accounted for and located in Franklin County. But there are total of 58 kits listed in the plan when you add them all together. Emergency Management has revised/updated IP-3 Inventory and Inspection of Radiation Detection Equipment dated February 2016 to reflect 58 kits. However, Table 16, Emergency Worker Kit Distribution, Appendix A - ESF-10.C: Franklin County Radiological Emergency Response: Energy Northwest, does not reflect the current number or distribution of emergency worker kits. Table 16 listed 305 kits. The Emergency Worker Kit Master List listed 259. Through interview, it was determined that there may be as many 10 kits missing from the Emergency Worker Kit Master List.

POSSIBLE CAUSE: Plans, records and Inventory documents were not kept updated.

REFERENCE: NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a; G.4.c

EFFECTS: Without an accurate inventory of equipment, there may be equipment not in calibration.

RECOMMENDATION: Conduct a 100% inventory to account for all items to accurately reflect the true totals and locations. Also, consider removing detailed inventory from the plan and create an Inventory Distribution and Tracking Procedure that can be updated more easily.

Criterion 2.a.1:

The Benton/Franklin District Health Officer in conjunction with Washington State Health authorizes emergency workers to exceed pre-authorized exposure levels. Washington Department of Health (DOH) notifies Franklin County EOC, and the EOC relays to Emergency

Workers what approach to use to correct DRD readings. The Benton/Franklin Health Officer with the State of Washington Medical officer makes the decision to authorize the ingestion of KI. This information is relayed to the emergency workers in the field.

All other decisions are made between the State of Washington, the Benton/Franklin County EOC, and with conversations with the Emergency Manager (EM), and at times, other ESF's. The discussions were fluid and thorough.

At 1215, due to field team findings, there was a re-adjustment to turn back and reporting values. The turn back was re-adjusted to 2R, reporting values were re-adjusted to 2R, 4R, and 11R. This information was briefed at the EOC and instructed agencies to notify their emergency workers. No workers asked, or were granted, any radiation dose above pre-authorized levels. At 1102 the health officer confirmed emergency workers were to ingest KI, at 1105, the announcement was briefed to notify EWs to ingest one dose of KI.

Criterion 2.b.1:

The initial Protective Action Recommendation (PARs) are made by the licensee. The Franklin County Emergency chair in coordination with the Emergency Manager makes the final decisions. Franklin County assesses the scope of the incident and PARs, then coordinates with Benton County making recommendations for protective action decisions. Additionally the emergency chair is responsible to make provisions for radiological monitoring and providing other emergency response assistance upon request.

The initial PAD to clear waterways, rail, parks and schools was made at 0958, sirens were sounded at 1005 and EAS message aired at 1011 in a timely manner. The second PAD was made at 1040 to shelter in place in Emergency Planning Zone (EPZ) 1 & 4 and evacuate EPZ 2 & 3, 0-2 miles based on deteriorating plant conditions. The sirens were sounded at 1045 and the EAS message aired at 1045 in a timely manner. The direction of the wind, the weather conditions, closed roads, road impediments, and public safety were all considered when making the evacuation route determination.

During a rapidly escalating incident, the Emergency Manager, Emergency Chair or County Commissioner, and Sheriff thoroughly discussed the situation and made a decision. Supplemental resources to implement a PAD include law enforcement, fire and EMS. Depending on the situation, there could be a need to more resources.

Any Potassium Iodide (KI) decisions are made between the County Public Health Officer and the State Health Director. KI is not distributed to the general public, however, they can obtain KI from drug stores. Benton and Franklin Counties also coordinate the KI decision. The County EOC distributes the KI to the field. Briefings are conducted prior to Emergency Worker kits being distributed to the emergency worker being sent to the field. The decision for emergency workers to ingest KI was made at 1104 in a timely manner.

Criterion 2.c.1:

Protective action decisions were made, as appropriate, for special population groups by the Franklin County Emergency Operations Center (FCEOC) staff. During the Exercise, Sections 1, 2, 3 and 4 were affected by the plume. At the time of the exercise, in Franklin County, no Persons of Disabilities and Functional Needs (PDAFNs) or facilities were located within the affected area. According to the Franklin County Radiological Emergency Response Plan, groups of PDAFNs were considered part of the general population in that, according to the Plan, they would not be provided notification by means other than those used to notify the general public unless prior arrangements were made on an individual basis. The Operations Coordinator explained that in the event it was needed, a TTD/TTE communications was available at the County 911 Center to communicate with hearing impaired individuals.

The Franklin County Radiological Emergency Response Plan indicated the following types of protective actions that could be decided for Persons of Disabilities and Functional Needs: Evacuation or sheltering were the principle immediate protective actions which could be taken within the Plume Exposure Pathway Emergency Planning Zone (EPZ). Consideration would be given to those special populations whose mobility was impaired and those facilities which required skeleton crews to maintain safe operations during or after an evacuation. In the event of extreme weather conditions or other situations which could make the risk of harm during an evacuation greater than that of sheltering-in-place, the Public Official acting as the Emergency Chair would take into consideration the adverse conditions when determining whether to evacuate the affected area or to shelter-in-place. Sheltering or take cover was a secondary option to evacuation. Sheltering or take cover would be recommended for areas that were not evacuated due to a plume projection/deposition.

The Operations Coordinator explained that the “Decision Group”, consisting of the Emergency Chairman, Emergency Management Director, Franklin County Sheriff, Legal Advisor, Public Information Officer and the Benton/Franklin Health District Health Officer would make Protective Action Decisions for PDAFNs groups based on Protective Action Recommendations (PARs) from Energy Northwest. A precautionary Protective Action Decision made at 0959, was based on a Protective Action Recommendation from the Columbia Generating Station personnel at 0956 and consisted of evacuation of the Columbia River, the Wahluke Hunting Area, the Horn Rapids Recreation Area, the Ringold Fishing Area and schools in the Emergency Planning Zone. A Protective Action Decision was made at 1040 and consisted of the continued evacuation of the Columbia River, the Wahluke Hunting Area, the Horn Rapids Recreation Area, the Ringold Fishing Area and schools in the EPZ in addition to the evacuation of Section 2 and sheltering of Section 1 and was based on a PAR from the utility at 1035 for the evacuation of all Sections, zero to two miles, Sections 2 and 3, two to ten miles and sheltering in Sections 1 and 4, two to ten miles. There were no delays in making decisions with respect to Protective Action Decisions. As stated above, no PDAFNs groups were located within the EPZ, so no additional PADs were needed or implemented.

The Edwin Markham Elementary School, Country Christian Center and Big River Country School were located within the Emergency Planning Zone and were contacted about the emergency conditions at the Columbia Generating Station by the Transportation Coordinator at the FCEOC the ALERT Emergency Classification Level which the EOC staff received at 0841. As stated above, a precautionary Protective Action Decision was made at 0959 and consisted of evacuation of schools in the Emergency Planning Zone. The decisions for school children were based on the utility recommendations, the Emergency Classification Level at time of the notifications, Franklin County Radiological Emergency Response Plan, the location of the students at the time, and the time of day.

Criterion 2.d.1:

The State of Washington has the authority to make decisions for the ingestion exposure pathway to include relocation, re-entry, food control and return. The State of Washington, developed four Protective Action Recommendation Packages (PAR) and successfully gained concurrence from Franklin County in order to issue the Protective Action Decisions (PAD). The process for gaining concurrence was presentation of the PAR package in a conference call discussion, amend PAR, conduct Unified Command Group (UCG) meeting and issue the final PAD.

At 0837 a discussion regarding the initial State PAR package for lifting of plume PADs began and at 0907 Franklin Country concurred with content. Then at 0945 the State of Washington reviewed the information discussed during a UCG conference call. The Franklin County Emergency Manager (FCEM) coordinator noted and requested a change for the final PAD regarding discontinuation of the sheltering of Area 1, the Ringold fishing area and Wahluke hunting area. At 0959 Franklin County concurred with PAR package.

At 1035 a discussion regarding the State PAR transportation package began and at 1038 Franklin Country concurred with content. However, at 1040 there was discussion with the State of Washington public information officer and Franklin County regarding the implementation time and associated coordination at the Joint Information Center. This discussion included coordination of information to the public. The implementation time of this decision to the public would be at 1300, after the 1130 UCG meeting.

At 1135 the UCG coordination call was conducted. At 1136 Franklin County concurred with the transportation PAR package. At 1139 the FCEM verified that the State of Washington would call FAA and the Coast Guard for release of restrictions.

At 1212 the Franklin County operation table began discussions with Benton County regarding the relocation map. At 1240 food control and water PAR package was received from the State and discussions began in the FCEOC. At 1346 the FCEM requested National Guard support status update for traffic control point implementation, this consisting of 10 vehicles and 40 staff. Per staff at the state of Washington, all resources were assigned and are available.

Between 1400-1600 discussions regarding the State PAR food control package and relocation began and at 1630 Franklin Country concurred with content of both packages. The implementation times of these decision would be at 1730, after the final UCG meeting.

Criterion 2.e.1:

The Sheriff of Franklin County and his representatives were responsible for establishing access and traffic control in that part of Franklin County within the 10-mile Emergency Planning Zone. The areas of interest were identified in an initial Protective Action Recommendation (PAR) from Columbia Generating Station personnel at 0956 and consisted of the Columbia River, the Wahluke Hunting Area, the Horn Rapids Recreation Area and the Ringold Fishing Area. Additional areas of interest were identified in a second PAR from the Columbia Generating Station personnel at 1035 and consisted of all Sections; (evacuation), zero to two miles, Sections 2 and 3; (evacuation) two to ten miles, Sections 1 and 4; (sheltering), two to ten miles. Franklin County EOC then established the geopolitical boundaries of the evacuation (Section 2) and sheltering (Section 1) areas within Franklin County, as well as the Traffic and Access Control Points (TACPs), ingress and egress points and vehicle routes around the affected areas. That information then was provided to the State with regard to the people and properties within the evacuation and sheltering areas. The Washington State Department of Agriculture provided the Franklin County EOC with a map of the Agricultural Advisory Area at 1135. The Law Enforcement Coordinator in the Franklin County EOC deployed and monitored the establishment of the TACPs in Franklin County (simulated) and twenty-one TACPs had been established as of 1131. Law enforcement officers patrolled designated areas to confirm that people had evacuated (simulated). The Franklin County Sheriff's Office was assisted by municipal law enforcement agencies, fire departments, public works and engineering departments, the Washington State Patrol and the Washington National Guard.

The American Red Cross (ARC) Representative explained that the Red Cross would work with the Federal Emergency Management Agency to obtain provisions for relocating members of the evacuated public who lived in areas that had residual radiation levels in excess of the PAGs and transition those residents from the Red Cross shelter to longer term housing. In addition, American Nuclear Insurers, the insurance provider for the commercial nuclear industry would be utilized to provide financial provisions for relocating members of the evacuated public who lived in areas that had residual radiation levels in excess of the PAGs. The Benton-Franklin Health Coordinator explained that medical and social assistance for relocated individuals would be provided by the Lourdes Medical Center and the Washington State Department of Health.

The Washington State Department of Health was responsible for maintaining radiation dosimetry and exposure records for the monitored public, Emergency Workers, and government employees. The Total Effective Dose Equivalent dose limits for emergency workers were 5 rem for all activities, 10 rem for protecting property and 25 rem for life saving activities, and were allowed to be accumulated during the entire period of the emergency. The Benton – Franklin Department of Health Liaison explained that dosimetry kits would be turned in at the Emergency Worker Assistance Center to the Washington State Department of Health Dose Tracker for records

management or would be given to the Washington State Department of Health Official at the Incident Command Post for records management.

As stated above, the Franklin County EOC staff determined the location of control points based on the Protective Action Recommendations from Columbia Generating Station staff and geopolitical boundaries. The EOC determined who was allowed to re- enter the restricted zone based on input from the Benton-Franklin Health Coordinator and by weighing the factors of benefit versus risk. Just-in-time training and dosimetry were utilized to control exposure to those individuals. At 1310, the Franklin County EOC staff received a request from the Ringold Fish Hatchery staff (by controller inject) for three staff members to access the Ringold Fish Hatchery to check on properties and fish returning from the Columbia River. At 1331, the Benton – Franklin Department of Health Liaison approved the request based on consultation with the State Department of Health Officer and data from the field teams. The request was approved with the stipulation that the three fish hatchery staff members access that the hatchery from Glade Road.

All activities were based on the plans and procedure.

Criterion 3.a.1:

Franklin County (FC) had 259 dosimetry kits consisting of one 0-20R dosimeter; one Ludlum Optically Stimulated Luminescence (OSL) dosimeter; 20 tablets of Thyrosafe potassium iodide (KI), 65mg each; two pencils; Emergency Worker Kit instructions; and a “Just in Time Training for Emergency Worker During a radiological Incident” pamphlet. The KI had an expiration date of 4/2024. All dosimetry had been tested and was up to date. Many of the kits are pre-positioned with departments and agencies throughout the county. Briefings for emergency workers are given at the points of dispatch but not at the Franklin County Emergency Operations Center.

At 1058, Franklin County received notification from Columbia Generating Station on Classification Notification Form, Message #5, that the State threshold for the administration of potassium iodide (KI) had been met. The Benton-Franklin Health District representative conferred with the State Health Officer on the need to take KI. The order to take KI was issued at 1104. The FC Sheriff’s Office representative, the Pasco Fire Department representative and the FC Public Works Department representative notified field personnel of the order to take KI.

At 1159, the Benton-Franklin Health District representative received notification that the State was lowering the turn back value to 2.31 R. After consultation with the State Health Officer, it was decided that Franklin County emergency worker’s turn back value would be lowered to 2.0 R. The FC Sheriff’s Office representative, the Pasco Fire Department representative and the FC Public Works Department representative notified field personnel of the change in turn back value.

The “Just in Time Training for Emergency Worker During a radiological Incident” pamphlet states that “KI should not be used by anyone allergic to iodine.” Additional information is provided regarding allergic reactions and the KI information in the packet. The Emergency

Worker Kit (Class I) instructions contain a place to record the date/time for recording 10 dosages, 2 tablets/day.

Criterion 3.b.1:

The Franklin County Operations Coordinator explained that the Franklin County Emergency Agency does not provide potassium iodide (KI) for the general public, but that members of the general public could obtain KI at area pharmacies. No institutionalized populations were located within the 10 mile emergency Planning Zone.

Criterion 3.c.1:

The process for Protective Action Decision making for special populations other than schools within areas subject to protective actions was explained by Franklin County Emergency Operations Center (EOC) personnel. At the time of the exercise, no Persons of Disability and Functional Needs (PDAFNs) or facilities were located within the affected area of Franklin County.

According to the Franklin County Radiological Emergency Response Plan, PDAFN populations would not be provided notification by means other than those used to notify the general public unless prior arrangements were made on an individual basis. A precautionary protective action decision was made by EOC staff at 0959 and consisted of evacuation of the Columbia River, the Wahluke Hunting Area, the Horn Rapids Recreation Area, the Ringold Fishing Area and schools in the Emergency Planning Zone. A second protective action decision was made by EOC personnel at 1040 and consisted of the continued evacuation of the Columbia River, the Wahluke Hunting Area, the Horn Rapids Recreation Area, the Ringold Fishing Area and schools in the EPZ in addition to the evacuation of Section 2, two to ten miles and sheltering of Section 1, two to ten miles.

The Franklin County list of Persons of Disability and Functional Needs within and outside of the EPZ was up to date. However, as stated above, no PDAFN populations or facilities were located within the affected area. Because no PDAFN populations or facilities were located within the affected area, no host hospitals, correctional facilities or nursing homes that would receive evacuees were listed in the Franklin County plan.

According to the Franklin County Radiological Emergency Response Plan, the Transportation Coordinator would identify and notify transportation resources and alternate locations for PDAFN populations, if necessary. According to the Plan, if there was a gap in resources, backup transportation resources and/or alternate locations for PDAFN populations would be available through the State of Washington, the Washington State Patrol, Department of Transportation and the Adjutant General of the Washington State Military Department. The Pasco School District, North Franklin School District and Ben-Franklin Transit were the transportation provider companies, including special resources for disabled persons, and were contacted by actual calls, as indicated in the extent-of-play agreement and all calls were logged.

The Operations Coordinator explained that the needs of transportation dependent individuals would be met by dispatching transportation resources to pick them up at their locations and transport them to the Emergency Worker and Assistance Center (EWAC). At 1125 the Franklin County EOC staff received a phone call (controller inject) from a county family requesting assistance with transport of a bedridden resident from Section 2. At 1137, the Fire Department Representative had an ambulance dispatched to transport the bedridden resident (simulated).

According to the Franklin County Radiological Emergency Response Plan, the American Red Cross would provide staffing, equipment, food, and sheltering services for evacuees and their service animals. The Benton/Franklin Health District Health Officer explained that if a PDAFN facility was evacuated during the plume, the evacuees would be transported to the EWAC for monitoring and decontamination to be performed under the direction of Washington State Department of Health Physics personnel.

Criterion 3.c.2:

The Franklin County Emergency Operations Center (EOC) staff implemented protective actions for schools within the Emergency Planning Zone (EPZ). At the time of the exercise, the Edwin Markham Elementary School, Country Christian Center and Big River Country School were located within the EPZ.

The Edwin Markham Elementary School, Country Christian Center and Big River Country School were contacted about the emergency conditions by the Operations Coordinator at the EOC at the ALERT Emergency Classification Level which the EOC received at 0841. A precautionary Protective Action Decision was made by Franklin County EOC staff at 0959 and consisted of evacuation of the Columbia River, the Wahluke Hunting Area, the Horn Rapids Recreation Area, the Ringold Fishing Area and schools in the EPZ. An additional Protective Action Decision was made at 1040 and consisted of the continued evacuation of the Columbia River, the Wahluke Hunting Area, the Horn Rapids Recreation Area, the Ringold Fishing Area and schools in the EPZ in addition to the evacuation of Section 2, two to ten miles and sheltering of Section 1, two to ten miles.

The school populations, including all staff during the exercise were: Country Christian Center: 5 staff, 31 students, Edwin Markham Elementary School: 45 staff, 378 students and Big River Country School: 2 staff, 11 students. Students were moved (simulated) to the Columbia Basin College Emergency Worker Assistance Center (EWAC), 2600 North 20th Avenue, Pasco. The Operations Coordinator explained that in the event that schools were evacuated during the plume, the students would be monitored and decontaminated at the EWAC under the direction of Washington State Department of Health - Health Physics personnel. Country Christian Center students and staff arrived at the EWAC at 1110, Big River Country School students and staff arrived at 1115 and Edwin Markham Elementary School students and staff arrived at 1117. School officials provided information to the Franklin County EOC on the status of school

children by phone contact with the Transportation Coordinator (injects).

There was coordination with the Franklin County Public Information Officer (PIO) to determine the correct information on the status of protective actions for schools and a news release was provided by the PIO at 1015. The Operations Coordinator explained that parents of students would be also notified by the "Flash Alert", a system that would reverse call parents. Parents could also listen to KONA (610 AM or 105.3 FM) to learn what actions officials were taking.

The Transportation Coordinator explained that schools had a means of tracking what students lived within the 10 mile EPZ and accommodations were prearranged for them in the event of an emergency at the Columbia Generating Station. He explained that the students living within the 10 mile EPZ would be transported to a designated school where they could be picked up by parents according to the schools' policies and procedures. At the time of the exercise, according to school records, 25 students lived in Section 1 and 187 students lived in Section 2 and at 1315 the Transportation Coordinator designated the Pasco High School for any students not picked up by parents at the Columbia Basin College EWAC by 1700.

Criterion 3.d.1:

According to Implementing Procedure O-4, the Law Enforcement Coordinator is responsible to coordinate with the Franklin County Emergency Manager (FCEM) and the Public Works Coordinator prior to activation and dispatch of staff to pre-identified Access Control Points (ACPs) during a Site Area Emergency (SAE) or General Emergency (GE).

At 0955 the Fire Coordinator request information from Energy Northwest regarding temporary flight restrictions. The Energy Northwest liaison stated that the action would be implemented at the GE. At 1023 a SAE was declared and the Franklin County Emergency Chair authorized clearing of the Columbia River between Vernita and Leslie Grove Park.

At 1035 a GE was declared and the Law Enforcement Coordinator began establishing the ACPs in coordination with the Franklin County Sheriff and Pasco Police Department at the following intersection locations: Road 170 and Sagehill Road, Road 170 and Glade North Road Eltopia West Road and Glade North Road, Sagemoor Road and Glade North Road, Selph Landing Road and Glade North Road, Columbia River Rd and Selph Landing, Fraser Dr and Selph Landing and Taylor Flats and Selph Landing in a timely manner.

Thorough the exercise the Law Enforcement coordinated with the Public Works Coordinator and Operations Coordinator to identify and fill staffing gaps. At 1040 the Operations Coordinator submitted a resource request to the State of Washington for traffic control and security which was filled at 1402. At 1140 during a discussion about a traffic impediment, the Law Enforcement Coordinator, stated that resources from other access control points would be needed and reassigned.

According to Implementing Procedure O-4, the Law Enforcement Coordinator is responsible to document the names and ranks of law enforcement officers and the type(s) of vehicles used to respond an emergency for identification and access.

Criterion 3.e.1:

The Franklin County Emergency Operations Center (FCEOC) demonstrated the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions. The Agriculture Representative had current information on permanent agribusiness facilities including locations of dairies, meat and poultry producers, fisheries, nurseries, fruit and vegetable growers, grain producers, food processing plants, farmers markets, surface water supplies and water supply intakes, as well as current information on harvest times.

During a "Crash Call" at 1201 on March 29, 2016, EOC personnel were notified by the State of Washington EOC about an agricultural Protective Action Decision (PAD). The State Department of Agriculture, in coordination with the State Department of Health issued an agricultural advisory for portions of Benton, Franklin, Klickitat, Walla Walla and Yakima counties. The advisory requested that food producers, processors and transporters in those impacted areas put dairy cows, goats and other valuable livestock in barns or enclosed and covered sheds, restrict those animals to feed and restrict livestock to water sources that were covered or from enclosed underground storage. In addition the advisory requested residents not to drink fresh milk produced since 0943, not to drink water from streams, lakes or ponds, not to let animals drink water from streams, lakes or ponds, not to pick or harvest fruits, vegetables or grain and not to transport uncovered agricultural products through the advisory area. The Agricultural Representative explained that agribusinesses would be notified of the PADs by telephone calls from designated staff at the Department of Agriculture headquarters, through press releases and by Emergency Broadcast System messages.

At 1250 on March 30, 2016, a Food Control Protective Action Recommendation (PAR) was transmitted from the State EOC to the FCEOC via computer program and maps were provided identifying the specific areas in which to implement Food Control Protective Actions. The PAR included instructions for Franklin County EOC staff to reduce the Food Control Area boundary in accordance with the provided map, to establish or modify food control points around the Food Control Area and to instruct residents to place milk producing animals and other livestock on stored feed and covered water and cease the transport of fresh milk from the Food Control Area, to instruct food processors not to accept milk or food originating from the Food Control Area, to instruct home gardeners not to eat fresh produce grown in the Food Control Area and to instruct residents to consume only bottled water or water from covered sources.

The Franklin County Sheriff, Transportation Coordinator, Public Works Representative, Agriculture Representative, Benton-Franklin Health Liaison and Operations Coordinator developed a plan to establish geographic boundaries for a Food Control Area in accordance with the map provided by the State and with a strong emphasis on limiting the impact of those boundaries to the least number of Franklin County residents as possible and to establish Food

Control Points and monitor transportation routes out of the affected areas. At 1401, FCEOC personnel conducted a briefing and concurred on chosen geographic boundaries for the Food Control Area and a plan to establish four combination Food Control / Access Control Points which would be staffed by law enforcement and State Agriculture and State Health personnel, and the National Guard. The four points were located as follows: Food Control Point #1; Elm Road at Taylor Flats Road, Food Control Point #2; West Sagemoor Road at Glade North Road, Food Control Point #3: Crest Loch Road at Highway #395 and Food Control Point #4; Carr Road at Pasco-Kahlotus Road.

From 1504 to 1520, a conference call was conducted with the State EOC, Benton County EOC, Walla Walla County EOC and other offsite response organizations to discuss any modifications and concurrence on the Protective Action Recommendation. The FCEOC staff asked if the National Guard members relieving law enforcement personnel at the Food Control Points would be armed (because the Department of Agriculture and Department of Health had no authority to detain transportation vehicles or enforce an embargo). The State explained that the request to have guardsman armed would have had to be done in advance of their deployment and could only be authorized through a declaration by the State Governor. The State Department of Agriculture representative at the State EOC initially indicated that it would take 24-hours for the Department of Agriculture to establish the Food Control Points. The time frame for implementation of the checkpoints required more consideration at the time of the conference call and an additional conference call to discuss a final Protective Action Decision was scheduled for 1700.

The 1700 conference call to discuss a final Protective Action Decision was delayed and at 1749, the conference call was conducted to discuss any modifications and concurrence on the PAD. Changes to the original PAR included a change to the numbering of the four Franklin County Food Control Points as follows: (no Food Control Point #1 in Franklin County), Food Control Point #2; Elm Road at Taylor Flats Road, Food Control Point #3; West Sagemoor Road at Glade North Road, Food Control Point #4: Crest Loch Road at Highway #395 and Food Control Point #4A; Carr Road at Pasco-Kahlotus Road. Restrictions in the Food Control Area would be effective as of 1730 on March 30, 2016 and all associated tasks to enforce the area were to be completed by 1700 on March 31, 2016. With the implementation of the PAD, the Agricultural Advisory issued on March 29 at 1250 would be cancelled. All participating organizations on the conference call reached concurrence and the call ended at 1819.

The Agriculture Liaison explained that the policy of the State Department of Agriculture was that commercial agricultural transportation vehicles traveling within the Food Control Area would be presented with an embargo document and advised that they were required to return to their place of original or vehicles with “small loads” would be given the option to dump their loads at designated areas at the established checkpoints. Monitoring and sampling of foods on vehicles would be done by the State Departments of Health and Agriculture and would not be done by County personnel. No Federal resources as identified in the National Response Framework Nuclear/Radiological Incident Annex, were needed by the FCEOC.

Criterion 3.e.2:

Franklin County demonstrated appropriate measures, strategies, and pre-printed instructional material were developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production.

The Washington State Department of Agriculture (WSDA) provided a pre-printed agriculture tri-fold pamphlet and green book "Radiological Emergency Information for farmers, Food Processors and Distributors." These materials were available at the Franklin County Emergency Operations Center (EOC). The WSDA representative had access to agri-businesses in Franklin County and to a planting calendar for Richland, WA taken from "The Old Farmer's Almanac: Garden Planter.

Through discussion with the WSDA representative it was determined that the requirements to implement an embargo were a declaration by the Governor, a foot print of the impacted area based on U.S. Department of Energy Aerial Measuring Systems and Federal Radiological Monitoring and Assessment Center (FRMAC) resources, and consideration of the geopolitical situation. Notices to businesses would be made by WSDA. Any potentially contaminated products would be required to return to the point of pickup. Products would be sampled. If disposal of products were necessary, those decisions would be made by WSDA. WSDA agents have forms and printers in their vehicles. If legal notices are necessary the forms can be printed and issued at Food Control Points (FCP). WSDA has FCP Traffic Control Plans and signage available.

The Agricultural Advisory from WSDA issued on the Plume Exercise day remained in effect. Franklin County received the Agricultural Advisory Area Map, delineating agri-businesses, at 0832. At 1145, the Franklin County Emergency Manager (FCEM) and Public Information Officer (PIO) discussed coordinating with Benton and Walla Walla counties regarding defining the food control area. A map of the Food Control Boundary timed 1120 had been received by email. The EM, PIO and WSDA representative reviewed preliminary FCPs and Traffic and Access Control Points (TACP). The Food Control Area (FCA) PAR was received at 1250. At 1400 Emergency Manager led a discussion with the operations personnel to discuss the staffing of FCPs and TACPs for both the FCA and the Relocation Area.

At 1504, there was a Unified Command Group (UCG) call to discuss the Protective Action Recommendation (PAR). There was a discussion of water supplies included in the call. It was determined that public water is filtered, treated, and tested and would remain open based on a recommendation by the Washington Department of Health. There was also a discussion of priority sampling within the FCA with the goal of eventually further shrinking the FCA.

At 1749, there was a UCG call to finalize the Protective Action Decision (PAD), regarding the FCA. After discussion, concurrence was reached at 1809. There was further discussion on implementation time. The Pad applied to all agricultural products within the FCA since 1730 on 3/30/16. The information was distributed by press release issued by the State of Washington.

Criterion 3.f.1:

Franklin County Emergency Operations Center (EOC) demonstrated that decisions regarding controlled re-entry of emergency workers and relocation and return of the public were coordinated with appropriate organizations and implemented.

Ingestion Exercise Day 1
The FC Operations Group established control points based on the PARs from Columbia Generating Station staff and geopolitical boundaries. The Emergency Operations Center (EOC) staff determined who was allowed to re- enter the restricted zone based on input from the Benton-Franklin Health Coordinator. Just-in-time training and dosimetry were used to control exposure to those individuals. At 1310, the FC EOC staff received a controller inject requesting access to the Ringold Fish Hatchery for three staff members. The staff members were to check on properties and fish returning from the Columbia River. At 1331, the Benton – Franklin Department of Health Liaison approved the request after consultation with the State Department of Health Officer. The request was approved with the stipulation that the three fish hatchery staff members access the hatchery from Glade Road

Ingestion Exercise Day 2
Franklin County Emergency Management FCEM) received a map of the relocation area via email prior to the Protective Action Recommendation (PAR) package. The Operations Group worked on preliminary traffic and access control points for the area. FCEM, FC Public Works Department, Pasco Fire Department, and FC Sheriff's Office were involved in the planning.

At 1328 a Unified Command Group (UCG) call was initiated to review the Relocation PAR package. The State of Washington coordinated with Benton and Franklin Counties. There was discussion around where decontamination would occur. It was decided that decontamination would occur at Columbia Basin College. At 1342, Franklin County sent their preliminary map to the Washington State Emergency Operations Center (SEOC). The Operations Group continued to work on the map and to identify residences outside the current evacuation zone, Zone 2.

At 1402, the Emergency Manager (EM) led discussion of the Operations Group regarding the resources available and needed to staff the Food Control Points (FCP) and the Traffic and Access Control Points (TACP) for the Food Control area (FCA) and the Relocation Area. There was discussion on how long these FCPs and TCAPs would need to be staffed. There were a total of 4 FCPs and 12 TACPs.

At 1555, a Unified Command Group (UCG) call was initiated to review the revised map and Relocation PAR package. A decision was reached and concurrence by FC EM at 1612. The Joint Information Center (JIC) was to issue a press release with implementation scheduled for 1730. There were several calls between 1648 and 1652 regarding the status of Zone 2 evacuation and the need to host meeting with relocated residents. Meeting with relocated residents were to occur at the Relocation center on the Columbia Basin College campus at the Gjerde Center. This

information was incorporated into the press release. The press release was sent to the JIC at 1734 and issued at 1737.

Internally within the FC EOC, there were brief discussion on housing for the relocated residents.

Return was not demonstrated during the exercise, however, the evaluator discussed the process of return with the FC Sheriff's Office representative and FCEM. There was recognition of the need to stage and control the return process.

Criterion 5.a.1:

Franklin County demonstrated the ability to alert the public in a timely manner.

Franklin County Emergency Operations Center (EOC) had the capability to initiate sirens, to activate the Emergency Alert System (EAS), and to activate the Electronic Telephone Notification System, Code Red. The primary means of notifying the public was through EAS and tone alert radios. EAS messages are pre-recorded in English and Spanish. All residents in the Columbia Generating Station 10-mile EPZ have been provided with Tone Alert Radios. The Code Red systems allowed residents who sign up to be notified by phone, text, email, or TDD/TTY device. Franklin County has the ability to select different combinations of sirens within Franklin County for purposes of alert and notification. On a bi-annual and pre-scheduled basis Franklin County Emergency Management staff activates the CGS alert and notification sirens for required testing purposes. They also perform silent and growl test as required.

Franklin County received notification of the Site area Emergency at 0953. A coordination call was initiated with Benton County and the decision to close recreational areas and to move school children was made at 0959. The Franklin County Emergency Manager reviewed the classification notification form with the Emergency Chair and operations coordinator and it was agreed that Benton County would be responsible for sounding the sirens and transmitting the Emergency Alert System (EAS) message. Franklin County was to initiate Code Red. Pre-scripted Emergency Alert System message CGS SA-2 was selected which contained all of the Federal Emergency Management Agency Requirements. Sirens were sounded at and Code Red was initiated at 1005. At 1008, Franklin County contacted the radio station and requested the simulated broadcasting of "Follow-on Emergency Information" every 30 minutes until notified by Franklin County. Benton County's EAS computer crashed temporally and Benton County requested Franklin County activate EAS. Franklin County transmitted the EAS message at 1011. Verification of EAS transmission was accomplished using the EAS printer and the tone alert radios located in the communications area. All steps of the siren activation procedure, the EAS procedure and the Code Red procedure were accurately simulated.

Franklin County received notification of the General Emergency at 1035. A call was initiated with Benton County and the decision to evacuate Sections 2, 3B, and 3C, and to shelter Sections 1 and 4, was made at 1040. It was agreed that Benton County would be responsible for sounding the sirens and transmitting the Emergency Alert System (EAS) message. Franklin County was to

initiate Code Red. EAS message CGS Evac 23BC was selected. Sirens were sounded and EAS activated at 1045. Code Red was activated at 1045. All steps of the siren activation procedure, the EAS procedure and the Code Red procedure were accurately simulated.

Per the implementing procedures, located at each workstation, the Emergency Chair has the responsibility to approve EAS messages.

Criterion 5.b.1:

The Alert Emergency Classification Level (ECL) was declared at 0841. At 0902 the Franklin County Emergency Manager (FCEM) dispatched Franklin County representative to the Joint Information Center located in Richland. The Richland JIC will conduct media briefings and offsite response organizations will update the public on behalf of their county. The process is as follows: FCEOC decision group table will make a decision and then the PIO will develop news releases, the Emergency Manager would review and then the PIO would send it by email or fax to the JIC to ensure clear consistent and timely communications with the public and media.

The FCEOC PIO developed a total of seven news releases and successfully sent all by email or fax to the JIC to ensure clear consistent and timely communications with the public and media. This process was successful after each change in ECL, protective action decision, declaration of state of emergency and traffic advisory.

At 0925 Franklin County sent a pre-scripted press release number 1, announcing an emergency at the CGS nuclear power plant. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

At 0956 a Site Area Emergency was declared. At 1015 Franklin County sent pre-scripted press release number 2, announcing the change in the ECL at the CGS nuclear power plant. The message contained clear concise information regarding the movement of Edwin Markham Elementary school students and process for reuniting of families, clearing of the Columbia River, closing of the Ringold fishing area and Wahluke hunting area. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

At 1031 Franklin County sent a pre-scripted press release number 3, with a revision at 1114. The original message announced a local state of emergency. The revision corrected the time of on the original announcement. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

1035 a General Emergency was declared. At 01050 Franklin County sent a pre-scripted press release number 4, announcing the change in the ECL. The messaged included evacuation instructions and affected geographical locations to shelter in Area 1 and evacuate Area 2. It

contained what to bring to the emergency shelters. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

At 1200 Franklin County sent a pre-scripted press release number 5, announcing a traffic advisory. The advisory was corrected, press release number 6, at 1250 giving clear accurate instructions. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

The message control or representatives from the FCEOC successfully answered over 20 media or general public information inquiries. Most callers were transferred to JIC, some were answered by the EOC staff.

All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Ingestion

The Franklin County Emergency Operations Center (FCEOC) personnel successfully demonstrated the capability provide accurate emergency information and instructions to the public and the news media in a timely manner during the Columbia Generating Station (CGS) Post Plume Phase Exercise on March 30, 2016.

At 1212 on March 29, 2016 the State of Washington issued an Agriculture advisory. The Franklin County representative at the Joint Information Center in Richland was in place. The Richland JIC conducts media briefings and offsite response organizations provide updates the public on behalf of their county. The process is as follows: FCEOC decision group table will make a decision and then the PIO will develop news releases, the Emergency Manager would review and then the PIO would send it by email or fax to the JIC to ensure clear consistent and timely communications with the public and media.

The FCEOC PIO developed a total of three news releases and successfully sent all by email or fax to the JIC to ensure clear consistent and timely communications with the public and media. This process was successful after each change in ECL, protective action decision, lift in airspace and relocation center establishment.

At 1100 Franklin County sent a pre-scripted press release number 7, announcing that planning zone 1 recommendation was lifted. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

At 1300 Franklin County sent pre-scripted press release number 8, announcing reopening airspace and a portion of the Columbia River. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

At 1730 Franklin County sent a pre-scripted press release number 9. The message included the establishment of a Relocation center at Columbia Basin College. The details included boundaries for continued evacuation areas and boundaries for those that need to be relocated. The message contained clear concise information which included public information or inquiry telephone number and refer to the Hanford Site Neighbors calendar and to stay tuned to KONA radio station.

The message control or representatives from the FCEOC successfully answered over 15 media or general public information inquiries. Most callers were transferred to JIC, some were answered by the EOC staff.

Demonstrated Strengths:

- The conference calls with the utility, State and other OROs, referred to by the Franklin County EOC as "Crash Calls", were transmitted over speakers throughout the EOC enabling all EOC personnel to listen to the conference call information, eliminating the need to repeat the information in a briefing and decreasing the possibility of an error in reporting the information to EOC staff.
- The EOC was set up in the format of an executive, operations and liaisons roundtables. The setup enabled the EOC staff to make and implement decisions without the delay of calling for executive or operations meetings for decision making.
- During the exercise, the Transportation Coordinator utilized the Pasco School District's GPS school bus tracking program called ZONAR to obtain real-time information about the location and status of busses used for the transport of students from the schools located within the Emergency Planning Zone to the Columbia Basin College Emergency Worker Assistance Center (simulated). Use of the ZONAR program enabled the Transportation Coordinator to obtain location and status information about the transportation of students without delay and eliminated the need to maintain communications with school bus drivers to obtain updates.
- The concept of hosting a meeting for relocated residents at the Relocation center on the Columbia Basin College campus at the Gjerde Center.
- The conference calls with the utility, State and other OROs, referred to by the Franklin County EOC as "Crash Calls", were transmitted over speakers throughout the EOC enabling all EOC personnel to listen to the conference call information, eliminating the need to repeat the information in a briefing and decreasing the possibility of an error in reporting the information to EOC staff.
- The EOC was set up in the format of an executive, operations and liaisons roundtables. The setup enabled the EOC staff to make and implement decisions without the delay of

calling for executive or operations meetings for decision making.

UNSUCCESSFUL CRITERION DEMONSTRATED:

Staff at the Franklin County Emergency Operations Center (FCEOC) did not successfully demonstrate the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016.

Criterion 3.d.2:

The Franklin County Emergency Operations Center (EOC) identified and resolved impediments to evacuation during a Plume exercise on March 29, 2016.

At 1138 the controller injected the following into exercise play. "You are in the midst of an evacuation for a released plume. There is a collision between a delivery truck coming from the Shrub Steppe Brewery and a tanker truck containing 5000 gallons of unleaded gasoline at the junction of Clark Road at Taylor Flats Road. The delivery truck has overturned and spilled its load and the fuel truck is burning. How do you resolve the situation for evacuating residents? What resources are required and where do you get them? How is this communicated to the public?"

At 1140 a discussion was initiated among the Operations, Fire, Law Enforcement Coordinators and the Emergency Manager. The Fire Coordinator verbally confirmed that accident was not in the plume range but it was blocking a major evacuation route. The Fire Coordinator then stated that the necessary resources would be available for fire suppression and life safety by calling in a Hazmat Team. The Law Enforcement Coordinator, stated that resources from other access control points would be needed and reassigned. Then, the Operations Coordinator and Emergency Manager identified a new traffic route. Since this was blocking a major evacuation route, traffic was rerouted East on Selph Landing Road towards Glade North Road then South. The evaluator immediately verbally confirmed the traffic route to the group and all present verified route.

At 1145 the Public Information Officer (PIO) stated that a Code Red message would be sent immediately and possibly an Emergency Alert System message. At 1146 the PIO called the Joint Information Center (JIC) to advise the liaison of the situation, however, the PIO was in a news brief. After that, the PIO began development of news release and sent to the JIC at 1225.

At 1207 the Emergency Manager stated that the alternate route would be North on Taylor Flats Road East on W. Sagemoor Road towards Glade North Road then South during a State of Washington conference call. This was also displayed on the EOC map.

At 1215, at the conclusion of the State of Washington briefing, the evaluator contacted the Regional Assistance Chair and Site Specialist. The original route was East on Selph Landing Road towards Glade North Road then South.

At 1240 evaluator questioned the Operations Coordinator regarding the current alternate route reported by the Emergency Manager and displayed on the map. The Operations Coordinator stated "he had never heard W. Sagemoor Rd. as an alternative route during the initial impediment discussions." At 1243 the Emergency Manager was asked to explain the rationale regarding the current alternate route displayed, to which no answer was given. At that time, the PIO was also asked to review the News Release No. 5. The evaluator then asked the Operations Coordinator to repeat the statement, regarding the original alternate route to which he did. The Emergency Manager then asked what should be done, the evaluator stated whatever would normally happen during an event like this.

At 1251 PIO contacted the JIC and immediately had the correct information shared during a media briefing. News Release No. 5 was corrected and the original route documented based on the initial discussions and decisions made by the Operations and Decision tables. At 1257 PIO developed a corrected News Release No. 6.

LEVEL 2 FINDING: 69-16-3.d.2-L2-01

CONDITION: The original alternate route to traffic impediment was not correctly shared with the public and new media based on the initial discussions and decisions made by the Emergency Manager, Operations Coordinator, Fire Coordinator and Law Enforcement Coordinator.

POSSIBLE CAUSE: Communications and coordination failure between the Operations and Decision tables. No effective information verification process for release of critical information to the public.

REFERENCE: NUREG-0654/FEMA-REP-1, J.10.k

EFFECT: The public and media was given inaccurate information which could have resulted in public confusion and potentially increased rise of radiological exposure.

RECOMMENDATION:

1. Develop a process for verification of critical decisions between the Decision table and Operations table. Include the PIO.
2. Implement simple three way communications processes with all Emergency Operations Center Staff.
3. Revise Implementing procedures for all EOC staff positions with the new critical decision/Protective Actions verification process.
4. Train all staff simple three way communications process and reinforcing active participation during briefings and any protective action decision making.
5. Consider posting signage with steps for communication process reinforcement.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: ***69-16-3.d.2-L2-01***
c. PLAN ISSUES: ***69-16-1.e.1-P-01***
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

Franklin County Traffic and Access Control Points (TACP)

Staff at the Franklin County Traffic and Access Control Points (TACP) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.d.1:

Franklin County and Franklin County Sheriff's Office (FCSO) personnel demonstrated, that at least two communications links were available, at least one operated properly, and communication links were established and maintained with appropriate locations, and that communications capabilities were managed in support of emergency operations. This was demonstrated by interview with the assigned deputies, at the Franklin County Emergency Operations Center.

The primary communications system remains for Franklin County the patrol car Law Enforcement Radio Network (LERN) Very High Frequency (VHF) radio to the FCSO Dispatch Center. Back up communications for the TACP would include cellular phone, an 800 Mhz hand radio, and the deputy's mobile computer which has internet and electronic mail capability.

All communications were operational during the exercise.

Criterion 1.e.1:

The Franklin County and Franklin County Sheriff's Office (FCSO) personnel demonstrated that equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies were sufficient to support emergency operations. This was demonstrated by interview with the assigned officers, at the Franklin County Emergency Operations Center.

Sufficient traffic cones and markers were on hand to support operations. The FCSO Deputy stated that he would request that Public Works would supply additional barricades upon request. The patrol car had radio equipment and loud speaker capability. The FCSO Deputies had their

Emergency Worker Kit with them. The kit contained one DRD and one OSL, just in time EW training guide on the use of dosimetry, KI, an emergency worker exposure form, a DRD reading record, instructions on the operations of the DRD (and the charger), and a 14-day supply of 65 milligram IOSAT KI tablets in a blister pack with a current expiration date.

The FCSO Deputies demonstrated knowledge of the TACP locations and procedures and had a County map and computer displays which could be used on the patrol car monitor.

Criterion 3.a.1:

Deputies would be contacted via radio of the emergency and told where to report, this muster site is generally the Franklin County Emergency Operations Center (EOC). Upon arrival at the EOC, the Sheriff's Deputies received a safety briefing/refresher training regarding the dosimetry equipment kit and then received a dosimetry equipment kit from the Operations Coordinator and or the Law Enforcement Coordinator located in the Franklin County EOC. The kit included an Arrow-Tech Direct- Reading Dosimeter (DRD) Model W730 (range 0-20 R), one RadWatch, an electronic dosimeter, a Radiation Exposure Record/Dosimetry Instruction Card, and potassium iodide (KI) 65 mg., 20 tablets with an expiration date of 04/2024. The pre-established reporting limit was 5 R and the turn-back value was 2.5 R. They also stated if the reporting limit changed, they would be notified.

Two Sheriff Deputies received a briefing on their Emergency Worker (EW) kits. It included zeroing the direct read dosimeter, checking and recording reading every 30 minutes, reporting exposure limits of 5R and turn-back limits of 2.5R, where to report to and to whom to return their dosimetry after their shift or where to report for monitoring and decontamination. If needed, the Supervisor would determine whether to replace an EW who has been exposed. The supervisor would also notify the EW to ingest KI. If they are unable, or unwilling to ingest KI, a declination form is completed. A record of time and date of when KI is ingested is completed, and to ingest one dose (2 tabs) every 24 hours.

When interviewed, the Sheriff's Deputies stated they would read and record the DRD readings on the Radiation Exposure Record every 30 minutes. They knew to report to the supervisor if a reading of 5R was received and also if the turn-back reading of 2.5R was received. They stated that if the DRD reading went off-scale or the DRD was dropped, this would be reported to the supervisor. The Sheriff's Deputies stated that at the end of the emergency or duty tour, to report back to the emergency worker decontamination center to turn in dosimetry unless otherwise directed.

The Sheriff's Deputy was familiar with the dosimetry. They knew to wear it on the mid-chest level outside of clothing and the RadWatch was a permanent record dosimeter that had to be sent to a lab to be read. They stated that equipment would be returned to the emergency worker monitoring and decontamination station, unless directed to report elsewhere.

Criterion 3.d.1:

The Access Control Points (ACPs) were pre- identified and included in the emergency worker binders the deputies are issued for a nuclear power plant emergency. The Law Enforcement Coordinator or representative at the EOC is responsible for the coordination with the Emergency Manager (EM) in establishing the ACPs. Department of Transportation (DOT) also coordinates with the Sheriff's department on road conditions and pre-established evacuation routes. The EM requested the National Guard's assistance in staffing ACPs. At 1045 the ACPs were being set up due to the declaration of a Site Area Emergency. There were 21 total, 5 manned by Franklin County, 3 manned by Pasco County, and the rest were unmanned.

Franklin County Sheriff's department is not responsible for restricting other forms of transportation such as air, water, or rail. However, they did state they could assist the Coast Guard in clearing waterways.

The ACP personnel were aware of the reception center locations and would provide verbal driving instructions to anyone needing them. They were also aware of the location of the emergency worker decontamination centers and knew that is where they would report to after their shift was over. The Supervisor would be notifying each Deputy where they will be reporting and if the ACP changed due to protective action decisions. If additional resources were needed, the ACP personnel would contact the supervisor.

Each emergency worker department issues identification (ID) cards for their members. The Deputies would be checking these IDs to allow access to a restricted area. If the public tried to re-enter, each case would be dealt with individually with a consultation with the personnel's supervisor.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

Franklin County Dispatch

Staff at the Franklin County Dispatch (FCD) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The Franklin County Dispatch Center (Dispatch Center) effectively used procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.

The Columbia Generating Station (CGS) sent the first facsimile notification of an Alert Emergency Classification Level (ECL) on the "Columbia Generating Station Classification Notification Form (24075 R23)" at 0829. The form was retrieved by a dispatcher and was followed by a call from the utility at 0833 on the Crash Phone, a closed-circuit telephone system. The caller, who the dispatcher reported was difficult to hear, asked if the notification was received. After the dispatcher answered the affirmative, the utility disconnected the call. The utility sent a second facsimile at 0834; it was retrieved by the dispatcher and the utility called at 0837 to go through the verification process. At 0842, after verifying the notification form, the dispatcher followed the procedures on the "EOC Activation and NAWAS Events Form (Rev 6 Jan 15)" to begin notifications. The dispatcher telephoned the Franklin County Emergency Management staff at 0842, reviewed the Alert notification form, and received directions to contact the Franklin County Commissioner only. Concurrently the dispatcher used an alternate facsimile machine to send a copy of the notification form to the Franklin County Emergency Operations Center (EOC) at 0843. At 0845 the dispatcher contacted the Franklin County Commissioner, who reported directly to the EOC. At 0846 the dispatcher stapled the copies of the notification form and the activation form to the facsimile receipt of the transmission and filed them in the emergency management mailbox in the dispatch center. The Franklin County Dispatch Center is manned 24 hours a day, 365 days a year.

At 0850, Franklin County Emergency Management called the dispatch center to notify them that the EOC would take responsibility for all further notifications from the plant and to response partners; the dispatch center terminated exercise participation at this time.

Criterion 1.b.1:

The Franklin County dispatch center is in the basement of the courthouse facility. The facility is well-secured, being surrounded by iron gating with three main external access points for employees with keypad codes. The public gains facility access through a separate building where person and belongings are searched by security officers. Once in the building, the dispatch center is in the lowest level, which is mostly below grade and which exists behind several doors also accessible with keypad codes in an area that is not generally accessible to the public.

The dispatch center has five computer-aided dispatch stations for personnel that are equipped with computers, desks, chairs and communications equipment. There were three dispatchers on duty during the exercise. The stations are interchangeable for nuclear notification and communications purposes. The center is approximately 30' x 16', has ten 2' x 4' fluorescent lights (five were on as was comfortable for staff), four vents, and two air intakes. There is a male (with a shower) and a female restroom in close proximity to the dispatch center. There is a mini-break area with a half refrigerator in the center and a break room in close proximity to the center.

The staff reported that they had adequate space, lighting and ventilation and personal support facilities to complete their responsibilities in a nuclear incident at the Columbia Generating Station. A back-up electrical power generator for the Dispatch Center is tested weekly. The alternate/back-up location for dispatch operations is at the Franklin County EOC, where there are three fully operational dispatch stations.

Criterion 1.d.1:

The Franklin County Dispatch Center (Dispatch Center) had at least two communications systems available, at least one operated properly, and communication links were established and maintained with appropriate locations. Communications capabilities were managed in support of emergency operations.

Primary communications for Columbia Generating Station (CGS) event notifications were via the Crash Phone, which is a closed-circuit phone used to notify Franklin County EOC and the Dispatch Center. Alternate notification/communications systems available between the Franklin County Dispatch Center, CGS and the Franklin County EOC include dial-up phones, facsimile machines, commercial telephones and the VHF-High two-way radio Law channel. The Crash Phone, facsimile machines, and commercial telephones were demonstrated as operational as the dispatchers progressed through the Alert Emergency Classification Level (ECL) procedures. The dispatchers demonstrated the use of the Law channel on the two-way radio system as operational for non-nuclear operations during the evaluation period. All of these systems are available at the dispatch center, which operates on a 24-hr per day scheduled. Personnel demonstrated an excellent knowledge of and experience with the operation of the communications equipment. The dedicated phone line is tested two times each night at 0300 and 0400 when the U.S. Department of Energy and Columbia Generating Station (CGS) each conduct tests with the night dispatchers.

Criterion 1.e.1:

The Franklin County Dispatch Center's (Dispatch Center) equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations.

There were five computer-aided dispatch (CAD) system stations in the Franklin County Dispatch Center each with six monitors and two keyboards that were used to communicate with response agencies and the public via computer, two-way radio and telephone. There were four chairs available at the CAD stations. The dispatch center had a wall-size, color map, "10-Mile Emergency Planning Zone - Columbia Generating Station Field Team Map" leaning against the wall as well as an 11" x 14" color map, "10-Mile Emergency Planning Zone - Columbia Generating Station" map tacked to the cork board.

There was a rotating circular book shelf in the middle of the CAD stations, accessible to all of the dispatchers as needed. The shelf had the "Procedure and Forms" manual, which contains multiple copies of the Columbia Generating Station (CGS) Classification Notification Form

(24075 R23) as well as multiple copies of the EOC Activation & NAWAS (rev 6, Jan 15) Forms. The procedure book also contained a procedure for activating the CodeRED Notification system as well as Crash Codes (v. 7/1/14). There were also mail slots for the dissemination of materials as well as a board for posting notices. The dispatch center was not in an area where personal protective equipment, dosimetry, potassium iodide (KI) or monitoring equipment were needed. The available equipment and supplies were demonstrated by staff as adequate to receive and distribute nuclear emergency notifications which was the mission of the dispatch center.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

Big River Country School

Staff at the Big River Country School (BRCS) successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.d.1:

The Big River Country School adequately demonstrated at least two communication systems available and functional for emergency operations during the Columbia Generating Station out-of-sequence interview conducted on March 30, 2016.

The Big River Country School primary communication system is commercial telephones. The back-up communication system is cellular telephones and VHF radio system. The Big River Country School has a phone tree listing of the five families to notify parents via phone and text messages of any emergency events or evacuations regarding school children. The school district receives Columbia Generating Station (CGS) notifications from Franklin County Emergency Management via commercial telephones. All school officials interviewed were knowledgeable on procedures that would take place at their school during a radiological emergency.

Criterion 3.c.2:

The Big River Country School adequately demonstrated the implementation of protective actions for school children during the Columbia Generating Station (CGS) Exercise out-of-sequence conducted on March 30, 2016.
The Big River Country School is within the 10-mile Emergency Planning Zone (EPZ) of the Columbia Generating Station (CGS). There are 13 students enrolled at the Big River Country

School. Through interview the Big River Country School Principal and Board members were notified of protective actions taken by the Franklin County Emergency Management Operations Center (EOC). Knowledge of the notification procedures, student population of the school, the location students would be evacuated to and how long it would take, the number of vans required for an evacuation, the transportation provider of the vans, and actions to be taken by school officials once students arrive at the associated Reception Center was adequately demonstrated during the interview process.

Parents and guardians of school children would be notified of school evacuations, and other actions taken by school and emergency management officials, via the broadcast of Emergency

Alert System (EAS) messages over local television and radio stations and other public information messages, including news releases. The Big River Country School also has in place a telephone call-down parent notification list and text message notifications. Information on location of school reception centers and other emergency planning information for the school are provided to parents and guardians through various means including newsletters. There is no potassium iodide (KI) provided to students or faculty and staff.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

KONA Radio Station

Staff at the KONA Radio Station successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Plume and Ingestion Exercises conducted March 29-30, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.d.1:

The KONA Radio Station is located at 2823 West Lewis Street, Pasco, WA and is the designated Emergency Alert System (EAS) notification station for both Benton and Franklin Counties. The primary communications system are landlines and cellular telephone as secondary.

The KONA Radio Station operates (broadcasts) continuously, and have 24 hours capabilities to ensure that information provided to the public is correct and completed in a timely manner. It was observed that all communications systems were successfully demonstrated and personnel

demonstrated familiarity of use. The primary and backup systems were functional at all times and no failures were noted.

The primary transmitting tower is located in the rear of the radio station building, and a backup site is called the Bunker in Finley, WA; both transmitter sites have generators with 2500 gallons of fuel, this will allow for uninterrupted broadcast and communication capability. In the event of a power failure, the radio station has a diesel generator with a seven day fuel supply.

Criterion 5.a.1:

The KONA Radio Station is located at 2823 West Lewis Street, Pasco, WA. KONA radio station can provide 24 hours capabilities to ensure that information provided to the public is correct and completed in a timely manner; This station is also registered with the Federal Communications Commission (FCC), providing services to both Franklin and Benton County areas. KONA radio station is the local primary designated Emergency Alert System (EAS) and Tone Alert Radio (TAR) notifications provide pre-recorded supplemental information upon request from Franklin or Benton County officials.

Benton and Franklin County's emergency management agencies would initiate the process that results in the broadcast of EAS messages that have been pre-recorded for use in an event at the CGS. The KONA radio station has a SAGE Digital EAS ENDEC, which allows for the automatic interruption of radio broadcasts in order to broadcast EAS messages. The KONA Radio Station does not initiate the initial instructional message to the public; however, the initial instructional message concludes by saying that the public should tune to KONA to receive additional instructions. KONA would be utilized to broadcast pre-recorded supplemental information in both English and Spanish.

Franklin and Benton County emergency managements maintain a phone tree list of KONA personnel in the event that broadcast of pre-recorded supplemental information is requested when the radio station is not staffed. The phone tree list contains telephone numbers, as well as email and home addresses of KONA staff. In addition, KONA staff included on the phone tree list would be able to access and disseminate all pre-recorded supplemental information remotely.

During the interview, the KONA Operations Manager used a State of Washington EAS plan, dated 2014 and was the most current version that outlined KONA's procedures for broadcasting pre-recorded supplemental information. The Operations Manager explained that Franklin or Benton County officials would request KONA to broadcast pre-recorded supplemental information following activation of the sirens. A password would be provided to authenticate the broadcast request and to ensure the proper messages would be broadcast. The KONA Operation Manager also stated that the pre-recorded supplemental information would be broadcast only by KONA, thereby ensuring the accuracy of the information. Electronic copies of the pre-recorded supplemental information were available on the computer and contained the four elements required by FEMA.

In the event of a power failure, the radio station also has a diesel generator with a seven day fuel supply. The primary transmitting tower is located in the rear of the radio station building, and a backup radio station site is called the Bunker in Finley, WA. Both transmitter sites have generators with 2500 gallons of fuel, this will allow for uninterrupted broadcast and communication capability.

Criterion 5.b.1:

The KONA radio station issued pre-scripted EAS and follow-up messages for use in the emergency event at CGS. The EAS messages previously established were current, accurate, complete, and contained all of the necessary FEMA requirements.

The EAS messages contained the following information:
The name of the issuing agency, the facility, the current Emergency Classification level, radiation release information, sector specific evacuation instructions (denoted by letter and distance), school evacuation information, location of the Emergency Worker Assistance Center (EWAC), Potassium Iodide (KI) dispensing information, location of additional public information, the public inquiry phone number, and instructions to stay tuned to KONA for additional information.

The follow-up messages were distributed approximately 10 minutes after the initial EAS message and contained the following information: items to bring (clothing, medical supplies, and important papers), instructions to report to the EWAC for registration and monitoring, instructions on how to vacate the residence, information on what to do with pets and livestock, and a contact number for transportation assistance.

The EAS message and the follow-up message was repeated every 30 minutes after the initial 15 minute broadcast period.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.3.4 Grant County

Staff at the Grant County Emergency Operations Center successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 31, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The Grant County Office of Emergency Management personnel included the acting Emergency Management Director, a Public Information Officer, and IT support. Representatives from other county agencies included the Department of Public Works, the county Sheriff's office, the Grant County Health District, the Washington State University Extension Agent for Grant County, the Grant County Sheriff's office, and the Grant County Board of County Commissioners, as specified in the Grant County Comprehensive Emergency Management Plan. Participation in the response was very good.

Criterion 1.b.1:

The EOC was in a stand-alone building, located about 300 yards from the Grant County Emergency Management Agency office, which are both located on the County Fairgrounds. The facility had seated workstations sufficient for fourteen people, with telephone, Wi-Fi, a copier, a facsimile machine, and supplies for supporting operations. Several additional personnel could be accommodated with seating along the walls, but without full workstation support. The building was well ventilated, with a modern HVAC system. One end of the building had separate bathroom facilities for men and women, but access to these facilities required exiting the EOC and walking outside to the rear of the building. The EOC had no showers, kitchen facilities, or sleeping areas. However, fairground buildings close by had large bathrooms with showers. Several food service buildings were close by that also could be used to support extended operations. Access control, although not demonstrated during this exercise, would have been provided by the County Sheriff's Office at the one entrance to the EOC facility.

The EOC was not wired to connect directly to an external generator. Grant County Emergency Management had a large 6500 watt portable generator that could be used to power the EOC, but individual corded connections would have had to be utilized.

Criterion 1.c.1:

The EMD coordinated by email and telephone with other entities that were participating, including the Washington State Emergency Management, Benton County Emergency Management, Franklin County Emergency Management, Adams County Emergency Management and Yakima Valley Office of Emergency Management. Group conference calls were held first to discuss the protective action recommendation and subsequently to approve the protective action decision, which was to establish a Food Control Area based on the location of the deposition of radioactive materials.

The EMD was knowledgeable of the plans and procedures, and had prepared a briefing packet for the agency representatives reporting to the EOC to support the response activities.

Criterion 1.d.1:

The primary communications system between Grant County and the Washington State Emergency Operations Center, as well as other Risk and Host counties, was commercial telephone. Backups to commercial telephone were e-mail and cellular telephones. During the exercise, all three systems were used effectively. Since the EOC is not hard wired, the commercial telephones were voice over internet lines. The internet-based EverBridge reverse-911-type system was also available for use in the EOC. WebEOC was also available in the EOC, but was not utilized.

There were hard wired telephone systems available in the communications room located in the Grant County Emergency Management office building located several hundred yards away. During the exercise, there was a communications staff member who monitored these systems, with directions to scan and email any messages coming over them or walk them over to the EOC Director. Additionally, the communications room at the Emergency Management office had several radio systems to support operations, including low band CEMNET radio, County VHF radio, 800 MHz portable radios, and ARES. None of these systems were utilized during the exercise.

Criterion 1.e.1:

There were two computers available in the EOC, which were utilized by the Emergency Management Director and the PIO. Wi-Fi was available to support the laptops brought to the EOC by other primary and secondary agency support representatives. There were fourteen telephone lines available, as well as a printer, copier, and fax machine. Four wall mounted monitors were available to display media, and other pertinent information. An overhead projector with a large screen was available to display GIS, WebEOC, or other computer based information. There were seven white boards on the walls for displaying information, as well as a weather status board and an EAL status board. Two large 50-mile EPZ maps were positioned on the wall, and there were county base maps available for use by the EOC personnel. Several copies of the most recent Grant County Comprehensive Emergency Management Plan were available, as well as the Washington State Radiological Emergency Response Plan. Office supplies were available for use by all EOC staff.

Since the EOC is well outside the 10-mile EPZ for Columbia Generating Station, there was no need for dosimetry or KI for EOC staff.

Criterion 2.d.1:

The EMD coordinated with other participating entities, including the State of Washington emergency management and Department of Agriculture, Benton County emergency

management, Franklin County emergency management, Adams County emergency management, Yakima County emergency management, the Joint Information Center (JIC), and the State of Oregon emergency management. Group conference calls were held first to discuss the protective action recommendation (at 1115) and subsequently to approve the protective action decision (at 1300), which was to establish a Food Control Area based on the location of the deposition of radioactive materials.

The boundaries of the Food Control Area were drawn (by the representatives of the County Department of Public Works and the Sheriff's office) based on the closest road network surrounding the footprint of radiological deposition and contamination. It was determined that all foodstuffs originating within the Food Control Area would not be allowed out of the area, and a Food Control Point was identified, and subsequently established and manned by law enforcement and WA State Departments of Agriculture and Health personnel. The area of deposition has a number of types of food production, including livestock, dairies, orchards and farms. It was determined that, while the incident occurred before the main growing season, there could be asparagus being harvested. Additionally, there is long term cold storage of fall crops, such as potatoes, apples and onions, in the area. While it is unlikely that these foodstuffs were contaminated since they were in covered storage, it was decided that they would not be allowed out of the Food Control Area either because of the possible perception of contamination.

Criterion 3.e.1:

Although the Grant County Emergency Operations Center, located at 3953 Airway Drive NE, Moses Lake, WA, was well equipped with copies of the Grant County Comprehensive Emergency Management Plan and procedures, they did not have or have access to specific information on permanent agribusiness facilities in the Food Control Area. The Washington State University WSU) Extension Agent to Grant County relies on the Washington State Department of Agriculture (WSDA) to provide that information from the database that the state maintains. Unfortunately, the county agricultural liaison was unable to obtain the information from the state during the exercise on March 31, 2016.

Appendix 4 of the county plan, "Agriculture and Food Control Measures," specifies that the primary agencies for this aspect of a response are the WSU Cooperative Extension Services and the Grant County Health District. The responsibilities of the WSU Extension Agent are described in detail in the appendix, to include coordinating planning and preparedness activities with the county, to assist in the determination of an agricultural advisory area, assisting the WA State Department of Agriculture in checking all food stuffs, notifying the agricultural community of the county's Protective Action Decisions, coordination with agricultural agents, working with the county Health District to develop a prioritized sampling plan, etc. The Extension Agent participating in the exercise was unaware of the responsibilities assigned to him, and was not able to carry them out.

Protective actions were clearly provided including mapping the Food Control Area and the Grant County Food Control Point. The representatives in the EOC knew that the Food Control Area contained livestock, dairies, orchards and farms. They determined that, while the incident occurred before the main growing season, there could be asparagus being harvested. Additionally, there is long term cold storage of fall crops, such as potatoes, apples and onions, in the area. While it is unlikely that these foodstuffs were contaminated since they were in covered storage, it was decided that they would not be allowed out of the Food Control Area either because of the possible perception of contamination.

Monitoring and sampling of foods on vehicles was to be done by representatives of the WSDA and the Washington State Department of Health at the Food Control Points. The Food Control Point in Grant County was located on State 243 at 24 – SW Road.

PLANNING ISSUE NO.: 69-16-3.e.1-P-05

CONDITION:

The Grant County plan, on page 23 of the Basic Plan and in Appendix 4 "Agriculture and Food Control Measures" specifies the responsibilities of the WSU Cooperative Extension Services during a response to an incident involving deposition of radioactive materials. These include providing a staff member to coordinate planning and preparedness activities with the county, to assist in the determination of an agricultural advisory area, assisting the WA State Department of Agriculture in checking all food stuffs, notifying the agricultural community of the county's Protective Action Decisions, coordination with agricultural agents, working with the county Health District to develop a prioritized sampling plan, etc. During the March 31, 2016 exercise, the Grant County Extension Agent was unaware of these responsibilities, and does not have access to appropriate databases of farmers and other suppliers in their systems in order to implement ingestion pathway decisions.

POSSIBLE CAUSE:
Training that needs to be provided not only by Grant County EM, and also by the Washington State Department of Agriculture (WSDA). There was no one at WSDA to assist the extension agent with information so that he could carry out his responsibilities as specified in the plan.

REFERENCE:
NUREG-0654/FEMA-REP-1, C.4, J.11

EFFECT:
No outreach to the farmers and producers with information about the protective action decisions was accomplished, nor did the Extension Agency have the opportunity to consult with his State counterparts.

RECOMMENDATION:
Training must be provided to the Grant County Extension Agent in his duties as specified by the county plan. If that requirement is to remain in the plan, the Washington State Department of Agriculture should participate in such training and also provide the county with information about the farmers and other providers in the county.

Criterion 3.e.2:

Grant County coordinated with participating agencies in surrounding counties to establish Traffic Control Points and a Food Control Point. Support. The Food Control Point was established to prohibit contaminated products from leaving the Food Control area so as to prevent the consumption of contaminated food. The Washington State Department of Health tests for contaminated food. State inspection teams examine commercial food producers, dairies and milk processing plants within the area and send samples to the state health laboratory for testing. The Washington State Department of Agriculture will provide written certification that uncontaminated food from Grant County is safe for consumers. Under the authority of the Washington State Departments of Health and Agriculture, contaminated food and milk products will be embargoed and disposed of.

The acting Emergency Manager explained that brochures and pamphlets will be provided to citizens at the Food Control Point. These include, "Radiological Emergency Information for Farmers," "Food Processors, and Distributors, Public Emergency Instructions," and "Crop Contamination Facts." In addition, a calendar, which contains maps, harvest times, radiation information, emergency contacts and contamination guidance, is mailed to residents each year.

EOC staff used paper and digital maps to clearly establish and implement Protective Actions. The information included affected farming and harvest areas, and locations for the Traffic and Food Control Points. Agriculture advisories, instructions for farmers on livestock, harvest times and at-risk crops were simulated through press releases and phone calls.

Criterion 5.b.1:

During this exercise, the PIO responded to thirty five public inquiries, generated by the SimCell at the Washington State EOC. All inquiries were handled in a timely manner, with an answer being provided by the PIO or another member of the EOC staff, or being otherwise directed to the JIC for additional information to respond to the inquiry. Inquiries were received between 0833 and 1132.

At 0927 the PIO prepared a draft News Release on the Agricultural Advisory affecting Grant County. It was approved by the EM Director at 1000 and forwarded to the JIC for coordination and their review at 1005. Comments were received back from the JIC around 30 minutes later, the News Release was modified to incorporate the minor language changes, and it was released (simulated). The News Release contained information on the affected area in Grant County

requiring agricultural inspection before continued transport, as well as listing the traffic and food control points. In an actual situation, the PIO would use a media e-mail contact group list to forward News Releases to local newspapers, television stations, and radio stations. A second local News Release was being drafted by the PIO to reflect the PADs adopted at 1300, but was not finalized or released due to the termination of the exercise.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: ***69-16-3.e.1-P-05***
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.3.5 Walla Walla County

Staff at the Walla Walla Emergency Operations Center successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 31, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

The Walla Walla Emergency Operation Center (EOC) received a phone call from the Columbia Generating Station (CGS) at 0830 indicating an escalating event at CGS was ongoing but with no release. The County Emergency Manager was notified and a simulated call-down was transmitted to the EOC staff. The EOC was secured and a sign-in procedure was immediately established. As the emergency classification level (ECL) changed the EOC was notified via, text, phone and radio. Confirmation of ECL change was executed by the EOC Director. Emergency classification level changes were recorded for Alert (0830), Site Area Emergency (1009) and General Emergency (1056).

Per the extent of play, pre-positioning of EOC staff occurred with all EOC positions filled and the EOC declared operational at 0810. Key staff representatives from both plan documented A & B shifts were present for training purposes. Staff included from Walla Walla County: County Commissioner, Emergency Management Director, Public Information Officer, Community Health Department Director, County Sheriff, District #5 Fire Chief, Public Works Department, Technical Services, Geographical Services and from external supporting agencies, Washington State University Extension Division, American Red Cross, Blue Mountain Chapter and Amateur Radio Emergency Services.

Criterion 1.b.1:

While the space allocated for Walla Walla County Emergency Operations Center (EOC) is small, it is well laid out and operationally efficient. Layout and staffing descriptions were documented in the Emergency Operations Center Standard Operating Procedures booklet.

Staff was seated around a large, long table enabling direct coordination between staff members. Seating was established according to Incident Command System structure with two major sections of Operations and Planning being grouped. The room itself was arrayed with two large screen monitors, a white board, and a large magnetic board which doubled as a projection screen for mapping visuals. Lighting was defused and kept the EOC from the glare of direct lighting which made viewing the wall-mounted monitors easier. The EOC had, on the table, four phones, three laptops plus some staff had their own agency computer. Two computer stations for the GIS and the WebEOC were along the wall opposite the staff table and supported by two phones and one large and one regular format printers.

The overall layout of the EOC area included two offices, a kitchen, and two restrooms. Each office served a specific function during the event; one being the administration room and the other being the communications room. Backup generator logs showed service by Western States CAT on December 8, 2015; a two hour load test was conducted.

Criterion 1.c.1:

Overall direction and control of emergency management functions within the County rested with the Board of County Commissioners (BCC), who were the locally elected officials. For this exercise, one of the members of the BCC played an active role. In the WWC EOC, the duties of emergency management were delegated to the County Emergency Management Director (EMD), who provided direction and control to the EOC staff.

The EMD and the EOC staff followed the checklists in the WWC Comprehensive Emergency Management Plan, Annex B, Fixed Nuclear Facility Radiological Emergency Response Plan, December 2015.

In accordance with the Revised Code of Washington (RCW 36.32 and 38.52), the BCC may declare a State of Emergency within the County, when conditions warrant, and take appropriate action to alleviate health and safety problems affecting the citizens of the County. During this exercise, the participating BCC member signed a State of Emergency Declaration (SED) at 0915. There were no additional resources requested by the EOC, as a result of the SED. Additionally, the BCC member also initialed each news release presented to him by the Public Information Officer (PIO) for approval.

The EOC EMD, who was in charge of the emergency response, maintained positive control by conducting 14 periodic briefings, including status reports by EOC staff as situation status changes occurred. The EOC staff periodically reported activities and had an opportunity to

request additional resource needs to the EMD during these briefings. However, there were no such requests during the exercise. The EOC EMD also demonstrated appropriate coordination with the States of Washington and Oregon. There were no conflicts within the WWC EOC which required the EMD's intervention.

Key personnel made timely decisions during the exercise, and obtained input from their support elements on a continuous basis. Any potential conflicts within the EOC were avoided by continuous coordination among all staff members. Protective Action Decisions (PADs) were not made by the County, but were received from the Washington State EOC following coordination with, and input by WWC. Plans and procedures were available for all staff. Messages were maintained and available to all EOC staff.

Activities in the EOC during the exercise included the following:
Coordination teleconferences were conducted at 0900, 1500, and 1745, with the State EOC, WWC EOC, Benton County EOC, and Franklin County participating.

A coordination teleconference was held with the State of Oregon EOC to determine the Food Control Area (FCA) geopolitical boundary at the Washington-Oregon State line (State Line Road at Barnes Road).

A coordination teleconference was held with the Franklin County EOC to determine the FCA geopolitical boundary at the point where the two Counties meet at ICE Harbor Dam, on Ice Harbor Road.

Criterion 1.d.1:

The Emergency Operations Center (EOC) was co-located in same facility with Walla Walla County 911. The EOC while small in size, had a large array of working communication systems. Demonstrated equipment included commercial telephone both fixed and cellular, and independent systems such as emergency management and RACES/ARES radios, facsimile, and computer. The EOC staff effectively used the available communications systems. Any of these systems could function as a primary or alternate over a 24 hour period and there were no outages throughout the course of the event.

Message traffic was received, monitored, logged and distributed to key EOC staff effectively. Amateur Radio Emergency Services (ARES) arrived in a timely manner and started setup at 0815 with their own equipment. Pre-installed antenna connections in the EOC area allowed for rapid access to the appropriate frequencies for Walla Walla EOC and deployed emergency workers. Communications were established with neighboring Counties and the Washington State EOC. Walla Walla EOC communications were declared operational at 0845. WEB-EOC and commercial phone were used as the primary communications systems. Walla Walla County Sheriff maintained contact with deployed officers via dedicated handheld radio.

Criterion 1.e.1:

None of the four incorporated cities in Walla Walla County were within the 50-mile IEPZ and as such no pre-planned entry into plume impacted area was indicated. Per plan; dosimetry, personal protective equipment and Potassium Iodide (KI) were not maintained at Walla Walla EOC. Primary mission for Walla Walla County was the defining and support of a Food Control Area external to the plume location.

The Walla Walla County Emergency Operations Center (EOC) is a full time static secure location in the same building as the County's 911 facility. Layout of the main EOC was adequate for operational activity. It also has two offices for full-time staff and restrooms rooms. The arrangement of the equipment needed in an EOC was well thought out. Location of staff positions allowed inter-group communications but also established clearly defined places for radios and other equipment use. The EOC had multiple maps used to chart various activities and pinpoint key locations. Multiple monitors were available and were used to depict map locations for direct coordination with counterparts in Oregon and neighboring counties. Event log was supported by a projector, giving all staff quick visual reference to on-going events. The Public Works Department indicated sufficient availability of barricade and other support materials for Food Control Area isolation and traffic control points.

Criterion 2.d.1:

Following the immediate plume phase of the exercise, the Washington State Emergency Operations Center (EOC) assumed the decision making authority for all Protective Action Decisions (PADs). The County Emergency Management Director (EMD) recommended decisions in the ingestion exposure pathway to the representative of the Board of County Commissioners (BCC), who was a part of the WWC EOC response team. Following the BCC concurrence, the recommendation was provided to the State EOC for a resultant PAD.

The following precautionary actions were considered before any analytical results were available on contamination levels in food and water. In accordance with the extent-of-play agreement, WWC communities within the 50-mile ingestion exposure pathway Emergency Planning Zone (EPZ) receive their water from wells or other sources outside the 50-mile EPZ. For this reason, no precautionary or protective actions were required for water. An Agricultural Advisory was developed by the Washington State Department of Agriculture (WSDA). It was received at 0830. It was included in a WWC news release (simulated), and distributed to WWC news outlets. The information was added to an extensive WWC Facebook page and on Twitter, and also posted on the WWC Web Site.

Coordination during the exercise included efforts to assure that the radiological consequences were assessed consistently among adjacent geopolitical entities, and that appropriate decisions were consistent between these governmental units. A teleconference with the State of Oregon EOC was held, at 1057, to determine the Food Control Area (FCA) geopolitical boundary at the

Washington-Oregon State line (State Line Road at Barnes Road). This teleconference was initiated by the Oregon State EOC, in which they provided their proposed location. Since WWC did not yet have the Initial FCA Protective Action Recommendation (PAR), the Oregon EOC stated that no return call was needed, if WWC concurred with the proposed joining of the boundary lines at the States' boarder. The FCA PAR was received from the Washington State EOC at 1142. Since WWC determined that the proposal by the Oregon State EOC (OSEOC) was appropriate for WWC, no return call to OSEOC was made. A coordination teleconference was held with the Franklin County EOC, at 1200, to determine the FCA geopolitical boundary at the point where the two Counties meet at Ice Harbor Dam, on Ice Harbor Road. Both of these teleconferences assured that consistent and appropriate decisions were made, and that the decisions were accepted and supported by both States and by both Counties.

A PAD for the embargo area was made by the Washington State EOC, and was reflected in a Washington State Department of Agriculture Embargo Message, received by the WWC EOC at 1633. This document included the procedures for food entering or leaving the embargo area.

There was no commercial milk production in WWC. There were no crops in WWC that were ready for harvest. There was no request by WWC for Federal resources. A Claims Office for the American Nuclear Insurers was established at an airport hotel in Pasco, WA.

Criterion 3.e.1:

In accordance with the Extent-of-Play Agreement (EOPA), "WWC communities within the 50-mile ingestion exposure pathway Emergency Planning Zone (EPZ) receive their water from wells or other sources outside the 50-mile EPZ". There were no commercial milk production facilities or businesses in WWC.

An Agricultural Advisory was developed by the Washington State Department of Agriculture (WSDA). It was received at 0830. It was included in a WWC news release (simulated), and distributed to WWC news outlets. The information was added to an extensive WWC Facebook page and on Twitter, and also posted on the WWC Web Site. The Agricultural Advisory and copies of the tri-fold brochure: Emergency Preparedness for Nuclear Facilities in Washington State were provided to Sheriff's Office (SO) Deputies. The brochure included information on the protection of animals and animal products and the protection of fruits and vegetables.

The SO Deputies were put on an "A", "B" staffing schedule, with rotating 12-hour shifts. Through them, the Sheriff began notification of agriculture companies in WWC, such as Broetje (Bro-Chee) Apple Orchard, Tyson Foods cattle feed lot, Rail-Ex Transportation Company, etc. The Chief of WWC Fire District #5, took the same action with the Port of Walla Walla and grain shipping companies at the port locations. The information could also be sent to the 2,800 recipients of the Washington State University Extension Office newsletter. It was through these actions that all livestock and agribusinesses and family home garden and pasture activities were notified of precautionary and protective actions during the exercise.

Protective actions were clearly provided on the Food Control Area (FCA) boundaries, specifying the exact areas in which to implement the protective actions by the decision makers.

The Food Control Area maps, provided to WWC by the Washington State EOC (WSEOC), were used to great effect in implementing such WSEOC decision makers' protective actions.

Current information was available on permanent agribusiness facilities including the location of meat and poultry producers, fruit and vegetable growers, grain producers, farmers markets, and farm stands, by the cumulative information used by the various WWC EOC staff. There was current information on harvest times.

Coordination of protective actions consisted of teleconferences with Washington and Oregon State EOCs, Franklin County EOC, and the Mutual Aid Counties of Columbia, Garfield, Asotin, and Whitman.

In accordance with the EOPA, "Food Control Points are established by the State of Washington. The County will assist the State with any County information required for establishing the Food Control Points during the exercise". The input from WWC for the FCA PAD was used as submitted.

A plan was developed on how to monitor transportation routes out of the affected areas, and to monitor and sample foods on vehicles and where they would be located. The Food Control Points (FCPs) and a Traffic Control Points (TCP) were identified by WWC, using the Geographic Information System (GIS). Previously, WWC had provided the number and location of these points to the State.

Coordination with the above mentioned Mutual Aid Counties was considered by the WWC Sheriff, to be sufficient to staff the FCPs and TCP in the short term. The Washington State Patrol (WSP) was contacted as a potential backup resource. Additionally, the Governor's Office was discussed as a potential resource for the Washington National Guard, should they be needed to staff the FCPs and TCP on an extended basis. No Federal resources were requested.

Criterion 3.e.2:

The primary mission for Walla Walla County was the defining and support of a Food Control Area external to the plume location. Walla Walla County represented agencies participating in this identification were: a County Commissioner, Emergency Management Director, Public Information Officer, Community Health Department Director, County Sheriff, District #5 Fire Chief, Public Works Department, Geographical Services and from external supporting agencies, Washington State University Extension Office, American Red Cross, Blue Mountain Chapter. Assistance was provided by Washington State, Oregon State, and neighboring Counties.

Discussions focused on delivery strategies and target populations due to language diversity in the county.

Assets from WWC to support the establishment and enforcement of the Food Control Area were provided by the Sheriff's Department and the Public Works Department. Coordination was constant between Washington and Oregon State Emergency Operations Centers (EOC) and adjacent counties. Notices of the event and recommendations for livestock and crop preventive measures occurred throughout the incident. Social media was used extensively to keep WWC residents and business knowledgeable of ongoing events. A mapping program was used to support the defined areas for the Food Control Area and a Traffic Control Point. A tri-fold, bi-lingual description of the event impact and what measures were to be taken was available to be printed and programmed to be delivered by law enforcement and fire representatives.

Pre-printed, bi-lingual brochures titled: "Radiological Emergency Information for Farmers Food Processors and Distributors" indicated that major food processors and distributors would receive information directly from the Washington State Department of Agriculture. To supplement this, WWC law enforcement assets were used to deliver event status notices to agribusiness within the county.

Walla Walla EOC staff responded to numerous inquiries about the on-going event and its impact on the County. An embargo message for all residents within the WWC area was prepared for dissemination at 1633, which detailed the location of the Food Control Area, food product prohibitions and location of claims office to report food product losses as a result of the incident.

Criterion 5.b.1:

In accordance with the extent-of-play agreement, "distribution of public information and news releases will be simulated, and discussed with the evaluator, the coordination and distribution of public information in accordance with the local plan and procedures".

The primary source of emergency information for the public and the news media was the Columbia Generating Station (CGS) Joint Information Center (JIC). There were no representatives from WWC positioned in the JIC.

The WWC Public Information Officer (PIO) was a part of the WWC Emergency Operations Center (EOC) staff. She is the Director of Emergency Medical Services (EMS) for the County. She was previously designated as the WWC PIO through a Resolution by the Board of County Commissioners (BCC). She developed news releases for BCC and WWC Emergency Management Director (EMD) approval. Once approved in WWC, the news releases were sent to the JIC for approval. When approved by the JIC, they were returned to the WWC EOC, and then sent to local WWC news outlets, via email.

As an Ingestion Pathway County, WWC did not broadcast any Emergency Alert System (EAS) messages.

Public Inquiry (PI) was managed primarily by the CGS JIC. However, if the PI caller had a question pertaining exclusively to WWC, it was answered. On all other calls, WWC "stayed in their lane" and provided the caller with the JIC PI telephone number.

Media inquiry was managed by the CGS JIC.

News releases developed by WWC were the following:
News Release No. 1: EOC Operational. (It would have been released on Plume Day One).
News Release No. 2: WWC EOC: Status Update. (Simulated release on Plume Day One).
News Release No. 3: Emergency Operations Center Continues. Released: 3/30/16, 8:45am.
News Release No. 4: Walla Walla County Disaster Declaration. Released: 3/30/16, 9:15am.

Demonstrated Strengths:

- The use of the Geographic Information System (GIS), to define Food Control Area geographic boundaries, produced them in a minimal amount of time.
- The use of Social Media, to communicate emergency information to the public, via Facebook, Twitter, and the County Web Site was extensive.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

3.2.3.6 Yakima County

Staff at the Yakima Valley Emergency Operations Center successfully demonstrated the following criteria during the Columbia Generating Station (CGS) Ingestion Exercise conducted March 31, 2016. All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.a.1:

Pre-positioning of staff occurred per the extent of play agreement.

At 0811 the Yakima County Emergency Management Director (EMD), held a staff briefing to announce a Columbia Generating Station declared General Emergency which occurred earlier that week.

The YCEOC was declared operational once key positions were present including: EMD, EOC Coordinator, Operations Chief, Planning Chief, Situation Chief, Logistics, Public Information Officer (PIO), and GIS.

Once the briefing was over the Coordinator directed his staff to call Benton, Franklin and Grant Counties to inform them that Yakima's County EOC was operational. There was a 24-hour roster available. Yakima County requested resources from Washington State to help them manage Traffic Control Points (TCP's). The request was still pending at the end of the exercise.

All notifications were clear and consistent.

Criterion 1.b.1:

The Yakima County Emergency Operations Center (YCEOC), at 2403 South 18th Street, Union Gap, WA had adequate space, furnishings, lighting, restrooms, ventilation, back-up power, and access control to conduct support operations in an emergency at the Columbia Generating Station.

The YCEOC is approximately 48' x 32' that can be divided into two rooms by an accordion-type divider. The posted maximum occupancy of the entire space is 98 people. Fluorescent light fixtures were used throughout the facility providing ample work lighting and the ventilation system provided a comfortable environment throughout the exercise.

The YCEOC furnishings included three small and two large televisions, two wall screens, one projector, six white boards, one PowerPoint projector, six spare chairs, and a shelving unit for forms. There were wall and floor mounted power outlets easily accessible for workers.

Furnishings were efficiently arranged to support an Incident Command System configuration for staff, with color-coded tablecloths and section flags.

The Communications (Radio) Room was approximately 12' x 11' with desktops and shelving to hold radio and other equipment as well as chairs.

The Call Center, approximately 18' x 12' was furnished with two conference tables, 10 chairs, four phones, 3 televisions, one smart board, one white board, two laptops, and two sets of speakers.

The Multi-Agency Coordination Group worked in the Communications Opportunity Represent Educate (C.O.R.E.) Room, located next to male and female restrooms with multi-stall men's and

women's restrooms. The approximately 22' x 28' room had a kitchenette with sink and coffee machine, 14 tables, 27 chairs, 2 whiteboards, 3 televisions, 1 easel and 1 phone.

By interview, the Emergency Management Director reported that there were two generators that provided back-up power to the facility with both on a regular maintenance and test cycle. The entire YCEOC facility is protected by two layers of security when activated. There was an initial set of tables near the main entrance where staff checked identification cards. Once cleared, staff were directed to the internal check-in where they signed-in and received position identifying vests and YCEOC identification cards.

Criterion 1.c.1:

The Emergency Management Director (EMD), was officially in charge of the emergency operation, but he delegated that authority to the EOC Coordinator, to oversee and direct emergency response operations for the incident.

At 0811, Yakima's EMD, held a staff briefing in the EOC to inform them that Yakima County was in a General Emergency (GE), Emergency Classification Level (ECL), due to an incident that occurred at the Columbia Generating Station (CGS), earlier in the week.

At 0845, the EOC Coordinator directed the Operation Chief to contact Benton, Franklin and Grant County and inform them that Yakima County EOC, was operational.

The Coordinator held additional EOC briefings every hour or two dependent on wind and plume conditions, which ultimately effected and changed the County's Common Operations Picture (COP), mission and objectives for the response. He asked if his staff had any information to share, or if they had any challenges or suggestions for the response.

The Coordinator also held meetings every hour with his command staff, the Operations, Planning, Situation, and Logistics Chiefs' and the Health and Safety person. He also asked if they had any input, challenges and/or suggestions. Then he briefed any changes or significant occurrence to the Multi Agency Coordination (MAC), Group.

The Multi Agency Coordination (MAC), Group consist of the EMD, the County Commissioner, County Finance Chief, Yakima City EM, Sheriff Lt, Sunnyside City Manager, Yakima Legal Counsel, and Yakima's Training Center Manager. The responsibility of this group was to set policy and provide Direction and Control to the overall response operation, conduct media briefings on the electronic and printed material, approve and authorize the budget for the response operation, approve and authorize the geopolitical boundary of the Food Control Zone, and to Issue the Proclamation of Emergency.

Throughout the operation, Yakima County was coordinating their response efforts with Benton, Franklin and Grant County, via telephone calls. The EOC Coordinator, Operations Chief and

MAC group members also participated in two conference calls with Washington State EOC, DOH, Agricultural, Benton, Franklin, Grant and Adams' County.

Washington State Department of Health (DOH), was the authorizing agency to make Protective Action Decisions (PADs), for the Yakima County.

Yakima County requested resources from Washington State to help them manage Traffic Control Points (TCP's). The request was still pending at the end of the exercise.

Yakima's County Emergency Operation Plans and Procedures were used by their EOC staff and available for inspection. Message logs were maintained and distributed to the appropriate staff.

The decisions for the response of the operation were made timely.

Criterion 1.d.1:

The Yakima County Emergency Operations Center (EOC) had adequate operational communications equipment to support emergency operations. Communications were primarily conducted using commercial telephones, a voice over internet protocol (VOIP) system; cellular telephones were used by staff as a back-up to the County telephones. Each EOC phone also had data ports to support the connection of county laptops to the computer system and internet for email. The County's computer system had security features enforced by the County's information technology policies (i.e., only county employees may use county laptops, only county laptops may connect to the wired county network) that make seamless emergency communications between partners very difficult. Emergency Management created a "work-around" system by allowing EOC staff to bring their own laptops to connect to the EOC's non-county Wi-Fi network, which along with Google Documents, was used to create a public system that facilitates open information sharing in support of inter-agency coordination. Recognizing that some people were untrained or uncomfortable with posting to the cloud, thumb drives were used as an alternate method of data collection. Once collected (via cloud or thumb drive) the Documents Unit downloads information from every EOC ICS section and posts it to WebEOC as a way to communicate and coordinate with the state. The same procedures were used by sections to print documents, all of which were retrieved and archived by the Documents Unit.

The Logistics Section communicated with the Security Desk using two-way radios provided from a cache of public safety radios held by Emergency Management. The National Warning System (NAWAS), phone is the 24-hour notification system used to communicate with the County and is tested two times per day. The phone has drops in the Sheriff's Dispatch Center and in the EOC. The alternate system is the CEMNET radio or the two-way radios used by the Amateur Radio (ARES/RACES), volunteers. During the exercise, the 80-meter, high frequency (HF), radio was not operational between the State EOC and the EOC. The Amateur Radio volunteer was able to create a relay between the EOC and another volunteer at a high point. This volunteer was able to connect with the State EOC and ensured continuous communications

between the facilities for the emergency operations. The ARES/RACE volunteer was also able to demonstrate a radio connection with Benton County.

The County operates a call center which takes incoming calls to the EOC. The call center serves as a "triage point' for telephone calls from the community, media and other members of the public. Incoming calls were screened for content and directed to the appropriate station in the EOC, for response.

Criterion 1.e.1:

By interview, Yakima County staff from the Department of Public Services and Sheriff's Office reported that they had sufficient equipment and supplies available from county cashes and/or mutual aid to support emergency operations. A primary mission of Yakima County in a nuclear incident that was demonstrated in this exercise was to support managing food products so that potential contamination did not enter the food chain. To support Traffic and Access and/or Food Control Points established to manage Food Control Areas, the representative from the Yakima County Sheriff's Office created a schedule and resource request list. This list demonstrated access to adequate staff, vehicles, flares, and cones for the given scenario, which consisted of two Food Control Points staffed 24-hours per day. If additional resources were needed, they could request them from mutual aid agencies such as the City of Yakima or the State of Washington State Patrol. The City of Yakima and the State Patrol each had a large support vehicle that could be requested stocked with personal protective equipment, portable toilet facilities, large lights for night operation, and water. The County Department of Public Services also reported having adequate equipment (e.g., barricades, electric road signs, battery operated flashers, flares) available to support operations for this scenario. If additional equipment was needed, a resource request could be made from the Washington State Department of Transportation supply depot, which is in Yakima County.

The Yakima County GIS staff were able to create just-in-time maps that graphically displayed the boundary and the Food Control Points selected as the Yakima County portion of the food control area. There were also small size maps and a large wall-size map of the 50-mile Ingestion Zone, ICS planning aids, phone lists, and policy and procedure manuals available for reference. As an ingestion county, dosimetry, monitoring instruments, potassium iodide (KI) and personal protective equipment such as booties, masks, goggles, etc. were not required.

Criterion 2.d.1:

Washington State Department of Agriculture recommended Precautionary Actions be implemented prior to analytical results being made on the contamination levels of the food and water. The decision was based on the General Emergency (GE), Emergency Classification Level (ECL), at the Columbia Generating Station (CGS), and the plume exposure pathway in the area.

At 0857, discussion began between the Operations Section Chief (OSC) and staff from the Yakima County Sheriff's Office, Department of Public Services and the GIS mapping service to determine likely locations for the Yakima County portion of the Food Control Area based on the isopleth map received from the State of Washington. The team focused on the Food Control boundary area and determined a proposed area that would require two Food Control Points (FCPs) in Yakima County. Discussions included identifying what agricultural concerns were in the area, how the decision would impact traffic, staging for equipment, turn-around areas and how they might connect with contiguous counties. The initial decision was agreed on by the team at 0930 and the Operations Section began coordination with Grant and Benton County EOCs.

The Multi Agency Coordination (MAC), Group has the authority to make decisions in the ingestion exposure pathway in Yakima County. They approve and authorize the geopolitical boundaries for the Food Control Boundaries, and they issue the Proclamation of Emergency for Yakima County. The MAC group approved the locations for the Traffic Control Points (TCPs) and the FCPs for the response operation.

Yakima County set up Food Control Boundaries at Yakima and Benton County line at SR 24; West on SR 24 to the intersection of Suntargets Road and Badger Lane; Northeast on Badger Lane to the boarder of the Yakima Training Center; Through Yakima Training Center, to the point in the Columbia River at the Yakima/Kittitas/Grant County boarders.

The State of Washington Department of Health (DOH), would assign one of their representatives to be located at each of the FCP to evaluate the radiological analyses of samples of water, food and other ingestible substance.

The State of Washington is responsible for implementing embargos, monitoring products to determine if they can move out of the Food Control Area and for their disposal. Local staff support the state with their resources and follow their directions. There is no direct federal assistance provided to the counties; all federal communications, coordination and resources are managed through the chain-of-command, i.e., between the State of Washington and the Federal government.

Criterion 3.e.1:

Washington State Department of Agriculture provided brochures explaining the hazards associated with a Radiological incident that could occur at the Columbia Generating Station (CGS), and the protective actions the public would need to take. The brochures were displayed at the Yakima County EOC, and would be available for distribution to the public from city halls in Grandview, Granger, Mabton, Sunnyside, Toppenish and Zillah. There was also a supply of brochures available for Traffic and Food Control Points. The State of Washington, Emergency Management Division (EMD), would ensure that a supply of these brochures were made available to the Yakima Sheriff's Office for distribution at TCP and FCP locations.

Washington State University (WSU), sent a representative to Yakima's County EOC, to support the response operations. The person compiled a current list of the agriculture businesses, with the names and locations, of concern, that would be impacted in the area.

The Operations Chief provided the evaluator a list of Yakima's Valley Produce Harvest Schedule, which identified the types of produces available and the Month(s) of harvest time.

Throughout the operation, Yakima County EOC leadership was coordinating their response efforts with Benton, Franklin and Grant County, via telephone calls. The EOC Coordinator, Operations Chief and MAC group members also participated in two Unified Command conference calls with the State of Washington EOC, DOH, Agricultural, Benton, Franklin, Grant and Adams' County.

The Food Control Areas were determined and identified and outlined on maps. The Protective Action Recommendations (PARs), for Washington State were:

> Establish or reduce the Food control Area boundary in accordance with the maps provided;
> Established or modify Food Control Points around the Food Control Area;
> Milk producing animals and other livestock should be placed on stored feed and covered water sources;
> Cease all transport of fresh milk from Food Control Area;
> Cease all harvest and transport of agriculture products within the Food Control Area;
> Recommend processors not accept milk or food originating from the Food Control Area;
> Recommend home gardeners do not eat fresh produce grown within the Food Control Area;
> Drink only bottled water or water from covered sources (e.g. wells, community or municipal water systems).

Food Control Points, were established and plans developed and put into place to monitor transportation routes outside the affected areas, and to monitor and sample food on vehicles leaving the area. Washington State Department of Agricultural would be responsible for this.

Agribusinesses would be notified of the Protective Action Decisions (PADs), through press releases, medical providers and telephone and fax communications. Brochures would be provided by Washington State Department of Agriculture. The State of Washington is responsible for implementing embargos, monitoring products to determine if they can be moved out of the Food Control Areas and for their disposal; local staff support the State with resources and follow their directions. There is no direct federal assistance provided to the counties; all federal communications, coordination and resources are managed following the chain-of-command, i.e., between the State of Washington and the Federal government.

Criterion 3.e.2:

Yakima County was able to coordinate appropriate measures, strategies, and pre-printed material for implementing protective action decisions to address ingestion pathway concerns. At 0857, discussion began between the Operations Section Chief (OSC), and staff from the Yakima County Sheriff's Office, Department of Public Services and the GIS mapping service to determine likely locations for the Yakima County portion of the Food Control Area based on the isopleth map received from the State of Washington. The team focused on the boundary area and determined a proposed border area that would require two Food Control Points in Yakima County. Discussions included identifying what agricultural concerns were in the area, how the decision would impact traffic, staging for equipment, turn-around areas and how they might connect with contiguous counties. The initial decision was agreed on by the team at 0930, and the Operations Section began calling the Grant and Benton County EOCs to coordinate. The Operations Assistant was unable to reach either county by telephone using the numbers provided on the Yakima County EOC phone list or the exercise packet. After approximately 15 minutes of attempts, the Operations Section Chief went to the Radio Communications Room to attempt a radio connection. The ARES/RACES volunteer did not have an existing connection with either county so she tried to telephone the State's simulation cell for assistance. The Operations Section Chief left her with instructions to find him when a connection was made but, upon arriving back in the EOC, found that they were able to communicate via telephone there because other staff had found caller ID calls from those counties and retried those numbers with success. After the counties agreed on a proposal, it was provided to the state for review at an 1115 conference call. At 1220 the state provided a draft of the combined recommendation which was reviewed and approved with minor typographical error type corrections at another conference call that began at 1304.

The University of Washington (UW), agriculture extension agent in the Yakima County EOC supported operations by conducting a Google search for the agriculture businesses of concerns in the impacted area. The list provided would be used to email and/or deliver informational brochures to those businesses as well as to invite them to "Town Hall" style meetings where additional questions could be answered. The primary information provided would be via two brochures, "Radiological Emergency Information for Farmers, Food Processors and Distributors" (v. 6/07) and "Emergency Preparedness for Nuclear Facilities in Washington State" (AGR PUB 309-408 R/3/14), both of which are available in English and Spanish with initial stockpiles held in the Yakima County EOC.

After agreement of the Food Control Area boundary and supporting Food Control Points (FCPs), Local law enforcement officers (LEOs) were prepared to staff the TCPs with the agriculture agents provided by the state. LEOs would be provided with copies of the handout materials (brochures, maps of the Food Control Area) for distribution and would be fully briefed prior to deployment. Briefings would include procedures for stopping/turning back vehicles (i.e., to point of origin), staging areas, and other protocols for supporting the state's agriculture agents. Local

LEOs were also prepared to deliver any legal notices or to provide escorts for agriculture staff, as requested.

The State is responsible for implementing embargos, monitoring products to determine if they can move out of the Food Control Area and for their disposal; local staff support the state with resources and follow their directions. There is no direct federal assistance provided to the counties; all federal communications, coordination and resources are managed following the chain-of-command (i.e., between the State of Washington and the Federal government.)

Criterion 5.b.1:

Yakima County EOC was able to provide accurate emergency information to the public and media. Initial incident information (i.e., that there was an incident at the plant, the County EOC was open, there was no danger, follow-up information locations) was given to the PIO by the EOC Manager at the conclusion of the initial briefing at approximately 0835 with directions to have a draft by 0915. The Public Information Officer (PIO) selected a pre-scripted message and edited the content into a draft press release, which was first provided to the EOC Manager. Upon his approval, the message was given to the MAC Group for review and comment. The MAC Group sent the message back for editing twice before accepting it as final at approximately 1115. The approved message was transmitted to the Joint Information Center (JIC) at 1129. The JIC returned the message at approximately 1200 with suggested edits, which were made by the PIO. The revised message was reviewed and approved again by the EOC Manager (1222) and MAC Group (1228), and resent as "final" to the JIC afterwards. The PIO then simulated releasing the message to the area media and partners. The message's content would also be released using the Everbridge reverse notification system, which pushes messages to the public from the EOC via text or email. (Note that the person receiving the call chooses to receive the message in English or translated into Spanish.) The message would also have been posted to the county's Facebook and Twitter social media accounts. The county does not hold news media briefings at the EOC, there would be county staff at the JIC to act as a spokesperson (simulated for this exercise). Media monitoring and trend/rumor tracking would also be done at the JIC and is not a county function.

Content for additional messages would be gleaned by the PIO during EOC briefings and by direction from the EOC Manager and/or Planning Section Chief as well as from concerns pushed to the PIO from rumor tracking at the JIC. All messages would be made available in Spanish and communications capabilities exist to ensure that the deaf and hard-of-hearing community have access to all public information.

At 1103, a message inject call was received and it simulated a direct question from the media. The call was handled per procedure; it was initially received by the four-line Public Concern/Call Center, which was staffed by the Civil Air Patrol and 211 operators from People for People, a local non-profit organization. The operators triaged the call as coming from the media and transferred it to the EOC PIO's phone. She recognized the media call and transferred it to the JIC for additional answering (simulated). Note that if the operators have an approved message

(provided by the Planning Section Chief) that addresses the question, they may provide that content to the caller. The call center staff reported that they are capable and trained to identify trends/rumor and to monitor the media but they were not asked to perform this task as part of their mission in this exercise.

Demonstrated Strengths:

- The EOC staff took recommendations from the Dress Rehearsal and implemented them. The changes were noticeable as soon as you walked into the EOC, and they made the functionality of the EOC work much better.

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

a. LEVEL 1 FINDINGS: NONE
b. LEVEL 2 FINDINGS: NONE
c. PLAN ISSUES: NONE
d. PRIOR ISSUES – RESOLVED: NONE
e. PRIOR ISSUES – UNRESOLVED: NONE

SECTION 4: CONCLUSION

This exercise demonstrated improvements in the planning and execution of the emergency planning preparation and execution by the off-site response organizations (ORO) and the Columbia Generating Station (CGS) for both the Plume and Ingestion exercises. It is apparent that a considerable amount of coordination effort has occurred between the states, the counties and CGS. There were no Level 1 Findings associated with the either the Plume or Ingestion Exercises.

There was one Level 2 Finding assessed for the Plume and Ingestion exercise for Franklin County EOC for decision communication procedures which was successfully Re-Demonstrated. There were six (6) Planning Issues assessed in the Plume and Ingestion exercise. All of the ORO plans and procedures were re-done for 2014 to meet new REP RPM requirements and most of them were then completely re-written or revised and approved by the RAC chair in 2015.

All of the issues noted were briefed in the Hot Wash, and the subsequent After Action Review and Improvement Planning Workshop conducted with the OROs on May 24, 2016. No further objections remain at this time by the OROs to these issues.

The RAC Chair has chosen to use the State of Washington HSEEP format for the Improvement Plan which is fully HSEEP compliant. The RAC Chair has concurred with this approach and that Improvement Plan will be used for tracking the issues and their resolution for the next two years until the Plume exercise in 2018.

This exercise was viewed by the RAC Chair as a successful implementation of plans and procedures and a sufficient demonstration of response capabilities for the HAB by the OROs and CGS to meet the statutory requirements.

APPENDIX A: IMPROVEMENT PLAN

Finding Type	Issue Number	Issue/Condition	Possible Cause	References	Effect/Impact	Recommendation	Corrective Action	Assigned To	Start Date	Completion date
Unresolved Previous Planning Issue	69-14-1.c.1-P-05	The Washington State Comprehensive Emergency Management Plan (CEMP) with associated Procedures and the Washington State Comprehensive All Hazard Plan does not accurately describe the functions and responsibilities of Senior Officials in the DOH's role as a key position for response to a radiological emergency at the Columbia Generating Station at the State Emergency Operations Center (SEOC) as required by Nuclear Regulation (NUREG-0654/FEMA-REP-1; A.2.a) and Radiological Emergency Preparedness Program Manual (RPM).	Washington State has not yet been able to fully incorporate and implement the change required to the CEMP due in part to the lengthly and resource consuming Fire Season of 2015.	NUREG-0654/FEMA-REP-1 Standard A.2.a.	Impedes the decision making process in order to produce timely and effective decisions.	Complete the incorporation and review process.	Update the Comprehensive Emergency Management Plan (CEMP) to incorporate more discussion on use of other state agency senior staff on the Unified Coordination Group (UCG) and what their various roles would be.	WA EMD (Steve Williams)	8/26/2014	Est. 2017/06/30
Unresolved Previous Planning Issue	69-14-1.e.1-P-06	Continued Planning Issue from the 2014 HAB Exercise. The Washington State Patrol and the Benton County Sheriff's Office still did not have accurate WebEOC resource/reference documents available to assist with implementation of staffing of the Traffic and Access Control Points (TACPs) in response to a postulated event at the Columbia Generating Station (CGS).	While this did not affect the performance of Benton County in meeting the 3.d.1 criteria successfully for the 2016 exercise. The underlying issues from the 2014 HAB (1.e.1) planning issue is still there and still has the potential for the same level of confusion if the EOC staff again relies on just WebEOC. While the correct locations for ACPs for a CGS emergency are listed in the BCEM written procedures, the DOE and CGS TACPs continue to not be sufficiently differentiated in WebEOC to allow for easy reference which still could contribute to the potential for error.	NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10g; Benton County Emergency Response Plan pages 47, 101 and 102.	The potential still exists for insufficient differentiation of the CGS ACPs from the DOE ACPs creating the potential for under or over commitment of scarce resources. Staffing of additional TACPs as shown in WebEOC currently could cause the exhaustion of resources and the deployment of unnecessary emergency workers in the 10-mile emergency planning zone (EPZ).	Finish the work with Washington Emergency Management Division and get the WebEOC information corrected or subdivided into one "book" for CGS and one for Hanford-DOE.	WA EMD will be migrating the WebEOC server to a provider out of state. Once the server is reestablished, BCEM and WA EMD will collaborate to redesign the applicable road closures board data.	BCEM (Brian Calvert) WA EMD (Steve Williams)	8/26/2014	Est. 2017/06/30
Unresolved Previous Planning Issue	69-14-3.a.1-P-10	The Special Weapons and Tactics (SWAT) Emergency Workers were equipped with Arrow-Tech 730, 0-20R (calibration due date of 5/2015) direct reading dosimeters (DRDs). The Benton County Health Officer has pre-authorized SWAT team members for exposure limits up to 25R Total Effective Dose Equivalent (TEDE), and the equipment provided was not adequate to measure these limits.	The Special Weapons and Tactics (SWAT) Emergency Workers were equipped with Arrow-Tech 730, 0-20R (calibration due date of 5/2015) direct reading dosimeters (DRDs). The Benton County Health Officer has pre-authorized SWAT team members for exposure limits up to 25R Total Effective Dose Equivalent (TEDE), and the equipment provided was not adequate to measure these limits.	NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4	Endangers the SWAT/Emergency Workers.	Change the information in the EW kits.	Change the information in the EW kits.	BCEM (Bryan Calvert)	8/26/2014	Est. 2017/06/30
Level II Finding	69-16-3.d.2-L2-01	In the Franklin County Emergency Operations Center, the original alternate route to the traffic impediment was not correctly shared with the public and news media based on the initial discussions and decisions made by the Emergency Manager, Operations Coordinator, Fire Coordinator and Law Enforcement Coordinator. (Press Release error & State Brief error).	Communications and coordination failure between the Operations and Decision Makers table. No effective information verification process for release of critical information to the public.	NUREG-0654 / FEMA-REP-1, J.10.k.	The public and media was given inaccurate information which could have resulted in public confusion and potentially increased rise of radiological exposure. Potential for uncoordinated public information and potential for conflicting information being used in the EOC and by the evacuating public.	1. Develop a process for verification of critical decisions between the Decision Makers table and Operations table. Include the Public Information Officer. 2. Implement simple three way communications processes with all Emergency Operations Center Staff. 3. Revise Implementing procedures for all EOC staff positions with the new critical decision / Protective Actions verification process. 4. Train all staff on simple three way communications process and reinforcing active participation during briefings and any protective action decision making.	FCEM establishes new procedures to their existing plan and has it reviewed and approved by FEMA.	FCEM (Sean Davis) WA-EMD (Steve Williams)	4/1/2016	Est. 2017/06/30

Finding Type	Issue Number	Issue/Condition	Possible Cause	References	Effect/Impact	Recommendation	Corrective Action	Assigned To	Start Date	Completion date
Planning Issue	69-16-1.e.1-P-01	IP-3 Inventory and Inspection of Radiation Detection Equipment. There are 52 Radiation detection kits accounted for and located in Franklin County. But there are total of 58 kits listed in the plan when you add them all together. Emergency Management has revised/updated IP-3 Inventory and Inspection of Radiation Detection Equipment dated February 2016 to reflect 58 kits. However, Table 16, Emergency Worker Kit Distribution, Appendix A - ESF-10.C: Franklin County Radiological Emergency Response: Energy Northwest, does not reflect the current number or distribution of emergency worker kits. Table 16 listed 305 kits. The Emergency Worker Kit Master List listed 259. Through interview, it was determined that there may be as many 10 kits missing from the Emergency Worker Kit Master List.	Plans, records and inventory documents were not kept updated.	NUREG-0654/FEMA-REP-1; E.5, 7; G.3.a; G.4.c	Without an accurate inventory of equipment, there may be equipment not in calibration.	Conduct a 100% inventory to account for all items to accurately reflect the true totals and locations. Also, consider removing detailed inventory from the plan and create an Inventory Distribution and Tracking Procedure that can be updated more easily.	Conducted inventory of all equipment. Reconciled records. Removed from Plan and put into inventory/tracking procedure.	FCEM (Justin Radciffe)	4/1/2016	Resolved and Approved by RAC Chair 2016/07/13
Planning Issue	69-16-1.e.1-P-02	The Washington State Department of Health Radiological Emergency Response Plan refers to the air sampling cartridge different ways in two areas of the plan. In Procedure 6.3, Field Team Sampling, paragraph 5.1.2 (2) the cartridge is referred to as a "silver zeolite" cartridge, while in paragraph 5.1.2 (12) of the same procedure the cartridge is referred to as a "charcoal/iodine" cartridge. (This issue applies to both Field Monitoring Teams)	WA DOH is no longer using silver zeolite cartridges and is using charcoal cartridges exclusively for collecting airborne radioiodine samples. The plan was not revised in every instance when referring to these cartridges.	NUREG-0654/FEMA-REP-1, I.9	Internal inconsistencies in the plan could lead to confusion in the field when an emergency worker is expecting to have silver zeolite cartridges on hand when there are none available.	Revise the plan to reflect actual sampling equipment used	Revise Plans & Procedures	WADOH (Richard Cowley)	4/1/2016	Est. 2016/07/07
Planning Issue	69-16-3.a.1-P-03	(Criterion 3.a.1) – Oregon Health Procedures, Tab C, Staging Area, Standard Operating Guidelines, includes a note with outdated radiation exposure limits for emergency workers. (This issue applies to both Field Monitoring Teams)	The note indicated radiation exposure up to 25 R could be authorized for protection of property and 75 R for lifesaving. These limits are outdated and it may have been an oversight when procedures were revised to include 1992 EPA guidelines for radiation exposure to emergency workers.	Oregon Health Procedures, Tab C, Staging Area, Standard Operating Guidelines, dated February 2014; Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, United States Environmental Protection Agency (400R92001), 1992; NUREG-0654/FEMA-REP-1, K.4	Inexperienced Radiological Emergency Response Team could read the referenced OHA procedure section and misunderstand that they had higher exposure limits than the current EPA limits for protection of property and lifesaving.	Update Tab C, Staging Area, Standard Operating Guidelines, to include current EPA guidelines (10 rem for protection of property, 25 rem for lifesaving, and >25 rem for lifesaving if the individual is a volunteer who is fully informed of the risks).	Implement change to Plans & Procedure	OHA (Rick Wendt)	4/1/2016	DOH reports change has been made. RAC Chair has to review change to plan and approve yet. Est. 2016/08/10
Planning Issue	69-16-3.a.1-P-04	Washington State Department of Health Radiological Emergency Response Plan (September 2012), Procedure 2.2.3, page 6, states "There is a default TAV [Turn-Around Value] of 2.5 rem for CGS accidents as read on the pocket dosimeter." In addition, Procedure 2.2.4, page 3, states, "The dose limit for field team members as emergency workers is 5 rem…To ensure field team members do not exceed 5 rem TEDE. A default TAV of 2.5 rem for CGS accidents has been established."	It can be shown that for the less severe, but more probable, reactor accident sequences, the TEDE to emergency workers who have taken KI would not likely exceed five times their measured external dose as shown on DRDs [direct reading dosimeters]. Therefore, if the external dose measured by a DRD is limited to 1/5 of the applicable limit, the TEDE would not likely exceed the limit." This is also documented in the FEMA guidance document, Summary of Federal REP Agencies Guidance on State Implementation of EPA Guidance on Inhalation Dose for Emergency Workers (July 1994), page 3; and FEMA's Radiological Emergency Preparedness Program Manual (January 2016), page 111.	NUREG-0654/FEMA-REP-1, K.3	There was confusion between the external dose in units of rem measured by an emergency worker's DRD and the emergency worker's TEDE dose limit (also in units of rem), but the TEDE dose limit is the sum of the external dose plus the internal dose as affected by taking KI.	Make appropriate change to the plans and procedures to eleminate this confusion.	Review documention and recommended reference from evaluator. Discuss internally to determine most appropriate course of action and gain FEMA concurrence. Implement action and update plans/procedures/training as appropriate.	WADOH (Richard Cowley)	4/1/2016	Est. 2016/12/15

Finding Type	Issue Number	Issue/Condition	Possible Cause	References	Effect/Impact	Recommendation	Corrective Action	Assigned To	Start Date	Completion date
Planning Issue	69-16-3.e.1-P-05	The Grant County plan, on page 23 of the Basic Plan and in Appendix 4 "Agriculture and Food Control Measures" specifies the responsibilities of the WSU Cooperative Extension Services during a response to an incident involving deposition of radioactive materials. These include providing a staff member to coordinate planning and preparedness activities with the county, to assist in the determination of an agricultural advisory area, assisting the WA State Department of Agriculture in checking all food stuffs, notifying the agricultural community of the county's Protective Action Decisions, coordination with agricultural agents, working with the county Health District to develop a prioritized sampling plan, etc. During the March 31, 2016 exercise, the Grant County Extension Agent was unaware of these responsibilities, and does not have access to appropriate databases of farmers and other suppliers in their systems in order to implement ingestion pathway decisions.	Training that needs to be provided not only by Grant County EM, and also by the Washington State Department of Agriculture (WSDA). There was no one at WSDA to assist the extension agent with information so that he could carry out his responsibilities as specified in the plan.	NUREG-0654/FEMA-REP-1, C.4, J.11	No outreach to the farmers and producers with information about the protective action decisions was accomplished, nor did the Extension Agency have the opportunity to consult with his State counterparts.	Training must be provided to the Grant County Extension Agent in his duties as specified by the county plan. If that requirement is to remain in the plan, the Washington State Department of Agriculture should participate in such training and also provide the county with information about the farmers and other providers in the county.	Enact changes to the plan and implement training.	GCEM (Sandi Duffey)	4/1/2016	Est. 2016/12/31
Planning Issue	69-16-5.a.1-P-06	The implementing procedure as created in the Benton County procedures for KORD Radio is insufficient and does not meet the guidance given for correction of the issue found in the Feb 2016 DR. It is incomplete and does not fully address responsibilities and responsible persons for KORD. Nor was it approved as required by the RAC Chair prior to use in the exercise.	Benton County was supposed to provide to KORD a one page direction sheet for station personnel to guide them on doing ANS and follow on messages show who is responsible, the backup people to them and the detailed step by step direction required to do the ENS and follow on messaging. Benton chose to issue a Benton County new procedure to their plan instead. It was incomplete, contained blank fill-ins, didn't have full directions and it had not undergone review and approval by the RAC Chair as is required for plan changes.	NUREG-0654/FEMA-REP-1, E.5, 6, 7	Internal inconsistencies in the procedure would lead to the station not aware of responsibilities or having clear direction as to how to proceed.	Revise the procedure to prove the required information and get approval from the RAC Chair for its inclusion and implementation in the BCEM plans & procedures.	Write and properly implement a new procedure	BCEM (Bryan Calvert)	4/1/2016	Est. 2017/06/30

APPENDIX B: EXERCISE TIMELINE

Date and Site: March 29-30-31, 2016 – Columbia Generating Station Plume & Ingestion Exercise

Emergency Classification Level or Event	Time at Utility	Time That Notification Was Received or Action Was Taken										
		Washington State EOC	Oregon DOE EOC	Washington Dept of Health	Franklin County Dispatch	Franklin County EOC	Benton County EOC	SECOMM	Morrow County EOC	Umatilla County EOC	JIC	MUDAC
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0820	0830	0839	0840	0834	0841	0828	0828	N/A	1006	0915	0844
Site Area Emergency	0943	0953	0952	1008	N/A	0956	0954		1032	1006	0950	0946
General Emergency	1024	1034	1031	1037	N/A	1035	1038		1334	1059	1028	1024
Simulated Radioactivity Release Began	0943	0953	0952	0953	N/A	0953	0956		1033	1006	0950	0943
Simulated Radioactivity Release Terminated	1249	1249	1255	1259	N/A	1300	1249		1335	1352	1258	1252
Facility Declared Operational		0915	0935	0935	N/A	0920	0926		0958	1038	0915	
Declaration of State of Emergency		1128			N/A	0943	1027		N/A	N/A	1154	
Exercise Terminated		1755	1432	1432	0850	1440			1432	1432	1445	

Precautionary Actions: Evacuate: Columbia River btwn. Vernita River & Leslie Groves Park, Horn Rapids Rec. Area, Rattlesnake Mtn. Shooting Facility, Horn Rapids Off Road Vehicle Park, Wahluke Hunting Area, Relocate School children	0953			N/A	0958	0954		N/A	1059	1009	
Ag. Advisory					1204	N/A					
1st A&N Decision *(State [made]; local [received])	0959			N/A	0959	0958				1009	
1st Siren Activation	1005				1005	1005					
1st EAS Message	1005				1011	1014					
2nd A&N Decision (State [made]; local [received]) 1st PAD: Evac. 0-2Mi, §2,3; Shelter: 2-10Mi., §2,4	1037			N/A	1040	1037				1100	
2nd Siren Activation	1045				1045	1045					
2nd EAS Message	1045				1045	1048					
KI Decision:				N/A	1104						
Advisory received at location	1102			N/A	1058	1100				1058	
Action taken at location				N/A	1104	1101					