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FEMA

JAN 05 2017

Nuclear Regulatory Commission Headquarters
Office of Nuclear Security and Incident Response
Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

To Whom It May Concern:

Enclosed is the After Action Report/Improvement Plan for the Susquehanna Steam Electric Station 2016 Plume Exercise that was evaluated on October 18 and 19, 2016.

There were no Level 1 Findings assessed; however, one (1) Level 2 Finding was assessed and two (2) Planning Issues were identified during the exercise. The Planning Issues were resolved prior to the completion of this report. Two Planning Issues from the SSES 2015 HAB Exercise were resolved prior to this exercise.

Based on the results of the exercise and a review of the offsite radiological emergency response plans and procedures submitted, FEMA Region III has determined they are adequate (meet the planning and preparedness standards of NUREG-0654/FEMA-REP-1, Revision 1, November 1980, as referenced in 44 CFR 350.5) and there is reasonable assurance they can be implemented, as demonstrated during this exercise.

If you have any questions, please contact Thomas Scardino at (215) 931-5546.

Sincerely,

MaryAnn Tierney
Regional Administrator

Enclosure

IX49
NSIR
NRR

Susquehanna Steam Electric Station
After Action Report/ Improvement Plan

Exercise Date – October 18, 2016

Radiological Emergency Preparedness (REP) Program

FEMA

Published December 21, 2016

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Susquehanna Steam Electric Station
After Action Report/Improvement Plan

Published December 21, 2016

EXECUTIVE SUMMARY

A full-scale Radiological Emergency Preparedness Plume Phase Exercise for the 10 Mile Emergency Planning Zone (EPZ) around the Susquehanna Steam Electric Station (SSES) was evaluated by the Federal Emergency Management Agency (FEMA), Region III on October 18, 2016. Out-of-Sequence demonstrations were performed and evaluated on October 18, 19, and 20, 2016. The purpose of the Exercise and Out-of-Sequence demonstrations was to assess the capabilities of State, county, and local jurisdictions to implement Radiological Emergency Response Plans (RERP) and Procedures to protect the property and lives of residents and transients in the event of an emergency at SSES.

The findings in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region III Regional Assistance Committee (RAC) Chairperson, and approved by the Regional Administrator and FEMA Headquarters. This report is provided to the Nuclear Regulatory Commission (NRC) and participating State. State and local governments utilize the findings contained in this report for the purposes of planning, training, and improving emergency preparedness.

The most recent previous full-scale exercise at this site was evaluated on October 21, 2014.

There were no Level 1 Findings assessed; however, one (1) Level 2 Finding (See Section 3 for definitions) was assessed and two (2) Planning Issues were identified during this exercise. Both Planning Issues were resolved before the publication of this report.

Two (2) Planning Issues assessed subsequent to the previous exercise were resolved prior to this exercise. FEMA Region III determined that Lackawanna County Plans and Procedures did not provide sufficient shelter space to accommodate the portion of the Emergency Planning Zone population that was expected to evacuate and receive congregate care assistance. In addition, a review of the other support county plans determined shortfalls in shelter space in those jurisdictions, as well. Between January and August 2016 additional shelter facilities were identified and surveyed and added to the support county plans and procedures. On August 22 and September 6 and 7, 2016, FEMA Region III evaluated 13 additional congregate care centers for adequate space, shower and toilet facilities, security, and dining capabilities. All 13 locations were determined to be adequate. (See page 32)

FEMA wishes to acknowledge the efforts of many individuals in the Commonwealth of Pennsylvania and Columbia County and Luzerne County (risk counties) and the seven (7) support counties: Lackawanna, Lycoming, Montour, Northumberland, Schuylkill, Union, and Wyoming.

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

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name
Susquehanna Steam Electric Station 2016 Plume Exercise

Type of Exercise
Plume

Exercise Date
October 18, 2016

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Plume

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Susquehanna Steam Electric Station exercise:

State Jurisdictions

Commonwealth Resource Coordination Center

Pennsylvania Emergency Management Agency
Pennsylvania Department of Environmental Quality, Bureau of Radiation Protection
Pennsylvania State Police
Pennsylvania Department of Military and Veteran Affairs
Pennsylvania Department of Health
Pennsylvania Public Utility Commission
Pennsylvania Liquor Control Board
Pennsylvania Department of Corrections
Pennsylvania Fish and Boat Commission
Pennsylvania Game Commission
Pennsylvania Department of Human Services
Pennsylvania Department of Labor and Industry
Pennsylvania Department of Agriculture
Pennsylvania Department of Aging
Pennsylvania Office of Administration
Common Wealth Media Services

Bureau or Radiation Protection Field Operations

Bureau of Radiation Protection Radiation Rapid Response Vehicle
Bureau of Radiation Protection Field Monitoring Team A (South East Region)
Bureau of Radiation Protection Field Monitoring Team B (South East Region)

Risk Jurisdictions

Columbia County Emergency Operations Center

Columbia County Emergency Management
Columbia County 911 Dispatch Center
Columbia County Commissioners
Columbia County Department of Public Safety
Columbia County Department of Health
Columbia County Fire and Rescue
Columbia County Geographic Information System
Columbia County Information Technology
Columbia County Public Information
Columbia County Resiliency Office
Columbia County Sheriff's Office
Pennsylvania Department of Transportation
Pennsylvania Emergency Management Agency
Pennsylvania State Police
Radio Amateur Civil Emergency Services/Columbia/Montour Radio Club

Columbia County Emergency Worker Monitoring and Decontamination
Bloomsburg University
Columbia Animal Response Team
Columbia EMA Volunteers
Greater Columbia Medical Transport Service
Mifflin Township Forest Rangers and Fire Company
North Central Region of Pennsylvania American Red Cross

Berwick Borough Briar Creek Borough Emergency Operations Center
Berwick Borough Emergency Management Agency
Berwick Borough Public Works Department
Berwick Fire Department (volunteer)
Berwick Police Department
Radio Amateur Civil Emergency Services

Beaver Township Emergency Operations Center
Beaver Township Emergency Management Agency
Beaver Township Fire Department
Radio Amateur Civil Emergency Services

Columbia County School Districts
Benton Area School District
- District Superintendent's Office
- L. Ray Appleman Elementary School

Berwick Area School District
- District Superintendent's Office
- Berwick Area High School
- Nescopeck Elementary School

Bloomsburg Area School District
- District Superintendent's Office
- Bloomsburg Area Middle School

Central Columbia Area School District
- District Superintendent's Office
- Central Columbia Middle School

Columbia Montour Area Vocational/Technical School (CMAVTS)
- Bower Transportation
- CMAVTS Staff
- DJD Transit
- Fishing Creek Transportation
- Fullington School Bus
- Rhinard Transportation

Luzerne County Emergency Operations Center
Luzerne County Emergency Management
Luzerne County Agricultural Extension

Luzerne County Building and Grounds
Luzerne County Engineer Department
Luzerne County Information Technology
Luzerne County Road and Bridge
Luzerne County Security
Luzerne County Sheriff's Office
PA Department of Health
PA Department of Transportation
PA State Police
Wilkes-Barre City Police Department
Amateur Radio Emergency Services
Boy Scouts of America

Luzerne County Emergency Worker Monitoring and Decontamination Station
Sweet Valley Fire Company

City of Nanticoke Emergency Operations Center
City of Nanticoke Emergency Management
City of Nanticoke, City Council
City of Nanticoke Mayor's Office
Nanticoke Community Ambulance
City of Nanticoke Fire Department
City of Nanticoke Police Department

Nuangola Borough Emergency Operations Center
Nuangola Borough Emergency Management
Nuangola Borough Communications
Nuangola Borough Emergency Medical Services
Nuangola Borough Police Department
Nuangola Borough Public Works
Nuangola Borough Transportation

Slocum Township Emergency Operations Center
Slocum Township Emergency Management
Slocum Township Emergency Medical Services
Slocum Township Fire Department
Slocum Township Radiological Officer
Slocum Township Supervisors

Conyngham Township Emergency Operations Center
Conyngham Township Emergency Management
Conyngham Township Supervisor
Mocanaqua Township Fire Police
Pond Hill Ambulance
Pond Hill Fire Company

Dorrance Township Emergency Operations Center

Dorrance Township Emergency Management Agency
Dorrance Township Board of Supervisors
Dorrance Township Emergency Medical Services
Dorrance Township Police Department
Dorrance Township Transportation Department
Dorrance Township Volunteer Fire Department

Hollenback Township Emergency Operations Center

Hollenback Township Board of Supervisors
Hollenback Township Communications Officer
Hollenback Township Emergency Management
Hollenback Township Emergency Medical Services Officer
Hollenback Township Fire Officer
Hollenback Township Police Chief
Hollenback Township Public Works Officer
Hollenback Township Radiological Officer
Hollenback Township Transportation Officer

Newport Township Emergency Operations Center

Newport Township Emergency Management
Newport Township Council
Newport Township Fire Department

Luzerne County School Districts

Crestwood School District
- District Superintendent's Office
- Rice Elementary School

Greater Nanticoke Area School District
- Greater Nanticoke Area Education Center

Hazleton Area School District
- District Superintendent's Office
- Hazleton Area High School
- Hazleton Area Elementary/Middle School

Northwest Area School District
- District Superintendent's Office
- Northwest Middle/High School

West Side Area Career and Technical Center
Wilkes-Barre Area Career and Technical Center

Support Jurisdictions

Lackawanna County Emergency Operations Center

Lackawanna County Emergency Management
Lackawanna County Planning Department

Lackawanna County Community Relations Department
Lackawanna County Amateur Radio Emergency Services
Lackawanna County 911 Communications
Lackawanna County Information Technology Department
North Central Chapter, Pennsylvania American Red Cross
Mayfield Police Department
Mayfield Emergency Management
DATOM Products
Scranton Fire Department
Pennsylvania Ambulance
Pennsylvania State University, Worthington-Scranton
Philadelphia University

Lackawanna County Reception and Mass Care
- Boy Scout Troop 16
- Dunmore Police Department
- Chinchilla Fire Department
- DATOM Products HAZMAT Team
- Elmhurst Fire Department
- Lackawanna County Emergency Management Agency
- Moscow Fire Department
- Scranton Fire Department
- William Walker Hose Company, Mayfield

Lycoming County Emergency Operations Center

Lycoming County Emergency Management
American Red Cross
Amateur Radio Emergency Services
Pennsylvania State Police
Lycoming County 911 Center
Lycoming County Agricultural Department
Lycoming County Board of Commissioners
Lycoming County Conservation District
Lycoming County Department of Public Safety
Lycoming County Emergency Management Agency
Lycoming County Human Resources
Lycoming County Radiological Response Team
Lycoming County Radiological Team
Lycoming County Sheriff

Lycoming County Reception and Mass Care Center
- Hughesville EMA
- Hughesville Fire/Police
- Hughesville Fire/Ambulance Company
- Lycoming County Auxiliary Communications Team (amateur radio)

Montour County Emergency Operations Center
Montour County Emergency Management
Danville Area School District

Northumberland County Emergency Operations Center
North Central Pennsylvania Chapter of the American Red Cross
Northumberland County Emergency Management Agency
Northumberland County Geographical Information Systems Department
Pennsylvania Emergency Management Agency
Pennsylvania State Police
Snyder-Northumberland Amateur Radio Emergency Services
Susquehanna Council – 7 Bridges – Boy Scout Troop Lone Scout

Northumberland County Reception and Mass Care Center
Northumberland County HAZMAT Team
Shamokin Fire Bureau
Northridge Environmental Group (HAZMAT Team)
Pennsylvania American Red Cross

Schuylkill County Emergency Operations Center
Schuylkill County Emergency Management
Schuylkill County Transportation system
Schuylkill County Sheriff's Department
Schuylkill County Planning
Schuylkill County Commissioners
Schuylkill County Fire Chiefs Association
Schuylkill County 911
Pennsylvania Department of Health
American Red Cross
Radio Amateur Civil Emergency Services

Schuylkill County Reception and Mass Care
Schuylkill County Emergency Management Agency
Schuylkill County Radio Amateur Communications Emergency Service /Amateur Radio Emergency Services
West End Fire Company
Good Intent Fire Company of Pottsville
Schuylkill County Regional Response Team

Union County Emergency Operations Center
Union County Emergency Services
William Cameron Engine Company
Buffalo Valley Regional Police
Union County Amateur Communication System

Union County Reception and Mass Care
Union Chapter American Red Cross
Union County Amateur Communications System
Union County EMA Volunteers

Wyoming County Emergency Operations Center
Wyoming County Emergency Management Agency
Wyoming County Amateur Radio Emergency Services/Radio Amateur Communication Emergency Services
Wyoming County Geospatial Information Systems
North Central Chapter, Pennsylvania American Red Cross
Tunkhannock Township Police Department

Wyoming County Reception and Mass Care
Wyoming County Emergency Management Agency
Wyoming County Amateur Radio Emergency Services/Radio Amateur Communication Emergency Services
North Central Chapter, Pennsylvania American Red Cross
Tunkhannock Area School District

Private Organizations
Susquehanna Steam Electric Station, Talen Energy, LLC
North Eastern Region, Pennsylvania American Red Cross
North Central Region, Pennsylvania American Red Cross
Bettis Laboratories
Talen Energy, LLC

Federal Organizations
Federal Emergency Management Agency
Environmental Protection Agency
US Nuclear Regulatory Commission

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume the lead responsibility for all off-site planning and response for commercial nuclear power plant incidents. FEMA's activities were conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Generating Station accident in March, 1979.

44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State, and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

Taking the lead in offsite emergency planning and in the review and evaluation of Radiological Emergency Response Plans (RERPs) and procedures developed by State and local governments;

Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;

Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated December 7, 2015 (Federal Register, Vol. 81, No. 57, March 24, 2016); and coordinating the activities of the following Federal agencies with responsibilities in the radiological emergency planning process:

- U.S. Department of Commerce,
- U.S. Nuclear Regulatory Commission,
- U.S. Environmental Protection Agency,
- U.S. Department of Energy,
- U.S. Department of Health and Human Services,
- U.S. Department of Transportation,
- U.S. Department of Agriculture,
- U.S. Department of the Interior, and
- U.S. Food and Drug Administration.

Representatives of these agencies serve on the Region III Regional Assistance Committee (RAC), which is chaired by FEMA.

This Radiological Emergency Preparedness (REP) full-scale exercise was evaluated to assess the capabilities of State and local emergency preparedness organizations in implementing their

RERPs and procedures to protect the public health and safety during a radiological emergency involving Susquehanna Steam Electric Station (SSES). The purpose of this After Action Report is to present the exercise results and findings on the performance of the offsite response organizations (OROs) during a simulated radiological emergency. The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region III RAC Chairperson and approved by the Regional Administrator and FEMA Headquarters. After Action Reports/Improvement Plans are provided to the NRC and participating states within 90 days following all Radiological Emergency Preparedness full-scale exercises. State and local governments utilize the findings contained in these reports for the purposes of planning, training, and improving emergency response capabilities.

Section 1 of this report, entitled "Exercise Overview", presents the "Exercise Planning Team Leadership" and the "Participating Organizations".

Section 2 of this report, entitled "Exercise Design Summary", includes the "Exercise Purpose and Design", "Exercise Objectives, Capabilities, and Activities", and the "Scenario Summary".

Section 3 of this report, entitled "Analysis of Capabilities", presents detailed "Exercise Evaluation and Results" information on the demonstration for each jurisdiction or functional entity evaluated in a jurisdiction-based, issue-only format ("Criteria Evaluation Summaries").

This section also contains:

(1) Descriptions of any Level 1 and Level 2 Findings as well as Planning Issues assessed during this exercise, including recommended corrective actions and the State and local governments' schedule of corrective actions for each identified exercise issue;

(2) Descriptions of Level 2 Findings and Planning Issues assessed during previous exercises and resolved at this exercise, including the corrective action demonstrated, as well as Level 2 Findings or Planning Issues assessed during previous exercises and scheduled for demonstration at this exercise which remain unresolved.

Section 4 of this report, entitled "Conclusion," is a description of Region III's overall assessment of the capabilities of the participating organizations.

Appendix A - Improvement Plan. A description of Findings and Planning Issues, the parties responsible for implementing a corrective action, and time frame for completion.

Appendix B - Exercise Time Line. A table that depicts the times that events and notifications were noted at participating agencies and locations.

Appendix C - Exercise Evaluators and Team Leaders. A table listing the names, organizations, and evaluation responsibilities of the evaluators and management.

Appendix D - Acronyms and Abbreviations. An alphabetized table defining the acronyms and abbreviations used in this report.

Appendix E – Exercise Extent-of-Play. A narrative description of information developed to implement the exercise with a detailed description of the exercise criteria and the participants' expected responses to the exercise scenario.

The criteria utilized in the FEMA evaluation process are contained in the following:

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- "Radiological Emergency Preparedness Program Manual," January 2016;

Emergency Planning Zone Description

The Susquehanna Steam Electric Station is located in northeastern Pennsylvania, on the Susquehanna River, in Salem Township, Luzerne County. The plant is owned and operated by Talen Energy, LLC. Two boiling water reactors generate an electrical output of 1,194 megawatts each. Unit 1 began commercial operation on June 8, 1983, and Unit 2 on February 12, 1985. The site encompasses 2,566 acres and is divided into two parts. The principal portion, containing the major operating equipment and buildings, is located 3,000 feet west of the river. The other portion houses the water intake apparatus located near U.S. Route 11. Route 11 passes through the site in a north/south direction, providing both primary and secondary access to the plant. The plant occupies approximately 100 acres of the site. The coordinates are approximately 41° 5'30" north and 76° 8'55" west.

The topography of the plant site is hilly, with elevations ranging from 500 feet above mean sea level (MSL) at the river to about 1,100 feet above MSL at the northwest corner of the site. The plant grade is 670 feet above MSL. The minimum exclusion distance is 1,800 feet; all land within the exclusion area is owned by SSES. The surface soil in the area is considered to be glacial out-wash and glacial till soils, which are typical of uplands and terraces. The bedrock consists primarily of red shale of the Catskill formation. The immediate vicinity of the plant is rural, surrounded by farms and undeveloped land. A total of 76 sirens are used for notification of the public; the sirens were installed for coverage of the plume exposure pathway. According to 2010 census data, the nearest population center is Shickshinny Borough, Luzerne County, with a population of 838, located about four miles north of the plant. The nearest population center with more than 25,000 people is the City of Hazleton, with a population of 25,340, located 13 miles to the southeast.

The Berwick Airfield in Salem Township, Luzerne County, serves private aircraft and lies approximately five miles west of the plant. The airfield presents no risk to the plant. The closest major airport is the Wilkes-Barre/Scranton Airport, located 28 miles northeast of the site. The 10-mile EPZ contains an estimated population of 71,301, according to 2010 census data.

2.2 Exercise Objectives, Capabilities and Activities

The objective of the Susquehanna Steam Electric Station 2016 Plume Exercise is to demonstrate the capabilities of State and local emergency management agencies to mobilize emergency management and emergency response personnel, to activate emergency operations centers and support facilities, and to protect the health, lives, and property of the citizens residing within the 10 mile Emergency Planning Zone (EPZ).

Emergency management agencies use a variety of resources including radios, telephones, the Internet, the media, the Emergency Alert System (EAS), and the utility Alert and Notification System (ANS) sirens to demonstrate the ability to communicate between multiple levels of government and provide timely, accurate, and sufficiently detailed information to the public. The EAS and ANS were simulated and media information was prepared but not actually released.

An essential capability of the Radiological Emergency Preparedness Program (REPP) is to evacuate, monitor and decontaminate if necessary, and provide temporary care and shelter to displaced residents from the EPZ. The ability of the support counties to mobilize personnel and resources to establish reception, monitoring and decontamination, and mass care centers was demonstrated.

The protection of school children is also a vital mission of the REPP. School districts and selected schools demonstrated the capability to communicate and coordinate the collection, evacuation, transportation and shelter of students attending schools within the EPZ. Provisions for students who live within the EPZ but attend school outside were also evaluated.

2.3 Scenario Summary

Susquehanna Steam Electric Station 2016 Plume Exercise Scenario Synopsis

The Susquehanna Steam Electric Station 2016 Plume Exercise was initiated at 1813 when the licensee declared a simulated "Alert" Emergency Classification Level (ECL). Offsite Response Organizations (OROs) initiated their procedures to mobilize emergency staff and prepare their emergency operations centers for possible escalations of the situation upon receipt and confirmation of the emergency.

The "Site Area Emergency" ECL was declared at 1944. The Commonwealth Response Coordination Center (CRCC) notified the Risk and Support Counties and recommended or directed precautionary actions to be implemented, including: Sheltering and putting farm animals on stored feed and water, closure and restriction of traffic on waterways and lakes, preparations for shelter-in-place for institutionalized populations, and requesting the FAA restrict the airspace over the Emergency Planning Zone for 3 miles-3000 feet from the nuclear power plant. The CRCC also received concurrence from the Risk Counties to activate the Alert and Notification System. The sirens were sounded (simulated) at 2027 and an Emergency Alert System (EAS) message was broadcast (simulated) at 2030. Two Risk Municipalities demonstrated activation of Backup Alerting and Notification Systems due to identification of failed sirens (simulated). Also, two other Risk Municipalities demonstrated establishment of Traffic and Access Control

Points. The ancillary activities associated with preparing emergency workers for field deployment were demonstrated. The CRCC simulated obtaining a Governor's Declaration of a State of Emergency at 2012.

The "General Emergency" ECL was declared at 2045. The Protective Action Decision to recommend all residents in the EPZ evacuate was relayed to the Risk Counties at 2114. In addition, the State Health Department, after consultation with the State Bureau of Radiation Protection, recommended at 2115 that emergency workers and general public in the EPZ should ingest potassium iodide (KI). The CRCC conferred with the Risk and Support counties by conference line and determined that the simulated siren sounding would occur at 2120 followed by a simulated EAS message at 2123. Risk Municipalities simulated confirming notification of residents and institutionalized populations, evacuation of residents, and establishment of Access Control and Security check-points; then designated EOCs relocated to alternate locations.

The Exercise Termination was at 2150.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

The results and findings of the evaluations of all jurisdictions and locations that participated in the October 18 and 19, 2016, biennial Radiological Emergency Preparedness (REP) Exercise are contained in this section.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of the Exercise Evaluation Area Criteria contained in the Radiological Emergency Preparedness Program Manual. Detailed information on the Exercise Evaluation Area Criteria and the Extent-of-Play Agreement used in this exercise are found in Appendix E.

FEMA assesses Radiological Emergency Preparedness Exercises by evaluating six (6) "Evaluation Areas": Evaluation Area 1, Emergency Management; Evaluation Area 2, Protective Action Decision Making; Evaluation Area 3, Protective Action Decision Implementation; Evaluation Area 4, Field Measurement and Analysis; Evaluation Area 5, Emergency Notification and Public Information; and Evaluation Area 6, Support Operations and Facilities. There are a total of thirty-two evaluation criteria that may be evaluated during an exercise.

The Definitions of Findings of those evaluations are as follows:

a. Level 1 Finding (L1): An observed or identified inadequacy of organizational performance in an exercise that could cause a determination that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a NPP.

b. Level 2 Finding (L2): An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety.

c. Plan Issue (P): An observed or identified inadequacy in the ORO's emergency plan/implementing procedures, rather than that of the ORO's performance.

d. "Met" (M): indicates that an evaluation criterion was successfully demonstrated.

Note: Issue Numbers identify the facility (63), the year (16), the criterion (1b1), the issue type (L1, L2, or P), and issue sequence (01, 02, etc.). L1, L2, and Plan Issues are sequenced respectively (L2-01; P-01, etc.).

The Pennsylvania Commonwealth Resource Coordination Center, Pennsylvania Bureau of Radiation Protection (BRP) Accident Assessment Center, and the Pennsylvania Joint Information Center participated in this exercise but were exempted from evaluation because they had been previously evaluated in another exercise. Therefore, results of their participation will appear as an "N" on Table 3.1, "Summary of Exercise Evaluation."

3.2 Summary Results of Exercise Evaluation

The Susquehanna Steam Electric Station 2016 Plume Exercise evaluation included 67 participating exercise locations with 64 being federally evaluated and 3 participating locations that were "Observed." Fifty-three (53) evaluators provided analyses of 288 criteria. These analyses resulted in the determination of no Level 1 Findings. One Level 2 Finding was assessed and two Planning Issues identified. Both planning issues have been addressed and are Resolved.

Table 3.1 – Summary of Exercise Evaluations

Date: 2016-10-18 Site: Susquehanna Steam Electric Station, PA M: Met, L1: Level1, L2: Level2, P: Plan Issue, N: Not Evaluated	Criterion	PA CRCC	PA JIC	PA AACC BRP	PA MOC, WB	BRP R3V	SFMT A SER	PATACP SPS BB	CoCo EOC	COCo EWMDS CMVTS	CoCoBrkB/BCBEOC
Emergency Operations Management											
Mobilization	1.a.1	N	N	N	N	N	N	M	M	M	M
Facilities	1.b.1	M	N	N	N	N					
Direction and Control	1.c.1	N	N	N	N	N			M		M
Communications	1.d.1	N	N	N	N	N	N	M	M	M	M
Equipment and Supplies to Support Operations	1.e.1	N	N	N	N	N	N	M	M	M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2.a.1	N		N							
Radiological Assessment and PARs	2.b.1	N		N							
Decisions for the Plume Phase PADs	2.b.2	N		N							
PADs for Protection of Special Populations	2.c.1	N		N							
Rad Assessment and Decision Making for Ingestion Pathway	2.d.1	N		N							
Rad Assessment and Decision Making concerning Relocation, Reentry, and Return	2.e.1	N		N							
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3.a.1	**P**				N	N	M	M	M	M
Implementation of KI Decision	3.b.1	N				N	N	M	M	M	M
Implantation of Protective Actions for Special Populations – EOCs	3.c.1	N							M		M
Implantation of Protective Actions for Schools	3.c.2	N							M		M
Implementation of Traffic and Access Control	3.d.1	N						M	M		M
Impediments to Evacuation are Identified and Resolved	3.d.2	N						M	M		M
Implementation of Ingestion Pathway Decisions – Availability/Use of Information	3.e.1	N									
Materials for Ingestion Pathway PADs are Available	3.e.2	N									
Implementation of Relocation, Reentry, and Return Decisions	3.f.1	N									
Field Measurement and Analysis											
(Reserved)	4.a.1										
Field Team Management	4.a.2	N		N		N					
Field Teams Obtain Sufficient Information	4.a.3	N					N				
Field Team Sampling	4.b.1	N					N				
Laboratory Analysis	4.c.1	N									
Emergency Notification and Information											
Activation of the Prompt Alert and Notification Network	5.a.1	N							M	M	M
(Reserved)	5.a.2										
Activation of Backup Alert and Notification Systems	5.a.3	N							M		M
Exception Area Alert and Notification	5.a.4	N									
Emergency Information and Instructions for the Public and the Media	5.b.1	N	N	N	N				M		
Support Operations/Facilities											
Registration and Monitoring/Decontamination of Evacuees	6.a.1										
Monitoring/Decontamination of Emergency Workers, Equipment, and Vehicles	6.b.1										
Temporary Care of Evacuees	6.c.1										
Transportation and Treatment of Contaminated Injured Individuals	6.d.1										

Date: 2016-10-18 Site: Susquehanna Steam Electric Station, PA M: Met, L1: Level1, L2: Level2, P: Plan Issue, N: Not Evaluated	Criterion	CoCoBvrTpEOC	CoCoBvrTpBuRA	LzCo EOC	LzCoEWMDSVFC	LzCoNtckCtyEOC	LzCoNglaBEOC	LzCoNglaBTACP	LzCoSlcmTwpEOC	LzCo SlcmTwpBuRA
Emergency Operations Management										
Mobilization	1.a.1	M	M	M	M	M	M	M	M	M
Facilities	1.b.1									
Direction and Control	1.c.1	M		M	M	M	M		M	
Communications	1.d.1	M	M	M	M	M	M	M	M	M
Equipment and Supplies to Support Operations	1.e.1	M	M	M	M	M	M	M	M	M
Protective Action Decision Making										
Emergency Worker Exposure Control	2.a.1									
Radiological Assessment and PARs	2.b.1									
Decisions for the Plume Phase PADs	2.b.2									
PADs for Protection of Special Populations	2.c.1									
Rad Assessment and Decision Making for Ingestion Pathway	2.d.1									
Rad Assessment and Decision Making concerning Relocation, Reentry, and Return	2.e.1									
Protective Action Implementation										
Implementation of Emergency Worker Exposure Control	3.a.1	**L2/ P**	M	M	M	M	M	M	M	M
Implementation of KI Decision	3.b.1	M	M	M	M	M	M	M	M	M
Implantation of Protective Actions for Special Populations – EOCs	3.c.1	M		M		M	M	M	M	
Implantation of Protective Actions for Schools	3.c.2	M		M		M	M	M	M	
Implementation of Traffic and Access Control	3.d.1	M		M		M	M	M	M	
Impediments to Evacuation are Identified and Resolved	3.d.2	M		M		M	M	M	M	
Implementation of Ingestion Pathway Decisions – Availability/Use of Information	3.e.1									
Materials for Ingestion Pathway PADs are Available	3.e.2									
Implementation of Relocation, Reentry, and Return Decisions	3.f.1									
Field Measurement and Analysis										
(Reserved)	4.a.1									
Field Team Management	4.a.2									
Field Teams Obtain Sufficient Information	4.a.3									
Field Team Sampling	4.b.1									
Laboratory Analysis	4.c.1									
Emergency Notification and Information										
Activation of the Prompt Alert and Notification Network	5.a.1	M		M		M	M		M	
(Reserved)	5.a.2									
Activation of Backup Alert and Notification Systems	5.a.3	M	M	M		M	M		M	M
Exception Area Alert and Notification	5.a.4									
Emergency Information and Instructions for the Public and the Media	5.b.1			M						
Support Operations/Facilities										
Registration and Monitoring/Decontamination of Evacuees	6.a.1									
Monitoring/Decontamination of Emergency Workers, Equipment, and Vehicles	6.b.1				M					
Temporary Care of Evacuees	6.c.1									
Transportation and Treatment of Contaminated Injured Individuals	6.d.1									

Date: 2016-10-18 Site: Susquehanna Steam Electric Station, PA M: Met, L1: Level1, L2: Level2, P: Plan Issue, N: Not Evaluated	Criterion	LlzCoCnghmTwpEOC	LzCoDrncTwpEOC	lZcOOhHlnbkTwpEOC	LzCoNwptTwpEOC	LCEOC	LC MDC DHS	LCMCCDLS	LyCoEOC	LyCo MDC HHS	LyCoMCCHHS
Emergency Operations Management											
Mobilization	1.a.1	M	M	M		M			M		
Facilities	1.b.1				*M						
Direction and Control	1.c.1	M	M	M		M			M		
Communications	1.d.1	M	M	M		M		M	M		M
Equipment and Supplies to Support Operations	1.e.1	M	M	M		M	M	M	M	M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2.a.1										
Radiological Assessment and PARs	2.b.1										
Decisions for the Plume Phase PADs	2.b.2										
PADs for Protection of Special Populations	2.c.1										
Rad Assessment and Decision Making for Ingestion Pathway	2.d.1										
Rad Assessment and Decision Making concerning Relocation, Reentry, and Return	2.e.1										
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3.a.1	M	M	M			M			M	
Implementation of KI Decision	3.b.1	M	M	M			M			M	
Implantation of Protective Actions for Special Populations – EOCs	3.c.1	M	M	M							
Implantation of Protective Actions for Schools	3.c.2	M	M	M							
Implementation of Traffic and Access Control	3.d.1	M	M	M							
Impediments to Evacuation are Identified and Resolved	3.d.2	M	M	M							
Implementation of Ingestion Pathway Decisions – Availability/Use of Information	3.e.1										
Materials for Ingestion Pathway PADs are Available	3.e.2										
Implementation of Relocation, Reentry, and Return Decisions	3.f.1										
Field Measurement and Analysis											
(Reserved)	4.a.1										
Field Team Management	4.a.2										
Field Teams Obtain Sufficient Information	4.a.3										
Field Team Sampling	4.b.1										
Laboratory Analysis	4.c.1										
Emergency Notification and Information											
Activation of the Prompt Alert and Notification Network	5.a.1										
(Reserved)	5.a.2										
Activation of Backup Alert and Notification Systems	5.a.3	M	M	M							
Exception Area Alert and Notification	5.a.4										
Emergency Information and Instructions for the Public and the Media	5.b.1					M			M		
Support Operations/Facilities											
Registration and Monitoring/Decontamination of Evacuees	6.a.1						M			M	
Monitoring/Decontamination of Emergency Workers, Equipment, and Vehicles	6.b.1										
Temporary Care of Evacuees	6.c.1							M			M
Transportation and Treatment of Contaminated Injured Individuals	6.d.1										

* Newport Township: Evaluated for Facilities only. All other applicable Criteria evaluated in 2014

*

Date: 2016-10-18 Site: Susquehanna Steam Electric Station, PA M: Met, L1: Level1, L2: Level2, P: Plan Issue, N: Not Evaluated	Criterion	MCEOC	NCEOC	NCMRMDCSHS	NCMCCSHS	ScCoEOC	ScCoMDCMJSHS	ScCoMCCMJSHS	UCEOC(S)	UC MDC LAMS	UCMCCLAMS
Emergency Operations Management											
Mobilization	1.a.1	M	M			M			M		
Facilities	1.b.1				M						
Direction and Control	1.c.1	M	M			M			M		
Communications	1.d.1	M	M			M			M		M
Equipment and Supplies to Support Operations	1.e.1	M	M	M	M	M	M	M	M	M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2.a.1										
Radiological Assessment and PARs	2.b.1										
Decisions for the Plume Phase PADs	2.b.2										
PADs for Protection of Special Populations	2.c.1										
Rad Assessment and Decision Making for Ingestion Pathway	2.d.1										
Rad Assessment and Decision Making concerning Relocation, Reentry, and Return	2.e.1										
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3.a.1			M			M			M	
Implementation of KI Decision	3.b.1			M			M			M	
Implantation of Protective Actions for Special Populations – EOCs	3.c.1										
Implantation of Protective Actions for Schools	3.c.2	M									
Implementation of Traffic and Access Control	3.d.1										
Impediments to Evacuation are Identified and Resolved	3.d.2										
Implementation of Ingestion Pathway Decisions – Availability/Use of Information	3.e.1										
Materials for Ingestion Pathway PADs are Available	3.e.2										
Implementation of Relocation, Reentry, and Return Decisions	3.f.1										
Field Measurement and Analysis											
(Reserved)	4.a.1										
Field Team Management	4.a.2										
Field Teams Obtain Sufficient Information	4.a.3										
Field Team Sampling	4.b.1										
Laboratory Analysis	4.c.1										
Emergency Notification and Information											
Activation of the Prompt Alert and Notification Network	5.a.1										
(Reserved)	5.a.2										
Activation of Backup Alert and Notification Systems	5.a.3										
Exception Area Alert and Notification	5.a.4										
Emergency Information and Instructions for the Public and the Media	5.b.1	M	M			M			M		
Support Operations/Facilities											
Registration and Monitoring/Decontamination of Evacuees	6.a.1			M			M			M	
Monitoring/Decontamination of Emergency Workers, Equipment, and Vehicles	6.b.1										
Temporary Care of Evacuees	6.c.1				M			M			M
Transportation and Treatment of Contaminated Injured Individuals	6.d.1										

Date: 2016-10-18 Site: Susquehanna Steam Electric Station, PA M: Met, L1: Level1, L2: Level2, P: Plan Issue, N: Not Evaluated	Criterion	WyCoEOC	WyCo MDC THS	WyCoMCCTHS	CoCoBntnASD	CoCoBntnASDLPAES	CoCoBrwkASD	CoCoBrwkAsdBwkASD	CoCoBwkASDNscpkES	CoCoBlmsbrgASD	CoCoBlmsbgASDBlmbg AMS
Emergency Operations Management											
Mobilization	1.a.1	M									
Facilities	1.b.1										
Direction and Control	1.c.1	M									
Communications	1.d.1	M									
Equipment and Supplies to Support Operations	1.e.1	M	M	M							
Protective Action Decision Making											
Emergency Worker Exposure Control	2.a.a										
Radiological Assessment and PARs	2.b.1										
Decisions for the Plume Phase PADs	2.b.2										
PADs for Protection of Special Populations	2.c.1										
Rad Assessment and Decision Making for Ingestion Pathway	2.d.1										
Rad Assessment and Decision Making concerning Relocation, Reentry, and Return	2.e.1										
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3.a.1		M								
Implementation of KI Decision	3.b.1		M								
Implantation of Protective Actions for Special Populations – EOCs	3.c.1				M	M	M	M	M	M	M
Implantation of Protective Actions for Schools	3.c.2										
Implementation of Traffic and Access Control	3.d.1										
Impediments to Evacuation are Identified and Resolved	3.d.2										
Implementation of Ingestion Pathway Decisions – Availability/Use of Information	3.e.1										
Materials for Ingestion Pathway PADs are Available	3.e.2										
Implementation of Relocation, Reentry, and Return Decisions	3.f.1										
Field Measurement and Analysis											
(Reserved)	4.a.1										
Field Team Management	4.a.2										
Field Teams Obtain Sufficient Information	4.a.3										
Field Team Sampling	4.b.1										
Laboratory Analysis	4.c.1										
Emergency Notification and Information											
Activation of the Prompt Alert and Notification Network	5.a.1										
(Reserved)	5.a.2										
Activation of Backup Alert and Notification Systems	5.a.3										
Exception Area Alert and Notification	5.a.4										
Emergency Information and Instructions for the Public and the Media	5.b.1	M									
Support Operations/Facilities											
Registration and Monitoring/Decontamination of Evacuees	6.a.1		M								
Monitoring/Decontamination of Emergency Workers, Equipment, and Vehicles	6.b.1										
Temporary Care of Evacuees	6.c.1			M							
Transportation and Treatment of Contaminated Injured Individuals	6.d.1										

Date: 2016-10-18 Site: Susquehanna Steam Electric Station, PA M: Met, L1: Level1, L2: Level2, P: Plan Issue, N: Not Evaluated	Criterion	CoCoCCSD	CoCoCCSDCCMS	CoCoCMAVTS	LlzCo CSD	LzCoCSDRES	LzCoGNASD	GNASDGNEC	LzCoHASD	LzCoHASDHAMS	LzCoHASKHEMS
Emergency Operations Management											
Mobilization	1.a.1										
Facilities	1.b.1										
Direction and Control	1.c.1										
Communications	1.d.1										
Equipment and Supplies to Support Operations	1.e.1										
Protective Action Decision Making											
Emergency Worker Exposure Control	2.a.a										
Radiological Assessment and PARs	2.b.1										
Decisions for the Plume Phase PADs	2.b.2										
PADs for Protection of Special Populations	2.c.1										
Rad Assessment and Decision Making for Ingestion Pathway	2.d.1										
Rad Assessment and Decision Making concerning Relocation, Reentry, and Return	2.e.1										
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3.a.1										
Implementation of KI Decision	3.b.1										
Implantation of Protective Actions for Special Populations – EOCs	3.c.1										
Implantation of Protective Actions for Schools	3.c.2	M	M	M	M	M	M	M	M	M	M
Implementation of Traffic and Access Control	3.d.1										
Impediments to Evacuation are Identified and Resolved	3.d.2										
Implementation of Ingestion Pathway Decisions – Availability/Use of Information	3.e.1										
Materials for Ingestion Pathway PADs are Available	3.e.2										
Implementation of Relocation, Reentry, and Return Decisions	3.f.1										
Field Measurement and Analysis											
(Reserved)	4.a.1										
Field Team Management	4.a.2										
Field Teams Obtain Sufficient Information	4.a.3										
Field Team Sampling	4.b.1										
Laboratory Analysis	4.c.1										
Emergency Notification and Information											
Activation of the Prompt Alert and Notification Network	5.a.1										
(Reserved)	5.a.2										
Activation of Backup Alert and Notification Systems	5.a.3										
Exception Area Alert and Notification	5.a.4										
Emergency Information and Instructions for the Public and the Media	5.b.1										
Support Operations/Facilities											
Registration and Monitoring/Decontamination of Evacuees	6.a.1										
Monitoring/Decontamination of Emergency Workers, Equipment, and Vehicles	6.b.1										
Temporary Care of Evacuees	6.c.1										
Transportation and Treatment of Contaminated Injured Individuals	6.d.1										

Date: 2016-10-18 Site: Susquehanna Steam Electric Station, PA M: Met, L1: Level1, L2: Level2, P: Plan Issue, N: Not Evaluated	Criterion	LzCoNASD	NASDNJ/SHS	LzCoWSAVTS	LzCoWBAVTS						
Emergency Operations Management											
Mobilization	1.a.1										
Facilities	1.b.1										
Direction and Control	1.c.1										
Communications	1.d.1										
Equipment and Supplies to Support Operations	1.e.1										
Protective Action Decision Making											
Emergency Worker Exposure Control	2.a.a										
Radiological Assessment and PARs	2.b.1										
Decisions for the Plume Phase PADs	2.b.2										
PADs for Protection of Special Populations	2.c.1										
Rad Assessment and Decision Making for Ingestion Pathway	2.d.1										
Rad Assessment and Decision Making concerning Relocation, Reentry, and Return	2.e.1										
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3.a.1										
Implementation of KI Decision	3.b.1										
Implantation of Protective Actions for Special Populations – EOCs	3.c.1										
Implantation of Protective Actions for Schools	3.c.2	M	M	M	M						
Implementation of Traffic and Access Control	3.d.1										
Impediments to Evacuation are Identified and Resolved	3.d.2										
Implementation of Ingestion Pathway Decisions – Availability/Use of Information	3.e.1										
Materials for Ingestion Pathway PADs are Available	3.e.2										
Implementation of Relocation, Reentry, and Return Decisions	3.f.1										
Field Measurement and Analysis											
(Reserved)	4.a.1										
Field Team Management	4.a.2										
Field Teams Obtain Sufficient Information	4.a.3										
Field Team Sampling	4.b.1										
Laboratory Analysis	4.c.1										
Emergency Notification and Information											
Activation of the Prompt Alert and Notification Network	5.a.1										
(Reserved)	5.a.2										
Activation of Backup Alert and Notification Systems	5.a.3										
Exception Area Alert and Notification	5.a.4										
Emergency Information and Instructions for the Public and the Media	5.b.1										
Support Operations/Facilities											
Registration and Monitoring/Decontamination of Evacuees	6.a.1										
Monitoring/Decontamination of Emergency Workers, Equipment, and Vehicles	6.b.1										
Temporary Care of Evacuees	6.c.1										
Transportation and Treatment of Contaminated Injured Individuals	6.d.1										

3.3 Criteria Evaluation Summaries

3.3.1 State Jurisdictions

3.3.1.1 PA State Field Monitoring Team A, South East Region
3.3.1.2 PA State Field Monitoring Team B, South East Region
3.3.1.3 Pennsylvania Accident Assessment Center, Commonwealth Resource Coordination Center-Bureau Rad Protection
3.3.1.4 Pennsylvania Bureau of Radiation Protection, Radiological Rapid Response Vehicle
3.3.1.5 Pennsylvania Commonwealth Response Coordination Center
3.3.1.6 Pennsylvania Joint Information Center/Rumor Control
3.3.1.7 Pennsylvania Media Operations Center, Wilkes-Barre
3.3.1.8 Pennsylvania State Traffic and Access Control Points, State Police Barracks Bloomsburg

In summary, the status of DHS/FEMA criteria for the State Jurisdictions is as follows:

A. LEVEL 1 FINDINGS: NONE

B. LEVEL 2 FINDINGS: NONE

C. PLAN ISSUES: ONE (1)

LOCATION: Pennsylvania Commonwealth Response Coordination Center
ISSUE NUMBER: 63-16-3a1-P-01
CRITERION: Implementation of Emergency Worker Exposure Control
CONDITION: Plans, procedures, instructional media, and emergency worker information cards contain advice that individuals with allergies to seafood and shellfish should avoid ingesting potassium iodide (KI) as a thyroid blocker for radioactive iodine. This policy was changed by the US Food and Drug Administration, American Academy of Allergy and Immunology.
POSSIBLE CAUSE: The Radiological Emergency Preparedness community was generally unaware of the change in policy.
REFERENCE: NUREG 0654/FEMA REP-1, J.10.e; K.3.a,b; K4
EFFECT: Emergency workers exposed to radioactive iodine, who coincidentally presented an allergy to seafood or shellfish, would not receive KI.
CORRECTIVE ACTION DEMONSTRATED: Pennsylvania Emergency Management agency has initiated a state-wide effort to correct all plans and procedures, instructional information, and information cards for emergency management agencies, radiological officers, and other affected emergency responders in the Commonwealth.

D. PRIOR ISSUES – RESOLVED: NONE

E. PRIOR ISSUES – UNRESOLVED: NONE

3.3.2 Risk Jurisdictions

3.3.2.1 Columbia County Emergency Operations Center
3.3.2.2 Columbia County Emergency Worker Monitoring &Decontamination Station, Columbia Montour Vo-Tech School
3.3.2.3 Columbia County, Beaver Borough Back-up Route Alerting
3.3.2.4 Columbia County, Beaver Borough Emergency Operations Center
3.3.2.5 Columbia County, Beaver Township Back-up Route Alerting
3.3.2.6 Columbia County, Beaver Township Emergency Operations Center
3.3.2.7 Columbia County, Benton Area School District
3.3.2.8 Columbia County, Benton Area School District, L. Ray Appleman Elementary School
3.3.2.9 Columbia County, Berwick Area School District
3.3.2.10 Columbia County, Berwick Area School District, Berwick High School
3.3.2.11 Columbia County, Berwick Area School District, Nescopeck Elementary School
3.3.2.12 Columbia County, Berwick Borough/Briar Creek Borough Emergency Operations Center
3.3.2.13 Columbia County, Bloomsburg Area School District
3.3.2.14 Columbia County, Bloomsburg Area School District, Bloomsburg Area Middle School
3.3.2.15 Columbia County, Central Columbia School District
3.3.2.16 Columbia County, Central Columbia School District, Central Columbia Middle School
3.3.2.17 Columbia County, Columbia-Montour Area Vocational Technical School
3.3.2.18 Lackawanna County Monitoring and Decontamination Center, Dunmore High School
3.3.2.19 Luzerne County Emergency Operations Center
3.3.2.20 Luzerne County Emergency Worker Monitoring and Decontamination Station, Sweet Valley Fire Company
3.3.2.21 Luzerne County, Conyngham Township Emergency Operations Center
3.3.2.22 Luzerne County, Crestwood School District
3.3.2.23 Luzerne County, Crestwood School District, Rice Elementary School
3.3.2.24 Luzerne County, Dorrance Township Emergency Operations Center
3.3.2.25 Luzerne County, Greater Nanticoke Area School District
3.3.2.26 Luzerne County, Greater Nanticoke Area School District, Greater Nanticoke Elementary School
3.3.2.27 Luzerne County, Hazleton Area School District
3.3.2.28 Luzerne County, Hazleton Area School District, Hazleton Area High School
3.3.2.29 Luzerne County, Hazleton Area School District, Hazleton Elementary/Middle School

3.3.2.30 Luzerne County, Hollenback Township Emergency Operations Center
3.3.2.31 Luzerne County, City of Nanticoke Emergency Operations Center
3.3.2.32 Luzerne County, Newport Township Emergency Operations Center
3.3.2.33 Luzerne County, Northwest Area School District
3.3.2.34 Luzerne County, Northwest Area School District, Northwest Jr./Sr. High School
3.3.2.35 Luzerne County, Nuangola Borough Emergency Operations Center
3.3.2.36 Luzerne County, Nuangola Borough Traffic and Access Control
3.3.2.37 Luzerne County, Nuangola Borough Traffic and Access Control
3.3.2.38 Luzerne County, Slocum Township Back-up Route Alerting
3.3.2.39 Luzerne County, Slocum Township Emergency Operations Center
3.3.2.40 Luzerne County, West Side Area Vocational - Technical School
3.3.2.41 Luzerne County, Wilkes-Barre Area Vocational - Technical School

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

A. LEVEL 1 FINDINGS: NONE

B. LEVEL 2 FINDINGS: ONE (1)

LOCATION: Beaver Township Emergency Operations Center
ISSUE NO: 63-16-3a1-L2-01
CRITERION: Implementation of Emergency Worker Exposure Control
CONDITION: Beaver Township emergency workers were not directed to ingest potassium iodide (KI).
POSSIBLE CAUSE: The Communications Officer received the recommendation by the State Health Department for emergency workers to ingest KI but did not relay that information to the Emergency Manager, Radiological Officer, or field personnel.
REFERENCE: NUREG 0654/FEMA REP-1, J.10.e; K.3.a,b; K4
EFFECT: Beaver Township emergency workers did not simulate ingesting KI.
RECOMMENDATION: Provide training and procedures to the Communications Officer, EMC, and Radiological Officer to ensure that they recognize health and safety information. Ensure that critical health and safety messages are identifiable, repeated, and verified.

C. PLAN ISSUES: ONE (1)

ISSUE NO: 63-16-3a1-P-02
CRITERION: Implementation of Emergency Worker Exposure Control
CONDITION: Dosimetry and potassium iodide (KI) were not issued (or issue simulated) to "Category B" emergency workers at Berwick Hospital and Berwick Retirement Villages I and II located inside the 10-mile Emergency Planning Zone (EPZ).

POSSIBLE CAUSE: In accordance with Columbia County and Berwick/Briar Creek Borough Radiological Emergency Response Plans (RERP) Berwick Hospital and Berwick Retirement Villages staff are considered Category B emergency workers and should be issued appropriate area kits and Category B Standard Issue dosimetry. The plans have conflicting information and do not provide adequate direction for completion of this task. Neither the County or Borough Plan clearly describe the process for distribution and issuance of dosimetry, nor who is responsible for the task. When interviewed, the Berwick/Briar Creek Borough Emergency Management Coordinator and the Radiological Officer were unaware that they had responsibility for issuing dosimetry and KI to the hospital and retirement center. It was noted that adequate quantities of dosimetry and KI for hospital and retirement center staff was included in the Berwick/Briar Creek Borough Emergency Operation Center dosimetry/KI storage area.
REFERENCE: Columbia County RERP, 2016, Appendix 13, Radiological Exposure Control; Berwick/Briar Creek Borough – Columbia County RERP – Standard Operating Procedure, 2016, Revision 5, SOP – I, Radiological Protection Services Officer, ESF-10
EFFECT: Hospital and retirement center staff inside the EPZ would at risk of radiation exposure without knowing the exposure rate, cumulative dose, and without KI prophylaxis.
CORRECTIVE ACTION DEMONSTRATED: Columbia County and Berwick Borough/Briar Creek Borough Radiological Emergency Response Plans were modified to include specific instructions to distribute Category "B" emergency worker dosimetry and KI kits to the Berwick Hospital and Berwick Retirement Village employees.

D. PRIOR ISSUES – RESOLVED: NONE

E. PRIOR ISSUES – UNRESOLVED: NONE

3.3.3 Support Jurisdictions

3.3.3.1 Lackawanna County Emergency Operations Center
3.3.3.2 Lackawanna County Mass Care Center, Dunmore High School
3.3.3.3 Lycoming County Emergency Operations Center
3.3.3.4 Lycoming County Mass Care Center, Hughesville High School
3.3.3.5 Lycoming County Monitoring and Decontamination Center, Hughesville High School
3.3.3.6 Montour County Emergency Operations Center
3.3.3.7 Northumberland County Emergency Operations Center
3.3.3.8 Northumberland County, Mass Care Center, Shamokin High School

3.3.3.9 Northumberland County, Reception & Monitoring/Decontamination Center, Shamokin High School

3.3.3.10 Schuylkill County Emergency Operations Center
3.3.3.11 Schuylkill County Mass Care Center, Mahanoy Junior/Senior High School
3.3.3.12 Schuylkill County Monitoring and Decontamination Center, Mahanoy Junior/Senior High School
3.3.3.13 Union County Emergency Operations Center
3.3.3.14 Union County Mass Care Center, Lewisburg Area Middle School
3.3.3.15 Union County Monitoring and Decontamination Center, Lewisburg Area Middle School
3.3.3.16 Wyoming County Emergency Operations Center
3.3.3.17 Wyoming County Mass Care Center, Tunkhannock High School
3.3.3.18 Wyoming County Monitoring and Decontamination Center, Tunkhannock High School

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: TWO (2)

ISSUE NO: 63-14-6c1-P-01
CRITERION: TEMPORARY CARE OF EVACUEES
CONDITION: Lackawanna County Emergency Operations Plan (EOP) shelter capacity tables for Mid Valley High School and American Red Cross (ARC) shelter space criteria are inconsistent. The EOP tables indicate the shelter can accommodate more people than the criteria permit.
POSSIBLE CAUSE: EOP tables have not been updated since the ARC adjusted the criteria to specify 40 square feet per person.
REFERENCE: NUREG-0654/FEMA-REP-1, J.10.h, J.12
EFFECT: Congregate care centers may become overcrowded.
CORRECTIVE ACTION DEMONSTRATED: Lackawanna County identified additional shelter space, conducted surveys, completed shelter Memoranda of Understanding between North Central Region, Pennsylvania American Red Cross, and facility owners and subsequently modified the appropriate plans and procedures.

ISSUE NO: 63-14-6c1-P-02
CRITERION: TEMPORARY CARE OF EVACUEES
CONDITION: Lackawanna County Emergency Operations Plan (EOP) shelter capacity tables for the Dunmore YMCA and American Red Cross (ARC) shelter space criteria are inconsistent. The EOP tables indicate the shelter can accommodate more people than the criteria permit.

POSSIBLE CAUSE: EOP tables have not been updated since the ARC adjusted the criteria to specify 40 square feet per person.
REFERENCE: NUREG-0654/FEMA-REP-1, J.10.h, J.12
EFFECT: Congregate care centers may become overcrowded.
CORRECTIVE ACTION DEMONSTRATED: Lackawanna County identified additional shelter space, conducted surveys, completed shelter Memoranda of Understanding between North Central Region, Pennsylvania American Red Cross, and facility owners and subsequently modified the appropriate plans and procedures.

E. PRIOR ISSUES – UNRESOLVED: NONE

3.3.4 Private Jurisdictions

In summary, the status of DHS/FEMA criteria for the Private 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

3.3.5 Federal Jurisdictions

In summary, the status of DHS/FEMA criteria for the Federal 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

FEMA Region III has determined that, as set forth in 44 CFR § 350.12(b), offsite plans/procedures and preparedness for the Susquehanna Steam Electric Station Emergency Plan are:

- Adequate to protect the health and safety of the public living in the vicinity of the nuclear power facility, by providing reasonable assurance that appropriate protective measures can be taken offsite in a radiological emergency;

- Capable of being implemented (e.g., adequacy and maintenance of procedures, training, resources, staffing levels, qualification, and equipment adequacy).

APPENDIX A: IMPROVEMENT PLAN

Issue Number: 63-16-3a1-L2-01	
ISSUE: Beaver Township emergency workers were not directed to ingest potassium iodide (KI).	
RECOMMENDATION: Provide training and procedures to the Communications Officer, EMC, and Radiological Officer to ensure that they recognize health and safety information. Ensure that critical health and safety messages are identifiable, acknowledged, and verified.	
CORRECTIVE ACTION DESCRIPTION: After discussion with county and utility leaders and after careful consideration concerning the matter, the Commonwealth of Pennsylvania believes that the root cause of the matter rests either in a failure of education of the Communications Officer and/or the format in which health and safety information is relayed to the receiving agencies. Training for communications officers will include emphasis on the importance of relaying critical health and safety information. Message origination procedures will be improved to ensure that health and safety messages are Identifiable, Acknowledged, and Verified.	
CAPABILITY: Communications	PRIMARY RESPONSBLE AGENCY: Beaver Township Emergency Management
CAPABILITY ELEMENT: Training	STATE DATE: 2017-01-10
AGENCY POC: Tracy Miller, Emergency Management Coordinator	ESTIMATED COMPLETION DATE: 2017-06-30

APPENDIX B: EXERCISE TIMELINE

The tables on the following pages present the times at which key events and activities occurred during the SSES exercise on October 18, 2016. Also included are times notifications were made to the participating jurisdictions and functional entities. (*Continued on page 37*)

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received at the Listed Location								
		PA CRCC	PA JIC	PA/AA (BRP)	Columbia County EOC	Berwick/ Briar Creek EOC	Beaver Township EOC	Luzerne County EOC	Nanticoke City EOC	Nuangola Borough EOC
Unusual Event										
Alert	1813	1822	1838	1832	1822	1832	1827	1822	1827	1835
Site Area Emergency	1944	1951	2004	1959	1951	1954	1858	1951	1950	1956
General Emergency	2045	2047	2102	2102	2052	2059	2101	2059	2045	2100
Simulated Radiation Release Started	1813	1822	1838	1832	1822	1832	1827	1822	1827	1835
Simulated Radiation Release Terminated	On-going	On-going	On-going	On-going	On-going	On-going	On-going	On-going	On-going	On-going
Facility Declared Operational		1813	1904	1813	1822	1855	1849	1813	1900	1844
Governor's Declaration of State of Emergency		2012	2119	2119	2034	2050	2049	2023	2115	2106
Exercise Terminated		2150	2150	2150	2158	2157	2157	2150	2153	2150
First Precautionary/Protective Actions: Livestock on stored feed and water; river and lake restrictions; FAA 3 mile 3000		2015	2040	2015	2015	2058	2058	2015	2015	2015
Siren Sounding		2027	2027	2027	2027	2027	2027	2027	2027	2027
EAS Broadcast time Emergency at SSES monitor for more information		2030	2030	2030	2030	2030	2030	2030	2030	2030
Second Precautionary/ Protective Actions: Evac 10 miles 360		2114	2023	2114	2115	2134	2124	2114	-	-
Siren Sounding		2120	2120	2120	2120	2120	2120	2120	-	-
EAS Broadcast time Emergency at SSES monitor for more information		2123	2123	2123	2123	2123	2123	2123	-	-
Decision to take KI: EWs		2115	2115	2115	2115	2124	2124	2115	2146	2146
Decision to take KI: Public		2115	2115	2115	2115	2115	2115	2116	-	-

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was 19Received at the Listed Location								
		Slocum Township EOC	Conyngham Township EOC	Dorrance Township EOC '	Hollenback Township EOC	Lackawanna County EOC	Lycoming County EOC	Northumberland County EOC	Schuylkill County EOC	Union County EOC
Unusual Event										
Alert	1813	1827	1828	1826	1830	1835	1842	1852	1839	1838
Site Area Emergency	1944	1956	1956	1956	1959	2006	2012	2000	1959	2000
General Emergency	2045	2100	2100	2101	2059	2111	2111	2109	2102	2103
Simulated Radiation Release Started	1813	1827	1828	1826	1830	1835	1842	1852	1813	1813
Simulated Radiation Release Terminated	On-going	On-going	On-going	On-going	On-going	On-going	On-going	On-going	On-going	On-going
Facility Declared Operational		1830	1850	1842	1855	1840	1920	1930	1840	1856
Governor's Declaration of State of Emergency		2105	2106	2115	2105	2024	2026	2024	2023	2023
Exercise Terminated		2153	2150	2153	2146*	2140*	2142*	2140*	2140*	2150
First Precautionary/Protective Actions: Livestock on stored feed and water; river and lake restrictions; FAA 3 mile 3000		2015	2015	2015	--	2015	2015	2015	-	N/A
Siren Sounding		2027	2027	2027	2027	2027	2027	2027	2027	N/A
EAS Broadcast time Emergency at SSES monitor for more information		2030	2030	2030	2030	2030	2030	2030	2030	N/A
Second Precautionary/Protective Actions: Evac 10 miles 360		-	-	-	-	2114	2115	2115	-	
Expand air 10 mile 10,000				2105						
Siren Sounding						2129	2120	2120	2120	-
EAS Broadcast time Emergency at SSES monitor for more information						2123	2123	2123	2123	-
Decision to take KI: EWs		2122	2145	2140	2146	2114	2115	2115	2115	-
Decision to take KI: Public		-	-	-	-	-	2115	2115	2115	-

* Designated jurisdictions permitted to terminate exercise activities to simulate relocation or completion of exercise objectives.

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received at the Listed Location								
		Wyoming County EOC								
Unusual Event		1843								
Alert	1813	2013								
Site Area Emergency	1944	2111								
General Emergency	2045	1813								
Simulated Radiation Release Started	1813	On-going								
Simulated Radiation Release Terminated	On-going	1843								
Facility Declared Operational		2017								
Governor's Declaration of State of Emergency		2035								
Exercise Terminated		2140*								
First Precautionary/Protective Actions: Livestock on stored feed and water; river and lake restrictions; FAA 3 mile 3000		2028								
Siren Sounding		2035								
EAS Broadcast time Emergency at SSES monitor for more information		2035								
Second Precautionary/Protective Actions: Evac 10 miles 360		2124								
Siren Sounding		2124								
EAS Broadcast time Emergency at SSES monitor for more information		2124								
Decision to take KI: EWs		2124								
Decision to take KI: Public		2133								

* Designated jurisdictions permitted to terminate exercise activities to simulate relocation or completion of exercise objectives.

APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

The following pages lists the Evaluators and Team Leaders and location assignments for the SSES 2016 Plume Exercise evaluated on October 18 and 19, 2016.

Exercise Evaluation Managing Staff:
Thomas Scardino, FEMA Region III, Radiological Assistance Committee Chairman
Barton Freeman, FEMA Region III, Exercise Evaluation Program Manager and Site Specialist
William McDougall, FEMA RIII, Team Leader, Schuylkill County
John Price, FEMA Region III, Team Leader, Columbia County
Joseph Suders, FEMA Region III, Team Leader, Luzerne County
Michael Shuler, FEMA Region III, Team Leader, Technical and Field Demonstrations
Nicholas Buls, FEMA Region III, Evaluator
Lee Torres, FEMA Region III, Evaluator
Tina Thomas, FEMA Region III, Evaluator
Patricia Gardner, FEMA Region III, Evaluator
Chris Nemcheck, FEMA Region III, Evaluator (OJT)
Helen Malone, FEMA Region III, Exercise Administrative Support

Also, Cristina Schulingkamp, US Environmental Protection Agency, evaluated locations as a representative of the Radiological Assistance Committee:

Additional evaluation assistance was provided by FEMA Regions X, II, and VII by providing the following Radiological Emergency Preparedness Program personnel:

Bill Webb, FEMA Region X
Brian Hasemann, Region II
Denis Branson, FEMA Region VII
Sharron McDuffie, FEMA Region VII
Bonnie Sheffield, FEMA Region VIII
Kenneth Wierman, FEMA HQ
Darren Bates, FEMA HQ
Lisa Hamilton, FEMA HQ
Anthony Defelice, FEMA HQ

FEMA Region III provided the following non-REP Program personnel as evaluators:

Kathryn Duran, Evaluator,
John Brasko, Evaluator,
Kerry Holmes, Evaluator,
Steve Ward, Evaluator

DATE: 10/18/2016, SITE: Susquehanna Steam Electric Station

Plume Exercise, Tuesday, October 18, 2016 1600 - 2200		
EVALUATION SITE		
COMMONWEALTH OF PENNSYLVANIA	**EVALUATOR**	**ORGANIZATION**
Pennsylvania CRCC	Tom Murray Dennis Branson	FEMA RIII FEMA RVII
PEMA JIC	Roger Kowieski	ICF
Media Operations Center (Utility JIC) (East Mountain Business Center	Danny Loomis	ICF
Accident Assessment (State EOC – BRP)	Reggie Rogers	ICF (Tech)
Radiation Rapid Response Vehicle (R3V)	Michael Shuler	FEMA RIII (TTL)
State Field Monitoring Team A, Eastern Region	Deborah Blunt	ICF
State Field Monitoring Team B, Eastern Region	Marynette Herndon	ICF

Plume Exercise, Tuesday, 18 October 2016 1600 - 2200		
EVALUATION SITE		
RISK JURISDICTIONS	**EVALUATOR**	**ORGANIZATION**
Columbia County		
Columbia County EOC	John Price	FEMA RIII (TL)
	Gary Bolender	ICF
	Brian Hasemann	FEMA RII
	Darren Bates	FEMA HQ
Berwick Borough/Briar Creek Borough EOC	Marcy Campbell	ICF
	Bob Duggleby	ICF
Beaver Township EOC	Lee Torres	FEMA RIII
Backup Route Alerting	Lenora Borchardt	ICF
Luzerne County		
Luzerne County EOC	Joseph Suders	FEMA RIII (TL)
	Tina Thomas	FEMA RIII
	Nick Buls	FEMA RIII
	Bonnie Sheffield	FEMA RVIII
City of Nanticoke EOC	Anthony Deflice	FEMA HQ
	John Brasko	FEMA RIII
Nuangola Borough EOC	Kerry Holmes	FEMA RIII
Traffic and Access Control	Carl Wentzell	ICF

Slocum Township EOC	Cristina Schulingkamp	EPA RIII
Backup Route Alerting	Lisa Hamilton	FEMA HQ
Conyngham Township EOC	Kathryn Duran	FEMA RIII
	Michele Skiermont	ICF
Dorrance Township EOC	Sharron McDuffie	FEMA RVII
	Thomas Essig	ICF
Hollenback Township EOC	Patti Gardner	FEMA RIII
	James Hickey	ICF
Newport Township EOC	Danny Loomis	ICF
SUPPORT JURISDICTIONS		
Lackawanna Co. EOC	Steve Ward	FEMA RIII
Lycoming Co. EOC	Ken Wierman	FEMA HQ
Northumberland Co. EOC	Rosemary Samsel	ICF
Schuylkill Co. EOC	Bill McDougall	FEMA RIII
Union Co. EOC	Roger Jobe	ICF
Wyoming Co. EOC	Bill Webb	FEMA RX
Montour Co. EOC *Out-of-Sequence*		

Out of Sequence Demonstrations
Emergency Worker Monitoring and Decontamination

Wednesday, 19 October 2016 1900 - 2130		
EVALUATION SITE	**EVALUATOR**	**ORGANIZATION**
Columbia County Columbia Montour Career Center	John Wills	ICF
Luzerne County Sweet Valley Fire Company	Ron Biernacki	ICF

Out of Sequence Demonstrations
PA State Police Traffic & Access Control

Wednesday, 19 October 2016 1000 – 1200		
EVALUATION SITE	**EVALUATOR**	**ORGANIZATION**
Bloomsburg Barracks PSP	Bill McDougall	FEMA RIII

Out of Sequence Demonstrations
Reception, Monitoring and Decontamination, Mass Care

Wednesday, 19 October 2016 1900 – 2130		
EVALUATION SITE	**EVALUATOR**	**ORGANIZATION**
Lackawanna County	Steve Ward	FEMA RIII
Reception Center – Big Lots, Dunmore	Wes Ryals	ICF
Mass Care Center – Dunmore HS		
Mon/Decon – Dunmore HS	Reggie Rogers	ICF Tech
Lycoming County	Ken Wierman	FEMA HQ
Reception Center – Lycoming Mall	PJ Nied	ICF
Mass Care Center – Hughesville HS		
Mon/Decon – Hughesville HS	Deborah Blunt	ICF Tech
Northumberland County	Rosemary Samsel	ICF
Mass Care – Shamokin HS	Bill McDougall	FEMA RIII
Reception/Mon/Decon – Shamokin HS	Dennis Branson	FEMA RVII
Schuylkill County	Bill McDougall	FEMA RIII
*Mass Care – Mahanoy HS	Clay Spangenberg	ICF
*Reception/Mon/Decon – Mahanoy HS	Carol Shepard	ICF Tech
Union County	Roger Jobe	ICF
Reception Center –Montandon ES	Danny Loomis	ICF
Mass Care – Lewisburg HS		
Mon/Decon – Lewisburg HS	Kent Tosch	ICF Tech
Wyoming County	Bill Webb	FEMA RX
Mass Care Center – Tunkhannock HS	Robert Lemeshka	ICF
Reception/Mon/Decon – Tunkhannock HS	Cheryl Weaver	ICF Tech

* Northumberland County Mass Care & Reception/Monitoring & Decontamination Evaluation: 10/20/16

APPENDIX D: ACRONYMS AND ABBREVIATIONS

Acronym	Description
ACP	Access Control Points
AD	Administrative Director
ALARA	As Low As Reasonably Achievable
ANS	Alert Notification System
ARC	American Red Cross
ARCA	Areas Requiring Corrective Action
ARD	Automatic Ring Down
ARES	Amateur Radio Emergency Services
BASD	Bloomsburg Area School District
BOLO	Be On the Lookout
BRP	Bureau Radiological Protection
BuRA	Backup Route Alerting
CART	County Animal Rescue Team
CCAHS	Central Columbia Area High School
CCASD	Central Columbia Area School District
CCEMA	Columbia County Emergency Management Agency
CCEMO	Colombia County Emergency Management Office
CCEOC	Columbia County Emergency Operations Center
CCSD	Central Columbia School District
CDE	Committed Dose Equivalent
CEB	County Emergency Board
CHS	Crestwood High School
CLEAN	Commonwealth Law Enforcement Assistance Network
CMC	Community Medical Center

CO	Communication Officer
CPM	Counts Per Minute
CRCC	Commonwealth Response Coordination Center
CRO	County Radiological Officer
CSD	Crestwood School District
DEMC	Deputy Emergency Management Coordinator
DRD	Direct Reading Dosimeter
DT	Dorrance Township
DTEMA	Dorrance Township Emergency Management Agency
DTEOC	Dorrance Township Emergency Operations Center
DVD	Digital Video Disk
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
ED	Executive Director
EDRD	Electronic Direct Reading Dosimeter
EM	Emergency Manager
EMA	Emergency Management Agency
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMS	Emergency Medical Service
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPZ	Emergency Planning Zone
ESF	Emergency Support Function
EW	Emergency Worker

EW	Emergency Worker
EWMDS	Emergency Worker Monitoring and Decontamination Station
FAC	Food Agriculture Council
FCT	Fishing Creek Township
FD	Fire Department
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
GE	General Emergency
HAB	Hostile Action Based
HMES	Huntington Mills Elementary School
HMSO	Health Medical Services Officer
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
JIC	Joint Information Center
KC	Knowledge Center
LAHS	Lewisburg Area High School
LCEMA	Luzerne County Emergency Management Agency
LCEOC	Lycoming County Emergency Operations Center
LCRERP	Luzerne County Radiological Emergency Response Plan
LHS	Lewisburg High School
LIU	Local Intermediate Unit
MARS	Military Affiliate Radio System
MCC	Mass Care Center
MCEOC	Montour County Emergency Operations Center
MES	Montandon Elementary School

MHSMCC	Marian High School Mass Care Center
MHSRC	Marian High School Reception Center
MOC	Media Operations Center
MOU	Memorandum of Understanding
NRC	Nuclear Regulatory Commission
NRC	Nuclear Regulatory Commission
OOS	Out Of Sequence
ORO	Offsite Response Organization
PA	Public Address
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PEMA	Pennsylvania Emergency Management Agency
PIM	Public Information Manager
PIO	Public Information Officer
PM	Portal Monitor
PPE	Personal Protective Equipment
PPHD	Pennsylvania Public Health Department
PRD	Permanent Record Dosimeters
PSO	Police Services Officer
PSP	Pennsylvania State Police
R3V	Radiological Rapid Response Vehicle
RAC	Radiological Assistance Committee
RACES	Radio Amateur Civil Emergency Service
RC	Reception Center
RCM	Reception Center Manager
RCRS	Road Condition Reporting System
REP	Radiological Emergency Preparedness

RERP	Radiological Emergency Response Plan
RES	Rice Elementary School
RO	Radiological Officer
RSO	Radiation Safety Officer
RTES	Rush Township Emergency Services
SA	Staging Area
SAC	Staging Area Commander
SAE	Site Area Emergency
SCEMA	Schuylkill County Emergency Management Agency
SCTEOC	South Centre Township Emergency Operations Center
SEOC	State Emergency Operations Center
SES	Smith Elementary School
SESS	Susquehanna Electric Steam Station
SEVAN	State Emergency Voice Alerting Network
SOP	Standard Operating Procedure
SSES	Susquehanna Steam Electric Station
TACP	Traffic and Access Control Point
TC	Transportation Coordinator
TCP	Traffic Control Points
TEDE	Total Effective Dose Equivalent
UC	Union County
UCMCC	Union County Mass Care Center
UCRC	Union County Reception Center
UE	UNUSUAL EVENT
UPS	Uninterruptable Power Supply
VHF	Very High Frequency

VMS	Variable Message Signs
WCEMA	Wyoming County Emergency Management Agency
WCEOC	Wyoming County Emergency Operation Center

APPENDIX E: EXERCISE EXTENT OF PLAY

The enclosed Extent of Play was published September 16, 2016, and is included here for reference in accordance with FEMA's, Homeland Security Exercise Evaluation Program (HSEEP). It was created as an overall tool for facilitation and implementation of the Susquehanna Steam Electric Station 2016 Plume Exercise.and to incorporate the concepts and policies of the Radiological Emergency Preparedness Program Manual, Part III, REP Program Demonstration Guidance. The Extent of Play was originally drafted and published by the Pennsylvania Emergency Management Agency (PEMA) as an independent document and is annexed here.

The "Susquehanna Steam Electric Station Extent of Play 2016 Radiological Emergency Preparedness Exercise Extent of Play" was negotiated and agreed upon by FEMA Region III, PEMA, and the emergency management agencies of the Risk and Support Counties. Two (2) Planning Issues described on page 61 were resolved subsequent to the publication of the Extent of Play, but prior to the evaluation of this exercise.

SUSQUEHANNA STEAM ELECTRIC STATION

EXTENT OF PLAY

2016 RADIOLOGICAL EMERGENCY

PREPAREDNESS EXERCISE

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Table of Contents

SUSQUEHANNA STEAM ELECTRIC STATION
2016 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

METHOD OF OPERATION

I. Susquehanna Steam Electric Station (SSES)

The facility normally uses off-watch section personnel to participate in the exercise. The plant's simulated events, radiation readings, and emergency classifications will trigger offsite exercise actions. A pre-approved exercise scenario will be used. The SSES will notify the Commonwealth Watch and Warning Center (CWWC, formerly known as the State EOC), the Bureau of Radiation Protection and risk counties of emergency classifications.

II. Bureau of Radiation Protection (BRP)

Personnel from the Pennsylvania Bureau of Radiation Protection (BRP) will be present and participate in the following aspects of the exercise as follows:

Plume Exercise – Commonwealth Response Coordination Center (CRCC)
Plume Exercise – Nuclear facility Emergency Operations Facility (EOF) and Technical Support Center (TSC)
Plume Exercise – Field Sampling Teams & Command Vehicle

BRP Field Sampling Teams & Command Vehicle will be evaluated.

In the event the scenario has no radiological release, a report of Background Radiation by the Field Monitoring Team would be considered a successful demonstration of the criterion.

III. PEMA Operations at the CRCC/PEMA Headquarters

This "Method of Operation" Document includes activities for the Full-Scale Plume Exercise October 18, 2016 and the "Out of Sequence" Activities for October 18 and October 19, 2016.

A. Plume Exercise – October 18, 2016

PEMA Staff and Agency Representatives (AR) from designated state departments/agencies will comprise initial operations at the CRCC. PEMA will participate, but the CRCC will not be evaluated during the plume exercise.

B. Plume Exercise – "Out of Sequence" Activities –October 18, 2016

The PEMA staff will disseminate exercise related messages to the participating Counties for dissemination to the participating School Districts during the morning of October 18, 2016 from 9:00 a.m. to 11:00 a.m. The CRCC and County Emergency Operation Centers (EOCs) will participate, but will NOT be evaluated during the "Out of Sequence" component. PEMA personnel will serve as "observers" at the identified School Districts.

NOTE: The Montour County EOC will be evaluated during the school district exercise during the morning of October 18, 2016.

C. "Out of Sequence" Activities –October 18 and 19, 2016

The Pennsylvania State Police (PSP) demonstration will take place at PSP Bloomsburg Barracks, located at 6850 Hidlay Church Road *Bloomsburg, Pennsylvania* 17815. The PSP briefing will be performed out of sequence in a demonstration window of **10:00 a.m. to 12:00 p.m. on October 19, 2016.**

PEMA personnel will serve as "Observers" at the various field exercise locations during the evening "Out of Sequence" component **October 19, 2016 at 7:00 p.m. to 9:30 p.m.** An exercise coordinator will remain in the CWWC. The CWWC and counties will NOT be evaluated during the evening "Out of Sequence" component.

D. "Out of Sequence" Activities – October 11, 2016

The CRCC will demonstrate 1.b.1 criterion for a new facility on the morning of October 11, 2016 in conjunction with a TMI utility meeting at the PEMA location.

IV. PEMA Area Office Operations

The PEMA Area Offices (Hamburg – Eastern Area and Harrisburg – Central Area) will not be activated nor evaluated during this exercise. Selected staff of the Area Offices will serve as Liaison Officers to risk and support Counties as assigned. Liaison Officers are exercise participants.

V. Counties Designated to Participate

A. Plume Phase Exercise: October 18, 2016

The two risk counties (Columbia and Luzerne), in coordination with PEMA, will demonstrate the capability to mobilize appropriate staff, activate their respective EOCs and implement emergency response operations to include sheltering and/or evacuation. County government will provide direction and coordination to risk municipalities. The six support Counties (Lackawanna, Lycoming, Northumberland, Schuylkill, Union and Wyoming) will participate in their assigned support roles. Actual sheltering or evacuation of the general public will be simulated.

NOTE: The Montour County EOC will not be evaluated during the plume phase exercise.

VI. Local Emergency Management

All affected local municipalities, along with supporting agencies, will participate in the plume exercise. On a rotating basis, local municipalities will be federally evaluated as

coordinated by PEMA and their associated county (once per 8 year cycle). They will demonstrate mobilization of staff, activation of their EOC, and implementation of emergency response operations. Some municipalities may be evaluated on Back-up Route Alerting or TCP/ACP operations. See Attachment A Sections 1.A.2, 1.A.3, and 1.A.4 for those locations being federally evaluated.

VII. PEMA Liaison Officers

Liaison officers will be present at the participating risk and support county EOCs, the SSES Emergency Operations Facility (EOF) and the SSES Joint Information Center (JIC) to provide assistance, guidance, and support. These liaison officers will participate as players in the plume phase exercise on October 18, 2016.

VIII. Controllers

A lead controller will be present in the CRCC. Controllers are not players. Controllers will provide pre-approved injects and information to the players, as appropriate, regarding radiological readings during the monitoring of personnel. Live radioactive sources will not be used. ***Exception:*** *individuals tasked with the setup of portal monitoring equipment (if used) will use a standard 1 micro curie Cesium 137 source for the purpose of conducting operational tests. Additionally, appropriate test sources will be available and used to verify the operation of the monitoring/survey instruments per manufacturers' recommendations.*

A. **October 18, 2016 schools demonstration:** PEMA CWWC will provide exercise inject messages to support the schools exercise via the counties.

B. **October 19, 2016:** A controller will be present at each of the emergency worker monitoring/decontaminating stations and public monitoring and decontamination centers that are scheduled for evaluation on the evening of October 19, 2016 from 7:00 p.m. to 9:30 p.m. The controller for these locations is provided by the Utility.

IX. PEMA Observers

PEMA staff, qualified county emergency management personnel, and/or nuclear power plant personnel will be assigned, if required, to key locations for the purpose of observing, noting response actions and conditions, and recording observations for future use. Observers *will not take an active part in the proceedings*, but will interact with staff members to the extent necessary to fulfill their observer responsibilities. Coaching of players by observers is not permitted except to provide training to participants awaiting a re-demonstration. (Refer to paragraph XIV)

X. FEMA Evaluators

Federal evaluators will be present at the risk and support county EOCs, identified risk municipal EOCs, and at appropriate field locations to evaluate player response to the actual and simulated events in the exercise scenario. FEMA will evaluate about one-third of the risk municipalities in Columbia and Luzerne Counties as identified in this document.

It is agreed those agencies/organizations, approved for exercise exemption, that full or limited participation is acceptable. However, their level of participation must be sufficient to ensure their respective evaluated partners (i.e. counties or municipalities) have the overall ability to perform their evaluated objectives. If through error or omission by the exempt agency/organization a serious performance issue results which negatively affects the play of the evaluated participant(s), the performance issue will be included in the After Action Report. In some instances, the exempted agency/organization may accept the issue rather than the evaluated participant if the fault lies with the exempted agency/organization not fulfilling their obligation(s) relative to the level of required participation.

Plume Exercise

A. **Out of Sequence Period: October 18, 2016**
Federal evaluators will be present at the CRCC and identified risk and support county EOCs to evaluate player response to the actual and simulated events in the exercise scenario. Additionally, one-third of the risk municipalities will be federally evaluated. As required, a "floating-evaluator" will be made available for the purpose of evaluating any Offsite Response Organizations (ORO) locations not scheduled to have a federal evaluator, but having a prior issue (**Attachment A, Section I.A.1 and I.A.2**).

NOTE: The Montour County EOC will be evaluated during the school district exercise during the morning of October 18, 2016.

B. **Out of Sequence A.M. Period (October 18, 2016):** Federal evaluators will be present at the identified "out of sequence" demonstration sites per **Attachment A, Section I.B.1**. These include the identified Public School Districts.

C. **Out of Sequence A.M. Period (October 19, 2016):** The PSP demonstration will take place at PSP Bloomsburg Barracks, located at 6850 Hidlay Church Road, *Bloomsburg*, Pennsylvania 17815. The PSP briefing will be performed out of sequence in a demonstration window of 10:00 a.m. to 12:00 p.m. on October 19, 2016.

D. **Out of Sequence P.M. Period (October 19, 2016):** Federal evaluators will be present for demonstrations conducted at Reception Centers, Mass Care Centers, and Monitoring/Decontamination Centers (for the public) and Stations (for Emergency Workers) as identified in **Attachment A, Sections I.B.3, I.B.4 and I.B.5**.

NOTE: Northumberland will demonstrate Reception Centers, Mass Care Centers, and Monitoring/Decontamination Centers (for the public) on Thursday October 20, 2016 from 7:00 p.m. to 9:30 p.m.

E. **Other Out of Sequence activities:** Walk-downs for new Mass Care Centers will be conducted on the days of August 22, September 6, and September 7 as identified in **Attachment A, Section I.B.3**. The CRCC will demonstrate 1.b.1 criterion for a new facility on the morning of October 11 in conjunction with another planned meeting.

XI. Demonstration Windows

In order to provide for more effective demonstrations, as well as to permit the release of volunteers from exercise play at a reasonable hour, periods of time (Demonstration Windows) have been designated during which specified actions will be accomplished/demonstrated.

The "demonstration windows" for this exercise are:

A. Plume Phase Exercise

The out of sequence MS-1 hospital demonstration was federally evaluated at Geisinger Wyoming Valley Hospital on April 22, 2015.

The out of sequence exercise window for school demonstrations will be from 9:00 a.m. to 11:00 a.m. on Tuesday, October 18, 2016 (Please refer to the **Extent of Play Demonstration Tables, Attachment A**).

The out of sequence demonstration of reception centers, mass care centers, monitoring/decontamination centers and emergency worker stations will be conducted from 7:00 p.m. to 9:30 p.m. on Wednesday October 19, 2016. Locations are specified within **Attachment A, Section 1.B.**
Note Exception – Northumberland will demonstrate on Thursday, October 20, 2016 from 7:00 p.m. to 9:30 p.m.

The out of sequence interview of PSP traffic control/access control points will be from 10:00 a.m. to 12:00 p.m. on Wednesday, October 19, 2016.

Municipal TCP demonstrations will occur in conjunction with Municipal EOC operations on Tuesday, October 18, 2016. (Please refer to the **Extent of Play Demonstration Tables, Attachment A**).

All demonstrations will commence promptly and, barring any complications, not continue beyond the time of the designated demonstration window.

County and municipal EOC operations will be conducted on October 18, 2016 from 4 p.m. to 10:30 p.m. with the exception of Montour County which will be evaluated during the out of sequence school phase on October 18, 2016. (Please refer to the **Extent of Play Demonstration Tables, Attachment A**).

B. Post Plume Exercise

A post plume phase exercise is not scheduled during this evaluation.
A post-plume phase exercise is not scheduled during this evaluation.

XII. Stand-down

All jurisdictions will request approval on a jurisdiction by jurisdiction basis prior to stand-down.

A. Upon completion of all requirements and confirming with the federal evaluator that all evaluation areas have been demonstrated and/or completed, the risk municipality EOCs may request approval from their county EOC to "stand-down".

B. Support counties may likewise request approval from the CRCC to terminate the exercise upon completion of all evaluated objectives.

C. The risk county EOCs will remain operational until the exercise is officially terminated by the State in consultation with the federal evaluator. The CRCC will issue an Exercise Termination Message. If county exercise components are demonstrated and completed, portions of the EOC may be able to "stand-down".

XIII. General Concepts

An emergency plan is drafted to address the generally expected conditions of an emergency. Not everything in the emergency plan may be applicable for a given scenario. The main purpose of an emergency plan is to assemble sufficient expertise and officials so as to properly react to the events as they occur. The responders should not be so tied to a plan that they cannot take actions that are more protective of the public. Therefore, if, by not following the plan, the responders protect the public equally, as well as provided in the plan, it should be noted for possible modification of the plan, but not classified as a negative incident. Furthermore, if by following the plan there is a failure to protect the public health and safety, it should be noted so that the plan can be modified and the appropriate negative assessment corrected.

XIV. Re-demonstrations

During the out of sequence demonstrations on October 18 and October 19, 2016, or the plume phase demonstrations on October 18, 2016, any activity that is not satisfactorily demonstrated may be re-demonstrated by the participants during the exercise, provided it does not negatively interfere with the exercise. Refresher training may be provided by the players, observers, and/or controllers. Evaluators are not permitted to provide refresher training. Re-demonstrations will be negotiated between the players, observers, controllers, and evaluators. PEMA may advise the RAC Chair prior to initiating any re-demonstrations. It is permissible to extend the demonstration window, within reason, to accommodate the re-demonstration. Activities corrected from a re-demonstration will be so noted.

EXTENT OF PLAY AGREEMENT

EVALUATION AREA 1

Emergency Operations Management

Sub-element 1.a – Mobilization

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to alert, notify, and mobilize emergency personnel, and activate and staff emergency facilities.

Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.
(NUREG-0654/ FEMA-REP-1, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; H.3, 4)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, out of sequence evaluation, or by means of drills conducted at any time.

Responsible OROs must demonstrate the capability to receive notification of an incident from the licensee; verify the notification, and contact, alert, and mobilize key emergency personnel in a timely manner, and demonstrate the ability to maintain and staff 24-hour operations. Twenty-four hour operations can be demonstrated during the exercise via rosters or shift changes or otherwise in an actual activation. Local responders and/or Tribal responders must demonstrate the ability to receive and/or initiate notification to the licensees or other respective emergency management organizations of an incident in a timely manner when they receive information from the licensee or alternate sources. Responsible OROs must demonstrate the activation of facilities for immediate use by mobilized personnel upon their arrival. Activation of facilities and staff, including those associated with the ICS, must be completed in accordance with ORO plans/procedures. The location and contact information for facilities included in the incident command must be available to all appropriate responding agencies and the NPP after these facilities have been activated.

Pre-positioning of emergency personnel is appropriate, in accordance with the Extent-of-Play Agreement, at those facilities located beyond a normal commuting distance from the individual's duty location or residence. This includes the staggered release of resources from an assembly area. Additionally, pre-positioning of staff for out of sequence demonstrations may be used in accordance with the Extent-of-Play Agreement.

The REP program does not evaluate Incident Command Post tactical operations (e.g., Law Enforcement hostile action suppression techniques), only coordination among the incident command, the utility, and all appropriate OROs, pursuant to plans/procedures.

Initial law enforcement, fire service, HAZMAT, and emergency medical response to the NPP site may impact the ability to staff REP functions. The ability to identify and request additional resources or identify compensatory measures must be demonstrated. Exercises must also address the role of mutual aid in the incident, as appropriate. An integral part of the response to an HAB scenario at an NPP may also be within the auspices of the Federal government (e.g., FBI, NRC, or DHS). Protocols for requesting Federal, State, local, and Tribal law enforcement support must be demonstrated, as appropriate. Any resources must be on the ORO's mobilization list so they can be contacted during an incident, if needed.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

Pre-positioning of state emergency personnel (Liaison Officers) at the Emergency Operations Facility (EOF), the Utility Joint Information Center (JIC) and risk and support counties is appropriate due to the commuting distance from the individual's duty location or residence. Risk counties/municipalities and support counties will conduct call-outs to demonstrate the mobilization of key personnel. The utility JIC will be evaluated for this drill.

- *In all instances, the demonstration of a shift change is **NOT** required. Twenty-four hour staffing will be demonstrated by means of a roster or staffing chart.*
- *All out of sequence players and equipment will be pre-positioned (School District personnel, PSP, TCP/ACP, Reception Centers, Emergency Worker Monitoring and Decontamination Stations, and Monitoring and Decontamination Centers).*
- *Individuals working in state facilities and county EOCs may be pre-positioned for the plume phase.*
- *Pre-positioning of state emergency personnel (Liaison Officers) at the EOF, the Utility JIC and at Risk Counties is appropriate due to the commuting distance from the individual's duty location or residence.*
- *Other locations including municipal EOCs will NOT pre-stage for the Plume Phase exercise but will wait for actual notification per plans and procedures before staffing their duty locations.*

Sub-element 1.b – Facilities

INTENT

This sub-element derives from NUREG-0654/FEMA-REP-1, which provides that Offsite Response Organizations (ORO) have facilities to support the emergency response.

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654/FEMA-REP-1, H.3; G.3.a; J.10.h; J.12; K.5.b)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, SAVs, or by out of sequence evaluations.

Responsible OROs must demonstrate, no less than every eight years, the availability of facilities to support accomplishment of emergency operations. This includes all alternate and backup facilities. Evaluations are typically performed for EOCs and JICs, as well as other facilities such as reception/relocation centers. Some of the areas evaluated within the facilities are adequate space, furnishings, lighting, restrooms, ventilation, access to backup power, and/or alternate facilities if required to support operations. Radio stations, laboratories, initial warning points and hospitals are not evaluated under 1.b.1.

In addition, facilities will be evaluated for this criterion during the first biennial exercise after any new or substantial changes in structure, equipment, or mission that affect key capabilities, as outlined in respective emergency plans/procedures. A substantial change is one that has a direct effect or impact on emergency response operations performed in those facilities. Examples of substantial changes include modifying the size or configuration of an emergency operations center, adding more functions to a center, or changing the equipment available for use in a center.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

Municipalities will demonstrate this criteria during each federal evaluation they receive (generally once per 8 year cycle) and counties will demonstrate this criteria once in each 8 year cycle unless new or substantial improvements occur.

For this exercise the new facilities needing to demonstrate include the CRCC and Newport Township in Luzerne County.

Sub-element 1.c - Direction and Control

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to control their overall response to an emergency.

Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654/FEMA-REP-1, A.1.d; A.2.a, b; A.3; C.4, 6)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished in a biennial or tabletop exercise.

Leadership personnel must demonstrate the ability to carry out the essential management functions of the response effort (e.g., keeping staff informed through periodic briefings and/or other means, coordinating with other OROs, and ensuring completion of requirements and requests.) Leadership must demonstrate the ability to prioritize resource tasking and replace/supplement resources (e.g., through MOUs or other agreements) when faced with competing demands for finite resources. Any resources identified through LOA/MOUs must be on the ORO's mobilization list so they may be contacted during an incident, if needed.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

None

Sub-element 1.d – Communications Equipment – N/A

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs establish and operate reliable primary and backup communication systems to ensure communications with key emergency personnel at locations such as contiguous governments within the EPZ, Federal emergency response organizations, the licensee and its facilities, EOCs, Incident Command Posts, and FMTs.

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion is accomplished initially in a baseline evaluation and subsequently in periodic testing and drills. System familiarity and use must be demonstrated as applicable in a biennial or tabletop exercise or, if their use would be required, during an actual event.

OROs must demonstrate that a primary system and at least one backup system are fully functional at all times. Communications systems are maintained and tested on a recurring basis throughout the assessment period and system status is available to all operators. Periodic test results and corrective actions are maintained on a real time basis. If a communications system or systems are not functional, but exercise performance is not affected, no exercise issue will be assessed.

Communications equipment and procedures for facilities and field units are used as needed for transmission and receipt of exercise messages. All facilities, FMTs, and incident command must have the capability to access at least one communication system that is independent of the commercial telephone system. Responsible OROs must demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt emergency operations. OROs must ensure that a coordinated communication link for fixed and mobile medical support facilities exists. Exercise scenarios may require the failure of a communication system and use of an alternate system, as negotiated in the Extent-of-Play Agreement.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

The plant will communicate to the risk counties and CRCC utilizing the Automatic Ring Down System (ARD) (Primary) and telephone/internet (Secondary). Risk and support counties will intercommunicate with the CRCC via Telephone (Primary), SEVAN (Secondary) and other systems. In the event that the plant is unable to contact the CRCC then Luzerne County EOC will be contacted and fulfill the role of primary contact until such time as communications with the CRCC can be made.

Risk counties will communicate with their risk municipalities via public safety radio frequencies (EMA Radio) (Primary), Commercial Telephone (Secondary), Internet, Fax, Amateur Radio Communications (ARES/RACES) or other available means.

BRP Field Teams will demonstrate two or more forms of communications. This will not be evaluated.

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

INTENT

This sub-element derives from NUREG-0654/FEMA-REP-1, which provides that ORO's have emergency equipment and supplies adequate to support the emergency response.

Criterion 1.e.1: Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion is accomplished primarily through a baseline evaluation and subsequent periodic inspections.

A particular facility's equipment and supplies must be sufficient and consistent with that facility's assigned role in the ORO's emergency operations plans. Use of maps and other displays is encouraged. For non-facility-based operations, the equipment and supplies must be sufficient and consistent with the assigned operational role. At locations where traffic and access control personnel are deployed, appropriate equipment (e.g., vehicles, barriers, traffic cones, and signs) must be available, or their availability described.

Specific equipment and supplies that must be demonstrated under this criterion include KI inventories, dosimetry, and monitoring equipment, as follows:

KI: Responsible OROs must demonstrate the capability to maintain inventories of KI sufficient for use by: (1) emergency workers; (2) institutionalized individuals, as indicated in capacity lists for facilities; and (3) where stipulated by the plans/procedures, members of the general public

(including transients) within the plume pathway EPZ. In addition, OROs must demonstrate provisions to make KI available to specialized response teams (e.g., civil support team, Special Weapons and Tactics Teams, urban search and rescue, bomb squads, HAZMAT, or other ancillary groups) as identified in plans/procedures. The plans/procedures must include the forms to be used for documenting emergency worker ingestion of KI, as well as a mechanism for identifying emergency workers that have declined KI in advance. Consider carefully the placement of emergency workers that have declined KI in advance.

ORO quantities of dosimetry and KI available and storage locations(s) will be confirmed by physical inspection at the storage location(s) or through documentation of current inventory submitted during the exercise, provided in the ALC submission, and/or verified during an SAV. Available supplies of KI must be within the expiration date indicated on KI bottles or blister packs. As an alternative, the ORO may produce a letter from a certified private or state laboratory indicating that the KI supply remains potent, in accordance with U.S. Pharmacopoeia standards.

Dosimetry: Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers must be available for issuance to all emergency workers who will be dispatched to perform an ORO mission. In addition, OROs must demonstrate provisions to make dosimetry available to specialized response teams (e.g., civil support team, Special Weapons and Tactics Teams, urban search and rescue, bomb squads, HAZMAT, or other ancillary groups) as identified in plans/procedures.

Appropriate direct-reading dosimetry must allow an individual(s) to read the administrative reporting limits and maximum exposure limits contained in the ORO's plans/procedures.

Direct-reading dosimeters must be zeroed or operationally checked prior to issuance. The dosimeters must be inspected for electrical leakage at least annually and replaced when necessary. Civil Defense Victoreen Model 138s (CD V-138s) (0-200 mR), due to their documented history of electrical leakage problems, must be inspected for electrical leakage at least quarterly and replaced when necessary. This leakage testing will be verified during the exercise, through documentation submitted in the ALC and/or through an SAV.

Operational checks and testing of electronic dosimeters must be in accordance with the manufacturer's instructions and be verified during the exercise, through documentation submitted in the ALC and/or through an SAV.

Monitoring Instruments: All instruments must be inspected, inventoried, and operationally checked before each use. Instruments must be calibrated in accordance with the manufacturer's recommendations. Unmodified CDV-700 series instruments and other instruments without a manufacturer's recommendation must be calibrated annually. Modified CDV-700 instruments must be calibrated in accordance with the recommendation of the modification manufacturer. A label indicating such calibration must be on each instrument or calibrated frequency can be verified by other means. In addition, instruments being used to measure activity must have a sticker-affixed to their sides indicating the effective range of the readings. The range of readings documentation specifies the acceptable range of readings that the meter should indicate when it is response-checked using a standard test source.

For FMTs, the instruments must be capable of measuring gamma exposure rates and detecting

beta radiation. These instruments must be 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 the ORO's plans/procedures. An appropriate radioactive check source must be used to verify proper operational response for each low-range radiation measurement instrument (less than 1R/hr) and for high-range instruments when available. If a source is not available for a high-range instrument, a procedure must exist to operationally test the instrument before entering an area where only a high-range instrument can make useful readings.
In areas where portal monitors are used, the OROs must set up and operationally check the monitor(s). The monitor(s) must conform to the standards set forth in the *Contamination Monitoring Standard for a Portal Monitor Used for Emergency Response,* FEMA-REP-21 (March 1995) or in accordance with the manufacturer's recommendations.

Mutual Aid Resources: If the incoming resources arrive with their own equipment (i.e., monitors and/or dosimetry), they will be evaluated by REP Program standards. FEMA will not inventory equipment that is not part of the REP Program. If an agency has a defined role in the REP Plan, they are subject to the planning process and standards, as well as the guidance of the Manual.

All activities must be based on the ORO's plans/procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

PEMA Negotiated Extent of Play

Radiological Survey Instruments are calibrated per manufactures recommendations. Support counties do not have DRDs, or KI, but those responsible for reception centers and/or monitoring and decontamination centers will have PRDs. Simulated PRDs may be used for the evaluation.

Evaluation of KI quantities will be verified using inventory sheets. KI will not be removed from storage locations and boxes/packages will not be opened. KI questions will be addressed through interviews.
Electronic DRDs are in use in the SSES Plume EPZ. Calibration/testing information will be available to the evaluator. Pencil style DRDs may be in use as a backup such as when the electronic DRDs are being calibrated.

Reception Centers shall be evaluated on their ability to use maps or other documentation to direct evacuating persons to the correct Monitoring/Decontamination Centers and/or Mass Care Centers.

EVALUATION AREA 2

Precautionary and/or Protective Action Decision-Making

Sub-element 2.a - Emergency Worker Exposure Control

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to assess and control the radiation exposure received by emergency workers and

have a decision chain in place, as specified in the ORO's plans/procedures, to authorize emergency worker exposure limits to be exceeded for specific missions.

Radiation exposure limits for emergency workers are the recommended accumulated dose limits or exposure rates that emergency workers may be permitted to incur during an emergency. These limits include any pre-established administrative reporting limits (that take into consideration TEDE or organ-specific limits) identified in the ORO's plans/procedures.

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for emergency workers, including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.
(NUREG-0654/FEMA-REP-1, C.6; J.10. e, f; K.4)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion must be assessed concurrently with a licensee exercise and may be demonstrated in a biennial or tabletop exercise.

OROs authorized to send emergency workers into the plume exposure pathway EPZ must demonstrate a capability to comply with emergency worker exposure limits based on their emergency plans/procedures.

Participating OROs must also demonstrate the capability to make decisions concerning authorization of exposure levels in excess of pre-authorized levels and the number of emergency workers receiving radiation doses above pre-authorized levels. This would include providing KI and dosimetry in a timely manner to emergency workers dispatched onsite to support plant incident assessment and mitigating actions, in accordance with respective plans/procedures.

As appropriate, OROs must demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for emergency workers, based on their plans/procedures or projected thyroid dose compared with the established PAGs for KI administration.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play
Radiological briefings (which may be supported by video) will be provided to address exposure limits, procedures to replace those personnel approaching exposure limits and how permission to exceed limits is obtained from the municipality and county. Emergency workers will also be briefed on when to take KI and on whose authority. Distribution of KI to emergency workers will be simulated. The Commonwealth, under direction of the Department of Health, will authorize use of KI when radiological conditions warrant its use. If the scenario has no potential for a radiological release, the decision on the distribution and administration of KI as a protective measure for emergency workers and the authorization process for emergency workers to exceed pre-authorized levels can be addressed through an interview.

The completion of a "Dosimetry-KI Report Form" will be demonstrated.

Sub-element 2.b. - Radiological Assessment, Protective Action Recommendations, and Precautionary and/or Protective Action Decisions for the Plume Phase of the Emergency

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to independently project integrated dose from projected or actual dose rates and compare these estimates to the PAGs.

OROs must have the capability to choose, among a range of protective actions, those most appropriate in a given emergency. OROs base these choices on PAGs from their plans/procedures or EPA's *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents* and other criteria, such as plant conditions, licensee PARs, coordination of PADs with other political jurisdictions (e.g., other affected OROs and incident command), availability of in-place shelter, weather conditions, and situations, to include HAB incidents, the threat posed by the specific hostile action, the affiliated response, and the effect of an evacuation on the threat response effort that create higher than normal risk from general population evacuation.

Criterion 2.b.1: Appropriate protective action recommendations (PARs) are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. (NUREG-0654/FEMA-REP-1, I.10 and Supplement 3)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial or tabletop exercise.

During the initial stage of the emergency response, following notification of plant conditions that may warrant offsite protective actions, the ORO must demonstrate the capability to use appropriate means described in the plans/procedures, to develop PARs for decision-makers based on available information and recommendations provided by the licensee, as well as field monitoring data, if available. The ORO must also consider any release and meteorological data provided by the licensee.

The ORO must demonstrate a reliable capability to independently validate dose projections. The types of calculations to be demonstrated depend on the data available and the need for assessments to support the PARs must be appropriate to the scenario. In all cases, calculation of projected dose must be demonstrated. Projected doses must be related to quantities and units of the PAG to which they will be compared. PARs must be promptly transmitted to decision-makers in a pre-arranged format.

When the licensee and ORO projected doses differ by more than a factor of 10, the ORO and licensee must determine the source of the difference by discussing input data and assumptions, using different models, or exploring possible reasons. Resolution of these differences must be incorporated into the PARs if timely and appropriate. The ORO must demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated PARs.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

BRP will validate plant dose projections and coordinate resolution of differences if more than a factor of 10. If the scenario has no radiological release, or potential of a radiological release, the decision-making process used to make PADs can be addressed through an interview.

BRP will participate, but will not be evaluated for this exercise.

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make precautionary and/or protective action decisions for the general public (including the recommendation for the use of KI, if ORO policy).
(NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial or tabletop exercise.

OROs must have the capability to make both initial and subsequent precautionary and/or protective action decisions. OROs must demonstrate the capability to make initial precautionary and/or protective action decisions in a timely manner appropriate to the incident, based on information from the licensee, assessment of plant status and potential or actual releases, other available information related to the incident, input from appropriate ORO authorities (e.g., incident command), and PARs from the utility and ORO staff. In addition, a subsequent or alternate precautionary and/or protective action decision may be appropriate if various conditions (e.g., an HAB incident, weather, release timing and magnitude) pose undue risk to an evacuation or if evacuation may disrupt the efforts to respond to a hostile action.

OROs must demonstrate the ability to obtain supplemental resources (e.g., mutual aid) necessary to implement a precautionary and/or protective action decision if local law enforcement, fire service, HAZMAT, and emergency medical resources are used to augment response to the NPP site or other key infrastructure.

Dose assessment personnel may provide additional PARs based on the subsequent dose projections, field monitoring data, or information on plant conditions. In addition, incident command must provide input regarding considerations for subsequent PARs based on the magnitude of the ongoing threat, the response, and/or site conditions. The decision-makers must demonstrate the capability to change protective actions based on the combination of all these factors.

If the ORO has determined that KI will be used as a protective measure for the general public under offsite plans/procedures, then it must demonstrate the capability to make decisions on the distribution and administration of KI to supplement sheltering and evacuation. This decision must be based on the ORO's plans/procedures or projected thyroid dose compared with the established PAG for KI administration. The KI decision-making process must involve close coordination with appropriate assessment and decision-making staff.

If more than one ORO is involved in decision making, all appropriate OROs must communicate and coordinate precautionary and/or protective action decisions with each other. In addition, decisions must be coordinated/communicated with incident command. OROs must demonstrate the capability to communicate the results of decisions to all the affected locations.

All activities must be based on the ORO's plans / procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

The Commonwealth, in developing a PAD, will base the decision upon plant recommendation and condition, confirmation and advice of BRP, environmental data, impediments, and other factors that may impact the decision. If the scenario has no radiological release, or potential of a radiological release, the decision-making process used to make PADs can be addressed through an interview.

The Commonwealth will participate, but will not be evaluated for this exercise.

BRP Field Sampling / R3V will be evaluated for this exercise.

Sub-element 2.c – Precautionary and/or Protective Action Decision Consideration for the Protection of Persons with Disabilities and Access/Functional Needs

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to determine precautionary and/or protective action decisions, including evacuation, sheltering, and use of KI, if applicable, for groups of persons with disabilities and access/functional needs (e.g., hospitals, nursing homes, correctional facilities, schools, licensed daycare centers, mobility-impaired individuals, and transportation-dependent individuals). The focus is on those groups of persons with disabilities and access/functional needs that are or potentially will be affected by a radiological release from an NPP.

Criterion 2.c.1: Precautionary and/or protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs. (NUREG-0654/FEMA-REP-1, D.4; J.9; J.10.d, e)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial, or tabletop exercise that would include the use of plant conditions transmitted from the licensee.

Usually it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of PAGs, except for incidents where there is a high-risk environmental condition or where high-risk groups (e.g., the immobile or infirm) are involved. In these cases, factors that must be considered include weather conditions, shelter availability, availability of transportation assets, risk of evacuation versus risk from the avoided dose, and precautionary school evacuations. In addition, decisions must be coordinated/communicated

with the incident command. In situations where an institutionalized population cannot be evacuated, the ORO must consider use of KI.

Applicable OROs must demonstrate the capability to alert and notify all public school systems/districts of emergency conditions that are expected to or may necessitate protective actions for students. Demonstration requires that the OROs actually contact public school systems/districts during the exercise.

The OROs must demonstrate how the decision-making process takes those with disabilities and access/functional needs (e.g., nursing homes, correctional facilities, licensed day cares, mobility-impaired individuals, and transportation-dependent individuals) into account.

In accordance with plans/procedures, OROs and/or officials of public school systems/districts must demonstrate the capability to make prompt decisions on protective actions for students. The decision-making process, including any preplanned strategies for protective actions for that ECL, must consider the location of students at the time (e.g., whether the students are still at home, en route to school, or at school).

Since other agencies place requirements on hospitals to prepare for contaminated patients, the REP Program has no need to evaluate hospitals in the EPZ that need to evacuate, or the facilities that are receiving these evacuees, nor does the ORO have the responsibility to provide training or dosimetry to these hospitals/facilities. Additionally, hospital evacuation plans do not need to be reviewed or tested by the REP Program.

All activities must be based on the ORO's plans / procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

PEMA will provide decision making regarding special populations. Risk counties and/or state agencies will provide by interview or simulation the notification to the special populations regarding the decision.

If the scenario has no radiological release, or potential of a radiological release, the decision-making process used to make protective action recommendations can be addressed through an interview.

The Commonwealth will participate, but will not be evaluated for this exercise.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the means to assess the radiological consequences for the ingestion exposure pathway, relate them to the appropriate PAGs, and make timely, appropriate PADs to mitigate exposure from the pathway.

During an incident at an NPP, a release of radioactive material may contaminate water supplies and agricultural products in the surrounding areas. Any such contamination would likely occur during the plume phase of the incident and, depending on the nature of the release, could impact the ingestion pathway for weeks or years.

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO's planning criteria. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; D.4; J.9,11)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial, or tabletop exercise that would include the use of plant conditions transmitted from the licensee.

OROs are expected to take precautionary actions to protect food and water supplies, or to minimize exposure to potentially contaminated water and food, in accordance with their respective plans/procedures. Often OROs initiate such actions based on criteria related to the facility's ECLs. Such actions may include recommendations to place milk animals on stored feed and use protected water supplies.

The ORO must use its procedures to assess the radiological consequences of a release on the food and water supplies, such as the development of a sampling plan. The ORO's assessment must include evaluation of the radiological analyses of representative samples of water, food, and other ingestible substances of local interest from potentially impacted areas; characterization of the releases from the facility; and the extent of areas potentially impacted by the release. During this assessment, OROs must consider use of agricultural and watershed data within the 50-mile EPZ. The radiological impacts on the food and water must then be compared to the appropriate ingestion PAGs contained in the ORO's plans/procedures. The plans/procedures contain PAGs based on specific dose commitment criteria or on criteria as recommended by current Food and Drug Administration (FDA) guidance. Timely and appropriate recommendations must be provided to the ORO decision-makers group for implementation decisions. OROs may also include a comparison of taking or not taking a given action on the resultant ingestion exposure pathway dose commitments.

The ORO must demonstrate timely decisions to minimize radiological impacts from the ingestion exposure pathway, based on the given assessments and other information. Any such decisions must be communicated and, to the extent practical, coordinated with neighboring OROs. These decisions include tracking agricultural products entering and leaving the EPZ. Demonstration of plans and procedures which use traffic access control points to track agricultural products entering and leaving the EPZ may be conducted through interview.

OROs will use Federal resources, as identified in the Nuclear/Radiological Incident Annex of the NRF and other resources (e.g., compacts or nuclear insurers), as necessary. Evaluation of this criterion will take into consideration the level of Federal and other participating resources.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play
This sub-element will not be evaluated during this exercise.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to make decisions on post-plume phase *relocation*, *reentry*, and *return* of the general public. These decisions are essential for protection of the public from direct long-term exposure to deposited radioactive materials from a severe incident at an NPP.

Criterion 2.e.1: Timely post-plume phase relocation, reentry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG-0654/FEMA-REP-1, I.10; J.9; K.3.a; M.1)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial or tabletop exercise that would include the use of plant conditions transmitted from the licensee.

Relocation: OROs must demonstrate the capability to estimate integrated dose in contaminated areas and compare these estimates with PAGs; apply decision criteria for relocation of those individuals in the general public who have not been evacuated, but where actual or projected doses are in excess of relocation PAGs; and control access to evacuated and restricted areas. OROs will make decisions for relocating members of the evacuated public who lived in areas that now have residual radiation levels in excess of the PAGs. Determination of areas to be restricted must be based on factors such as the mix of radionuclides in deposited materials, calculated exposure rates versus the PAGs, and analyses of vegetation and soil field samples.

Reentry: Decisions must be made on location of control points and policies regarding access and exposure control for emergency workers and members of the general public who need to temporarily enter the evacuated area to perform specific tasks or missions.

Examples of control procedures are the assignment of, or checking for, direct-reading and permanent record dosimetry for emergency workers; questions regarding an individual's objectives, locations expected to be visited, and associated timeframes; availability of maps and plots of radiation exposure rates; and advice on areas to avoid. Control procedures also include monitoring of individuals, vehicles, and equipment; the implementation of decision criteria regarding decontamination; and proper disposition of emergency worker dosimetry and maintenance of emergency worker radiation exposure records.

Responsible OROs must demonstrate the capability to develop a strategy for authorized reentry of individuals into the restricted zone(s), based on established decision criteria. OROs must demonstrate the capability to modify those policies for security purposes (e.g., police patrols), maintenance of essential services (e.g., fire protection and utilities), and other critical functions.

They must demonstrate the capability to use decision-making criteria in allowing access to the restricted zone by the public for various reasons, such as to maintain property (e.g., to care for farm animals or secure machinery for storage) or retrieve important possessions. Coordinated policies for access and exposure control must be developed among all agencies with roles to perform in the restricted zone(s). OROs must demonstrate the capability to establish policies for provision of dosimetry to all individuals allowed to reenter the restricted zone(s). The extent to which OROs need to develop policies on reentry will be determined by scenario events.

Return: OROs must demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase (i.e., permitting populations that were previously evacuated to reoccupy their homes and businesses on an unrestricted basis). OROs must base decisions on environmental data and political boundaries or physical/geological features, which allow identification of the boundaries of areas to which members of the general public may return. Return is permitted to the boundary of the restricted area(s) that is based on the relocation PAG.

Other factors that the ORO must consider in decision-making include conditions that permit cancellation of the ECL and relaxation of associated restrictive measures. OROs must base return recommendations on measurements of radiation from ground deposition. OROs must have the capability to identify services and facilities that require restoration within a few days and to identify the procedures and resources for their restoration. Examples of these services and facilities are medical and social services, utilities, roads, schools, and intermediate-term housing for relocated persons.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:
This sub-element will not be evaluated during this exercise.

EVALUATION AREA 3

Protective Action Implementation

Sub-element 3.a – Implementation of Emergency Worker Exposure Control

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide for the following: distribution, use, collection, and processing of direct-reading dosimetry and permanent record dosimetry; reading of direct-reading dosimetry by emergency workers at appropriate frequencies; maintaining a radiation dose record for each emergency worker; establishing a decision chain or authorization procedure for emergency workers to incur radiation exposures in excess of the PAGs, and the capability to provide KI for emergency workers, always applying the "as low as is reasonably achievable" (ALARA) principle as appropriate.

Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and

record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654 / FEMA-REP-1, J.10.e; K.3.a, b; K.4)

ASSESSMENT/EXTENT-OF-PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial or tabletop exercise. Other means may include drills, seminars, or training activities that would fully demonstrate technical proficiency.

OROs must demonstrate the capability to provide emergency workers (including supplemental resources) with the appropriate direct-reading and permanent record dosimetry, dosimeter chargers, KI, and instructions on the use of these items. For evaluation purposes, appropriate direct-reading dosimetry is defined as dosimetry that allows an individual(s) to read the administrative reporting limits that are pre-established at a level low enough to consider subsequent calculation of TEDE and maximum exposure limits, for those emergency workers involved in lifesaving activities, contained in the ORO's plans/procedures.

Each emergency worker must have basic knowledge of radiation exposure limits as specified in the ORO's plans/procedures. If supplemental resources are used, they must be provided with just-in-time training to ensure basic knowledge of radiation exposure control. Emergency workers must demonstrate procedures to monitor and record dosimeter readings and manage radiological exposure control.

During a plume phase exercise, emergency workers must demonstrate the procedures to be followed when administrative exposure limits and turn-back values are reached. The emergency worker must report accumulated exposures during the exercise as indicated in the plans/procedures. OROs must demonstrate the actions described in the plans/procedures by determining whether to replace the worker, authorize the worker to incur additional exposures, or take other actions. If exercise play does not require emergency workers to seek authorizations for additional exposure, evaluators must interview at least two workers to determine their knowledge of whom to contact in case authorization is needed, and at what exposure levels. Workers may use any available resources (e.g., written procedures and/or coworkers) in providing responses.

Although it is desirable for all emergency workers to each have a direct-reading dosimeter, there may be situations where team members will be in close proximity to each other during the entire mission. In such cases, adequate control of exposure can be achieved for all team members using one direct-reading dosimeter worn by the team leader. Emergency workers assigned to low-exposure rate fixed facilities (e.g., EOCs and communications center within the EPZ, reception centers, and counting laboratories) may have individual direct-reading dosimeters or they may be monitored using group dosimetry (i.e., direct-reading dosimeters strategically placed in the work area). Each team member must still have his or her own permanent record dosimetry. Individuals authorized by the ORO to reenter an evacuated area during the plume (emergency) phase must be limited to the lowest radiological exposure commensurate with completing their missions.

OROs may have administrative limits lower than EPA-400-R-92-001 dose limits for emergency workers performing various services (e.g., lifesaving, protection of valuable property, all activities). OROs must ensure that the process used to seek authorization for exceeding dose

limits does not negatively impact the capability to respond to an incident where lifesaving and/or protection of valuable property may require an urgent response.

OROs must demonstrate the capability to accomplish distribution of KI to emergency workers consistent with decisions made. OROs must have the capability to develop and maintain lists of emergency workers who have ingested KI, including documentation of the date(s) and time(s) they did so. Ingestion of KI recommended by the designated ORO health official is voluntary. For evaluation purposes, the actual ingestion of KI shall not be performed. OROs must demonstrate the capability to formulate and disseminate instructions on using KI for those advised to take it. Emergency workers must demonstrate basic knowledge of procedures for using KI whether or not the scenario drives the implementation of KI use. This can be accomplished by an interview with the evaluator.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent-of-Play

Radiological briefings will be provided to address exposure limits, procedures to replace personnel approaching limits, and how permission to exceed limits is obtained from the municipality and county. Emergency workers will also be briefed on when to take KI and on whose authority. Distribution of KI will be simulated. OROs should also demonstrate the use of all applicable dosimetry forms. The completion of a "Dosimetry-KI Report Form" will be demonstrated.

At any time, players may ask other players or supervisors to clarify radiological information.

In Pennsylvania, emergency workers outside of the EPZ do not have turn-back values.

Evaluation of emergency worker KI quantities will be verified using inventory sheets. KI will not be removed from storage locations and boxes will not be opened. KI questions will be addressed through interviews.

Personnel assigned to operate Monitoring/Decontamination centers and Reception Centers are not issued DRDs or KI since the centers/stations are located outside the EPZ. Personnel who may come into contact with contaminated persons, equipment, and vehicles should be issued PRDs. Simulated PRDs with mock serial numbers may be used to simulate issue.

Emergency workers who are assigned to low exposure rate areas, e.g., at counting laboratories, emergency operations centers, and communications centers, may have individual permanent record dosimeters or they may be monitored by dosimeters strategically placed in the work area. In Pennsylvania this will be accomplished through the use of an area kit. The area kit process is explained in State, County and Municipal Plans.

Standard issue of dosimetry and KI for each category of emergency worker is as follows:

Category A: 1 PRD, 1 DRD, and 1 unit of KI
Category B: 1 PRD and 1 unit of KI (Area Kit includes 2 DRDs)
Category C: 1 PRD

All locations that have dosimetry equipment indicated within their Radiological Emergency Response Plan (RERP), will make the dosimetry equipment (and KI) available for inspection by the Federal Evaluator. In order to demonstrate an understanding of the use of the dosimetry equipment, KI and associated forms; the location need only remove and distribute/issue a maximum of six (6) units of dosimetry from their inventory. Simulation PRDs with mock serial numbers and simulated KI may be issued. The location will demonstrate filling out a minimum of one (1) Dosimetry / KI Report Form.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide KI for institutionalized individuals, and, if in the plans/procedures, to the general public for whom immediate evacuation may not be feasible, very difficult, or significantly delayed. While it is necessary for OROs to have the capability to provide KI to institutionalized individuals, providing KI to the general public is an ORO option and must be reflected as such in ORO plans/procedures. Provisions must include the availability of adequate quantities, storage, and means of distributing KI.

Criterion 3.b.1: KI and appropriate instructions are available if a decision to recommend use of KI is made. Appropriate record-keeping of the administration of KI for institutionalized individuals is maintained.
(NUREG-0654/FEMA-REP-1, J.10.e, f)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial or tabletop exercise. Other means may include drills, seminars or training activities that would fully demonstrate technical proficiency.

OROs must demonstrate the capability to make KI available to institutionalized individuals and, where provided for in their plans/procedures, to members of the general public. OROs must demonstrate the capability to accomplish distribution of KI consistent with decisions made. OROs must have the capability to develop and maintain lists of institutionalized individuals who have ingested KI, including documentation of the date(s) and time(s) they were instructed to ingest KI. Ingestion of KI recommended by the designated ORO health official is voluntary. For evaluation purposes, the actual ingestion of KI shall not be performed. OROs must demonstrate the capability to formulate and disseminate instructions on using KI for those advised to take it.

If a recommendation is made for the general public to take KI, appropriate information must be provided to the public by the means of notification specified in the ORO's plans/procedures.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

Within Pennsylvania, the Pennsylvania Department of Health is responsible for distribution of KI to the general public located within the EPZ. Pre-distribution is accomplished on an annual basis. Pennsylvania does not distribute KI at reception centers.

Evaluation of emergency worker KI quantities will be verified using inventory sheets. KI will not be removed from storage locations and boxes will not be opened. KI questions will be addressed through interviews.

Personnel assigned to operate Monitoring/Decontamination centers and stations are not issued DRDs or KI since the centers/stations are located outside the EPZ. Simulated PRDs with mock serial numbers may be issued.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement precautionary and/or protective action decisions, including evacuation and/or sheltering, for all persons with disabilities and access/functional needs. The focus is on those persons with disabilities and access/functional needs that are (or potentially will be) affected by a radiological release from an NPP.

Criterion 3.c.1: Precautionary and/or protective action decisions are implemented for persons with disabilities and access/functional needs other than schools within areas subject to protective actions. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, or by means of drills conducted at any time.

Applicable OROs must demonstrate the capability to alert and notify (i.e., provide PARs and emergency information and instructions to) persons with disabilities and access/functional needs, including hospitals/medical facilities, licensed day cares, nursing homes, correctional facilities, and mobility-impaired and transportation-dependent individuals. OROs must demonstrate the capability to provide for persons with disabilities and access/functional needs in accordance with plans/procedures.

Contact with persons with disabilities and access/functional needs and reception facilities may be actual or simulated, as agreed to in the extent of play. Some contacts with transportation providers must be actually contacted, as negotiated in the extent of play. All actual and simulated contacts must be logged.

Since the other agencies place requirements on hospitals to prepare for contaminated patients, the REP Program has no need to evaluate hospitals in the EPZ that need to evacuate, or facilities that are receiving these evacuees, nor does the ORO have the responsibility to provide training or

dosimetry to these hospitals/facilities. Additionally, hospital evacuation plans do not need to be reviewed or tested by the REP program.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

The names, locations and contact information of identified individuals with identified special needs are maintained on a list at their respective municipal EOC (based upon residential jurisdiction). Copies of these lists will not be provided to the evaluators; however, evaluators will be allowed to inspect the lists during the exercise.

Evaluators may ask, by interview, about the transportation plans concerning transportation, staging, and source of vehicles, radiological protection of the drivers/emergency workers, and routes or assignments of vehicles for transportation of persons with disabilities and access /functional needs. No buses or drivers will be mobilized.

Initial contact with special populations and reception facilities will be actual (hospitals, nursing homes and correctional facilities). All subsequent calls will be simulated. Actual contacts (up to two per Risk County) will be made with transportation providers as per plan. All actual and simulated contacts should be logged.

Criterion 3.c.2: OROs/School officials implement precautionary and/or protective actions for schools. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial, or tabletop exercise, an actual event, staff assistance visit, or by means of drills conducted at any time.

School systems/districts (these include public and private schools, kindergartens, and preschools) must demonstrate the ability to implement precautionary and/or protective action decisions for students. The demonstration must be made as follows: Each school system/district within the 10 mile EPZ must demonstrate implementation of protective actions. At least one school per affected system/district must participate in the demonstration. Canceling the school day, dismissing early, or sheltering in place must be simulated by describing to evaluators the procedures that would be followed. If evacuation is the implemented protective action, all activities to coordinate and complete the evacuation of students to reception centers, congregate care centers, or host schools may actually be demonstrated or accomplished through an interview process.

If accomplished through an interview, appropriate school personnel including decision-making officials (e.g., schools' superintendent/principals and transportation director/bus dispatchers), and at least one bus driver (and the bus driver's escort, if applicable) must be available to demonstrate knowledge of their role(s) in the evacuation of school children. Communications capabilities between school officials and the buses, if required by the plans/procedures, must be verified.

Officials of the school system(s) must demonstrate the capability to develop and provide timely information to OROs for use in messages to parents, the general public, and the media on the status of protective actions for schools.

If a school facility has emergency plans as a condition of licensing, those plans may be submitted to FEMA review in place of demonstration or interview pursuant to the ORO's plans/procedures as negotiated in the Extent-of-Play Agreement.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

School Students will not be involved during the exercise. Actions and activities associated with the demonstration of Criterion 3.c.2 will be limited to the School District Administration key personnel and the County. Evacuation of students will be conducted through an interview process with School District personnel or the building principal.

Although a bus driver should be available for interview the role of the bus driver may be conducted through an interview with school or transportation officials (or designee) if a bus driver is not available. Actual demonstration of the bus route is not required and will not be demonstrated. Maps or route descriptions will be available for illustration purposes.

Risk County school plans do not require communications between the school and vehicles. Bus drivers are not considered emergency workers and therefore do not require dosimetry.

Private schools, private kindergartens, and day care centers do not participate in REP exercises. However, OROs will be prepared to show evaluators lists of these facilities that they will contact in the event of an emergency in accordance with plans and procedures. Any simulated contacts will be logged.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement protective action plans/procedures, including relocation and restriction of access to evacuated/sheltered areas. This Sub-element focuses on selecting, establishing, and staffing of traffic and access control points, and removal of impediments to the flow of evacuation traffic.

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1,4; J.10.g, j)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, staff assistance visit, or by means of drills conducted at any time.

OROs must demonstrate the capability to select, establish, and staff appropriate traffic and access control points consistent with current conditions and PADs (e.g., evacuating, sheltering, and relocation) in a timely manner. OROs must demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled.

Traffic and access control staff must demonstrate accurate knowledge of their roles and responsibilities, including verifying emergency worker identification and access authorization to the affected areas, as per the Extent-of-Play Agreement. These capabilities may be demonstrated by actual deployment or by interview, in accordance with the Extent-of-Play Agreement.

In instances where OROs lack authority necessary to control access by certain types of traffic (e.g., rail, water, and air traffic), they must demonstrate the capability to contact the State or Federal agencies that have the needed authority, as agreed upon in the Extent-of-Play Agreement.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

Municipal Traffic and Access control will be demonstrated by interview at the applicable EOC of jurisdiction. The traffic/access control personnel will not be deployed to the traffic/access control point(s). If the designated assignment is a location within the EPZ, a radiological briefing will be provided to the assigned individuals.

Reception Centers shall provide a traffic control plan for the location being evaluated.

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654/FEMA-REP-1, J.10.k)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, staff assistance visit, or by means of drills conducted at any time.

OROs must demonstrate the capability to identify and take appropriate actions concerning impediments to evacuations. In demonstrating this capability, the impediment must remain in place during the evacuation long enough that re-routing of traffic is required and must also result in demonstration of decision-making and coordination with the JIC to communicate the alternate route to evacuees. When, due to specifics of the scenario or jurisdiction, the impediment cannot be located on an evacuation route, it must be located so as to impact the evacuation. When not possible, actual dispatch of resources need not be physically demonstrated; however, all contacts, actual or simulated, must be logged.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

County EOCs will demonstrate the ability to identify and take appropriate actions concerning impediments to evacuation by inject or interview. Actual dispatch of resources to deal with impediments, such as tow trucks, need not be demonstrated; however, simulated contacts will be logged. If the scenario does not lead to evacuation the criteria shall be deemed complete if the ORO can describe to the evaluator the actions they would take to overcome a major traffic impediment during an evacuation and how such actions would be communicated to the public and affected OROs. (Risk counties only)

Sub-element 3.e – Implementation of Ingestion Exposure Pathway Decisions

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement protective actions, based on criteria recommended by current FDA guidance, for the ingestion exposure pathway EPZ (i.e., the area within an approximate 50-mile radius of the NPP). This Sub-element focuses on those actions required for implementation of protective actions.

Criterion 3.e.1: The ORO demonstrates 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. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.11)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, or by means of drills conducted at any time.

Applicable OROs must demonstrate the capability to secure and use current information on the locations of dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points to implement protective actions within the EPZ. OROs use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex, and other resources (e.g., compacts, nuclear insurers), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

This sub-element will not be evaluated during this exercise.

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654/FEMA-REP-1, G.1, J.9, 11)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, or by means of drills conducted at any time.

OROs must demonstrate the development of measures and strategies for implementation of ingestion exposure pathway EPZ protective actions by formulating protective action information for the general public and food producers and processors. Demonstration of this criterion includes either pre-distributed public information material in the ingestion exposure pathway EPZ or the capability for rapid reproduction and distribution of appropriate reproduction-ready information and instructions to pre-determined individuals and businesses.

OROs must also demonstrate the capability to control, restrict, or prevent distribution of contaminated food by commercial sectors. Exercise play must include demonstration of communications and coordination among organizations to implement protective actions. Field play of implementation activities may be simulated. For example, communications and coordination with agencies responsible for enforcing food controls within the ingestion exposure pathway EPZ must be demonstrated, but actual communications with food producers and processors may be simulated.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

This sub-element will not be evaluated during this exercise.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement plans, procedures, and decisions for post-plume phase *relocation*, *reentry*, and *return*. Implementation of these decisions is essential for protecting the public from direct long-term exposure to deposited radioactive materials from a severe incident at a commercial NPP.

Criterion 3.f.1: Decisions regarding controlled reentry, relocation, and return of individuals during the post-plume phase are coordinated with appropriate organizations and implemented. (NUREG-0654/FEMA-REP-1, E.7; J.10.j; J.12; K.5.b; M.1, 3)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial, or tabletop exercise, or by means of drills conducted at any time.

Relocation: OROs must demonstrate the capability to coordinate and implement decisions concerning relocation of individuals located in radiologically contaminated areas who were not previously evacuated. Such individuals must be relocated to an area(s) where radiological contamination will not expose the general public to doses that exceed the relocation PAGs.

OROs must also demonstrate the capability to provide for short- or long-term relocation of evacuees who lived in an area(s) that has residual radiation levels above the (first-, second-, and 50-year) PAGs.

Areas of consideration must include the capability of OROs to communicate with other OROs regarding timing of actions, notification of the population of procedures for relocation, and notification of, and advice for, evacuated individuals who will be converted to relocation status in situations where they will not be able to return to their homes due to high levels of contamination. OROs must also demonstrate the capability to communicate instructions to the public regarding relocation decisions and intermediate-term housing for relocated persons.

Reentry: OROs must demonstrate the capability to control reentry and exit of individuals who are authorized by the ORO to temporarily reenter the restricted area during the post-plume (i.e., intermediate or late) phase to protect them from unnecessary radiation exposure. OROs must also demonstrate the capability to control exit of vehicles and other equipment to control the spread of contamination outside the restricted area(s). Individuals without specific radiological response missions, such as farmers for animal care, essential utility service personnel, or other members of the public who must reenter an evacuated area during the post-emergency phase must be limited to the lowest radiological exposure commensurate with completing their missions. Monitoring and decontamination facilities will be established as appropriate.

Examples of control procedures are: (1) assignment of, or checking for, direct-reading and permanent record dosimetry for emergency workers; (2) questions regarding the individuals' objective(s), location(s) expected to be visited, and associated timeframes; (3) maps and plots of radiation exposure rates; (4) advice on areas to avoid; (5) procedures for exit, including monitoring of individuals, vehicles, and equipment; (6) decision criteria regarding contamination; (7) proper disposition of emergency worker dosimetry, and (8) maintenance of emergency worker radiation exposure records.

Return: OROs must demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase. OROs must demonstrate the capability to identify and prioritize services and facilities that require restoration within a few days, and to identify procedures and resources for their restoration. Examples of these services and facilities are medical and social services, utilities, roads, and schools.

Communication among OROs for relocation, reentry, and return may be simulated. All simulated or actual contacts must be documented. These discussions may be accomplished in a group setting.

OROs will use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other necessary resources (e.g., compacts or nuclear insurers), as necessary, if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play:

This sub-element will not be evaluated during this exercise.

EVALUATION AREA 4

Field Measurements and Analyses

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to deploy FMTs with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume. In addition, NUREG-0654/FEMA-REP-1 indicates that OROs must have the capability to use FMTs within the plume exposure pathway EPZ to detect airborne radioiodine in the presence of noble gases and radioactive particulate material in the airborne plume. In an incident at an NPP, the possible release of radioactive material may pose a risk to the nearby population and environment. Although incident assessment methods are available to project the extent and magnitude of a release, these methods are subject to large uncertainties. During an incident, it is important to collect field radiological data to help characterize any radiological release. Adequate equipment and procedures are essential to such field measurement efforts.

Criterion 4.a.1: [RESERVED]

Criterion 4.a.2: Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure.
(NUREG-0654/FEMA-REP-1, C.1; H.12; I.7, 8, 11; J.10.a)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise. Other means may include drills that would fully demonstrate technical proficiency.

Responsible OROs must demonstrate the capability to brief FMTs on predicted plume location and direction, plume travel speed, and exposure control procedures before deployment. During an HAB incident, the Field Team management must keep the incident command informed of field monitoring teams' activities and location. Coordination with FMTs and field monitoring may be demonstrated as out-of-sequence demonstrations, as negotiated in the Extent-of-Play Agreement.

Field measurements are needed to help characterize the release and support the adequacy of implemented protective actions, or to be a factor in modifying protective actions. Teams must be directed to take measurements at such locations and times as necessary to provide sufficient information to characterize the plume and its impacts.

If the responsibility for obtaining peak measurements in the plume has been accepted by licensee field monitoring teams, with concurrence from OROs, there is no requirement for these measurements to be repeated by ORO monitoring teams. If the licensee FMTs do not obtain peak measurements in the plume, it is the ORO's decision as to whether peak measurements are necessary to sufficiently characterize the plume. The sharing and coordination of plume measurement information among all FMTs (licensee, Federal, and ORO) is essential.

OROs will use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts or the licensee), as necessary. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

Field Team Control will be performed near the 10 mile EPZ using the DEP Radiological Rapid Response Vehicle (R3V). Field Team control is expected to initially be out of sequence with the plume timeline. During the exercise, the field teams will be directed to take measurements in locations to provide information sufficient to characterize the plume and impacts. In addition to field team measurements, remote detectors will be deployed by the field teams near the expected plume pathway. These detectors will automatically transmit data to the R3V. These detectors will be used to keep field teams dose ALARA. A FEMA Evaluator(s) will meet the R3V and Field Teams at the Talen Emergency Operations Facility for initial equipment checks at 3:30 p.m. on October 18, 2016. In the event the scenario has no radiological release, a report of background radiation by the FMT will signify successful demonstration of the criterion.

In order to facilitate those times where the plume comes out late in the exercise, BRP field teams will demonstrate air sampling prior to leaving the meeting location. The field team will verbalize their air sampling actions while in the field and utilize controller data to simulate the counting of the sample and relay the information to the R3V.

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654/FEMA-REP-1, C.1; H.12: I.8, 9; J.10.a)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise. Other means may include drills that would fully demonstrate technical proficiency.

Two or more FMTs must demonstrate the capability to make and report measurements of ambient radiation to the field team coordinator, dose assessment team, or other appropriate authority. FMTs must also demonstrate the capability to obtain an air sample for measurement of airborne radioiodine and particulates, and to provide the appropriate authority with field data pertaining to measurement. If samples have radioactivity significantly above background, the authority must consider the need for expedited laboratory analyses of these samples. Coordination concerning transfer of samples, including a chain-of-custody form(s), to a radiological laboratory (ies) must be demonstrated.

OROs must share data in a timely manner with all other appropriate OROs. All methodology, including contamination control, instrumentation, preparation of samples, and a chain-of-custody form(s) for transfer to a laboratory (ies), will be in accordance with the ORO's plans/procedures.

OROs will use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts or the licensee) as needed. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

Measurements will be made by the Department of Environmental Protection (DEP), Bureau of Radiation Protection (BRP), in accordance with the BRP Standard Implementing Procedures (IPs). Two mobile monitoring teams from BRP will demonstrate ambient radiation monitoring and radioiodine and particulate sampling. Field Teams will be equipped with appropriate dosimetry and KI. Both teams will be evaluated by FEMA. Each team will be directed to monitoring location and perform actual radiation measurements at each location from inside the vehicle.

Measurements may consist of truck installed radiation monitor or hand-held radiation instruments. Each field team will demonstrate taking an air sample and the procedure that determines if a sample is taken before departing the meeting location. The team will explain by interview the procedures they follow for air sampling. Teams will then take additional simulated air samples as directed at additional locations, if conditions are appropriate for radioiodine sampling and relay information to the Radiological Rapid Response Vehicle (R3V). In place of silver zeolite cartridges, charcoal cartridges will be used for the exercise. All measurements will be forwarded to the R3V immediately upon obtaining data. Evaluators will meet the field teams at the Talen Emergency Operations Facility at 3:30 p.m. on October 18, 2016.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to assess the actual or potential magnitude and locations of radiological hazards to determine the ingestion exposure pathway EPZ and to support relocation, reentry, and return decisions. This Sub-element focuses on collecting environmental samples for laboratory analyses that are essential for decisions on protecting the public from contaminated food and water and direct radiation from deposited materials.

Criterion 4.b.1: The field teams (2 or more) demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision making. (NUREG-0654/FEMA-REP-1, C.1; I.8; J.11)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial or tabletop exercise. Other means may include drills, seminars, or training activities that would fully demonstrate technical proficiency.

The ORO's FMTs must demonstrate the capability to take measurements and samples, at such

times and locations as directed to enable an adequate assessment of the ingestion pathway and to support reentry, relocation, and return decisions. When resources are available, use of aerial surveys and in-situ gamma measurement is appropriate. All methodology, including contamination control, instrumentation, preparation of samples, and chain-of-custody form(s) for transfer to a laboratory(ies), will be in accordance with the ORO's plans/procedures.

The FMTs and/or other sampling personnel must secure ingestion pathway samples from agricultural products and water. Samples in support of relocation and return must be secured from soil, vegetation, and other surfaces in areas that received radioactive ground deposition. OROs must use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts, the licensee, or nuclear insurers) as needed. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

This sub-element will not be evaluated during this exercise.

Sub-element 4.c - Laboratory Operations

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to perform laboratory analyses of radioactivity in air, liquid, and environmental samples to support protective action decision making.

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654/FEMA-REP-1, C.1, 3; J.11)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial, tabletop exercise, or an actual event. Other means may include drills, seminars, or training activities that would fully demonstrate technical proficiency.

The laboratory staff must demonstrate the capability to follow appropriate procedures for receiving samples, including logging information, preventing contamination of the laboratory(ies), preventing buildup of background radiation due to stored samples, preventing cross contamination of samples, preserving samples that may spoil (e.g., milk), and keeping track of sample identity. In addition, the laboratory staff must demonstrate the capability to prepare samples for conducting measurements.

The laboratory(ies) must be appropriately equipped to provide, upon request, timely analyses of media of sufficient quality and sensitivity to support assessments and decisions anticipated in the ORO's plans/procedures. The laboratory instrument calibrations must be traceable to standards provided by the National Institute of Standards and Technology. Laboratory methods used to

analyze typical radionuclides released in a reactor incident must be as described in the plans/procedures. New or revised methods may be used to analyze atypical radionuclide releases (e.g., transuranics or as a result of a terrorist incident) or if warranted by incident circumstances. Analysis may require resources beyond those of the ORO.

The laboratory staff must be qualified in radio-analytical techniques and contamination control procedures.

OROs must use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts, the licensee, or nuclear insurers) as needed. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

This sub-element will not be evaluated during this exercise.

EVALUATION AREA 5

Emergency Notification and Public Information

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide prompt instructions to the public within the plume exposure pathway EPZ. Specific provisions addressed in this Sub-element are further discussed in Section V, Part A of this Manual, Alert and Notification Systems.

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current REP guidance. (NUREG-0654/FEMA-REP-1, E.5, 6, 7)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, drills, or operational testing of equipment that would fully demonstrate capability.

Responsible OROs must demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume EPZ. Following the decision to activate the alert and notification system, OROs must complete system activation for primary alert/notification and disseminate the information/instructions in a timely manner. For exercise purposes, timely is defined as "with a sense of urgency and without undue delay." If message dissemination is identified as not having

been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

Procedures to broadcast the message must be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test message(s) is not required. The procedures must be demonstrated up to the point of actual activation. The alert signal activation should be simulated, not performed. Evaluations of EAS broadcast stations may also be accomplished through SAVs.

The capability of the primary notification system to broadcast an instructional message on a 24-hour basis must be verified during an interview with appropriate personnel from the primary notification system, including verification of provisions for backup power or an alternate station.

The initial message must include at a minimum the following elements:

- Identification of the ORO responsible and the official with authority for providing the alert signal and instructional message;
- Identification of the commercial NPP and a statement that an emergency exists there;
- Reference to REP-specific emergency information (e.g., brochures, calendars, and/or information in telephone books) for use by the general public during an emergency; and
- A closing statement asking that the affected and potentially affected population stay tuned for additional information, or that the population tune to another station for additional information.

If route alerting is demonstrated as a primary method of alert and notification, it must be done in accordance with the ORO's plans/procedures and the Extent-of-Play Agreement. OROs must demonstrate the capability to accomplish the primary route alerting in a timely manner (not subject to specific time requirements). At least one route needs to be demonstrated and evaluated. The selected route(s) must vary from exercise to exercise. However, the most difficult route(s) must be demonstrated no less than once every eight years. All alert and notification activities along the route(s) must be simulated (i.e., the message that would actually be used is read for the evaluator, but not actually broadcast) as negotiated in the extent-of-play. Actual testing of the mobile public address system will be conducted at an agreed-upon location.

OROs may demonstrate any means of primary alert and notification included in their plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement

PEMA Negotiated Extent of Play

The Commonwealth of Pennsylvania has implemented a Statewide EAS Control system in cooperation with the Pennsylvania Association of Broadcasters per the State Emergency Communications Committee and Pennsylvania Emergency Alert System State EAS Plan (September 23, 2010 and revised on November 2, 2011). The CRCC (PEMA) is the initiating point for the activation of the EAS. Risk Counties have the control equipment for activation of sirens. Coordination will occur between the CRCC and the affected counties with respect to the Alert and Notification System (ANS) process as to when the sirens and EAS messages will occur. Sirens will be coordinated and the sounding simulated at the appropriate time with the simulated

*activation of EAS taking place approximately 3 minutes following the simulated activation of the sirens. Regular Broadcasting will not be interrupted on the EAS Stations. All subsequent actions to broadcast stations will be simulated. Broadcast of the message(s) or test message(s) is **NOT** required and **NOT** requested. Counties may elect to provide Subsequent News Bulletins or County-Specific EAS messages to their EAS stations.*

*Following the decision to activate the alert and notification system, in accordance with the ORO's plan and/or procedures, ANS activation should be accomplished in a timely manner for primary alerting/notification. This action will **NOT** be subject to specific time requirements.*

All actions to broadcast stations will be simulated. Systems that use automatic sending technology may be demonstrated by explanation during an interview.

Each evaluated municipality per risk county will demonstrate, by interview, route alerting of the hearing impaired residents within their jurisdiction. Hearing impaired notification teams will not be deployed.

Criterion 5.a.2: [RESERVED]

Criterion 5.a.3: Backup alert and notification of the public is completed within a reasonable time following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654/FEMA-REP-1, E.6, Appendix 3.B.2.c)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, drills, or operational testing of equipment that would fully demonstrate capability.

If the exercise scenario calls for failure of any portion of the primary system(s) or if any portion of the primary system(s) actually fails to function during the exercise, OROs must demonstrate backup means of alert and notification. Backup means of alert and notification will differ from facility to facility.

Backup alert and notification procedures that would be implemented in multiple stages must be structured such that the population closest to the plant (e.g., within 2 miles) is alerted and notified first. The populations farther away and downwind of any potential radiological release would be covered sequentially (e.g., 2 to 5 miles, followed by downwind 5 to 10 miles, and finally the remaining population as directed by authorities). Topography, population density, existing ORO resources, and timing will be considered in judging the acceptability of backup means of alert and notification.

Although circumstances may not allow this for all situations, FEMA and the NRC recommend that OROs and operators attempt to establish backup means that will reach those in the plume exposure pathway EPZ within a reasonable time of failure of the primary alert and notification system, with a recommended goal of 45 minutes. The backup alert message must, at a minimum, include: (1) a statement that an emergency exists at the plant and (2) instructions regarding where to obtain additional information.

When backup route alerting is demonstrated, **only one route needs to be selected and demonstrated**. All alert and notification activities along the route(s) must be simulated (i.e., the message that would actually be used is read for the evaluator, but not actually broadcast), as negotiated in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed-upon location.

OROs may demonstrate any means of backup alert and notification included in their plans/procedures as negotiated in the Extent-of-Play Agreement.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

Plans specify that route alerting is used as a back up to the sirens. County Liaisons will provide an inject to the risk counties that a siren has failed. The county will demonstrate contacting one municipal EOC in regards to the failed siren in that municipality. The municipal EOC will then dispatch a route alert team to cover one route alert sector affected by the failed siren. All other routes will be simulated. Route Alert Teams should finish their route in about 45 minutes from time of siren failure.
OROs may utilize IPAWs or other public alerting systems in accordance with their plans but use of such systems will not negate the need to provide for demonstration of route alerting by the ORO.

Criterion 5.a.4: Activities associated with FEMA-approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. (NUREG-0654/FEMA-REP-1, E.6; Appendix 3.B.2.c)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, drills, or operational testing of equipment that would fully demonstrate capability.

OROs with FEMA-approved exception areas (identified in the approved *Alert and Notification System Design Report*), 5 to 10 miles from the NPP, must demonstrate the capability to accomplish primary alerting and notification of the exception area(s). FEMA and the NRC recommend that OROs and operators establish means that will reach those in approved exception areas within 45 minutes once the initial decision is made by authorized offsite emergency officials to notify the public of an incident. The exception area alert message must, at a minimum, include (1) a statement that an emergency exists at the plant and (2) instructions regarding where to obtain additional information.

For exception area alerting, at least one route must be demonstrated and evaluated. The selected route(s) must vary from exercise to exercise. However, the most difficult route(s) must be demonstrated no less than once every eight years. All alert and notification activities along the route(s) must be simulated (i.e., the message that would actually be used is read for the evaluator, but not actually broadcasted) as negotiated in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed-upon location. For exception areas alerted

by air/water craft, actual routes will be negotiated in the extent of play, but must be demonstrated no less than once every eight years.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent Of Play

This sub-element will not be demonstrated or evaluated during this exercise. Pennsylvania has no exception areas.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to disseminate appropriate emergency information and instructions, including any recommended protective actions, to the public. In addition, NUREG-0654/FEMA-REP-1 requires OROs to ensure that the capability exists for providing information to the media. This includes the availability of a physical location for use by the media during an emergency. NUREG-0654/FEMA-REP-1 also provides that a system must be available for dealing with rumors. This system will hereafter be known as the "public inquiry hotline."

Criterion 5.b.1: OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, or drills. The responsible ORO personnel/representatives must demonstrate actions to provide emergency information and instructions to the public and media in a timely manner following the initial alert and notification (not subject to specific time requirements). For exercise purposes, timely is defined as "with a sense of urgency and without undue delay." If message dissemination is identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

Message elements: The ORO must ensure that emergency information and instructions are consistent with PADs made by appropriate officials. The emergency information must contain all necessary and applicable instructions (e.g., evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, shelter-in-place instructions, information concerning protective actions for schools and persons with disabilities and access/functional needs, and public inquiry hotline telephone number) to assist the public in carrying out the PADs provided. The ORO must also be prepared to disclose and explain the ECL of the incident. At a minimum, this information must be included in media briefings and/or media releases. OROs must demonstrate the capability to use language that is clear and understandable to the public within both the plume and ingestion exposure pathway EPZs. This includes demonstration of the capability to use familiar landmarks and boundaries to describe protective action areas.

The emergency information must be all-inclusive by including the four items specified under exercise Demonstration Criterion 5.a.1 and previously identified protective action areas that are still valid, as well as new areas. Information about any rerouting of evacuation routes due to impediments should also be included. The OROs must demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. In addition, the OROs must demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals in accordance with the plans/procedures. OROs must demonstrate the capability to develop emergency information in a non-English language when required by the plans/procedures.

If ingestion pathway measures are exercised, OROs must demonstrate that a system exists for rapid dissemination of ingestion exposure pathway information to predetermined individuals and businesses in accordance with the ORO's plans/procedures.

Media information: OROs must demonstrate the capability to provide timely, accurate, concise, and coordinated information to the news media for subsequent dissemination to the public. This would include demonstration of the capability to conduct timely and pertinent media briefings and distribute media releases as the incident warrants. The OROs must demonstrate the capability to respond appropriately to inquiries from the news media. All information presented in media briefings and releases must be consistent with PADs and other emergency information provided to the public. Copies of pertinent emergency information (e.g., EAS messages and media releases) and media information kits must be available for dissemination to the media.

Public inquiry: OROs must demonstrate that an effective system is in place for dealing with calls received via the public inquiry hotline. Hotline staff must demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate information source. Information from the hotline staff, including information that corrects false or inaccurate information when trends are noted, must be included, as appropriate, in emergency information provided to the public, media briefings, and/or media releases.

HAB considerations: The dissemination of information dealing with specific aspects of NPP security capabilities, actual or perceived adversarial (terrorist) force or threat, and tactical law enforcement response must be coordinated/communicated with appropriate security authorities, e.g., law enforcement and NPP security agencies, in accordance with ORO plans/procedures.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

*Subsequent emergency information and instructions should be provided to the public and the media in a timely manner. This will **NOT** be subject to specific time requirements. One media briefing will be demonstrated in each risk county.*

Risk Counties will receive and handle "Public Inquiry" messages via their individual "Public Inquiry" processes (in compliance with NIMS terminology, Rumor Control is now considered to be "Public Inquiry"). Counties will receive approximately ten (10) public inquiry calls from the State Exercise Cell assigned this responsibility. Counties will be expected to receive and log the

calls, identify any trends and take appropriate actions to include follow-up message development, distributions and/or briefings.

The Commonwealth utilizes a virtual JIC in which the Commonwealth and the Utility/Independent Power Producer will run coordinated public information between the Commonwealth CRCC and from the Utility/IPP EOF. The coordination will be demonstrated by interview or simulation through a "Virtual News Conference."

EVALUATION AREA 6

Support Operations/Facilities

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement radiological monitoring and decontamination of evacuees, while minimizing contamination of the facility. OROs must also have the capability to identify and register evacuees at reception centers.

Criterion 6.a.1: The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees. (NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h; J.12)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, drills, or SAV.

Radiological monitoring, decontamination, and registration facilities for evacuees must be set up and demonstrated as they would be in an actual emergency or as indicated in the Extent-of-Play Agreement. OROs conducting this demonstration must have one-third of the resources (e.g., monitoring teams/instrumentation/portal monitors) available at the facility(ies) as necessary to monitor 20 percent of the population within a 12-hour period. This would include adequate space for evacuees' vehicles. Availability of resources can be demonstrated with valid documentation (e.g., MOU/LOA, etc.) reflecting how necessary equipment would be procured for the location. Plans/procedures must indicate provisions for service animals.

Before using monitoring instrument(s), the monitor(s) must demonstrate the process of checking the instrument(s) for proper operation. Staff responsible for the radiological monitoring of evacuees must demonstrate the capability to attain and sustain, within about 12 hours, a monitoring productivity rate per hour needed to monitor the 20 percent EPZ population planning base. The monitoring productivity rate per hour is the number of evacuees that can be monitored, per hour, by the total complement of monitors using an appropriate procedure. For demonstration of monitoring, decontamination, and registration capabilities, a minimum of six evacuees must be monitored per station using equipment and procedures specified in the plans/procedures. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators to determine whether the 12-hour requirement can be met.

OROs must demonstrate the capability to register evacuees upon completion of the monitoring and decontamination activities. The activities for recording radiological monitoring and, if necessary, decontamination must include establishing a registration record consisting of the evacuee's name, address, results of monitoring, and time of decontamination (if any), or as otherwise designated in the plan and/or procedures. Audio recorders, camcorders, or written records are all acceptable means for registration.

Monitoring activities shall not be simulated. Monitoring personnel must explain use of trigger/action levels for determining the need for decontamination. They must also explain the

procedures for referring any evacuees who cannot be adequately decontaminated for assessment and follow-up in accordance with the ORO's plans/procedures. All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

Decontamination of evacuees may be simulated and conducted by interview. Provisions for separate showering and same-sex monitoring must be demonstrated or explained. The staff must demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs, and appropriate means (e.g., partitions, roped-off areas) to separate uncontaminated from potentially contaminated areas. Provisions must also exist to separate contaminated and uncontaminated evacuees, provide changes of clothing for those with contaminated clothing, and store contaminated clothing and personal belongings to prevent further contamination of evacuees or facilities. In addition, for any evacuee found to be contaminated, procedures must be discussed concerning handling of potential contamination of vehicles and personal belongings. Waste water from decontamination operations does not need to be collected.

Individuals who have completed monitoring and decontamination if needed, must have means (e.g., hand stamp, sticker, bracelet, form, etc.) indicating that they, and their service animals and vehicles, where applicable, have been monitored, cleared, and found to have no contamination or contamination below the trigger/action level or have been placed in a secure area until they can be monitored and decontaminated, if necessary.

In accordance with plans/procedures, individuals found to be clean after monitoring do not need to have their vehicle monitored. These individuals do not require confirmation that their vehicle is free from contamination prior to entering the congregate care areas.

However, those individuals who are found to be contaminated and are then decontaminated will have their vehicles held in a secure area or monitored and decontaminated (if applicable) and do require confirmation that their vehicle is being held in a secure area or free from contamination prior to entering the congregate care areas.

PEMA Negotiated Extent of Play

Radiological monitoring demonstration sites should possess a roster of the monitoring personnel, as well as, providing a means by which mass care or others could verify that the person has been monitored and has been deemed uncontaminated. The Radiological Monitoring station(s) should be prepared to monitor 20 percent of the risk population within a 12-hour period as allocated to that location. In some cases Reception Centers, Monitoring and Decontaminations Centers, and/or Mass Care centers may be co-located.

At each reception center**, a minimum of three volunteer evacuees will be processed, briefed, issued the appropriate strip map or directions, and instructed to proceed to a mass care center designated for demonstration of monitoring, decontamination, and registration. A sample of the appropriate strip maps or directions will be made available for the demonstration unless collocated with mass care and monitoring/decontamination. **As negotiated with FEMA, this criterion will be demonstrated but not be evaluated because registration is not done at the reception center.

One mass care center and one public monitoring/decontamination center will be demonstrated per support county during the out-of-sequence window. The support counties will provide space at designated mass care centers or reception centers for operation of monitoring/decontamination centers. Schematics of these monitoring/decontamination centers will be available to show the organization within the facility and space management for monitoring and decontamination. Procedures will be demonstrated to evidence the separation of contaminated and non-contaminated (clean) individuals.

***At the evacuee monitoring/decontamination center,** a minimum of six (6) volunteer evacuees will be monitored (or one volunteer evacuee may be monitored six times). Suitable radiological monitoring instruments will be issued to and demonstrated by the initial monitoring team(s). A monitoring team consists of one monitor and one recorder equipped with one survey instrument. Those individuals found to be free of "contamination," based upon scenario injects, will be directed to the mass care registration point for further processing. **Note:** Actual radiological sources will not be attached to or hidden upon the volunteer evacuees but sources may be used by operators to verify proper equipment calibration. **Note:** If portal monitors are used, the Portal Monitor Extent-of-Play described below shall be used.*

*One of the simulated evacuees, based upon controller injects, will not be able to be decontaminated. Discussions concerning the processing of contaminated personnel will include capabilities and written procedures for showering females separate from males. Showering will be simulated, water will not be used. **Note: If portal monitors are used, the Portal Monitor Extent-of-Play described below shall be used.***

Monitoring/decontamination centers are not issued DRDs or KI since the centers and stations are outside the EPZ. Category "C" Dosimetry applies. Permanent Record Dosimeters (PRD's) may be simulated.

Radiation readings/contamination data for the evacuees and vehicle will be provided by the controller as appropriate based upon information contained in the scenario package. Set-up of the facility will be performed the same as for an actual emergency with all route markings and contamination control measures in place including step-off pads. Long runs of plastic or paper will not be demonstrated, but the materials shall be available and explained. Positioning of a fire apparatus on-site may be simulated if otherwise required.

Participants should be able to describe how vehicles are identified for radiological screening and plans or layouts should show the locations and movements of vehicles.

Water from decontamination activities may go directly to a storm drain or other sewer or drain system or area normally designated for wastewater that has been used for bathing or washing of vehicles and or equipment.

Portal Monitor Use: *Risk and Support counties may, during this exercise, utilize portal monitors to monitor simulated evacuees and/or emergency workers. The monitoring/decontamination team requirements will be based on the portal monitor capabilities as applicable based on the procedure/guidelines, and the recommendations of the manufacturer.* ***Note:*** *PEMA guidance shall apply. Note that most Portal Monitors are verified to be calibrated by an operator passing through the Portal Monitor with a radioactive source at head, mid, and ankle heights.*

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement radiological monitoring and decontamination of emergency workers and their equipment, inclusive of vehicles.

Criterion 6.b.1: The facility/ORO has adequate procedures and resources to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles. (NUREG-0654/FEMA-REP-1, K.5.a, b)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, drills, an actual event, or SAV.

The monitoring staff must demonstrate the capability to monitor emergency worker personnel and their equipment and vehicles for contamination in accordance with the ORO's plans/procedures.

Specific attention must be given to equipment, including any vehicles that were in contact with contamination. The monitoring staff must demonstrate the capability to make decisions on the need for decontamination of personnel, equipment, and vehicles based on trigger/action levels and procedures stated in the ORO plans/procedures. Monitoring of emergency workers does not have to meet the 12-hour requirement. However, appropriate monitoring procedures must be demonstrated for a minimum of two emergency workers and their equipment and vehicles. Before using monitoring instrument(s), the monitor(s) must demonstrate the process of checking the instrument(s) for proper operation.

The area to be used for monitoring and decontamination must be set up as it would be in an actual emergency, with all route markings, instrumentation, record keeping, and contamination control measures in place. Monitoring procedures must be demonstrated for a minimum of one vehicle. It is generally not necessary to monitor the entire surface of vehicles. However, the capability to monitor areas such as radiator grills, bumpers, wheel wells, tires, and door handles must be demonstrated. Interior surfaces of vehicles that were in contact with contaminated individuals must also be checked.

Decontamination of emergency workers may be simulated and conducted via interview. Provisions for separate showering and same-sex decontamination must be demonstrated or

explained. The staff must demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs, and appropriate means (e.g., partitions, roped-off areas) to separate uncontaminated from potentially contaminated areas. Provisions must also exist to separate contaminated and uncontaminated individuals where applicable; provide changes of clothing for those with contaminated clothing; and store contaminated clothing and personal belongings to prevent further contamination of emergency workers or facilities. OROs must demonstrate the capability to register emergency workers upon completion of the monitoring and decontamination activities. The activities for recording radiological monitoring and, if necessary, decontamination must include establishing a registration record consisting of the emergency worker's name, address, results of monitoring, and time of decontamination (if any), or as otherwise designated in the plan and/or procedures. Audio recorders, camcorders, or written records are all acceptable means for registration.

Monitoring activities shall not be simulated. Monitoring personnel must explain use of trigger/action levels for determining the need for decontamination. They must also explain the procedures for referring any emergency workers who cannot be adequately decontaminated for assessment and follow-up in accordance with the ORO's plans/procedures.

Decontamination capabilities and provisions for vehicles and equipment that cannot be successfully decontaminated may be simulated and conducted by interview. Waste water from decontamination operations does not need to be collected.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

At the emergency worker monitoring/decontamination stations schematics of these monitoring/decontamination stations will be available to show organization and space management. One emergency worker will be monitored. Discussions concerning processing of contaminated personnel will include capabilities and written procedures for showering females separate from males. Showering will be simulated, water will not be used. Suitable radiological monitoring instruments will be issued to the initial monitoring team. ***Note:*** *If portal monitors are used, the Portal Monitor Extent-of-Play described below shall be used.*

Emergency worker station personnel will consist of a minimum of one monitor and one recorder and sufficient personnel to demonstrate monitoring of at least one vehicle. The evaluator will request that vehicle decontamination procedures be explained after the vehicle (with simulated contamination) has been monitored. One radiological survey meter, will be issued to each vehicle monitoring/decontamination team. One vehicle and/or piece of equipment will not be able to be decontaminated. Simulated radiation contamination data will be included in the scenario package, and injected by a controller. Set-up of the facility will be performed as closely as possible to that for an actual emergency with all route markings in place.

Decontamination capabilities and provisions for vehicles and/or equipment that cannot be decontaminated will be simulated and conducted by interview. Water will NOT be used.

Radiation readings/contamination data for the emergency worker and vehicle will be provided by the controller as appropriate based upon information contained in the scenario package. Set-up of the facility will be performed the same as for an actual emergency with all route markings and contamination control measures in place including step-off pads. Long runs of

plastic covered with paper will not be demonstrated, but the materials shall be available and explained. Positioning of a fire apparatus on-site may be simulated if otherwise required.

Portal Monitor Use: *Risk and Support counties may, during this exercise, utilize portal monitors to monitor simulated emergency workers. The monitoring/decontamination team requirements will be based on the portal monitor capabilities as applicable based on the procedure/guidelines, and the recommendations of the manufacturer.* ***Note:*** *PEMA guidance shall apply. Note that most Portal Monitors are verified to be calibrated by an operator passing through the Portal Monitor with a radioactive source at head, mid, and ankle heights.*

Emergency Worker monitoring and decontamination station personnel are not issued DRDs or KI since the centers and stations are outside the EPZ. Category "C" Dosimetry applies. Permanent Record Dosimeters (PRD's) may be simulated.

Water from decontamination activities may go directly to a storm drain or other sewer or drain system or area normally designated for wastewater that has been used for bathing or washing of vehicles and or equipment.

Sub-element 6.c - Temporary Care of Evacuees

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires OROs to have the capability to establish relocation centers in host/support jurisdictions. The American Red Cross normally provides congregate care in support of OROs under existing letters of agreement.

Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654/FEMA-REP-1, J.10.h, J.12)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, drills, an actual event, or SAV.

The evaluator must conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with applicable guidance.

For planning purposes, OROs must plan for a sufficient number of congregate care centers in host/support jurisdictions based on their all-hazard sheltering experience and what is historically relevant for that particular area. In this simulation, it is not necessary to set up operations as they would be in an actual emergency. Alternatively, capabilities may be demonstrated by setting up stations for various services and providing those services to simulated evacuees. Given the substantial differences between demonstration and simulation of this criterion, exercise demonstration expectations must be clearly specified in Extent-of-Play Agreements.

Congregate care staff must also demonstrate the capability to ensure that evacuees, service animals, and vehicles have been monitored for contamination, decontaminated as appropriate,

and registered before entering the facility.

Individuals arriving at congregate care facilities must have means (e.g., hand stamp, sticker, bracelet, form, etc.) indicating that they, and their service animals and vehicles, where applicable, have been placed in a secured area or monitored, cleared, and found to have no contamination or contamination below the trigger/action level.

In accordance with plans/procedures, individuals found to be clean after monitoring do not need to have their vehicle monitored. These individuals do not need confirmation that their vehicle is free from contamination prior to entering the congregate care areas.

However, those individuals who are found to be contaminated and are then decontaminated will have their vehicles held in a secure area until they can be monitored and decontaminated (if applicable) and do need confirmation that their vehicle is being held in a secure area or free from contamination prior to entering the congregate care areas. This capability may be determined through an interview process.

If operations at the center are demonstrated, material that would be difficult or expensive to transport (e.g., cots, blankets, sundries, and large-scale food supplies) need not be physically available at the facility(ies). However, availability of such items must be verified by providing the evaluator a list of sources with locations and estimates of quantities.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

Each of the risk or support counties with mass care centers will demonstrate the operation of one mass care center during the out-of-sequence window. Floor plans with flow diagrams of the mass care centers will be available to show organization within the facility and space management during a real emergency. Mass care center locations are listed in the demonstration tables "Demonstration of Mass Care Centers (Attachment A, Section I.B.2)."

Personnel, at a minimum, will consist of one manager and one assistant for each mass care center opened during the out-of-sequence window. The evaluator will expect to see sources and quantities of equipment and supplies, as well as, a staffing chart by job title for 24-hour staffing. Schematics of these mass care centers will be available, during the demonstration window, to show organization within the facility and space allocation for the registration and sheltering the evacuating public. Necessary signs, directional arrows and forms will be available and used to demonstrate registration, at a minimum, of three evacuees requiring emergency housing. Evacuees will be shown the location where they would be housed in an actual situation. Bedding, cots, food, etc. normally associated with mass care will not be moved to the site, but the sources of those items should be explained to FEMA evaluators.

AMERICAN RED CROSS SUPPORT COUNTY CHAPTERS:

ARC of Central PA
(Serving Adams, Bedford, Blair, Centre, Clinton, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Lycoming, Mifflin, Northumberland, Perry, Snyder, Tioga, Union and York Counties)

Chris Weidenhammer
1804 North Sixth Street
Harrisburg, Pennsylvania 17102
(717) 234-3101
E-mail: Chris.Weidenhammer@redcross.org

ARC of Eastern PA
(Serving Berks, Bucks, Carbon, Chester, Delaware, Lackawanna, Lehigh, Luzerne, Monroe, Montgomery, Northampton, Pike, Schuylkill, Susquehanna, Wayne and Wyoming Counties)
Leo Pratte
2221 Chestnut Street
Philadelphia PA 19103
(215) 299-4000
E-mail: leo.pratte@redcross.org

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to transport contaminated injured individuals to medical facilities with the capability to provide medical services.

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals.
(NUREG-0654/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4)

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, or drills. FEMA has determined that these capabilities have been enhanced and consistently demonstrated as adequate; therefore, offsite medical services drills need only be evaluated biennially. FEMA will, at the request of the involved ORO, continue to evaluate the drills on an annual basis. All hospitals listed in the plan as medical services hospitals must be evaluated, with a transportation provider, every 2 years. Additional transportation providers will be rotated through the drills in the 8-year exercise cycle. For ambulance providers who do not participate in an evaluated drill during the two year cycle, training will be provided. This training will be documented in the ALC.

Monitoring, decontamination, and contamination control efforts must not delay urgent medical care for the victim.

OROs must demonstrate the capability to monitor/decontaminate and transport contaminated, injured individuals to medical facilities.

An ambulance must be used for response to the victim. However, to avoid taking an ambulance

out of service for an extended time, OROs may use any vehicle (e.g., car, truck, or van) to transport the victim to the medical facility. It is allowable for an ambulance to demonstrate up to the point of departure for the medical facility and then have a non-specialized vehicle transport the "victim(s)" to the medical facility. This option is used in areas where removing an ambulance from service to drive a great distance (over an hour) for a drill would not be in the best interests of the community.

Normal communications between the ambulance/dispatcher and the receiving medical facility must be demonstrated. If a substitute vehicle is used for transport to the medical facility, this communication must occur before releasing the ambulance from the drill. This communication would include reporting radiation monitoring results, if available. In addition, the ambulance crew must demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information.

Monitoring of the victim may be performed before transport or enroute, or may be deferred to the medical facility. Contaminated injured individuals transported to medical facilities are monitored as soon as possible to assure that everyone (ambulance and medical facility) is aware of the medical and radiological status of the individual(s). However, if an ambulance defers monitoring to the medical facility, then the ambulance crew presumes that the patient(s) is contaminated and demonstrate appropriate contamination controls until the patient(s) is monitored. Before using monitoring instruments, the monitor(s) must demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities must be completed as they would be in an actual emergency. Appropriate contamination control measures must be demonstrated before and during transport and at the receiving medical facility.

The medical facility must demonstrate the capability to activate and set up a radiological emergency area for treatment. Medical facilities are expected to have at least one trained physician and one trained nurse to perform and supervise treatment of contaminated injured individuals. Equipment and supplies must be available for treatment of contaminated injured individuals.

The medical facility must demonstrate the capability to make decisions on the need for decontamination of the individual, follow appropriate decontamination procedures, and maintain records of all survey measurements and samples taken. All procedures for collection and analysis of samples and decontamination of the individual must be demonstrated or described to the evaluator. Waste water from decontamination operations must be handled according to facility plans/procedures.

All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent of Play

NOTE: This sub-element was evaluated at Bloomsburg Hospital MS-1 on May 6, 2015.

ATTACHMENT A

SUSQUEHANNA STEAM ELECTRIC STATION 2016

EXTENT OF PLAY DEMONSTRATION TABLES

I. Plume Phase Exercise

A. Activities – October 18, 2016

1. School Districts
Risk Public School Districts with schools located within the EPZ and those districts situated outside the EPZ, but with students living within the EPZ, will participate and be evaluated by the Federal Emergency Management Agency. Each identified District Administration Office will be evaluated. When a school system is comprised of multiple buildings (High School, Middle School, Elementary School), the affected buildings (those with students from the EPZ) will be evaluated on a rotational basis to coincide with the eight-year exercise cycle.

Time: Out of Sequence – 9:00 a.m. – 11:00 a.m.

COUNTY	SCHOOL DISTRICT	SCHOOL(s) participating in the 2016 exercise
Columbia	Berwick Area School District	Berwick High School and Nescopeck Elementary School
Columbia	Benton Area School District	L.R. Appleman Elementary School
Columbia	Bloomsburg Area School District	Bloomsburg Area Middle School
Columbia	Central Columbia School District	Central Columbia Middle School
Columbia	Columbia Montour AVTS (Vo-Tech)	Columbia Montour AVTS
Luzerne	Crestwood Area School District	Rice Elementary School
Luzerne	Greater Nanticoke Area School District	Greater Nanticoke Area Educational Center
Luzerne	Hazleton Area School District	Hazleton Area High School, Hazleton Elementary Middle School, and McAdoo Kelayres Elementary
Luzerne	Northwest Area School District	Northwest Middle/High School

Luzerne	West Side Career & Technology Center	West Side C&TC
Luzerne	Wilkes Barre Career & Technology Center	Wilkes Barre C&TC

2. County Emergency Operations Centers (EOC's)

Time: Per Scenario

DEMONSTRATION FOR EOC MOBILIZATION FOR COUNTIES (Plume Phase Exercise)		
COUNTY	**DATE**	**Time**
Columbia	October 18, 2016	05:00 p.m. – 10:30 p.m.
Luzerne	October 18, 2016	05:00 p.m. – 10:30 p.m.
Lackawanna	October 18, 2016	05:00 p.m. – 10:30 p.m.
Lycoming	October 18, 2016	05:00 p.m. – 10:30 p.m.
***Montour**	October 18, 2016	***09:00 a.m. – 11:00 a.m.***
Northumberland	October 18, 2016	05:00 p.m. – 10:30 p.m.
Schuylkill	October 18, 2016	05:00 p.m. – 10:30 p.m.
Union	October 18, 2016	05:00 p.m. – 10:30 p.m.
Wyoming	October 18, 2016	05:00 p.m. – 10:30 p.m.

***NOTE:** **Montour County EOC will be evaluated during the schools exercise on October 18, 2016.**

3. Municipal Emergency Operations Centers (EOC)

Time: October 18, 2016 from 5:00 p.m. – 10:30 p.m.

NOTE: Only the agencies in **BOLD** will be federally evaluated for this exercise.

DEMONSTRATION FOR EOC MOBILIZATION FOR MUNICIPALITIES (Plume Phase Exercise)		
RISK COUNTY	MUNICIPALITY	DATE
Columbia	**Beaver Township**	October 18, 2016
	*** Berwick Borough/ Briar Creek Borough**	October 18, 2016
	Briar Creek Township	October 18, 2016
	Fishing Creek Township	October 18, 2016

DEMONSTRATION FOR EOC MOBILIZATION FOR MUNICIPALITIES (Plume Phase Exercise)		
RISK COUNTY	MUNICIPALITY	DATE
	Mifflin Township	October 18, 2016
	North Centre Township	October 18, 2016
	South Centre Township	October 18, 2016
Luzerne	Black Creek Township	October 18, 2016
	Butler Township/Conyngham Borough*	October 18, 2016
	Conyngham Township	October 18, 2016
	Dorrance Township	October 18, 2016
	Hollenback Township	October 18, 2016
	Hunlock Township	October 18, 2016
	Huntington Township/ New Columbus Borough*	October 18, 2016
	City of Nanticoke	October 18, 2016
	Nescopeck Borough	October 18, 2016
	Nescopeck Township	October 18, 2016
	Newport Township *Evaluated for 1.b.1 only*	October 18, 2016
	Nuangola Borough	October 18, 2016
	Salem Township	October 18, 2016
	Shickshinny Borough	October 18, 2016
	Slocum Township	October 18, 2016
	Sugarloaf Township	October 18, 2016
	Union Township	October 18, 2016

*** Combined EOC**

4. Route Alerting

Route alerting will be demonstrated by one municipality in each risk county during scenario exercise.

Columbia	**Beaver Township**	October 18, 2016
Luzerne	**Slocum Township**	October 18, 2016

5. Traffic and Access Control Points

a. The Pennsylvania State Police briefing will be performed out of sequence in a demonstration window of 10:00 a.m. to 12:00 noon on Wednesday, October 19, 2016 at the PSP Bloomsburg Barracks, Those attending the briefing will not actually deploy to the TCP/ACPs.

b. Evaluated municipalities with a TCP assigned in its plan will demonstrate all preparation duties including TCP responsibilities and radiological briefing during the county/municipal plume exercise on the evening of October 18, 2016. Dispatch of persons to the TCP site will not occur during the exercise. For this

exercise, Nuangola Borough in Luzerne County and Berwick Borough/Briar Creek in Columbia County will be evaluated.

c. Municipal and county staffs will be prepared to brief the FEMA evaluator on actions to be taken should there be an impediment to evacuation on a designated route. Risk counties should anticipate major impediments to evacuation, demonstrate the ability to reroute traffic, and communicate the change to both the affected OROs and the general public.

B. October 19, 2016

1. Reception Centers (Out of Sequence)

Time: October 19, 2016 from 7:00 p.m. – 9:30 p.m.

COUNTY	Reception Center Location
Lackawanna	Big Lots, Dunmore
Lycoming	Lycoming Mall, Pennsdale
Northumberland	* Shamokin High School, Sunbury
Schuylkill	* Mahanoy Area High School, Mahanoy City
Union	* Montandon Elementary School, Montandon
Wyoming	* Tunkhannock High School, Tunkhannock

NOTE: * denotes monitoring and decontamination location

2. Mass Care Centers (Out of Sequence)

Time: October 19, 2016 from 7:00 p.m. – 9:30 p.m.
(Walk-downs at 5:00 p.m.)

COUNTY	Public Monitoring and Decontamination/Mass Care Center Locations
Lackawanna	*Dunmore High School
Lycoming	*Hughesville High School
Northumberland	Shamokin School
Schuylkill	*Mahanoy Jr./Sr. High School
Union	Lewisburg Middle School
Wyoming	*Tunkhannock High School

NOTE: * denotes monitoring and decontamination location

COUNTY	Mass Care Center Walk-Down Locations	Date
Lackawanna	Dunmore Community Center	9/6/2016
	Valley View High School	9/6/2016
	Throop Civic Center	9/6/2016
	Scranton High School	9/7/2016
	North Pocono High School	9/6/2016
Lycoming	Lycoming College	9/7/2016
Schuylkill	Shenandoah Valley Jr/Sr. High School	7/22/2016
Union	Kelly Elementary School	9/7/2016
	Mifflinburg Intermediate School	9/7/2016

	Mifflinburg Middle School	9/7/2016
	Mifflinburg High School	9/7/2016
Wyoming	Tunkhannock Administration Bldg.	9/6/2016
	Lackawanna Trails High School	9/6/2016

3. Emergency Worker Monitoring/Decontamination Stations (Out of Sequence)

Time: October 19, 2016 from 7:00 p.m. – 9:30 p.m.

Columbia	Columbia Montour Vo-Tech
Luzerne	Sweet Valley Fire Company

II. POST PLUME EXERCISE

Not Applicable for this Exercise. The Post-Plume Exercise was conducted in conjunction with the SSES 2004 exercise.

ATTACHMENT B – FEDERAL EVALUATION PROCESS MATRIX

Evaluation Area	Consolidate	Frequency	Out-of-Sequence of Exercise Scenario	Credit	Staff Assistance Visit
1. Emergency Operations Management	1, 2, 3, 4, 5, 14, 17, 30				
Mobilization		Every Exercise	NO	YES	NO
Facilities		Once if new[1]	NO	YES	YES
Direction and Control		Every Exercise	NO	NO	NO
Communications Equipment		Article I. Once per 8 yr. cycle	YES	YES	YES
Equipment and Supplies to Support Operations		Every Exercise	YES	YES	YES
2. Protective Action Decision-Making	5, 7, 9, 14, 15, 16, 17, 26, 28				
Emergency Worker Exposure Control		Every Exercise	YES	YES	YES
Radiological Assessment & Protective Action Recommendations & Decisions for the Plume Phase of the Emergency		Every Exercise	NO	NO	NO
Protective Action Decisions for the Protection of Special Populations		Every Exercise	NO	NO	NO
Radiological Assessment & Decision-making for the Ingestion Exposure Pathway[2]		Once in 8 yrs.	NO	NO	NO
Radiological Assessment & Decision-making Concerning Relocation, Re-entry, and Return[2]		Once in 8 yrs.	NO	NO	NO
3. Protective Action Implementation	5, 14, 15, 16, 17, 27, 29				
Implementation of Emergency Worker Exposure Control		Every Exercise	YES	YES	NO
Implementation of KI Decision		Once in 8 yrs.	YES	NO	NO
Implementation of Protective Actions for Special Populations		Once in 8 yrs.[3]	YES	YES	YES
Implementation of Traffic and Access Control[4]		1 per Organization per exercise	YES	YES	YES
Implementation of Ingestion Pathway Decisions		Once in 8 yrs.	NO	NO	NO
Implementation of Relocation, Re-entry, and Return decisions		Once in 8 yrs.	NO	NO	NO
4. Field Measurement and Analysis	6, 8, 24, 25				
Plume Phase Field Measurements & Analysis		Every Full Participation Exercise	YES	YES	NO
Post Plume Phase Field Measurements and Sampling		Once in 8 yrs.	YES	YES	NO
Laboratory Operations		Once in 8 yrs.	YES	YES	NO
5. Emergency Notification and Public Information	10, 11, 12, 13				
Activation of the Prompt Alert and Notification System	10	Every exercise	NO	NO	NO
Activation of the Prompt Alert and Notification System (Fast Breaking)	10	Separate Drill once in 8 yrs.	NO	NO	NO
Emergency Information & Instructions for the Public and the Media		Every exercise	NO	NO	NO
6. Support Operations / Facilities	18, 19, 20, 21, 22				

Evaluation Area	Consolidate	Frequency	Out-of-Sequence of Exercise Scenario	Credit	Staff Assistance Visit
Monitoring & Decontamination of Evacuees and Emergency Workers[3] & Registration of Evacuees		Once in 8 yrs.	YES	NO	NO
Monitoring & Decontamination of Emergency Worker Equipment[3]		Once in 8 yrs.	YES	NO	NO
Temporary Care of Evacuees[6]		Once in 8 yrs.	YES	YES	YES
Transportation and Treatment of Contaminated Injured Individuals		Every 2 years	YES	YES	NO

1 Will be evaluated if new or changed substantially.

2 The plume phase and the post-plume phase (ingestion, relocation, re-entry and return) can be demonstrated separately.

3 All facilities must be evaluated once during the eight-year exercise cycle.

4 Physical deployment of resources is not necessary.

5 Facilities managed by the American Red Cross (ARC), under the ARC / FEMA MOU, will be evaluated once when designated or when substantial changes occur; all other facilities not managed by the ARC must be evaluated once in the eight-year exercise cycle.

6 Each State within the 10-mile EPZ of a commercial nuclear power site shall fully participate in an exercise jointly with the licensee and appropriate local governments at least every two years. Each State with multiple sites within its boundaries shall fully participate in a joint exercise at some site on a rotational basis at least every two years. When not fully participating in an exercise at a site, the State shall partially participate at that site to support the full participation of the local governments.

ATTACHMENT C - PREVIOUS ISSUES

Susquehanna Steam Electric Station 2014 Issue Number: 63-14-6c1-P-01 Criterion: 6c1

ISSUE: Lackawanna County Emergency Operations Plan (EOP) shelter capacity tables and American Red Cross (ARC) shelter space criteria are inconsistent. The EOP tables indicate the shelter can accommodate more people than the criteria permit.
RECOMMENDATION: Re-compute shelter capacities based on new ARC criteria and update shelter capacity tables.
CORRECTIVE ACTION DESCRIPTION: Re-compute shelter capacity based on new ARC criteria and update shelter capacity tables.
CAPABILITY:
Mass Care (Sheltering, Feeding, and Related Services)
PRIMARY RESPONSIBLE AGENCY:
Lackawanna County Emergency Management Agency
CAPABILITY ELEMENT:
Planning
START DATE:
2014-12-20
AGENCY POC:
Rich Barbolish 570-307-7304
ESTIMATED COMPLETION DATE:
2015-06-20

Issue Number: 63-14-6c1-P-02 Criterion: 6c1
ISSUE: Lackawanna County Emergency Operations Plan (EOP) shelter capacity tables and American Red Cross (ARC) shelter space criteria are inconsistent. The EOP tables indicate the shelter can accommodate more people than the criteria permit.
RECOMMENDATION: Re-compute shelter capacities based on new ARC criteria and update shelter capacity tables.
CORRECTIVE ACTION DESCRIPTION: Update shelter plans to accommodate evacuees in accordance with FEMA/American Red Cross guidance.
CAPABILITY:
Mass Care (Sheltering, Feeding, and Related Services)
PRIMARY RESPONSIBLE AGENCY:
Lackawanna County Emergency Management Agency
CAPABILITY ELEMENT:
Planning
START DATE:
2014-12-20
AGENCY POC:
Rick Barbolish 570-307-7304
ESTIMATED COMPLETION DATE:
2015-06-20

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End of Report