Susquehanna Steam Electric Station
Berwick, Pennsylvania
After Action Report/Improvement Plan

Exercise Date – October 18, 2022

Radiological Emergency Preparedness (REP) Program

Published December 19, 2022

FEMA

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EXECUTIVE SUMMARY

On October 18, 2022, a full participation Plume Exposure Pathway exercise was conducted and evaluated for the 10-Mile Emergency Planning Zone (EPZ) around the Susquehanna Steam Electric Station (SSES) by the U.S. Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), Region 3. The Pennsylvania Emergency Management Agency (PEMA), and the Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection (BRP), were granted partial participation in this exercise due to their full participation and evaluation during the April 26, 2022, Peach Bottom Atomic Power Station Exercise. The previous full-participation Plume Exercise at this site was evaluated on August 10, 2021.

Out-of-Sequence demonstrations were conducted the week of September 26-29, 2022, and two Remedial Exercises were conducted on November 29, 2022. The purpose of the Exercise, Out-of-Sequence Exercise, and Remedial Exercises was to assess the capabilities of State, counties, 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 the Susquehanna Steam Electric Station. The findings in this report are based on the evaluations of the Federal evaluation team, with final determinations made by the FEMA, Region 3 Regional Assistance Committee (RAC) Chairperson, and approved by FEMA Headquarters. These reports are provided to the Nuclear Regulatory Commission (NRC) and participating States. State and local governments utilize the findings contained in these reports for the purposes of planning, training, and improving emergency preparedness.

The evaluation of this exercise determined that there was one Level 1 Finding, three Level 2 Findings, and two Plan Issues. One Level 1 Finding, and three Level 2 Findings, were successfully redemonstrated, and one Plan Issue was closed after FEMA received updated plans. There is one Plan Issue still open as of this report. It should be noted that the risk municipality of Nuangola Borough, Luzerne County, did not participate in this exercise and will be re-scheduled.

A Level 1 Finding is defined by the FEMA Radiological Emergency Preparedness Program Manual as follows: "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 Nuclear Power Plant (NPP)."

A Level 2 Finding is defined as: "An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

Finally, a Plan Issue is: "An observed or identified inadequacy in the offsite response organization’s (ORO) emergency plan/implementing procedures, rather than that of the ORO’s performance."

Because of the potential impact of Level 1 Findings on public health and safety, Appendix 1 to 44 CFR 350 requires corrections within 120 days of the exercise. An ORO demonstrates correction of Level 1 Findings identified in exercises through remedial actions, including exercises, drills, or other actions, including plan/procedure provisions. For actions conducted to correct a Level 1 Finding, the RAC Chair will prepare a separate AAR of the remedial action. If the ORO successfully completes the remedial action within 75 days of the biennial exercise, FEMA includes the results and findings of the remedial exercise in the final AAR for the biennial exercise.

On November 29, 2022, the Level 1 Finding (Issue Number: 63-22-1.2-L1-003) was successfully redemonstrated by personnel of the Columbia County Emergency Management Agency. The Columbia County Emergency Management Agency revised their procedures for creating, reviewing, and approving Columbia County Press Releases to include a more thorough review and approval process by the Columbia County Commissioners, and Emergency Management Coordinator, of all Columbia County Press Releases prior to dissemination.

On November 29, 2022, Hollenback Township successfully redemonstrated a Level 2 Finding (Issue Number: 63-22-2.2-L2-0040) for an inadequate radiological exposure control briefing to emergency workers. The redemonstration covered all aspects of Luzerne County's radiological exposure control plan including dose limits, potassium iodide (KI), and contamination controls. An emergency worker from Luzerne County was interviewed during the redemonstration and demonstrated awareness and knowledge of exposure control and equipment operations.

FEMA wishes to acknowledge the efforts of the many individuals in the Commonwealth of Pennsylvania; the two risk county jurisdictions of Columbia County and Luzerne County; the six support county jurisdictions of Lackawanna County, Lycoming County, Northumberland County, Schuylkill County, Union County, and Wyoming County; and the twenty-four risk municipal jurisdictions within Columbia County, and Luzerne County. Protecting the public health and safety is the full-time job of some 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 of this report entitled "Exercise Overview" presents the "Exercise Planning Team" 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).

Section 4 of this report entitled "Demonstrated Strengths" includes exemplary performances that were demonstrated during the exercise and information on best practices that were observed.

Section 5 of this report entitled "Conclusion" presents a summary of the findings and performance of the evaluated agencies.

The appendices, present supplementary information that is relevant to the exercise:

- Appendix A – Exercise Timeline. A table that depicts the times when an event or notifications were noted at participating agencies and locations.
- Appendix B – Exercise Evaluators and Team leaders. A table listing the evaluator names, organizations, and responsibilities of the evaluators and management.
- Appendix C – Acronyms and Abbreviations. An alphabetized table defining the formal names used in this report.
- Appendix D – Extent of Play Agreement

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name
Susquehanna Steam Electric Station Plume Exercise

Type of Exercise
Plume

Exercise Date
October 18, 2022

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Radiological Release

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 (SSES) exercise:

State Jurisdiction

Commonwealth of Pennsylvania

- Pennsylvania Bureau of Radiation Protection
- Pennsylvania Department of Agriculture
- Pennsylvania Department of Corrections
- Pennsylvania Department of Environmental Protection
- Pennsylvania Department of General Services
- Pennsylvania Department of Health
- Pennsylvania Department of Human Services
- Pennsylvania Department of Military and Veterans Affairs
- Pennsylvania Department of Revenue
- Pennsylvania Department of Transportation
- Pennsylvania Emergency Management Agency
- Pennsylvania Fish and Boat Commission
- Pennsylvania Game Commission
- Pennsylvania Office of Homeland Security
- Pennsylvania National Guard
- Pennsylvania Public Utilities Commission
- Pennsylvania State Police

Risk Jurisdictions

Beaver Township Emergency Operation Center

- Beaver Township Emergency Management Agency
- Beaver Township Public Works
- Beaver Township Supervisors
- Beaver Township Volunteer Fire Company
- Beaver Township Volunteers

Berwick Borough/Briar Creek Borough Emergency Operation Center

- Berwick Borough Emergency Management Agency
- Briar Creek Borough Emergency Management Agency
- Berwick Department of Public Works
- Berwick Emergency Management
- Berwick Fire Department
- Berwick Police Department

Black Creek Township Emergency Operation Center

- Black Creek Township Emergency Management Agency
- Nuremberg-Weston Volunteer Fire Company

Briar Creek Township

- Briar Creek Township Emergency Management Agency
- Briar Creek Township Police Department
- Briar Creek Township Supervisors
- Summerhill Volunteer Fire Company

Butler Township/Conyngham Borough

- Butler Public Works
- Butler Township EMA
- Butler Township Police
- Butler Township Roads
- Butler Township Supervisors
- Valley Regional Fire

City of Nanticoke

- City of Nanticoke Business Administrator
- City of Nanticoke Emergency Management Agency
- City of Nanticoke Emergency Medical Services
- City of Nanticoke Fire and Rescue Service
- City of Nanticoke Fire Police
- City of Nanticoke Mayor
- City of Nanticoke Police Department
- City of Nanticoke Transportation Services

Columbia County

- Bloomsburg University
- Columbia County CART
- Columbia County Chief Clerk
- Columbia County Commissioners
- Columbia County Emergency Management Agency
- Columbia County Geographic Information Systems Department
- Columbia County Human Resources
- Columbia County Information Technology
- Columbia County Resiliency Office
- Columbia County Sheriff's Office
- East Central Emergency Network / 911

Conyngham Township

- Conyngham Township Emergency Management Agency
- Mocanaqua Fire
- Pond Hill Emergency Medical Services

Dorrance Township

- Dorrance Board of Supervisors
- Dorrance Township Volunteer Fire Department

Fishing Creek Township

- Fishing Creek Township Emergency Management Agency
- Orangeville Fire Department

Hollenback Township

- Hollenback Township Emergency Management Agency
- Hollenback Township Emergency Medical Service
- Hollenback Township Volunteer Fire Department
- Hollenback Township Volunteers

Hunlock Township

- Hunlock Township Board of Supervisors
- Hunlock Township Emergency Management Agency
- Hunlock Volunteer Ambulance Association
- Hunlock Volunteer Fire Department Station 144

Huntington Township/New Columbus Borough EOC

- Huntington Township Emergency Management Agency
- Huntington Township Highway Department
- Huntington Valley Volunteer Fire Company, Station #145

Luzerne County

- City of Wilkes-Barre Police Department
- Luzerne County 911
- Luzerne County Agriculture
- Luzerne County Bureau of Fire
- Luzerne County Emergency Management Agency
- Luzerne County Engineers
- Luzerne County Health Department
- Luzerne County GIS
- Luzerne County Sheriff's Department
- Northwest Area School District

Mifflin Township

- Mifflin Emergency Management Agency
- Mifflin Township Supervisor
- Mifflin Township Volunteers
- Mifflin Volunteer Fire Company

Nescopeck Borough

- Nescopeck Borough Emergency Management Agency

Nescopeck Township

- Nescopeck Borough Fire Department
- Nescopeck Board of Supervisors
- Nescopeck Township Emergency Management Agency
- Nescopeck Borough Fire Department

Newport Township

- Newport Township Commissioners
- Newport Township Emergency Management Agency
- Newport Township Fire Department
- Newport Township Police Department
- Newport Township Public Works Department
- Newport Township Town Manager

North Centre Township

- Briar Creek Township Police
- North Centre Township Emergency Management Agency
- North Centre Township Supervisors

Nuangola Borough

- Not Evaluated

Salem Township

- Salem Township Department of Public Works
- Salem Township Emergency Management Agency
- Salem Township Fire Department
- Salem Township Police Department

Shickshinny Borough

- Shickshinny Borough Emergency Manager and staff

Slocum Township

- Slocum Emergency Management Agency
- Slocum Emergency Medical Services
- Slocum Fire Department
- Slocum Township Supervisor

South Centre Township

- Lime Ridge Fire Company
- South Centre Township Emergency Management Agency
- South Centre Township Police Department
- South Centre Township Supervisors

Sugarloaf Township

- Sugarloaf Township Emergency Management Agency

- Sugarloaf Fire Rescue Emergency Medical Services

Union Township

- Union Township Emergency Management Agency

Support Jurisdictions

Lackawanna County

- County of Lackawanna Transit System Authority
- Lackawanna County Emergency Management Agency
- Mayfield Police Department
- Scranton Fire Department

Lycoming County

- Lycoming County Emergency Management Agency
- Lycoming County Auxiliary Communications Service
- Lycoming County Department of Public Safety
- Lycoming County Radiation Response Team

Northumberland County

- Northumberland Emergency Management Agency
- Northumberland County Department of Public Safety

Schuylkill County

- Schuylkill County Emergency Management Agency
- Schuylkill County 911 Dispatch

Union County

- Union County Emergency Management Agency
- American Red Cross Mid Central Chapter of Greater PA Region
- Central Susquehanna Regional 911
- EnviroServe (Salvage)
- Strike K-9 Search and Rescue
- William Cameron Engine Company

Wyoming County

- Wyoming County Emergency Management Agency
- Wyoming County Board of Commissioners

School/School Districts

- Columbia County Berwick Area School District: Salem Elementary School
- Columbia County Bloomsburg Area School District: Beaver Main Elementary School
- Luzerne County Greater Nanticoke Area School District: Greater Nanticoke Area Senior High School
- Luzerne County Hazleton Area School District: Drums Elementary Middle School

- Luzerne County Northwest Area School District: Northwest Primary School

Private/Volunteer Organizations

- Amateur Radio Emergency Services
- American Red Cross
- Columbia-Montour Amateur Radio Club
- Datom Products, Inc.
- Luzerne County Amateur Radio Emergency Services
- Northeast Pennsylvania Chapter of the American Red Cross
- Radio Amateur Civil Emergency Service
- Talen Energy
- The Endless Mountains Amateur Radio Club
- Union Amateur Radio Emergency Services

Federal Organizations

- Environmental Protection Agency
- Federal Emergency Management Agency
- Nuclear Regulatory Commission

Out of Sequence Activity Participants

Linntown Intermediate School - Reception Center, Evacuee Monitoring and Decontamination Station, and Mass Care

- Union County Emergency Management Agency
- American Red Cross
- Pennsylvania Emergency Management Agency
- Talen Energy
- William Cameron Engine Company

Lycoming County Mass Care Assessments

- American Red Cross Mid-Central PA Chapter of Greater PA Region
- East Lycoming School District
- Federal Emergency Management Agency
- Hughesville Junior/Senior High School
- Lycoming College
- Lycoming County Emergency Management Agency
- Montoursville Area School District
- Montoursville High School
- Pennsylvania Emergency Management Agency
- Talen Energy

Mid-Valley Secondary Schools - Reception Center, Evacuee Monitoring and Decontamination, and Mass Care

- American Red Cross
- Chinchilla Hose Company
- Elmhurst Roaring Brook Volunteer Fire Company
- Lackawanna County Emergency Management Agency

- Lackawanna County Sheriff's Department
- Mayfield Hose Company
- Meredith Hose Company
- Pennsylvania Emergency Management Agency
- Scranton Bureau of Fire
- Talen Energy

Sweet Valley Volunteer Fire Company Station 173 Emergency Worker Monitoring and Decontamination Station

- Luzerne County Emergency Management Agency (EMA)
- Pennsylvania Emergency Management Agency (PEMA)
- Sweet Valley Volunteer Fire Company Station 173 staff
- Talen Energy

Wyoming County Mass Care Assessments

- American Red Cross Northeast PA Chapter of Greater PA Region
- Federal Emergency Management Agency
- Lackawanna Trail Junior/Senior High School
- Lackawanna Trail School District
- Pennsylvania Emergency Management Agency
- Talen Energy
- Tunkhannock Area School District
- Wyoming County Emergency Management Agency

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 nuclear planning and response. 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:

A. 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;

B. Determining whether such plans and procedures can be implemented based on observation and evaluation of exercises conducted by State, and local governments;

C. 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

D. 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
- U.S. Food and Drug Administration

Representatives of these agencies serve on the Region 3 Regional Assistance Committee (RAC), which is Chaired by FEMA. A Radiological Emergency Preparedness (REP) Plume Exposure Pathway Exercise was conducted during the week of October 17, 2022, 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 the Susquehanna Steam Electric Station (SSES). The purpose of this exercise report is to present the exercise results and findings on the performance of the off-site response organizations (OROs) during a simulated radiological emergency. The findings presented in this report are based on the

evaluations of the Federal evaluation team, with final determinations made by the FEMA Region 3 RAC Chairperson and approved by FEMA Headquarters.

These reports are provided to the NRC and participating States. State and local governments utilize the findings contained in these reports for the purposes of planning, training, and improving emergency response capabilities.

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

- NUREG-0654/FEMA-REP-1, Rev. 2, December 2019
- Radiological Emergency Preparedness Program Manual, January 2019

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. U.S. 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 41degrees 5 feet 30 inches north and 76 degrees 8 feet 55 inches 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 of primary 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 southwest.

2.2 Exercise Objectives, Capabilities and Activities

The objectives of the 2022 Susquehanna Steam Electric Station (SSES) Plume Exercise were 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).

To demonstrate the ability to communicate between multiple levels of government and provide timely, accurate, and sufficiently detailed information to the public, the 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. All

these communication resources were employed and evaluated. 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 risk/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

The meteorological conditions change during the exercise. The wind direction starts from 270 degrees, between 3-5 mph, for the initial release and then shifts from 195 degrees, between 3-5 mph, until termination. There is a zero chance of precipitation.

At 1700 the exercise begins. For the postulated event, the effected unit is Unit #1. Unit #1 is operating at 100% power; Unit #2 is operating at 100% power.

At 1745 SSES declares an ALERT Emergency Classification Level. The OROs mobilize personnel and staff emergency facilities.

At 1905 the SSES declares a SITE AREA EMERGENCY with an airborne radiation release in progress that does not exceed Environmental Protection Agency Protective Action Guidelines. OROs may make protective/precautionary actions in accordance with plans and procedures.

At 2000 the SSES declares a GENERAL EMERGENCY based on plant conditions and with an airborne radiation release in progress. The Licensee makes a Protective Action Recommendation (PAR) to the Commonwealth of Pennsylvania. Decision makers consider the Licensee PAR and other factors, and OROs consider protective actions based on plans and procedures.

At 2130 the exercise was terminated.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluations of all jurisdictions and locations that participated in the October 18, 2022, Biennial Plume Exposure Pathway 10-mile Emergency Planning Zone (EPZ) Radiological Emergency Preparedness (REP) Exercise. These exercises were conducted to demonstrate the ability of the Offsite Response Organizations of State and local government to protect the health and safety of the public in the 10-mile EPZ surrounding the Susquehanna Steam Electric Station.

Each jurisdiction and functional entity were evaluated based on its demonstration of the Exercise Evaluation Area Criteria contained in the REP Exercise Evaluation Methodology. Detailed information on the exercise evaluation area criteria and the Extent of Play Agreement can be found in the Exercise Plan.

3.2 Summary Results of Exercise Evaluation

The matrix presented in Table 3.1, on the following pages, presents the status of the exercise evaluation area criteria from the REP Program Manual that was scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise evaluation area criteria are listed by number and the demonstration status of the criteria is indicated using the following letters:

- (D) Demonstrated Strength: an observed action, behavior, procedure, and/or practice that is worthy of special notice and positive recognition, note: this is already a common practice that many Regions employ when identifying demonstrated strengths.
- (L1) Level 1 Finding: an observed or identified inadequacy or 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 event of a radiological emergency to protect the health and safety of the public living near a Nuclear Power Plant (NPP).
- (L2) Level 2 Finding: an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety.
- (P) Plan Issue: an observed or identified inadequacy in the offsite response organizations' (OROs) emergency plan/implementation procedures, rather than that of the ORO's performance.
- (N) Not Demonstrated: term applied to the status of a REP exercise Evaluation Area Criterion indicating that the ORO, for a justifiable reason, did not demonstrate the Evaluation Area Criterion, as required in the extent-of-play agreement or at the two-year or eight-year interval required in the FEMA REP Program Manual.
- (M) Met: The jurisdiction or functional entity performed all activities under the Demonstration Criterion to the level required in the Extent-of-Play Agreement, with no Level 1 or Level 2 Findings assessed under that criterion in the current exercise and no unresolved prior Level 2 Findings.

Tables 3.1 - Summary of Exercise Evaluation

Table 3.1a Exercise Evaluation Findings and Issues by Classification

Location	Target	Capability Target Description	Status
Columbia County Emergency Operation Center	1.2	Direction and Control Emergency Information and Instructions for the Public and News Media	L1 – Closed
	3.3	Emergency Information and Instructions for the Public and News Media	
Lackawanna County Emergency Management Agency	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	L2 - Closed
Luzerne County, Hollenbeck Township Emergency Operation Center	2.2	Emergency Worker Exposure Control Decision-Making Process	L2 – Closed
Luzerne County Emergency Operation Center	3.3	Emergency Information and Instruction for the Public and News Media	L2 – Closed
Northumberland County Emergency Operation Center	1.2	Direction and Control, Equipment and Supplies to Support Operations	P - Open
State Field Teams A and B	4.2	Plume Phase Measurements and Sampling	P - Closed

Table 3.1b Exercise Evaluation Assessments Met

Location	Target	Core Capability	Status
Objective 1: Emergency Operations Management			
Beaver Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Berwick Borough/Briar Creek Borough EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Black Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Briar Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Butler Township/Conyngham Borough EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
City of Nanticoke EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Columbia County EOC - Emergency Operations Center, County, Risk	1.1	Mobilization	M
Conyngham Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Dorrance Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M

Fishing Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Hollenback Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Hunlock Township EOC – Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Huntington Township/New Columbus Borough EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Lackawanna County EOC – Emergency Operations Center, County, Support	1.1	Mobilization	M
Lackawanna County Reception Center at Mid Valley Secondary Center – Reception Center	1.1	Mobilization	M
Lackawanna County Mass Care at Mid Valley Secondary Center – Mass Care	1.1	Mobilization	M
Lackawanna County Evacuee Monitoring/Decontamination Station at Mid Valley Secondary Center – Monitoring/Decontamination	1.1	Mobilization	M
Luzerne County EOC - Emergency Operations Center, County, Risk	1.1	Mobilization	M
Luzerne County Emergency Worker Monitoring/Decontamination Station at Sweet Valley Volunteer Fire Company Station 173	1.1	Mobilization	M
Lycoming County EOC – Emergency Operations Center, County, Support	1.1	Mobilization	M
Lycoming County Mass Care at Hughesville High School – Mass Care	1.1	Mobilization	M
Lycoming County Mass Care at Lycoming College – Mass Care	1.1	Mobilization	M
Lycoming County Mass Care at Montoursville High School – Mass Care	1.1	Mobilization	M
Mifflin Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Nescopeck Borough EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Nescopeck Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Newport Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
North Centre Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M

Northumberland County EOC – Emergency Operations Center, County, Support	1.1	Mobilization	M
Nuangola Borough EOC – Emergency Operations Center, Municipal, Risk	1.1	Mobilization	N
Pennsylvania State Police (Troop N) Bloomsburg Barracks - State Traffic and Access Control	1.1	Mobilization	M
Salem Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Schuylkill County EOC – Emergency Operations Center, County, Support	1.1	Mobilization	M
Shickshinny Borough EOC – Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Slocum Township EOC – Emergency Operations Center, Municipal Risk	1.1	Mobilization	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Sugarloaf Township EOC – Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Union County EOC – Emergency Operations Center, County, Support	1.1	Mobilization	M
Union Township EOC – Emergency Operations Center, Municipal, Risk	1.1	Mobilization	M
Union County Mass Care at Linntown Intermediate Center – Mass Care	1.1	Mobilization	M
Union County Evacuee Monitoring/Decontamination Station at Linntown Intermediate Center – Evacuee Monitoring/Decontamination	1.1	Mobilization	M
Wyoming County EOC – Emergency Operations Center, County, Support	1.1	Mobilization	M
Wyoming County Mass Care at Tunkhannock Administration Building – Mass Care	1.1	Mobilization	M
Wyoming County Mass Care at Lackawanna Trail Junior/Senior High School – Mass Care	1.1	Mobilization	M
Beaver Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Berwick Borough/Briar Creek Borough EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Black Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M

Black Creek Township EOC - Emergency Operations Center, Municipal, Risk - Back Up Route Alerting	1.2	Direction and Control	M
Briar Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Butler Township/Conyngham Borough EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
City of Nanticoke EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Conyngham Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Dorrance Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Fishing Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Hollenback Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Hunlock Township EOC – Emergency Operations Center, Municipal Risk	1.2	Direction and Control	M
Huntington Township/New Columbus Borough EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Lackawanna County EOC – Emergency Operations Center, County, Support	1.2	Direction and Control	M
Lackawanna County Reception Center at Mid Valley Secondary Center – Reception Center	1.2	Direction and Control	M
Lackawanna County Mass Care at Mid Valley Secondary Center – Mass Care	1.2	Direction and Control	M
Lackawanna County Evacuee Monitoring/Decontamination Station at Mid Valley Secondary Center – Monitoring/Decontamination	1.2	Direction and Control	M
Luzerne County EOC - Emergency Operations Center, County, Risk	1.2	Direction and Control	M
Lycoming County EOC – Emergency Operations Center, County, Support	1.2	Direction and Control	M
Lycoming County Mass Care at Hughesville High School – Mass Care	1.2	Direction and Control	M
Lycoming County Mass Care at Lycoming College – Mass Care	1.2	Direction and Control	M
Lycoming County Mass Care at Montoursville High School – Mass Care	1.2	Direction and Control	M

Mifflin Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Nescopeck Borough EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Nescopeck Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Newport Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
North Centre Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Nuangola Borough EOC – Emergency Operations Center, Municipal Risk	1.2	Direction and Control	N
Pennsylvania State Police (Troop N) Bloomsburg Barracks - State Traffic and Access Control	1.2	Direction and Control	M
Radiological Rapid Response Vehicle (R3V) BRP – State Mobile Laboratory	1.2	Direction and Control	M
Salem Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
Schuylkill County EOC – Emergency Operations Center, County, Support	1.2	Direction and Control	M
Shickshinny Borough EOC – Emergency Operations Center, Municipal Risk	1.2	Direction and Control	M
Slocum Township EOC – Emergency Operations Center, Municipal Risk	1.2	Direction and Control	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk	1.2	Direction and Control	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk - Back Up Route Alerting	1.2	Direction and Control	M
Sugarloaf Township EOC – Emergency Operations Center, Municipal Risk	1.2	Direction and Control	M
Union Township EOC – Emergency Operations Center, Municipal Risk	1.2	Direction and Control	M
Union County EOC – Emergency Operations Center, County, Support	1.2	Direction and Control	M
Union County Mass Care at Linntown Intermediate Center – Mass Care	1.2	Direction and Control	M
Union County Evacuee Monitoring/Decontamination at Linntown Intermediate Center – Monitoring Decontamination	1.2	Direction and Control	M
Wyoming County EOC – Emergency Operations Center, County, Support	1.2	Direction and Control	M

Wyoming County Mass Care at Lackawanna Trail Junior/Senior High School – Mass Care	1.2	Direction and Control	M
Wyoming County Mass Care at Tunkhannock Administration Building – Mass Care	1.2	Direction and Control	M
Pennsylvania Accident Assessment Center (BRP) - State Accident Assessment Center	1.3	Protective Action Recommendations	M
Commonwealth Response Coordination Center - Emergency Operations Center, State	1.4	Protective Action Decisions for the Plume Phase	M
Pennsylvania Accident Assessment Center (BRP) - State Accident Assessment Center	1.4	Protective Action Decisions for the Plume Phase	M
Beaver Main Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Beaver Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Berwick Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Berwick Borough/Briar Creek Borough EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Black Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Black Creek Township EOC - Emergency Operations Center, Municipal, Risk - Back Up Route Alerting	1.5	Protective Action Decision Implementation for the Plume Phase	M
Bloomsburg Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Briar Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Butler Township/Conyngham Borough EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
City of Nanticoke EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Columbia County EOC - Emergency Operations Center, County, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Commonwealth Response Coordination Center - Emergency Operations Center, State	1.5	Protective Action Decision Implementation for the Plume Phase	M
Conyngham Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M

Dorrance Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Drums Elementary Middle School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Fishing Creek Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Greater Nanticoke Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Greater Nanticoke Area Senior High School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Hazleton Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Hollenback Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Hunlock Township EOC – Emergency Operations Center, Municipal Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Huntington Township/New Columbus Borough EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Lackawanna County EOC – Emergency Operations Center, County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Luzerne County EOC - Emergency Operations Center, County, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Lycoming County EOC – Emergency Operations Center, County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Mifflin Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Nescopeck Borough EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Nescopeck Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Newport Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
North Centre Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Northumberland County EOC – Emergency Operations Center, County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Northwest Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Northwest Primary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M

Nuangola Borough EOC – Emergency Operations Center, Municipal Risk	1.5	Protective Action Decision Implementation for the Plume Phase	N
Salem Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Salem Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Schuylkill County EOC – Emergency Operations Center, County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Shickshinny Borough EOC – Emergency Operations Center, Municipal Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Slocum Township EOC – Emergency Operations Center, Municipal Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk - Back Up Route Alerting	1.5	Protective Action Decision Implementation for the Plume Phase	M
Sugarloaf Township EOC – Emergency Operations Center, Municipal Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Union Township EOC – Emergency Operations Center, Municipal Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Union County EOC – Emergency Operations Center, County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Wyoming County EOC – Emergency Operations Center, County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Objective 2: Exposure Control			
Pennsylvania Accident Assessment Center (BRP) - State Accident Assessment Center	2.1	Emergency Worker Exposure Control Decision-Making Process	M
Beaver Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Berwick Borough/Briar Creek Borough EOC - Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Black Creek Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Black Creek Township EOC -Emergency Operations Center, Municipal, Risk – Back Up Route Alerting	2.2	Emergency Worker Exposure Control Management	M
Briar Creek Township EOC - Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Butler Township/Conyngham Borough EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M

City of Nanticoke EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Conyngham Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Columbia County EOC - Emergency Operations Center, County, Risk	2.2	Emergency Worker Exposure Control Management	M
Dorrance Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Fishing Creek Township EOC - Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Hunlock Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Huntington Township/New Columbus Borough EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Lackawanna County Evacuee Monitoring/Decontamination Station at Mid Valley Secondary Center – Monitoring/Decontamination	2.2	Emergency Worker Exposure Control Management	M
Luzerne County EOC -Emergency Operations Center, County, Risk	2.2	Emergency Worker Exposure Control Management	M
Luzerne County Emergency Worker Monitoring/Decontamination Station at Sweet Valley volunteer Fire Company Station 173 – Monitoring/Decontamination	2.2	Emergency Worker Exposure Control Management	M
Mifflin Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Nescopeck Borough EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Newport Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
North Centre Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Nuangola Borough EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	N
Pennsylvania State Police (Troop N) Bloomsburg Barracks - State Traffic and Access Control	2.2	Emergency Worker Exposure Control Management	M
Salem Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Shickshinny Borough EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Slocum Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M

South Centre Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
South Centre Township EOC -Emergency Operations Center, Municipal, Risk - Back Up Route Alerting	2.2	Emergency Worker Exposure Control Management	M
Sugarloaf Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Union Township EOC -Emergency Operations Center, Municipal, Risk	2.2	Emergency Worker Exposure Control Management	M
Union County Evacuee Monitoring/Decontamination Station at Linntown Intermediate Center – Monitoring/Decontamination	2.2	Emergency Worker Exposure Control Management	M
Objective 3: Alert and Notification			
Beaver Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Berwick Borough/Briar Creek Borough EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Black Creek Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Black Creek Township EOC - Emergency Operations Center, Municipal, Risk – Back Up Route Alerting	3.1	Communications	M
Briar Creek Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Butler Township/Conyngham Borough EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
City of Nanticoke EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Columbia County EOC - Emergency Operations Center, County, Risk	3.1	Communications	M
Conyngham Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Dorrance Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Fishing Creek Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Hollenback Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Hunlock Township EOC – Emergency Operations Center, Municipal Risk	3.1	Communications	M

Huntington Township/New Columbus Borough EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Lackawanna County EOC – Emergency Operations Center, County, Support	3.1	Communications	M
Lackawanna County Reception Center at Mid Valley Secondary Center – Reception Center	3.1	Communications	M
Lackawanna County Mass Care at Mid Valley Secondary Center – Reception Center	3.1	Communications	M
Lackawanna County Evacuee Monitoring/Decontamination at Mid Valley Secondary Center – Reception Center	3.1	Communications	M
Luzerne County EOC - Emergency Operations Center, County, Risk	3.1	Communications	M
Luzerne County Emergency Worker Monitoring/Decontamination Station at Sweet Valley Volunteer Fire Company Station 173 – Monitoring/Decontamination	3.1	Communications	M
Lycoming County EOC – Emergency Operations Center, County, Support	3.1	Communications	M
Lycoming County Mass Care at Hughesville High School – Mass Care	3.1	Communications	M
Lycoming County Mass Care at Lycoming College – Mass Care	3.1	Communications	M
Lycoming County Mass Care at Montoursville High School – Mass Care	3.1	Communications	M
Mifflin Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Nescopeck Borough EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Nescopeck Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Newport Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
North Centre Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Northumberland County EOC – Emergency Operations Center, County, Support	3.1	Communications	M
Nuangola Borough EOC – Emergency Operations Center, Municipal Risk	3.1	Communications	N

Pennsylvania State Police (Troop N) Bloomsburg Barracks - State Traffic and Access Control	3.1	Communications	M
Salem Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
Schuylkill County EOC – Emergency Operations Center, County, Support	3.1	Communications	M
Shickshinny Borough EOC – Emergency Operations Center, Municipal Risk	3.1	Communications	M
Slocum Township EOC – Emergency Operations Center, Municipal Risk	3.1	Communications	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk	3.1	Communications	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk - Back Up Route Alerting	3.1	Communications	M
Sugarloaf Township EOC – Emergency Operations Center, Municipal Risk	3.1	Communications	M
Union Township EOC – Emergency Operations Center, Municipal Risk	3.1	Communications	M
Union County EOC – Emergency Operations Center, County, Support	3.1	Communications	M
Union County Evacuee Monitoring/Decontamination at Linntown Intermediate Center – Monitoring/Decontamination	3.1	Communications	M
Union County Mass Care at Linntown Intermediate Center	3.1	Communications	M
Wyoming County EOC – Emergency Operations Center, County, Support	3.1	Communications	M
Wyoming County Mass Care at Tunkhannock Administration Building - Mass Care	3.1	Communications	M
Wyoming County Mass Care at Lackawanna Trail Junior /Senior High School – Mass Care	3.1	Communications	M
Black Creek Township EOC – Emergency Operations Center, Municipal Risk – Back Up Route Alerting	3.2	Alert and Notification to the Public	M
Columbia County EOC - Emergency Operations Center, County, Risk	3.2	Alert and Notification to the Public	M
Commonwealth Response Coordination Center - Emergency Operations Center, State	3.2	Alert and Notification to the Public	M

Commonwealth Response Coordination Center Joint Information Center (JIC) – Joint Information Center, State	3.2	Alert and Notification to the Public	M
Luzerne County EOC – Emergency Operations Center, County, Risk	3.2	Alert and Notification to the Public	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk - Back Up Route Alerting	3.2	Alert and Notification to the Public	M
Commonwealth Joint Information Center at the CRCC - Joint Information Center	3.3	Emergency Information and Instructions for the Public and News Media	M
Lackawanna County EOC - Emergency Operations Center, County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Lycoming County EOC - Emergency Operations Center, County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Northumberland County EOC - Emergency Operations Center, County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Schuylkill County EOC - Emergency Operations Center, County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Talen Joint Information Center (JIC) Media Operations Center	3.3	Emergency Information and Instructions for the Public and News Media	M
Union County EOC – Emergency Operations Center, County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Wyoming County EOC – Emergency Operations Center, County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Objective 4: Detect, Measure, Sample, Analyze, and Assess			
Radiological Rapid Response Vehicle (R3V) - State Mobile Laboratory	4.1	Field Monitoring Teams Management	M
State Field Monitoring Team A (BRP) - State Field Monitoring	4.2	Plume Phase Measurements and Sampling	M
State Field Monitoring Team B (BRP) - State Field Monitoring	4.2	Plume Phase Measurements and Sampling	M
Pennsylvania Accident Assessment Center (BRP) - State Accident Assessment Center	4.5	Plume Phase Analysis and Dose Assessment	M
Objective 5: Operate			
Lackawanna County – Mass Care at Mid Valley Secondary Center – Monitoring/Decontamination	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Lycoming County Mass Care at Hughesville High School – Mass Care	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Lycoming County Mass Care at Lycoming College – Mass Care	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M

Lycoming County Mass Care at Montoursville High School – Mass Care	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Union County Mass Care at Linntown Intermediate Center – Mass Care	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Union County Evacuee Monitoring/Decontamination at Linntown Intermediate Center – Monitoring/Decontamination	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Wyoming County Mass Care at Tunkhannock Administration Building – Mass Care	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Wyoming County Mass Care at Lackawanna Trail Junior/Senior High School – Mass Care	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Luzerne County Emergency Worker Monitoring/Decontamination Station at Sweet Valley Volunteer Fire Company Station 173	5.2	Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles	M
Beaver Township EOC - Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Berwick Borough/Briar Creek Borough EOC - Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Black Creek Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Briar Creek Township EOC - Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Butler Township/Conyngham Borough EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
City of Nanticoke EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Columbia County EOC - Emergency Operations Center, County, Risk	5.4	Traffic and Access Control	M
Conyngham Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Dorrance Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Fishing Creek Township EOC - Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Hollenback Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M

Hunlock Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Huntington Township/New Columbus Borough EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Luzerne County EOC -Emergency Operations Center, County, Risk	5.4	Traffic and Access Control	M
Mifflin Township EOC - Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Nescopeck Borough EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Newport Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
North Centre Township EOC - Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Nuangola Borough EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	N
Pennsylvania State Police (Troop N) Bloomsburg Barracks - State Traffic and Access Control	5.4	Traffic and Access Control	M
Salem Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Shickshinny Borough EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Slocum Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
South Centre Township EOC - Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Sugarloaf Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M
Union Township EOC -Emergency Operations Center, Municipal, Risk	5.4	Traffic and Access Control	M

3.3 Criteria Evaluation Summaries

3.3.1 State Jurisdictions

In summary, the status of DHS/FEMA criteria for the State jurisdictions are as follows:

3.3.1.1 Commonwealth of Pennsylvania

3.3.1.1.1 Commonwealth of Pennsylvania Response Coordination Center (CRCC)

a. Met: 1.4, 1.5, 3.1, 3.2
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE

d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.1.1.2 Commonwealth of Pennsylvania Joint Information Center

a. Met: 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.1.1.3 Pennsylvania Accident Assessment Center at the CRCC

a. Met: 1.3, 1.4, 2.1, 4.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues -Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.1.1.4 Pennsylvania Radiological Rapid Response Vehicle

a. Met: 4.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.1.1.5 Pennsylvania State Field Monitoring Teams A and B

a. Met: 4.2
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issue: ONE (closed)

ISSUE NO: 63-22-4.2-P-002

CAPABILITY TARGET: 4.2 (Plume Phase Measurements and Sampling)

CONDITION: BRP-ER-A.6.01, page 9 of 19 indicates that the plume immersion test be performed with the open beta window of the detector at one meter above the ground should face downwards towards the ground. This would detect ground contamination and not determine if the FMT is immersed in the plume.

POSSIBLE CAUSE: The procedure specifically states that the test be performed with the open beta window of the detector at one meter above ground face the ground. "3-B.1: PLUME VERIFICATION -- To verify your presence in the plume, use the ADM-300 to take these additional readings: a. Waist Level (1 meter above ground, window pointed DOWN) – Open-Window. Take the WAIST LEVEL OPEN-WINDOW reading by holding the instrument 1 meter above the ground with beta

shield open and the detector window facing down. Record the reading on Attachment 1, "PA BRP – Field Monitoring Data Log (Field Team)" and enter the reading(s) with the CBRNResponder app on a mobile device. Note: make sure to state the window position and height".

REFERENCES:

- *NUREG-0654/FEMA-REP-1, Rev. 2 (H.9, H.11, H.11.a, H.11.b, H.12, H.13, I.2, I.5, I.6, I.7, I.8, I.9, I.10, and O.1)*
- BRP-ER-A-6.01, page 9
- FEMA Radiological Emergency Preparedness Manual (2019), page 79 Field Team Procedures: (3) Ambient Radiation Measurements: The procedures state that open- and closed-window readings are taken at waist level (approximately 1 meter) or higher and at near-ground levels (e.g., 5-7 centimeters). When conducting open-window readings, it is recommended that the beta window on the instrument's probe point up for waist level or higher readings and down for near-ground readings. Taking multiple readings helps identify changes in the plume and account for natural variation.

EFFECT: By having the open beta-window of the detector facing the ground at one meter above the ground, ground deposition beta radiation may be detected and the FMT misled into believing they are immersed in the plume when in reality the plume may have departed earlier, leaving only deposition. An air sample obtained at that location and subsequent analysis would yield little or no radioiodine and dose assessment would underestimate the dose to the public due to radioiodine not being released when actually radioiodine may be present, however the air sample was not obtained in the plume.

RECOMMENDATION: Revise the procedure to indicate that open beta-window measurements at one meter above the ground should have the open beta-window facing upwards.

CORRECTIVE ACTION: On October 20, 2022, the Pennsylvania Bureau of Radiation Protection submitted a revised procedure to FEMA that adequately corrected the error in the procedure. This successfully resolved the plan issue.

e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.1.1.6 Pennsylvania State Police

a. Met: 1.1, 1.2, 2.2, 3.1, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.1.1.7 Talen Joint Information Center

a. Met: 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2 Pennsylvania Risk Jurisdictions

In summary, the status of DHS/FEMA criteria for the Risk jurisdictions are as follows:

3.3.2.1 Columbia County Emergency Operations Center

a. Met: 1.1, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: ONE (closed)

ISSUE NO: 63-22-1.2-L1-003

CAPABILITY TARGETS: 1.2 (Direction and Control) and 3.3 (Emergency Information and Instructions for the Public and News Media)

CONDITIONS:

1. County Commissioners at the Columbia County EOC pressured the Emergency Management Coordinator, the exercise evaluation team, and the exercise controller to hasten exercise play and threatened to terminate the exercise and release staff from the EOC prior to the completion of all required demonstrations/evaluations. As a result, the required media briefing did not take place, which could have afforded the county spokesperson the opportunity to clarify mistakes in the press releases.

2. The Governor of the Commonwealth of Pennsylvania made a protective action decision (PAD) at 2034 that recommended all persons in the 10-mile emergency planning zone to evacuate and ingest KI. Prior to that, a protective action recommendation (PAR) was provided by the licensee, Talen Energy, to the Commonwealth which recommended persons to evacuate 0-2 miles 360 degrees around the plant, and 2-5 miles in the downwind sectors (A, B, C, D, E, Q and R). The Columbia County EOC incorrectly acted on the PAR issued by Talen Energy and issued Press Release #10 at 2029 that instructed persons in a 360-degree radius, 0-5 miles from the plant to evacuate and ingest KI. Then, to correct Press Release #10, issued Press Release #11. Press Release #11 was also incorrect and stated that persons in a 360-degree radius from the plant 2-5 miles, in sectors A, B, C, D, E, Q and R to evacuate. Sectors A, B, C, D, E, Q and R, are wind sectors, and these are not contained in the emergency information brochure provided to residents living in the emergency planning zone, and were not explained in a special news bulletin, media briefing, or press release.

3. The Columbia County EOC failed to conduct a media briefing, which is required in the Columbia County Radiological Emergency Response Plan and required under the negotiated Extent-of-Play Agreement for the exercise. There were no

clarifying statements or media briefings conducted that could have clarified the error.

POSSIBLE CAUSES:

1. Commissioners were concerned that since the exercise took place after regular business hours, exercise participants might develop fatigue because many had already worked a full business day prior to reporting to the EOC to participate in the exercise. Commissioners seemed unaware of FEMA Radiological Emergency Preparedness Program exercise requirements, specifically that exercise play is driven toward achievement of specific agreed-upon objectives and that prematurely terminating exercise play would not allow for the demonstration of capabilities to protect public health and safety within the plume exposure pathway Emergency Planning Zone.

2. A lack of training and experience by the public information team may have contributed to the incorrect protective action being released. There was insufficient oversight by the leadership team during the review and approval of press releases prior to dissemination.

3. The media briefing was not conducted possibly due to the pressure to terminate the exercise applied by the County Commissioner.

REFERENCES:

- NUREG-0654/FEMA-REP-1, Rev. 2
- Capability Target 1.2: (A.1, A.1.a, A.1.b, A.1.c, A.2, A.3, A.5, C.2, C.2.a, C.2.b, C.3, D.4, E.1, H.6, and O.1)
- Capability Target 3.3: (E.2, E.4, E.5, G.1, G.2, G.3, G.3(a), G.4, G.5, and O.1)
- Columbia County Radiological Emergency Response Plan Nuclear Radiological Incident Plan Revision 8
- Susquehanna Steam Electric Station ExPlan/Extent of Play Agreement, page 54.

EFFECTS:

1. The County Commissioner's pressure to prematurely terminate the exercise resulted in the media briefing not being demonstrated.

2. The public would have received conflicting information from different sources for evacuation and KI information. This could have led to some members of the public not following the correct protective action issued by the Governor of Pennsylvania.

CORRECTIVE ACTIONS REQUIRED PRIOR TO REMEDIAL EXERCISE:

1. Conduct refresher training to County Commissioners on their role in the Columbia County Radiological Emergency Response Plan.

2. Conduct training on the PAR/PAD process and the importance of not acting on the licensee PAR.

3. Ensure processes are in place to thoroughly review and approve press releases prior to dissemination.

4. Ensure that there is an understanding of the FEMA Radiological Emergency Preparedness Program exercise requirements, exercise extent-of-play agreement, and full-participation in the exercise.

CORRECTIVE ACTION: During the remedial exercise, staff from Columbia County Emergency Management Agency (CCEMA) successfully demonstrated the implementation of the revised procedures and validated that the revisions are effective at preventing an erroneous media release from being disseminated. The revised checklists clearly identified responsibilities by all parties involved in the creation and release of media releases. There were two Columbia County Commissioners participating and they were responsible for oversight and approval of all media releases. There was healthy discussion and collaboration between the PIO, EMC, and Commissioners regarding the content of the media releases prior to dissemination.
There was a total of four media releases developed by CCEMA and two media briefings were held. FEMA evaluators served as mock media and asked questions related to the postulated radiological release and incident at the Susquehanna Steam Electric Station. All questions were answered adequately by the spokespersons, which included the County Commissioners, Public Information Officer, and Emergency Management Director.

c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.2 Columbia County, Beaver Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.3 Columbia County, Berwick Borough/ Briar Creek Borough Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.4 Columbia County, Briar Creek Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE

e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.5 Columbia County, Fishing Creek Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.6 Columbia County, Mifflin Township Emergency Operation Center (with Impediment)

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2. 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.7 Columbia County, North Centre Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.8 Columbia County, South Centre Township Emergency Operations Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.9 Columbia County, South Centre Township Emergency Operation Center Back Up Route Alerting

a. Met: 1.2, 2.2, 3.1, 3.2
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.10 Columbia County, Berwick Area School District

a. Met: 1.5
b. Level 1 Findings: NONE

c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.11 Columbia County, Berwick Area School District, Salem Elementary School

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.12 Columbia County, Bloomsburg Area School District

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.13 Columbia County, Bloomsburg Area School District, Beaver Main Elementary School

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.14 Luzerne County Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: ONE (closed)
d. Plan Issues: NONE

ISSUE NO: 63-22-3.3-L2-006

CAPABILITY TARGET: 3.3 (Emergency Information and Instructions for the Public and News Media)

CONDITIONS: Staff at the Luzerne County Emergency Operations Center (EOC) failed to provide the protective action decision to the public in their press release. The press release for General Emergency was issued out in a timely manner at 2100 but lacked the Governor's recommendation for the evacuation of the 10-mile 360 emergency planning zone and only included the recommendation to ingest Potassium Iodine (KI) for the public and emergency workers.

POSSIBLE CAUSE: The press release could have been issued without a review from leadership to notice that the full protective action decision from the Governor was not on the news release.

REFERENCE:

- NUREG-0654/FEMA-REP-1, Rev. 2: (E.2; E.4; E.5; G.1, G.2, G.3, G.3.a, G.4. G.5, and O.1)
- Luzerne County Radiological Emergency Response Plan Nuclear/Radiological Incident Plan 2022 EFFECTS: The absence of protective action information to the news media could cause confusion to the public and cause delays in taking protective actions.

CORRECTIVE ACTION/RECOMMENDATION: The Luzerne County Public Information Officer (PIO) resolved the inaccurate information in the press release when they conducted a media briefing and adequality addressed the Protective Action Decision (PAD) made by the Governor of Pennsylvania. The Luzerne County Radiological Emergency Response Plan must be updated in compliance with NUREG 0654 FEMA REP-1, Rev.2, specifically Evaluation Criterion G.3 (b), "Information Control and Release Procedures".

e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.15 Luzerne County, Black Creek Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.16 Luzerne County, Black Creek Township Emergency Operation Center Back Up Route Alerting

a. Met: 1.1, 2.2, 3.1, 3.2
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.17 Luzerne County, Butler Township/Conyngham Borough Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NNONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.18 Luzerne County, City of Nanticoke Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.19 Luzerne County, Conyngham Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.20 Luzerne County, Dorrance Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.21 Luzerne County, Hollenback Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: ONE (closed)

ISSUE NO: 63-22-2.2-L2-004

CAPABILITY TARGET: 2.2 (Emergency Worker Exposure Control Decision-Making Process)

CONDITION: The designated Radiological Officer for the Hollenback Township Emergency Operations Center (EOC) was unfamiliar with the emergency worker exposure control equipment or how to instruct the EOC participants on the need and use of the equipment. The radiological briefing was incomplete because only one side of the briefing poster card was read to the EOC staff. The Radiological Liaison thought the back side of the card was in a "foreign language"; therefore, only the front side of the briefing card was read aloud. The Liaison did not know how to provide the correct dosimetry to the Access and Control Traffic Point personnel before being deployed to the Traffic Control Point location. As a result, no dosimetry or record-keeping form was distributed to any emergency worker.
The Fire/Police Officer designated to staff the Traffic Control Point was unsure of how to use and when to read the Direct Reading Dosimeter, when to take potassium iodide, and how to complete the Dosimetry and KI Report Form. However, the Officer was convinced that the Category B dosimetry was the type of kit that should

have been issued to the Access Control Point emergency worker. The Transportation Coordinator guessed that somewhere between 5R and 10R would be a reasonable dose limit for the Traffic and Access Control Point personnel.
POSSIBLE CAUSE: The Radiological Officer and the Fire Chief were new in their positions and possibly lacked training in the need for and use of emergency worker exposure control equipment.

REFERENCES:

- NUREG – 0654/FEMA-REP-1, Rev.2 (C,2,c, H,11, J,2, J,2,b, J,3, J,3,a, N,1,b, N,8, and O.1)
- Hollenback Township – Luzerne County 2022, Revision 8 Radiological Emergency Response Plan-Standard Operating Procedures SOP 1 Radiological Liaison EFS 10
  I.1 **REQUIRED MATERIALS AND INFORMATION,** and
  I.3 **ALERT:** Perform Radiological Briefing in accordance with current Radiological Briefing Poster/Card.
- Commonwealth of Pennsylvania, Pennsylvania Emergency Management Agency Interim Radiological Plans Guidance, V. CONCEPT OF OPERATIONS
- PEMA Appendix 5, Annex E, Radiological Exposure Control Interim Guidance Letter 2009
- 3. CONCEPT OF OPERATIONS A. The State EOC instructs State departments/agencies and County emergency management agencies to commence radiological exposure control operations (monitoring, decontamination, recording, etc.) and to take protective action measures when advised.
- C. County Emergency Management Agencies: The County emergency management agency provides training, dosimetry, and KI to emergency workers

EFFECT: The inability to ensure an effective exposure control system was in place, including clear procedures and use of dosimetry and radioprotective drugs jeopardized the safety of emergency workers in Hollenback Township and their ability to safely perform their assigned mission within the Emergency Planning Zone (EPZ).

RECOMMENDATION: Additional training by a certified county radiological officer is needed to address the use of Emergency Worker Exposure Control, dosimetry, radioprotective drugs, the use of Emergency Worker Exposure Control equipment. All EOC personnel would benefit from additional Emergency Worker Exposure Control training.

CORRECTIVE ACTION: On November 29, 2022, Hollenback Township successfully redemonstrated a Level 2 Finding for an inadequate radiological exposure control briefing to emergency workers. The redemonstration covered all aspects of Luzerne County's radiological exposure control plan including dose limits, potassium iodide (KI), and contamination controls. An emergency worker from Luzerne County was interviewed during the redemonstration and demonstrated awareness and knowledge of exposure control and equipment operations.

d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.22 Luzerne County, Hunlock Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.23 Luzerne County, Huntington Township/New Columbus Borough Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues - Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.24 Luzerne County, Nescopeck Borough Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.25 Luzerne County, Nescopeck Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues - Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.26 Luzerne County, Newport Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.27 Luzerne County, Nuangola Borough Emergency Operation Center

a. Not Demonstrated: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE

c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.28 Luzerne County, Salem Township Emergency Operations Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.29 Luzerne County, Shickshinny Borough Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.30 Luzerne County, Slocum Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.31 Luzerne County, Sugarloaf Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.32 Luzerne County, Union Township Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.33 Luzerne County, Greater Nanticoke Area School District

a. Met: 1.5
b. Level 1 Findings: NONE

c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.34 Luzerne County, Greater Nanticoke Area School District, Greater Nanticoke Area Senior High School

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.35 Luzerne County, Hazleton Area School District

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.36 Luzerne County, Hazleton Area School District, Drums Elementary Middle School

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.37 Luzerne County, Northwest Area School District

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues - Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.38 Luzerne County, Northwest Primary School

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.2.39 Luzerne County Emergency Worker Monitoring/Decontamination Station

a. Met: 1.1, 1.2, 2.2, 3.1, 5.2
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3 Pennsylvania Support Jurisdictions

In summary, the status of DHS/FEMA criteria for the Private jurisdictions are as follows:

3.3.3.1 Lackawanna County Emergency Operations Center

a. Met: 1.1, 1.2, 3.1, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.2 Lackawanna County, Reception Center at Mid Valley Secondary Center

a. Met: 1.2, 2.2, 3.1, 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.3 Lackawanna County, Mass Care at Mid Valley Secondary Center

a. Met: 1.2, 2.2, 3.1, 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.4 Lackawanna County, Emergency Worker Monitoring and Decontamination at Mid Valley Secondary Center

a. Met: 1.2, 2.2, 3.1
b. Level 1 Findings: NONE
c. Level 2 Findings: ONE (closed)
d. Plan Issues: NONE

ISSUE NO: 63-22-5.1-L2-001

CAPABILITY TARGET: 5.1 (Monitoring, Decontamination, Sheltering, and Registration of Evacuees)

CONDITIONS: Staff at the Lackawanna County Evacuee Monitoring and Decontamination Station failed to exercise care to control the spread of radiological

contamination when processing an evacuee through the decontamination stations. During the decontamination process, the decontamination team was not aware of the evacuee standing in a contaminated water collection pool inside the decontamination tent.

POSSIBLE CAUSE: Although previously trained and briefed on how to successfully conduct decontamination activities, decontamination staff did not reference their procedures or use contamination control tools available during the exercise. The decontamination staff failed to direct the evacuee into the designated side of the tent where raised floor runners were in place and a collection bucket was available to control contaminated water during the decontamination of the evacuee's hands.

REFERENCES:
- NUREG-0654/FEMA-REP-1, Rev. 2 (J.11.d, J.13, K.4, and O.1)
- Lackawanna County Emergency Management Agency Nuclear/Radiological Incident Specific Plan, Annex A Nuclear Power Plant Incidents 2022 EFFECTS: Contaminated runoff from the evacuee's hands created a cross contamination concern that could spread to the evacuee's feet or other parts of the body.

CORRECTIVE ACTION: A pause to exercise play and discussion with the controller and Lackawanna County leadership resulted in a redemonstration opportunity in accordance with the exercise Extent of Play Agreement (EOPA). The Lackawanna Emergency Management Agency staff provided corrective training for the evacuee monitoring and decontamination staff and successfully redemonstrated evacuee decontamination and contamination control procedures once exercise play resumed.

e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.5 Lycoming County Emergency Operation Center
a. Met: 1.1, 1.2, 3.1, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.6 Lycoming County, Mass Care at Montoursville High School
a. Met: 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.7 Lycoming County, Mass Care at Hughesville High School

a. Met: 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.8 Lycoming County, Mass Care at Lycoming College

a. Met: 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.9 Northumberland County Emergency Operation Center

a. Met: 1.1, 3.1, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
f. Plan Issues: ONE (open)

ISSUE NO: 63-22-1.2-P-005

CAPABILITY TARGET: 1.2 (Direction and Control-Equipment and Supplies to Support Operations)

CONDITION: Survey meters that would be employed by the Northumberland County Emergency Operations Center (EOC) to process evacuees were out of calibration. There were four hand-held Ludlum Meters, Model 2241-3 with the calibration expiration date of September 2022, and the two digital hand-held meters with calibration expiration date of November 8, 2020.

POSSIBLE CAUSE: An oversight by staff at the Northumberland County Emergency Management Agency resulted in the survey meters not being calibrated within the due date.

REFERENCE:

- NUREG-0654/FEMA-REP-1, Rev. 2 (A.1, A.1.a, A.1.b, A.1.c, A.2, A.3, A.5, C.2, C.2.a, C.2.b, C.3, D.4, E.1, H.6, and O.1)
- Northumberland County Emergency Management Agency, Annex A, Nuclear Power Plant Incidents 2022, page A5 page 1of 3, and 2 of 3

EFFECT: Utilizing a survey meter that has not been calibrated within the prescribed timeframe could result in inaccurate readings and subsequently not detect radiological contamination on evacuees and/or their vehicles.

RECOMMENDATION: The survey meters should be calibrated as soon as possible.

e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.10 Schuylkill County Emergency Operation Center

a. Met: 1.1, 1.2, 3.1, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.11 Union County Emergency Operation Center

a. Met: 1.1, 1.2, 3.1, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.12 Union County, Reception Center at Linntown Intermediate Center

a. Met: 1.1, 1.2, 3.1, 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.13 Union County, Mass Care at Linntown Intermediate Center

a. Met: 1.1, 1.2, 3.1, 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.14 Union County, Evacuee Monitoring/Decontamination Station

a. Met: 1.1, 1.2, 2.2, 3.1, 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.15 Wyoming County Emergency Operation Center

a. Met: 1.1, 1.2, 3.1, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE

e. Prior Issues - Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.16 Wyoming County, Mass Care at Tunkhannock Administration Building

a. Met: 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

3.3.3.17 Wyoming County, Mass Care at Lackawanna Trail Junior/Senior High School

a. Met: 5.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues - Unresolved: NONE

SECTION 4: DEMONSTRATED STRENGTHS

4.1 Risk Jurisdictions

4.1.1 Berwick/Briar Creek Borough Emergency Management Agency

The Police representative worked with the Public Works staff member to ensure there would be a continuous fuel supply for emergency vehicles throughout the event. This step would allow for all emergency work to continue inside the 10-mile EPZ after evacuation.

4.1.2 Berwick/Briar Creek Borough Emergency Management Agency

During the exercise there was some confusion amongst EOC staff upon receipt of the General Emergency notification which included the utility's recommendation for potassium iodide (KI) to be issued. Initial discussions were for staff to alert field personnel to take the KI. During that discussion, however, the radiation safety officer realized the notification was not from the state health officer and the directive for staff to ingest KI was delayed until official word was received.

4.1.3 Berwick/Briar Creek Borough Emergency Management Agency

The Berwick Borough Fire Chief credited participation in REP exercises as part of the successful responses to recent tragic events that occurred in Berwick Borough and in a neighboring community.

4.1.4 Conyngham Township Emergency Management Agency

The Mocanaqua and Pond Hill Fire Department personnel were called away for a real-world event. Two of the remaining EOC staff agreed to take on one additional role for the exercise. One staff person agreed to two additional roles. They used the check lists defining actions at each ECL and were successful.

4.1.5 Conyngham Township Emergency Management Agency

The Township Radiological Officer (RO) used an analogy relating Protective Action Guidelines (PAGs) for dose limits to nickels, dimes, and quarters as a tool to help staff remember those dose limits.

4.1.6 Mifflin Township Emergency Management Agency

The Mifflin Township Emergency Management Coordinator engaged all of the emergency response organization's participants; he ensured that two new members received training, provided detailed briefings, verified that participants used current procedures, followed checklists, and identified and addressed unmet needs.

4.1.7 Mifflin Township Emergency Management Agency

The police officer who interviewed for traffic and access control was a new hire. Although the individual was new, he demonstrated excellent initial training as he was well versed in use of dosimetry, exposure control and his traffic control duties to direct evacuees to the correct reception center.

4.1.8 Newport Township Emergency Management Agency

The Newport Township Commissioners, Town Manager, and Emergency Management Coordinator assisted in making decisions and participated in all EOC activities throughout the exercise. All emergency information was reported immediately upon receipt and discussed with key EOC staff. Responses to emergency activities were discussed thoroughly among the group and decisions were based on which actions resulted in the highest level of safety for their emergency workers and public. The Commissioners', Managers', and Emergency Coordinator's many years of experience showed in the calm leadership ensuring cooperation from all township departments.

4.1.9 Newport Township Emergency Management Agency

The Radiological Officer was well prepared with Dosimetry/KI kits pre-packaged/ready for distribution. To enhance the personal dosimetry information provided each of the EOC staff; the RO ensured that each emergency worker received a Radiological/KI briefing while referring to a laminated poster-sized copy of the Dosimetry-KI Instructions. The evaluator was impressed that the proper handling of the 'control PRD' (DLR) was demonstrated when it was specially bagged/tagged, and the township police were requested to transport the 'Control PRD' out of the EPZ to the Luzerne County Radiological Officer as the PRDs were being distributed.

4.l.10 Newport Township Emergency Management Agency

The Medical Officer reviewed all 'Request for Special Assistance' cards and ensured that each was updated and documented with the resident's current needs and then ensured that the appropriate department (Police, Fire/Rescue or Transportation) were ready to assist each resident individually when directed by the Emergency Coordinator.

4.1.11 Sugarloaf Township Emergency Management Agency

A real-world incident and a pause in the exercise occurred in Sugarloaf Township and caused all but 4 EOC staff members to respond. When the staff returned to the EOC they were able to complete all actions items required of them and their plan.

4.2 Support Jurisdictions

4.2.1 Lackawanna County Emergency Management Agency

Lackawanna County Emergency Management Agency (EMA) personnel staffing Reception Center operations had a mobile command/Back-up 911 center at the main reception area and included the capturing of evacuee vehicle and occupant information, provided a strip map to evacuee monitoring that identified all locations of the school complex, reception center instructions sheet, and a Special Needs barcode and labeling system that identified special needs equipment, medications, special needs, service animals, and numerous impairments. This special needs labeling system contributed to providing a heads-up notice to the monitoring and decontamination staff via radio that an evacuee with special needs was on site and contributed to the overall comfort for evacuees.

4.2.2 Lackawanna County Emergency Management Agency

The Sweet Valley Volunteer Fire Company Station 173 leadership demonstrated a streamlined and efficient process and implementing procedures for emergency worker monitoring and decontamination operations. The overall process was well organized,

efficient, and demonstrated that staff were well trained for processing emergency workers returning from missions in seven risk municipalities. Particularly noteworthy were three monitoring teams consisting of monitor and recorder. Monitoring staff were extremely knowledgeable on survey meter operations to include proper operability checks, conducting background readings, monitoring protocols, and efficiency in identifying contamination on both personnel and equipment.

4.2.3 Union County

Prior to the start of the exercise, the Union County Emergency Coordinator received a call from Northumberland County, informing them that the Northumberland Radiological Officer had to call out due to an illness. The Union County RO provided a briefing to both the Union County EOC and the Northumberland EOC via a conference line. In a conversation with the EMC, they stated that while it is not part of their plan, they utilize their mutual aid to ensure resources could be shared between the counties.

4.2.4 Wyoming County

Wyoming County recently obtained the Star Link Satellite Communication System for use as a back-up internet provider.

4.2.5 Wyoming County

Wyoming County is supported by the Endless Mountains Amateur Radio Club. The Club has about 20 enthusiastic active members with an impressive array of communications equipment and is a tremendous asset to the county.

SECTION 5: CONCLUSION

The Commonwealth of Pennsylvania, and local jurisdictions, except where noted in this report demonstrated knowledge of their Radiological Emergency Response Plans (RERP) and procedures were adequately implemented during Susquehanna Steam Electric Station evaluated on October 18, 2022, and the Out of Sequence Demonstrations conducted September 26-29, 2022, and November 29, 2022.

FEMA assesses offsite planning and preparedness for communities within the plume and/or ingestion exposure pathway EPZs of commercial NPPs through an established set of objectives and capability targets that reflect the intent of the planning standards of 44 CFR 350 and the evaluation criteria of NUREG-0654/FEMA-REP-1, Rev 2, December 2019. Thus, FEMA considers these objectives/capability targets to be the benchmarks for FEMA's validation of reasonable assurance.

Each of these objectives/capability targets apply to all aspects of FEMA's assessment and are reported out in terms of core capabilities in the Biennial Preparedness Report. There are five overarching objectives, each of which have a unique set of capability targets that support the accomplishment of the objective. The capability targets are associated with one or more core capabilities, as agreed to by the OROs and RAC Chairs. This assessment strategy supports FEMA's regulatory responsibilities and successfully aligns REP evaluation methodology with the doctrine of the NPS.
Federal Emergency Management Agency (FEMA) evaluators assessed 288 Capability Targets in five Objectives:

- Objective 1: Emergency Operations Management
- Objective 2: Exposure Control
- Objective 3: Alert and Notification
- Objective 4: Detect, Measure, Sample, Analyze, and Assess
- Objective 5: Operate

These resulted in a determination of one Level 1 Finding, three Level 2 Findings, and two Plan Issues. The one Level 1 Finding, and three Level 2 Findings were successfully redemonstrated; and one Plan Issue was resolved after FEMA received updated plans. There is one Plan Issue still open as of this report.

Based on the results of the exercise and a review of the offsite radiological emergency response plans and procedures submitted, FEMA Region 3 has determined they are adequate (meet the planning and preparedness standards of NUREG-0654/FEMA-REP-1, Revision 2, December 2019, as referenced in 44 CFR 350.5) and there is reasonable assurance they can be implemented, as demonstrated during this exercise.

APPENDIX A – EXERCISE TIMELINES

SSES EXERCISE TIMELINE – October 18, 2022

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*									
		CRCC	CRCC JIC	BRP at CRCC	Talen JIC	Columbia County	Beaver Township	Berwick Boro/Briar Creek Boro	Briar Creek Township	Fishing Creek Township	Mifflin Township
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	1753	1805	1805	1804	1759	1804	1803	1806	1805	1833	1804
Site Area Emergency	1918	1926	1926	1926	1924	1927	1927	1928	1926	1931	1927
General Emergency	2019	2030	2030	2030	2026	2030	2031	2032	2031	2030	2030
Start of Simulated Radiation Release	1930	1930	1930	1930	1924	1927	1927	1928	2011	1931	1927
Terminated of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1828	1828	1828	1834	1800	1804	1815	1730	1844	1805
Governor's Declaration of State of Emergency		1942	1942	1942	2020	2029	2059	N/A	2002	2058	2100
Exercise Terminated		2115	2115	2115	2115	2200	2119	2115	2115	2115	2130
Precautionary Actions:											
Animals on stored feed & water, 0-10 mi		1938	1938	1938	1938	1938	1942	2007	1942	2011	2004
Railroad & Water restrictions, 0-10 mi		1938	1938	1938	1938	1938	1942	2007	1942	2006	2004
Air restrictions, 0-3 mi, 0-3000 feet		1938	1938	1938	1938	1938	1942	2059	1942	2006	2004
Canceled schools for the next day		1938	1938	1938	1938	1938	1942	2059	1942	1942	2004
1st Siren Sounding		1948	1948	1948	1948	1948	1948	1948	1948	1948	1948
EAS Message Broadcast		1951	1951	1951	1951	1951	1951	1951	1951	1951	1951
First Protective Actions:											
Evacuate 0-10 mi, 360 degrees		2034	2034	2034	2034	2047	2047	2057	2045	2058	2100
Expanded Air Restrictions 10mi, 10,000 ft		2034	2034	2034	2034	2047	2035	2057	2045	2042	2100
2d Siren Sounding		2044	2044	2044	2044	2044	2044	2044	2044	2044	2044
EAS Message Broadcast		2047	2047	2047	2047	2047	2047	2047	2047	2047	2047
KI Decision – Emergency Workers		2034	2034	2034	2034	2037	2059	2057	2031	2100	2100
KI Decision – General Public/Special Populations		2934	2934	2034	2034	2037	2059	2057	2031	2100	2100

SSES EXERCISE TIMELINE – October 18, 2022

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*									
		North Centre Township	South Centre Township	Luzerne County	Black Creek Township	Butler Township/ Conyngham Borough	City of Nanticoke	Conyngham Township	Dorrance Township	Hollenback Township	Hunlock Township
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	1753	1804	1806	1800	1805	1804	1802	1754	1805	1807	1804
Site Area Emergency	1918	1927	1929	1924	1928	1926	1925	1928	1918	1928	1925
General Emergency	2019	2034	2030	2027	2030	2033	2008	2030	2032	2030	2029
Start of Simulated Radiation Release	1918	1930	1928	1924	1928	1926	2028	1924	1918	1928	1925
Terminated of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1810	1812	1800	1756	1806	1942	1755	1800	1800	1806
Governor's Declaration of State of Emergency		N/A	N/A	1956	1956	2007	1957	1958	2008	2006	2000
Exercise Terminated		2130	2122	2145	2115	2119	2118	2115	2115	2124	2123
Precautionary Actions:											
Animals on stored feed & water, 0-10 mi		2007	1942	1938	2006	2010	2008	1953	2032	1942	2012
Railroad & water restrictions, 0-10 mi		2007	2006	1938	2006	2010	2008	1953	1942	2030	2012
Air restrictions, 0-3 mi, 0-3,000 feet		2007	2006	1938	2006	2010	2011	1953	1942	2035	2012
Canceled schools for the next day		2007	2006	1938	2006	2010	2011	1953	1942	2035	2012
1st Siren Sounding		1948	1948	1948	1948	1948	1948	1948	1948	1948	1948
EAS Message Broadcast		1951	1951	1951	1951	1951	1951	1951	1951	1951	1951
First Protective Actions: Evacuate											
Evacuate 0-10 miles, 360 degrees		2055	2058	2032	2051	2033	2100	2032	2032	2059	2054
Expanded Air Restrictions 10mi, 10,000 ft		2055	2058	2032	2051	2033	2100	2032	2032	2059	2054
2d Siren Sounding		2044	2044	2044	2044	2044	2100	2044	2044	2044	2044
EAS Message Broadcast		2047	2047	2047	2047	2047	2100	2047	2047	2059	2047
KI Decision – Emergency Workers		2050	2059	2034	2105	2052	2100	2035	2058	2059	2054
KI Decision – General Public/Special Populations		2050	2059	2034	2105	2052	2100	2035	2058	2059	2054

SSES EXERCISE TIMELINE – October 18, 2022

Emergency Classification Level or Event	Time Utility Declared		*Time That Notification Was Received at the Listed Location*									
		Huntington Township/ New Columbus Borough	Nescopeck Borough	Nescopeck Township	Newport Township	Nuangola Borough	Salem Township	Shickshinny Borough	Slocum Township	Sugarloaf Township	Union Township	Lackawanna County
Unusual Event		N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A
Alert	1753	1807	1805	1805	1804		1804	1805	1804	1804	1803	1812
Site Area Emergency	1918	1928	1927	1927	1926		1922	1926	1927	1924	1925	1927
General Emergency	2019	2031	2029	2030	2030		2027	2029	2030	2029	2029	2033
Start of Simulated Radiation Release		1928	2019	1926	1926		1922	1926	1927	1918	1925	1927
Terminated of Simulated Radiation Release		Ongoing	Ongoing	Ongoing	Ongoing		Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1810	1758	1810	1807		1750	1747	1804	1752	1810	1939
Governor's Declaration of State of Emergency		2016	1956	2005	1955		1958	2005	2013	2006	1942	1955
Exercise Terminated		2107	2115	2125	2115		2115	2125	2115	2115	2115	2122
Precautionary Actions:												
Water restrictions 10 mi, 360		2007	2006	2026	1926		2006	1937	1942	2048	2030	1938
Air restrictions 3mi, 3000		2007	2009	2026	1926		2006	1937	1942	2048	2030	1938
Livestock Stored Feed and Water		2007	1942	2026	1926		2006	1937	1942	2048	2030	1938
Canceled schools for the next day		2007	1942	2026	1926		2006	1937	1942	2048	2030	1938
1st Siren Sounding		1948	1948	1948	1948		1948	1948	1948	1948	1948	1948
EAS Message Broadcast		1951	1951	1951	1951		1951	1951	1951	1951	1951	1951
First Protective Actions:												
Evacuate 10 miles 360		2040	2036	2043	2037		2039	2040	2055	2058	2055	2034
Expanded Air Restrictions 10mi, 10,000 ft		2040	2036	2043	2037		2039	2040	2055	2058	2055	2034
2d Siren Sounding		2044	2044	2044	2044		2044	2044	2044	2044	2044	2044
EAS Message Broadcast		2047	2047	2047	2047		2047	2047	2047	2047	2047	2047
KI Decision – Emergency Workers		2053	2035	2059	2057		2049	2057	2055	2058	2055	2034
KI Decision – General Public/Special Populations		2053	2035	2059	2057		2049	2057	2055	2058	2055	2034

SSES EXERCISE TIMELINE – October 18, 2022

Emergency Classification Level or Event	**Time Utility Declared**		***Time That Notification Was Received at the Listed Location***									
		Lycoming County	**Northumber-land County**	**Schuylkill County**	**Union County**	**Wyoming County**						
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A						
Alert	1753	1812	1820	1815	1817	1819						
Site Area Emergency	1918	1933	1933	1933	1936	1934						
General Emergency	2019	2041	2033	2041	2033	2033						
Start of Simulated Radiation Release		1927	1927	1933	1927	1934						
Terminated of Simulated Radiation Release		Ongoing	Ongoing	Ongoing	Ongoing	Ongoing						
Facility Declared Operational		2001	2000	1825	1819	1930						
Governor's Declaration of State of Emergency		2122	2026	1955	2022	1956						
Exercise Terminated		2122	2122	2119	2122	2122						
Precautionary Actions:												
Rail, water		1934	1938	2004	1938	1940						
Air 3mi 3,000 feet		1934	1938	1938	1938	1940						
Livestock Stored Feed and Water		1934	1938	2003	1938	1940						
Canceled schools for the next day		1934	1938	1943	1943	1940						
1st Siren Sounding		1948	1948	1948	1948	1948						
EAS Message Broadcast		1951	1951	1951	1951	1951						
First Protective Actions:												
Evacuate 10 miles 360		2034	2034	2034	1848	2034						
Expanded Air Restrictions 10mi, 10,000 ft		2034	2034	2034	1848	2034						
2d Siren Sounding		2044	2044	2034	2044	2044						
EAS Message Broadcast		2047	2047	2047	2047	2047						
KI Decision – Emergency Workers		2047	2047	2047	2047	2047						
KI Decision – General Public/Special Populations		2047	2047	2047	2047	2047						

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leaders (TL) for the Susquehanna Steam Electric Station 2022 Radiological Emergency Preparedness Plume Pathway Exercise evaluated on October 18, 2022. The following constitutes the managing staff for the Exercise Evaluation:

- Thomas Scardino, DHS/FEMA, Regional Assistance Committee (RAC) Chairman
- Joe Suders, DHS/FEMA, Team Lead North
- Kathy Duran, DHS/FEMA, Project Officer, and Site Specialist

PLUME EXERCISE DEMONSTRATION LOCATIONS October 18, 2022		
LOCATIONS	**EVALUATOR**	**AGENCY**
Commonwealth Response Coordination Center (CRCC) PEMA (Observed) Harrisburg, PA	Tom Scardino (TL)	FEMA R3
Commonwealth Joint Information Center (JIC) at the CRCC (Observed) Harrisburg, PA	John Rice	ICF
Pennsylvania Accident Assessment Center (BRP) at the CRCC (Observed) Harrisburg, PA	Cristina Schulingkamp	EPA R3
Talen Emergency Joint Information Center (JIC) Wilkes Barre, PA	PJ Nied	ICF
Radiological Rapid Response Vehicle (R3V) BRP (Observed) Wilkes Barre, PA	Reggie Rodgers	ICF
State Field Monitoring Team A (BRP) (Observed) Wilkes Barre, PA	Mike DeBonis (TL)	FEMA R2
State Field Monitoring Team B (BRP) (Observed) Wilkes Barre, PA	John Wills	ICF
RISK COUNTIES AND MUNICIPALITIES	**EVALUATOR**	**AGENCY**
Columbia County Emergency Operation Center Bloomsburg, PA	Dan Rose (TL)	FEMA R3
	Lee Torres	FEMA R3
	George LaBonte	FEMA R3
Beaver Township Emergency Operation Center Bloomsburg, PA	Tom Reynolds	ICF
	Ron Schmitt	ICF
Berwick Borough/Briar Creek Borough Emergency Operation Center Berwick, PA	Bart Ray	ICF

Briar Creek Township Emergency Operation Center Berwick, PA	Paul Ringheiser	ICF
	Richard Smith	ICF
Fishing Creek Township Emergency Operation Center Orangeville, PA	Tom Gahan	ICF
Mifflin Township Emergency Operation Center Mifflinville, PA	Marcy Campbell	ICF
	Bonnie Worden-Sheffield	ICF
North Centre Township Emergency Operation Center Berwick, PA	Deb Blunt	ICF
South Centre Township Emergency Operation Center Bloomsburg, PA	Bill Webb	ICF
	Clay Spangenberg	ICF
Luzerne County Emergency Operation Center Wilkes-Barre, PA	Joe Suders (TL)	FEMA R3
	Taylor Griffiths	FEMA R3
	Zach Corle	FEMA R3
Black Creek Township Emergency Operation Center Sugarloaf, PA	Herb Massie	ICF
	Mark Dalton	ICF
Butler Township/Conyngham Borough Emergency Operation Center Drums, PA	Bill McDougall	ICF
	Peter Judge	ICF
City of Nanticoke Emergency Operation Center Nanticoke, PA	Jon Christiansen	ICF
	Brenda Rembert	ICF
Conyngham Township Emergency Operation Center Schickshinny, PA	Carol Shepard	ICF
	Cheryl Weaver	ICF
Dorrance Township Emergency Operation Center Mountain Top, PA	Bruce Swiren	ICF
	Tom Essig	ICF
Hollenback Township Emergency Operation Center Wapwollopen, PA	Kevin Reed	ICF
	Meg Swearingen	ICF
Hunlock Township Emergency Operation Center Hunlock Creek, PA	Gary Bolender	ICF
Huntington Township/New Columbus Borough Emergency Operation Center Huntington Mills, PA	Jim Greer	ICF
	Don Carlton	ICF
Nescopeck Borough Emergency Operation Center Nescopeck, PA	Alonzo Mc Swain	FEMA HQS

Nescopeck Township Emergency Operation Center Nescopeck, PA	Roger Winkelman	ICF
	Matt Welshans	FEMA HQ
Newport Township Emergency Operation Center Nanticoke, PA	Roy Smith	ICF
	Rosemary Samsel	ICF
Salem Township Emergency Operation Center Berwick, PA	Bob Princic	ICF
	Terry Blackmon	ICF
Shickshinny Borough Emergency Operation Center Shickshinny, PA	Steve Watts	ICF
Slocum Township Emergency Operation Center Walwallopen, PA	Lynn Steffensen	ICF
	John Wiecjorek	ICF
Sugarloaf Township Emergency Operation Center Sybertsville, PA	Rahuel Preciado	FEMA R3
	Gary Goldberg	ICF
Union Township Emergency Operation Center Shickshinny, PA	Richard Watts	ICF
SUPPORT COUNTIES	**EVALUATOR**	**AGENCY**
Lackawanna County Emergency Operation Center Jessup, PA	Alex Hazard	FEMA R3
Lycoming County Emergency Operation Center Montoursville, PA	Michelle Sturman	FEMA R2
Northumberland County Emergency Operation Center Sunbury, PA	Tina Thomas	FEMA R3
Schuylkill County Emergency Operation Center Pottsville, PA	Kevin Malone	FEMA R2
Union County Emergency Operation Center Lewisburg, PA	Kerry Holmes	FEMA R3
Wyoming County Emergency Operation Center Tunkhannock, PA	Brian Hasemann	FEMA R2
SCHOOLS AND SCHOOL DISTRICTS	**EVALUATOR**	**AGENCY**
Columbia County Berwick Area School District Berwick, PA	Michelle Sturman	FEMA R2
Salem Elementary School Berwick, PA	Tina Thomas	FEMA R3
Columbia County Bloomsburg Area School District Bloomsburg, PA	Kevin Malone	FEMA R2
Beaver Main Elementary School Bloomsburg, PA	Brian Hasemann	FEMA R2

Luzerne County Greater Nanticoke Area School District Nanticoke, PA	Gary Goldberg	ICF
Greater Nanticoke Area Senior High School Nanticoke, PA	Bill McDougall	ICF
Luzerne County Hazleton Area School District Hazle Township, PA	Jon Christiansen	ICF
Drums Elementary Middle School Drums, PA	Carol Shepherd	ICF
Luzerne County Northwest Area School District Shickshinny, PA	Bruce Swiren	ICF
Northwest Primary School Shickshinny, PA	Kevin Reed	ICF
OUT OF SEQUENCE DEMONSTRATION October 19, 2022		
LOCATION	**EVALUATOR**	**AGENCY**
Pennsylvania State Police (Troop N) Barracks Bloomsburg, PA	Alex Hazard	FEMA R3
OUT OF SEQUENCE DEMONSTRATION SEPTEMBER 26, 2022		
LOCATION	**EVALUATOR**	**AGENCY**
Lackawanna County Evacuee Monitoring and Decontamination Center - Mid Valley Secondary Center Throop, PA	Joe Suders (TL)	FEMA R3
	Taylor Griffiths	FEMA R3
Lackawanna County Mass Care Center - Mid Valley Secondary Center Throop, PA	Rahuel Preciado	FEMA R3
Lackawanna County Reception Center - Mid Valley Secondary Center Throop, PA	Joe Suders	FEMA R3
Lycoming County Mass Care - Hughesville High School Hughesville, PA	Kathy Duran	FEMA R3
Lycoming County Mass Care - Montoursville High School Montoursville, PA	Kathy Duran	FEMA R3
Lycoming County Mass Care - Lycoming College Williamsport, PA	Kathy Duran	FEMA R3
OUT OF SEQUENCE DEMONSTRATION SEPTEMBER 27, 2022		

Union County Evacuee Monitoring and Decontamination Center - Linntown Intermediate School Lewisburg, PA	Dan Rose (TL)	FEMA R3
	Lee Torres	FEMA R3
Union County Mass Care - Linntown Intermediate School Lewisburg, PA	Zach Corle	FEMA R3
Union County Reception Center - Linntown Intermediate School Lewisburg, PA	Dan Rose	FEMA R3
OUT OF SEQUENCE DEMONSTRATION SEPTEMBER 28, 2022		
Wyoming County Mass Care - Tunkhannock Administration Building Tunkhannock, PA	Kathy Duran	FEMA R3
Wyoming County Mass Care – Lackawanna Trail Jr./Sr. High School Tunkhannock, PA	Kathy Duran	FEMA R3
OUT OF SEQUENCE DEMONSTRATION SEPTEMBER 28, 2022		
Luzerne County Emergency Worker Monitoring and Decontamination Station - Sweet Valley Volunteer Fire Company Station 173 Sweet Valley, PA	Joe Suders (TL)	FEMA R3
	Tina Thomas	FEMA R3
REMEDIAL EXERCISE NOVEMBER 29, 2022		
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APPENDIX C: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ACP	Access Control Point
ALC	Annual Letter of Certification
ANS	Alert and Notification System
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
BRP	Bureau of Radiological Protection
BuRA	Back-up Route Alerting
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CERC	Corporate Emergency Response Center
CNS	Commonwealth Notification System
CPM	Counts per Minute
CRCC	Commonwealth Response Coordination Center
DAD	Digital Alarming Dosimeter
DHS	Department of Homeland Security
DOT	Department of Transportation
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Extent of Play
EPT	Exercise Planning Team
EPZ	Emergency Planning Zone
ESF	Emergency Support Function
EW	Emergency Workers
EWMDS	Emergency Worker Mon/Decon Station
FD	Fire Department
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FRMAC	Federal Radiological Monitoring Assessment Center

FPE	Full Participation Exercise
FST	Field Sampling Team
FTC	Field Team Coordinator
GE	General Emergency
GIS	Geographic Information Systems
HazMat	Hazardous Materials
IPAWS	Integrated Public Alert & Warning System
IPX	Ingestion Pathway Zone
JIC	Joint Information Center
KI	Potassium Iodide
LOA	Letter of Agreement
MCC	Mass Care Center
MOC	Media Operations Center
MOU	Memorandum of Understanding
MSEL	Master Scenario Events List
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
OOS	Out of Sequence
ORO	Offsite Response Organization
OSD	Optically Stimulated Dosimeter
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PARA	Primary Area Route Alerting
PDAFN	Persons with Disabilities/Access Functional Needs
PEMA	Pennsylvania Emergency Management Agency
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Services
RC	Reception Center
REA	Radiation Emergency Area
REPP	Radiological Emergency Preparedness Program
RERP	Radiological Emergency Response Plan
RO	Radiological Officer

SAE	Site Area Emergency
SAV	Staff Assistance Visit
SEVAN	State Emergency Voice Activation Network
SSES	Susquehanna Steam Electric Station
TCP	Traffic Control Point
TRNSDEP	Transportation Dependent
VHF	Very High Frequency
WEA	Wireless Emergency Alerts

APPENDIX D: EXTENT OF PLAY AGREEMENT

The 2022 Susquehanna Steam Electric Station Plume Exercise Extent-of-Play (EOP) Agreement is a document created by the Commonwealth of Pennsylvania Emergency Management Agency that sets the parameters for exercise demonstration. The EOP agreement was signed by the Federal Emergency Management Agency, Region 3, and the Commonwealth of Pennsylvania Emergency Management planning team members.

pennsylvania
EMERGENCY MANAGEMENT AGENCY

FEMA

SUSQUEHANNA STEAM ELECTRIC STATION
PLUME EXERCISE

By signing this Extent of Play Agreement, the Commonwealth of Pennsylvania and the FEMA Region III exercise planning team confirm that all conditions have been met to satisfy the requirements to drive exercise play and satisfy the Capability Targets as agreed upon for the October 18, 2022, Susquehanna Steam Electric Station Plume Exercise.

KATHRYN DURAN Digitally signed by KATHRYN DURAN Date: 2022.09.28 15:36:21 -04'00'

FEMA Site Specialist — Date

Robert Mull — 9/28/22

Lead State Planner — Date

JOSEPH A SUDERS Digitally signed by JOSEPH A SUDERS Date: 2022.10.04 13:28:20 -04'00'

FEMA Team Leader — Date

NATIONAL EXERCISE PROGRAM

Exercise Plan/Extent of Play

PENNSYLVANIA FEMA EVALUATED REP EXERCISE
EXERCISE DATE: 10-18-2022

SUSQUEHANNA STEAM ELECTRIC STATION

U.S. DEPARTMENT OF HOMELAND SECURITY

FEMA

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PREFACE

The Susquehanna Steam Electric Station Evaluated Full Scale Exercise (FSE) is sponsored by the Federal Emergency Management Agency (FEMA) and the Pennsylvania Emergency Management Agency (PEMA). This Exercise Plan (ExPlan) was produced with input, advice, and assistance from the Exercise Planning Team (EPT), which followed the guidance set forth in the Federal Emergency Management Agency (FEMA), Homeland Security Exercise and Evaluation Program (HSEEP).

The REP exercise design and development process will include establishing an EPT led by the state(s) (or designee), with representatives from the licensee, OROs, and FEMA REP Regional staff to include identification of trusted agents that have access to confidential exercise-specific information.

The ExPlan gives officials, observers, media personnel, and players from participating organizations the information necessary to observe or participate in a nuclear power plant accident response exercise focusing on participants' emergency response plans, policies, and procedures as they pertain to this type of event. The information in this document is current as of the date of publication and is subject to change as dictated by the EPT.

The Susquehanna Steam Electric Station Evaluated Full Scale Exercise (FSE) is an *unclassified exercise*. The control of information is based more on public sensitivity regarding the nature of the exercise than on the actual exercise content. Some exercise material is intended for the exclusive use of exercise planners, Controllers, and Evaluators, but Players may view other materials deemed necessary to their performance. The ExPlan may be viewed by all exercise participants, however if developing a Controller and Evaluator (C/E) Handbook it should be treated as a restricted document intended for Controllers and Evaluators only to prevent compromise to exercise activities.

All exercise participants should use appropriate guidelines to ensure the proper control of information within their areas of expertise and to protect this material in accordance with current jurisdictional directives. Public release of exercise materials to third parties is at the discretion of DHS and the EPT.

HANDLING INSTRUCTIONS

1. The title of this document is Susquehanna Steam Electric Station Exercise Plan (ExPlan).

2. The information gathered in this ExPlan should be handled as sensitive information not to be disclosed. This document should be safeguarded, handled, transmitted, and stored in accordance with appropriate security directives. Reproduction of this document, in whole or in part, without prior approval from the Exercise Planning Director is prohibited.

3. At a minimum, the attached materials will be disseminated only on a need-to-know basis and when unattended, stored in an area offering sufficient protection against theft, compromise, inadvertent access, and unauthorized disclosure.

4. For more information, please consult the following points of contact (POCs):

Federal POC(s):
Kathy Duran, Technological Hazards Program Specialist
Department of Homeland Security (DHS)
Federal Emergency Management Agency (FEMA) Region III
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One Independence Mall
Philadelphia, Pennsylvania 19106-4404
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Pennsylvania Emergency Management Agency (PEMA)
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CHAPTER 1: GENERAL INFORMATION

Introduction

The 2022 Susquehanna Steam Electric Station Exercise is a full-participation exercise designed to establish a learning environment for players to exercise emergency response plans, policies, and procedures as they pertain to Nuclear Power Plant accidents. A full participation exercise is a complex event that requires detailed planning. To conduct an effective exercise, subject matter experts (SMEs) and local representatives from numerous agencies have taken part in the planning process and will take part in exercise conduct and evaluation.

This Exercise Plan (ExPlan) was produced at the direction of the FEMA and PEMA with the input, advice, and assistance of the EPT. The 2022 Susquehanna Steam Electric Station Exercise full-scale exercise is evidence of the growing partnership between State and local jurisdictions for response to the threats against our Nation and communities.

Confidentiality

The 2022 Susquehanna Steam Electric Station Exercise is an *unclassified exercise*. The control of information is based more on public sensitivity regarding the nature of the exercise than on the actual exercise content. Some exercise material is intended for the exclusive use of exercise planners, controllers, and evaluators, but players may view other materials deemed necessary to their performance. This ExPlan may be viewed by all exercise participants, however if developing a Controller and Evaluator (C/E) Handbook it should be treated as a restricted document intended for Controllers and Evaluators only. All site-specific scenario information, including out of sequence exercise materials, designed to drive exercise play must be treated as confidential to avoid compromising exercise activities and limited to Controllers and Trusted Agents designated by the EPT.

All exercise participants should use appropriate guidelines to ensure the proper control of information within their areas of expertise and protect this material in accordance with current FEMA directives.

Public release of exercise materials to third parties is at the discretion of the Federal Emergency Management Agency (FEMA) and the EPT.

Purpose

The purpose of this exercise is to evaluate player actions against current response plans and capabilities for a nuclear power plant-related incident, and to comply with the requirements of 44 CFR 350 and the planning standards of NUREG-0654/FEMA-REP-1, Rev. 2. Exercise planners utilized the elements described in the Radiological Emergency Preparedness (REP) Program Manual (December 2019) to develop this exercise.

The objective of FEMA and PEMA is to demonstrate reasonable assurance that the public can be protected during a nuclear power plant emergency.

Capability Targets

The establishment of the National Preparedness Priorities have steered the focus of homeland security toward a capabilities-based planning approach. Capabilities-based planning focuses on planning under uncertainty since the next danger or disaster can never be forecast with complete accuracy. Therefore, capabilities-based planning takes an all-hazards approach to planning and preparation which builds capabilities that can be applied to a wide variety of incidents. States and Urban Areas use capabilities-based planning to identify a baseline assessment of their homeland security efforts by comparing their current capabilities against the Capabilities Target List (CTL) and the critical tasks of the Universal Task List (UTL). This approach identifies gaps in current capabilities and focuses efforts on identifying and developing priority capabilities and tasks for the jurisdiction. These priority capabilities are articulated in the jurisdiction's homeland security strategy and Integrated Preparedness Workshop (IPW), of which this exercise is a component.

Capability Targets for this exercise have been identified from the listing below and selected by the EPT for evaluation from the Capability Targets identified in the IPW, 2019 REP Program Manual, based on required exercise frequency and noted in the Extent of Play Agreement (EOPA). These Capability Targets provide the foundation for development of the exercise objectives and scenario, as the purpose of this exercise is to measure and validate performance of these capabilities and their associated critical tasks.

- Capability Target 1.1: Mobilization
- Capability Target 1.2: Direction and Control
- Capability Target 1.3: Protective Action Recommendations
- Capability Target 1.4: Protective Action Decisions for the Plume Phase
- Capability Target 1.5: Protective Action Decision Implementation for the Plume Phase
- Capability Target 1.6: Protective Acton Decisions for the Post-Plume Phase
- Capability Target 1.7: Protective Action Decision Implementation for the Post-Plume Phase
- Capability Target 2.1: Emergency Worker Exposure Control Decision-Making Process
- Capability Target 2:2: Emergency Worker Exposure Control Management
- Capability Target 3.1: Communications
- Capability Target 3.2: Alert and Notification of the Public
- Capability Target 3.3: Emergency Information and Instructions for the Public and News Media
- Capability Target 4.1: Field Monitoring Teams Management
- Capability Target 4.2: Plume Phase Measurements and Sampling
- Capability Target 4.3: Post-Plume Phase Measurements and Sampling
- Capability Target 4.4: Laboratory Operations
- Capability Target 4.5: Plume Phase Analysis and Dose Assessment
- Capability Target 4.6: Post-Plume Phase Sampling Plan Development and Analysis
- Capability Target 5.1: Monitoring, Decontamination, Sheltering, and Registration of Evacuees
- Capability Target 5.2: Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles
- Capability Target 5.3: Transportation and Treatment of Contaminated, Injured Individuals
- Capability Target 5.4: Traffic and Access Control

Exercise Objectives

The EPT selected objectives that focus on evaluating emergency response procedures and identifying areas for improvement. This exercise will focus on the following objectives:

- Objective 1: Emergency Operations Management
- Objective 2: Exposure Control
- Objective 3: Alert and Notification
- Objective 4: Detect, Measure, Sample, Analyze, and Assess
- Objective 5: Operate

Outstanding Issues

There are no unresolved Level 1, Level 2, or Planning Issues as a result of the rescheduled 2020 FEMA-evaluated plume-phase exercise at Susquehanna Steam Electric Station in August 2021.

CHAPTER 2: EXERCISE LOGISTICS

Exercise Summary

General

The 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise is designed to establish a learning environment for players to exercise their plans and procedures for responding to an incident at a Nuclear Power Plant. The 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise will be conducted on October 18, 2022. Exercise play is scheduled for approximately four (4) hours or until the Lead Controller in consultation with FEMA and the Utility determines that the exercise objectives have been met at each venue. Out-of-Sequence Evaluations will be conducted as follows:

- School Exercise – October 18, 2022, between 09:00 a.m. and 11:00 a.m.
- PSP - TCP/ACP Demonstrations – October 19, 2022, between 10:00 a.m. and 12:00 p.m.
- Reception Center/Mon Decon/Mass Care – week of September 26 thru September 29, 2022

Assumptions

Assumptions constitute the implied factual foundation for the exercise and, hence, are assumed to be present before the start of the exercise. The following general assumptions apply to the 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise:

- The exercise will be graded against the REP Objectives and Capability Targets. Elements outside the scope of the REP criteria will not be graded.
- This exercise will be conducted in a no-fault learning environment wherein systems and processes, not individuals, will be evaluated.
- Exercise simulation will be realistic and plausible, containing sufficient detail from which to respond.
- Exercise players will react to the information and situations as they are presented, in the same manner as if this had been a real event.

Constructs and Constraints

Constructs are exercise devices designed to enhance or improve exercise realism. Alternatively, constraints are exercise limitations that may detract from exercise realism. Constraints may be the inadvertent result of a faulty construct or may pertain to financial and staffing issues. Although there are a number of constructs and constraints (also known as exercise artificialities) for any exercise, the EPT recognizes and accepts the following as necessary:

- Exercise communication and coordination will be limited to the participating exercise venues and the Simulation Cell (SimCell).
- Out-of-Sequence play is authorized based on prior approval.
- Certain simulations are allowed based on prior approval.

The participating agencies may need to balance exercise play with real-world emergencies. It is understood that real-world emergencies will take priority.

Exercise Participants

The following are the categories of participants involved in this exercise; note that the term "participant" refers to all categories listed below, not just those playing in the exercise:

- **Players:** Players are agency personnel who have an active role in responding to the simulated emergency and perform their regular roles and responsibilities during the exercise. Players initiate actions that will respond to and mitigate the simulated emergency.
- **Controllers:** Controllers set up and operate the exercise site; plan and manage exercise play; act in the roles of response individuals and agencies not playing in the exercise. Controllers direct the pace of exercise play and routinely include members from the exercise planning team. They provide key data to players and may or initiate certain player actions to ensure exercise continuity.
- **Trusted Agents:** An individual on the exercise planning team who is trusted not to reveal exercise and scenario details to players or third parties before and during exercise conduct.
- **Simulators:** Simulators are control staff personnel who role-play as nonparticipating organizations or individuals. They most often operate out of the SimCell but may occasionally have face-to-face contact with players. Simulator's function semi-independently under the supervision of SimCell controllers, enacting roles (e.g., as media reporters or next of kin) in accordance with instructions provided in the Master Scenario Events List (MSEL). All simulators are ultimately accountable to the Exercise Director and/or the Senior Controller.
- **Evaluators:** Evaluators are chosen to evaluate and provide feedback on a designated functional area of the exercise. They are chosen based on their expertise in the functional area(s) they have been assigned to review during the exercise and their familiarity with local emergency response procedures. Evaluators assess and document participants' performance against established emergency plans and exercise evaluation criteria, in accordance with HSEEP standards and within the bounds of REP Program guidance and regulations. They are typically chosen from amongst planning committee members or the agencies/organizations that are participating in the exercise. FEMA Evaluators will not serve as Controllers.
- **Actors:** Actors are exercise participants who act or simulate specific roles during exercise play. They are typically volunteers, who have been recruited to play the role of victims or other bystanders.
- **Observers:** Observers visit or view selected segments of the exercise. Observers do not play in the exercise, and do not perform any control or evaluation functions. Observers will view the exercise from a designated observation area and will be asked to remain within the observation area during the exercise. VIPs are a type of observer but are frequently grouped separately. A dedicated group of exercise Controllers should be assigned to manage these groups.
- **Media Personnel:** Some media personnel may be present as observers pending approval by the appropriate EMA personnel and exercise support team members. Media interaction may also be simulated by the SimCell to enhance realism and meet related exercise objectives. A dedicated group of exercise controllers should be assigned to manage these groups.

- **Support Staff:** Exercise support staff includes individuals who are assigned administrative and logistical support tasks during the exercise (i.e., registration, catering, etc.

Exercise Tools

Controller Handbook

The 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise C/E Handbook is designed to help exercise Controllers and evaluators conduct and evaluate an effective exercise. This Handbook also enables Controllers and Evaluators to understand their roles and responsibilities in exercise execution and evaluation. Should a Player, Observer, or media representative find an unattended Handbook, it should be provided to the nearest Controller or Evaluator. Determine if a Controller Handbook will be used.

Extent-of-Play Agreement (EOPA)

The extent-of-play agreements will document and define the agreed-upon approach to demonstrating and evaluating the REP Program objectives/capability targets. These documents are intended to define the commitment of participants in advance and should outline those commitments, as well as the facilities to be evaluated or utilized and the anticipated level of participation. The extent-of-play agreement should also capture activities that may deviate in demonstration from plans and procedures as currently written, such as pre-staging personnel at or near a facility prior to activation during an exercise. These extent-of-play agreements will provide reliable information for developing the assessment activity and ensure appropriate evaluation.

Master Scenario Events List

The MSEL outlines benchmarks, as well as injects that drive exercise play. It also details realistic input to the exercise players as well as information expected to emanate from simulated organizations (i.e., those nonparticipating organizations, agencies, and individuals who would usually respond to the situation). An inject will include several items of information, such as inject time, intended recipient, responsible controller, inject type, a short description of the event, and the expected player action. In order to avoid compromise to exercise play, the MSEL will not be provided to exercise players.

Exercise Implementation

Exercise Play

Exercise play will begin at approximately 5:00 p.m. on October 18, 2022 with a situation update going to each participating venue. Play will proceed according to the events outlined in the MSEL, in accordance with established plans and procedures. The exercise will conclude upon the completion of operations and attainment of the exercise objectives, as determined by the FEMA and the Utility.

Exercise Rules

The following are the general rules that govern exercise play:

- Real-world emergency actions take priority over exercise actions.
- Exercise participants will comply with real-world response procedures, unless otherwise directed by control staff.
- All communications (written, radio, telephone, etc.) made during the exercise will begin and end with the phrase, *"This is an exercise."*

Exercise participants placing telephone calls or initiating radio communication with the SimCell must identify the organization, agency, office, and/or individual with whom they wish to speak.

Safety Requirements

General

Exercise participant safety takes priority over exercise events. Although the organizations involved in the 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise come from various response agencies, they share the basic responsibility for ensuring a safe environment for all personnel involved in the exercise. In addition, aspects of an emergency response are dangerous. Professional health and safety ethics should guide all participants to operate in their assigned roles in the safest manner possible. The following general requirements apply to the exercise:

- All exercise controllers, evaluators, and staff will serve as safety observers while the exercise activities are underway. Any safety concerns must be immediately reported to the Lead Controller.
- Participants will be responsible for their own and each other's safety during the exercise. It is the responsibility of all persons associated with the exercise to stop play if, in their opinion, a real safety problem exists. Once the problem is corrected, exercise play can be restarted.
- All organizations will comply with their respective environmental, health, and safety plans and procedures, as well as the appropriate Federal, State, and local environmental health and safety regulations.

Exercise Setup

Exercise setup involves the pre-staging and dispersal of exercise materials, including registration materials, documentation, signage, and other equipment as appropriate.

Accident Reporting and Real Emergencies

- Anyone observing a participant who is seriously ill or injured will first advise the nearest controller, then, if possible, render aid, provided the aid does not exceed his or her training.
- The controller who is made aware of a real emergency will initiate the broadcast *"Real-World Emergency"* on the controller radio network, providing the following information to the Senior/Lead Controller and Exercise Director:
    - Venue/function
    - Location within the venue/function

  - Condition
  - Requirements
- The SimCell and Lead Controller will be notified as soon as possible if a real emergency occurs.
- If the nature of the emergency requires a suspension of the exercise at the venue/function, all exercise activities at that facility will immediately cease. Exercise play may resume at that venue/function once the "Real-World Emergency" situation has been addressed.
- Exercise play at other venue/functions should not cease if one venue/function has declared a "Real-World Emergency" unless they are reliant on the affected venue.
- If a real emergency occurs that affects the entire exercise, the exercise may be suspended or terminated at the discretion of the Exercise Director and Senior Controller. The notification will be made from the SimCell.

Site Access

Observer Coordination
Each organization with observers will coordinate with PEMA and the Utility for access to the exercise site. Observers will be escorted to an observation area for orientation and conduct of the exercise. All observers will be asked to remain within the designated observation area during the exercise. Designated PEMA or Utility representatives and/or the Observer Controller will be present to explain the exercise program and answer questions for the observers during the exercise.

Directions
Directions are provided by the Utility. A copy will be shared with FEMA when received.

Exercise Identification
Identification badges may be issued to exercise staff. All exercise personnel and observers will be identified by badges distributed by the staff from each participating agency.

Communications Plan

Exercise Start, Suspension, and Termination Instructions
The exercise is scheduled to run for approximately four (4) hours or until the Lead Controller in coordination with FEMA and the Utility determines that the exercise objectives have been met. The Lead Controller will announce the exercise suspension or termination through CRCC.

All spoken and written communication will start and end with the statement, "THIS IS AN EXERCISE."

Player Communication
Players will use routine, in-place agency communication systems. Additional communication assets may be made available as the exercise progresses. The need to maintain capability for a real-world response may preclude the use of certain communication channels or systems that

would usually be available for an actual emergency incident. In no instance will exercise communication interfere with real-world emergency communications. Each venue will coordinate its own internal communication networks and channels.

The primary means of communication among the SimCell, Controllers, Evaluators, and the venues will be telephone. A list of key telephone and fax numbers, and radio call signs if applicable will be available as a Communication Directory before the start of the exercise.

Player Briefing
Controllers/Evaluators may be required to read specific exercise details to the participants prior to exercise play. They may also have technical handouts or other materials to give to players in order to better orient them to the exercise environment.

Public Affairs
This exercise enables Players to demonstrate an increased readiness to deal with a nuclear power plant incident. Any nuclear power plant exercise may be a newsworthy event. Special attention must be given to the needs of the media, allowing them to get as complete and accurate a story as possible while ensuring their activities do not compromise the exercise realism, safety, or objectives.

Joint Information Centers will be established at both the Utility Emergency Operations Facility and the CRCC. Actors will play the role of reporters “public briefings” will be given as they would for a real incident. These “public briefings” will be simulated and not broadcast for the public. The briefings will be available for viewing at the County EOCs.
Any participation by the actual media will be coordinated through the Exercise Director in conjunction with the PEMA Public Information Office.

This exercise enables Players to demonstrate an increased readiness to deal with a nuclear power plant incident. Any nuclear power plant exercise may be a newsworthy event. Special attention must be given to the needs of the media, allowing them to get as complete and accurate a story as possible while ensuring their activities do not compromise the exercise realism, safety, or objectives.
Talen Energy, FEMA, PEMA, and involved counties are responsible for disseminating public information in advance of the exercise.

CHAPTER 3: PLAYER GUIDELINES

Exercise Staff

Exercise Director

The Exercise Director has the overall responsibility for planning, coordinating, and overseeing all exercise functions. He/she manages the exercise activities and maintains a close dialogue with the Controllers regarding the status of play and the achievement of the exercise design objectives.

Lead Controller

The Lead Controller is responsible for the overall organization of the 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise, The Lead Controller monitors exercise progress and coordinates decisions regarding deviations or significant changes to the scenario caused by unexpected developments during play. The Lead Controller monitors actions by individual Controllers and ensures they implement all designated and modified actions at the appropriate time. The Lead Controller debriefs the Controllers after the exercise and oversees the setup and takedown of the exercise.

Controllers

At least one observer, liaison, or controller will be onsite with every facility and field team participating in the exercise, and at each out-of-sequence interview. The Lead Facility Controller at each location will coordinate any changes that impact the scenario or affect other areas of play through the Lead Controller. The individual controllers issue exercise materials to players as required and monitor the exercise timeline. Controllers also provide injects to the players as described in the MSEL.

Lead Evaluator

The Lead Evaluator is responsible for the overall evaluation of the 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise. The Lead Evaluator monitors exercise progress and stays in contact with the Lead Controller regarding changes to the exercise during play. The Lead Evaluator monitors actions of individual Evaluators and ensures they are tracking progress of the players in accordance with the Extent of Play. The Lead Evaluator debriefs the evaluators after the exercise and oversees the entire evaluation and After-Action process.

Evaluators

Evaluators work under the direction of the Lead Evaluator, and as a team with Controllers. Evaluators are SMEs who record events that take place during the exercise and assess/submit documentation for review and inclusion in the After-Action Report (AAR).

Player Instructions

Before the Exercise

- Review the appropriate emergency plans, procedures, and exercise support documents.
- Be at the appropriate site at least 30 minutes before the start of the exercise if prestaging is approved. Wear appropriate uniform/identification badge.

- If you gain knowledge of the scenario before the exercise, notify a controller so that appropriate actions can be taken to ensure a valid evaluation.
- Read your Player Information Handout, which includes information on exercise safety.
- Please sign in.

During the Exercise

- Respond to the exercise events and information as if the emergency were real, unless otherwise directed by an exercise controller.
- Controllers will only give you information they are specifically directed to disseminate. You are expected to obtain other necessary information through existing emergency information channels.
- Do not engage in personal conversations with controllers, evaluators, observers, or media personnel while the exercise is in progress. If you are asked an exercise-related question, give a short, concise answer. If you are busy and cannot immediately respond, indicate so, but report back with an answer at the earliest time possible.
- If you do not understand the scope of the exercise or if you are uncertain about an organizations or agency's participation in an exercise, ask a controller.
- Parts of the scenario may seem implausible. Recognize that the exercise has objectives to satisfy and may require the incorporation of unrealistic aspects. Note that every effort has been made by the trusted agents to balance realism with safety and the creation of an effective learning and evaluation environment.
- All exercise communication will begin and end with the phrase "This is an exercise." This is a precaution taken so anyone overhearing the conversation will not mistake the exercise play for a real-world emergency.
- When communicating with the SimCell, identify the organization, agency, office, and/or individual with which you want to speak.
- Verbalize out loud when taking an action. This will ensure that evaluators are made aware of critical actions as they occur.
- Maintain a log of your activities. Many times, this log may include documentation of activities missed by a controller or evaluator.

Following the Exercise

- At the end of the exercise at your facility, participate in the brief critique with the controllers and evaluators.
- Complete the Participant Feedback Form. This form allows you to comment candidly on emergency response activities and effectiveness of the exercise. Please provide the completed form to a controller or evaluator.
- Provide any notes or materials generated from the exercise to your controller or evaluator for review and inclusion in the AAR.

Simulation Guidelines

Because the 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise is of limited duration and scope, the physical description of what would fully occur at the incident sites and surrounding areas will be relayed to the Players by Simulators or Controllers.

If a real emergency occurs during the exercise, the exercise at your respective venue may be suspended or terminated at the discretion of the controller(s) at each venue. If a real emergency occurs, say “Real-World Emergency”, and notify the nearest Controller and Evaluator.

CHAPTER 4: EVALUATION AND POST-EXERCISE ACTIVITIES

Exercise Documentation

The goal of the 2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise is to comprehensively exercise and evaluate the OROs' plans and capabilities as they pertain to a potential nuclear power plant incident. After the exercise, data collected by Controllers, Evaluators, the SimCell, and Players will be used to identify strengths and areas for improvement in the context of the exercise design objectives.

Exercise Evaluation Guides

FEMA recommends that REP exercise planners utilize EEGs. These EEGs are designed to maintain the integrity of the REP objectives/capability targets and to ensure provision of useful information that support the creation and maintenance of OROs' core capabilities. The FEMA REP program EEG templates will be available for download from the Prep Toolkit once the system is updated to accommodate the revised Part III of the 2019 RPM. The FEMA Region decides the degree of exercise planning team and ORO involvement in tailoring the EEGs for each assessment activity. There is no requirement for OROs to be involved in the EEG development process, though such involvement is beneficial.

Players Critique

Immediately following the completion of exercise play, Controllers will facilitate a critique with Players from their assigned location. The critique is an opportunity for Players to voice their opinions on the exercise and their own performance. At this time, Controllers can also seek clarification on certain actions and what prompted Players to take them. The critique should not last more than 30 minutes. Controllers should take notes during the critique and include these observations in their analysis.

Participants Briefing and Public Meeting

44 CFR 350.9 requires a post-exercise participant briefing and public meeting. A participant's briefing will be conducted after the biennial exercise as an opportunity to present OROs with initial exercise results. The public meeting is an opportunity to discuss the evaluation of the REP exercise with the public. The RAC Chair may combine the participant briefing with the public meeting at his or her discretion. The participant's briefing will be conducted on October 20, 2022, at 3:00 p.m. at East Mountain Business Center, 1190 East Mountain Boulevard, Wilkes-Barre, Pennsylvania 18702. The Public/Media Briefing will be virtual and conducted on October 21, 2022, at 09:00 a.m.

Controller and Evaluator Debriefing

Controllers, Evaluators, and selected exercise participants will attend a facilitated Controller and Evaluator Debriefing on October 20, 2022 at 3:30 p.m. at East Mountain Business Center, 1190

East Mountain Boulevard, Wilkes-Barre, Pennsylvania 18702. During the debriefing these individuals will discuss their observations of the exercise in an open environment to clarify actions taken during the exercise. Evaluators will only brief preliminary findings based on their observations.

After Action Report

The AAR is the culmination of the exercise. It is a written report outlining the strengths and areas for improvement identified during the exercise. The AAR will include the timeline, executive summary, scenario description, performance issues, planning issues, deficiencies, and capability analysis. The AAR will be drafted by the FEMA region and provided to the state for review and comment within 30 days and finalized no more than 90 days after the assessment activity is conducted.

After Action Conference

The After-Action Conference (AAC), scheduled within 90 days of the exercise is a forum for jurisdiction officials to hear the results of the evaluation analysis, validate the findings and recommendations in the draft AAR, and begin development of the IP.

Improvement Plan

The IP is an outcome of the evaluation report. The IP contains information on how OROs will correct or improve Level 1 Findings, Level 2 Findings, and Plan Issues, who is responsible, and an anticipated timeline for correction/improvement. As FEMA documents each Level 1 Finding, Level 2 Finding, or Plan Issue within the evaluation report, OROs make a corresponding entry in the IP. The content of the IP will be negotiated during the after-action meeting (AAM), so it is not necessary for all information to be filled in when the draft evaluation report and IP goes out for comment. FEMA Regions will follow up with OROs to ensure that IP corrective actions related to the Level 1 or Level 2 Findings, or Plan Issues identified by FEMA are met.

APPENDIX A: EXERCISE SCHEDULE

Table A.1 *2022 Susquehanna Steam Electric Station Evaluated Full Scale Exercise Schedule*

Time (Tentative)	Personnel	Activity
October 18, 2022		
5:00 p.m. – 9:00 p.m.	Commonwealth, County, and Municipal EOCs; Utility EOF/ JIC	Full Scale Exercise

Table A.2 *2022 Susquehanna Steam Electric Station Evaluated Out of Sequence Schedule*

Time (Tentative)	Personnel	Activity
November 4, 2021		
Complete	UPMC Williamsport, Lycoming County	MS-1 Hospital Federal Evaluation
September 26 - 29, 2022		
See Attachment A	Select Reception, Mon/Decon Centers/Stations and Mass Care Facilities in Lackawanna and Union Counties and Emergency Worker Decontamination Station in Luzerne County	Mass Care, Reception Center, Public Decontamination Station, and Emergency Worker Decontamination Station Demonstration Evaluations
October 18, 2022		
9:00 a.m. – 11:00 a.m.	Three School Districts/Schools will be evaluated in Luzerne County and Two School Districts/Schools will be evaluated in Columbia County	School Demonstrations
October 19, 2022		
10:00 a.m. – 12:00 p.m.	PSP Bloomsburg Barracks, Columbia County	TCP/ACP deployment and manning interview and briefing of concepts to Evaluators

APPENDIX B: METHOD OF OPERATION AND EXTENT OF PLAY

SUSQUEHANNA STEAM ELECTRIC STATION
2022 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. SSES will notify the Commonwealth Response Coordination Center (CRCC), the Department of Environmental Protection's Bureau of Radiation Protection (BRP) and risk counties of emergency classifications.

II. Bureau of Radiation Protection (BRP)

BRP personnel will be present at the CRCC, the nuclear facility Emergency Operations Facility (EOF), and branch and field locations. BRP field teams **WILL NOT** be evaluated during this exercise. BRP field monitoring teams (FMTs) will perform air sampling out-of-sequence, preferably before they deploy to the plume area.

III. PEMA Operations at the CRCC

This "Method of Operation" Document includes activities for the Full-Scale Plume Exercise (October 18, 2022), and the "Out-of-sequence" Activities (October 19, 2022, and September 26 through September 29, 2022).

A. Plume Exercise – October 18, 2022

PEMA staff and Agency Representatives (AREPs) from designated state departments/agencies, will comprise initial operations at the CRCC during a demonstration window of approximately 5:00 p.m. to 9:00 p.m. on October 18, 2022. The CRCC **will NOT** be evaluated during this exercise.

B. Plume Exercise – School "Out-of-Sequence" Activity – October 18, 2022

PEMA's Lead Controller will disseminate exercise related messages to Luzerne and Columbia counties for dissemination to the participating School Districts on the morning of October 18, 2022, during a demonstration window of 9:00 a.m.to 11:00 a.m. The risk counties Luzerne and Columbia will participate but will NOT be evaluated during this "Out-of-Sequence" component. PEMA personnel will serve as "Observers" at the identified School Districts and Schools.

C. Plume Exercise "Out of Sequence" Activities – October 18 & 19 2022 & September 26 through September 29, 2022

PEMA personnel will serve as "Observers" at the various field exercise locations (reception centers, emergency worker and general public monitoring/decontamination centers, and mass care centers. This will be performed out-of-sequence in a demonstration window noted in Attachment A. An exercise coordinator will remain in the CRCC. The CRCC and counties **WILL NOT** be evaluated during the evening "Out-of-Sequence" component.

The Pennsylvania State Police (PSP) out-of-sequence interview will take place at PSP Bloomsburg Barracks, 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. until 12:00 p.m. on October 19, 2022.

IV. PEMA Area Office Operations

The PEMA Area Offices will not be activated nor evaluated during this exercise. Select staff from the Area Office will serve as Liaison Officers to Risk and Support Counties as assigned. Liaison Officers are exercise participants.

V. Counties Designated to Participate

The risk counties (Columbia and Luzerne), in coordination with PEMA, will demonstrate the capability to mobilize appropriate staff, activate their respective Emergency Operations Centers 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 public will be simulated.

NOTE: Montour County will not be evaluated since its only support role is to host school students outside the EPZ.

VI. PEMA Liaison Officers

PEMA Liaison officers will be present at the participating risk and support county EOCs, the SSES Emergency Operations Facility (EOF), SSES Joint Public Information Center (JPIC) to provide assistance, guidance, and support. These liaison officers will participate as players in the exercise.

VII. Utility Liaisons

Utility Liaisons may be present at the participating Municipal and County EOCs to provide assistance, guidance, and support. These utility liaisons will participate as players in the Exercise.

VIII. Controllers

Controllers will be present at the emergency worker monitoring/decontaminating stations and the mass care monitoring/decontamination centers. 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 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 manufacturer's recommendations.*

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. Outside Observer Coordination

Each organization with observers will coordinate with PEMA, Counties, or the Utility for access to their specific exercise site. Observers will be escorted to an observation area for orientation and conduct of the exercise. All observers will be asked to remain within the designated observation area during the exercise. Designated PEMA or Utility representatives and/or the Observer Controller will be present to explain the exercise program and answer questions for the observers during the exercise.

XI. FEMA Evaluators

Plume Phase Exercise (October 18, 2022): Federal Evaluators will be present at the risk and support county EOCs, risk municipal EOCs, CRCC and JIC, and at appropriate field locations to evaluate player response to the actual and simulated events in the exercise scenario. FEMA will evaluate risk municipalities in Columbia and Luzerne Counties.

Out-of-Sequence Period (October 19, 2022 & September 26 through September 29, 2022)

- On the morning of October 18, 2022, Federal Evaluators will be present at the identified "out-of-sequence" demonstration sites per Attachment A. These include the identified Public-School Districts and participating school buildings.

- On the morning of October 19, 2022, Federal Evaluators will be present at PSP Bloomsburg Barracks for Traffic and Access Control Points demonstration as per Attachment A.

- On September 26, 27, & 29, 2022 Federal Evaluators will be present at identified Reception Centers, Emergency Worker and Evacuee Monitoring and Decontamination Centers, and Mass Care Centers, as identified in Attachment A.

XII. Demonstration Windows

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. Out-of-Sequence Exercise

The out-of-sequence MS-1 hospital demonstrations were federally evaluated successfully at Geisinger Wyoming Valley Medical Center, Luzerne County on April 22, 2021, Geisinger Bloomsburg Hospital, Columbia County on May 19, 2021 and UPMC Williamsport on November 4, 2021.

The out-of-sequence exercise window for school demonstrations will be on October 18, 2022, from 9:00 a.m. – 11:00 a.m.

The out-of-sequence interview of PSP traffic control/access control points will be on October 19, 2022, from 10:00 a.m. – 12:00 p.m.

The out-of-sequence demonstration of reception centers, mass care centers (as indicated), monitoring/decontamination centers and emergency worker stations will be conducted September 26 through September 29, 2022. See Attachment A.

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

B. Plume Phase Exercise

County and municipal EOC operations will be conducted on October 18, 2022, with exercise period from approximately 5:00 p.m. – 9:00 p.m. unless terminated by the Lead Controller in coordination with the Utility and the FEMA Exercise Director. (Please refer to the Extent of Play Demonstration Tables, Attachment A)

C. Mass Care Walkdowns

During the week of September 26, 2022, five (5) mass care centers will receive "walkdown" baseline evaluations. The evaluation will consist of a review of the facility to include capacity limits and functionality of utilities. These facilities are shelters only. *These mass care centers <u>will not be evaluated</u> during the evening of October 18, 2022.*

The following mass care centers will receive a walkdown:

- Montoursville High School, Hughesville High School, Lycoming College, Tunkhannock Administrative Building, and Lackawanna Trail Jr./Sr. High School

The mass care walkdown will have team(s) consisting of a FEMA Evaluator, PEMA, County Representative, ARC Representative, and Talen Energy Representative (optional). The mass care centers mentioned will have a team enter the facility to verify layout, usable common areas, square footage estimate, and capability of being used as a mass care facility. A walkdown assessment of mass care facilities scheduled for evaluation will be accomplished to satisfy FEMA's evaluation process.

D. Post Plume Exercise

No post-plume phase exercise is scheduled during this evaluation.

XIII. Stand-down

All jurisdictions will request approval on a jurisdiction-by-jurisdiction basis prior to stand-down. Upon completion of all requirements and after having been informed by the FEMA 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 their portion of the exercise.

A. Support counties may request approval to stand-down upon completion of all evaluated objectives from the CRCC.

B. The risk county EOC will remain operational until the exercise is officially terminated by FEMA and the State Lead Controller. The CRCC will issue an Exercise Termination Message.

XIV. 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 to properly react to 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. 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 applied.

XV. Re-demonstrations

During the exercise, any activity that is not satisfactorily demonstrated may be re-demonstrated by the participants 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 will consult with 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.

SUSQUEHANNA STEAM ELECTRIC STATION
2022 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

EXTENT-OF-PLAY AGREEMENT
OBJECTIVE 1 – Emergency Operations Management

Capability Target 1.1: Mobilization *(Vice Sub-Element 1.a.1)*
Core Capability: Operational Coordination; Planning
Recommended Evaluation Frequencies: At every assessment activity
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (A.1, A.1.a, A.1.b, A.3, A.4, A.5, C.1, C.2, C.2.a, C.2.b, C.3, E.1, E.1.a, E.3, F.1.c, H.6, and O.1)
Intent: The capability to alert, notify, and mobilize OROs to staff facilities in support of emergency operations.

Demonstration and Evaluation Guidance:

1. Alert, notify, and mobilize key personnel, to include a 24-hour staffing roster, and activate facilities in a timely manner.
   - What time was staff notified? What time did they arrive at the facility?
   - Did the ORO demonstrate the activation of facilities for immediate use by mobilized personnel upon their arrival?
   - Was activation of facilities/locations completed in accordance with plans/procedures?
   - Were key emergency personnel contacted, alerted, and mobilized in a timely manner?
   - Did the ORO demonstrate the ability to staff and maintain 24-hour operations?
   - Were position staff trained and in place for facility activation?
2. Receive and verify notifications.
   - Who notified the ORO? Licensee or other?
   - For reverse notification, how was the licensee notified?
   - Was the notification/information verified? How?
   - What was the initial ECL? Were changes to ECLs communicated in the same manner?
3. Identify and request additional resources, as needed.
   - Was the ability to identify and request additional resources demonstrated? If not, was the ability to identify compensatory measures demonstrated?
   - Were MOUs and LOAs available for review?
4. Determine a facility operational.
   - What time was the facility declared operational?
   - What criteria was used to determine if the facility was operational?
   - What was the time difference between notifications of personnel and when the facility was declared operational?

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.

State Negotiated Extent of Play:

- *Calls (or pager notifications) will be made to the municipal EOC personnel for the Plume Phase exercise per plans and procedures. For municipalities where staff may be working as part of their regularly scheduled shift in the municipal EOC, mobilization will be described to the evaluator and any communications systems used to notify staff will be shown to the evaluator.*
- *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 will be pre-positioned, and equipment will be demonstrated or shown to be inventoried (School District personnel, PSP TCP/ACP, Reception Centers, Emergency Worker Monitoring and Decontamination Stations Mass Care/Sheltering Centers and Monitoring and Decontamination Centers).*
- *Individuals working in state facilities and county EOCs may be pre-positioned for the plume phase.*
- *Other locations, including Municipal EOCs, **may pre-stage** at their duty location but will not activate their facility until an initial notification is made.*

Capability Target 1.2: Direction and Control *(Vice Sub-Element 1.b.1, 1.c.1, 1.e.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Public Information and Warning; Mass Care Services; Public Health, Healthcare, and Emergency Medical Services; Situational Assessment; Critical Transportation; Planning
Recommended Evaluation Frequencies: At every assessment activity
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (A.1, A.1.a, A.1.b, A.1.c, A.2, A.3, A.5, C.2, C.2.a, C.2.b, C.3, D.4, E.1, H.6, and O.1)
Intent: The capability to provide overall direction and control of response efforts, commensurate with the responsibilities of leadership, as detailed in plans/procedures.

Demonstration and Evaluation Guidance:

1. Support protective action decision-making.
   - Who, by title and position, was in charge?
   - Who was authorized to make any PADs prior to an official PAR from the licensee?
   - Did decision-makers obtain input from their support staff?
2. Conduct briefings in a timely manner.
   - Were briefings conducted in a timely manner?
   - What information was provided?
   - How frequently were briefings held?
   - Who gave the briefing?
3. Maintain situational awareness.
   - Did the ORO maintain situational awareness? How?
4. Coordinate response activities with other organizations.
   - Were response activities coordinated with other organizations? How?
5. Obtain resources to support emergency operations.
   - Were resources obtained to support emergency operations (e.g., through MOUs or other agreements)?
   - Was just-in-time training provided, as necessary?
6. Provide and maintain adequate facilities and equipment to support the emergency response.

- Were facilities and equipment adequate to support operations? How so?
- Was the facility evacuated during the plume? What means of monitoring and decontamination were used?

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.

State Negotiated Extent of Play:
Select facilities will be evaluated during this exercise to satisfy the eight-year cycle requirement. *Evaluation of dosimetry and KI quantities will be verified using inventory sheets. Dosimetry and KI will not be removed from storage locations and boxes/packages will not be opened. KI questions will be addressed through interviews with the county.* *Annual Direct Reading Dosimeter leakage testing verification and KI extension letters (as appropriate) will be available to the evaluator.* *All DRDs "read" in units of Roentgens. The commonwealth, counties and municipalities do not use direct reading dosimeters which "read" in units of milli-Roentgens.* *Radiological survey instruments are calibrated per manufacturer's recommendations. In Pennsylvania, support counties do not have DRDs or KI, but those responsible for reception centers and/or monitoring and decontamination centers will have PRDs.* *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 (as applicable). Maps will be available for viewing by evaluators. If Reception Centers are collocated with Monitoring/Decontamination centers and Mass Care Centers, the use of maps or documents to provide direction does not apply. Personnel manning reception centers should receive a radiological briefing and receive category C dosimetry due to potential for radiological contamination.* **Note: All reception centers at SSES are collocated with mon/decon centers.** *Note: Bus drivers returning to the EPZ to fulfill relocation requirements will be equipped with Category A dosimetry and receive a radiological briefing.*

Capability Target 1.3: Protective Action Recommendations *(Vice Sub-Element 2.b.1; 3.e.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Situational Assessment; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Biennial exercise only
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (D.4, J.7, J.8, J.8.b, J.9, and O.1)
Intent: The capability to use dose assessment and field data, compare this data to the PAGs, and choose among a range of protective actions those most appropriate in a given emergency.

Demonstration and Evaluation Guidance:

Plume

1. Select and implement pre-planned precautionary protective actions.
   - Who, by title/position and organization, made decisions to implement any preplanned precautionary protective actions outlined within plans/procedures?
   - What precautionary protective actions were taken? Why?
2. Utilize the methodology in plans/procedures to select among a range of protective actions most appropriate in a given emergency. This could also include the use of preplanned precautionary protective actions contained in plans/procedures.
   - Were differences in dose projection greater than a factor of ten discussed with the licensee? If so, were the differences resolved, and timely and appropriately incorporated into the PAR?
3. Develop PARs.
   - Who, by title/position and organization, developed each PAR?
   - What information (e.g., from the licensee, field monitoring data, release data, meteorological data, etc.) was used to develop each PAR?
   - Were PARs based on the ECL?
   - Were ETEs considered?
   - Were EPA and FDA PAGs considered when making PARs? Were any other criteria, guidance, and/or methodologies used?
   - Were recommendations for KI made and on what were they based?
   - What populations or groups were included in the KI PAR (e.g., general public, institutionalized)?
4. Transmit PARs in a timely manner.
   - Who, by title/position and organization, transmitted each PAR to the decision-makers?
   - Who was the PAR provided to?

Post Plume

1. Assess radiological consequences and provide appropriate PARs for the ingestion exposure pathway.
   - Who had the authority to make PARs for the ingestion pathway?
   - Were precautionary actions (e.g., placing animals on stored feed and water) were considered to protect the ingestion pathway?
   - Did the ORO coordinate on PARs developed for ingestion pathway?
   - What boundaries were recommended for the restricted area? Did this include a recommendation for a buffer zone?
   - Were projected doses considered in developing recommendations for relocation? Were they compared to the EPA PAGs?
   - Were FDA PAGs (DILs as a surrogate) considered when recommending holds or embargos?
   - Were recommendations made for exposure and dose limitations for those temporarily reentering the restricted area?
   - Were recommendations developed to assist decision-makers on relaxing protective actions to allow for return?

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.

State Negotiated Extent of Play:
If the scenario has no radiological release, or potential of a radiological release, the decision-making process used to make protective action decisions (PADs) can be addressed through an interview at the CRCC if required.

Capability Target 1.4: Protective Action Decisions for the Plume Phase *(Vice Sub-Element 2.b.2; 2.c.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Situational Assessment; Critical Transportation; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Biennial exercise only
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (D.1.b, D.4, J.6, J.7, J.8, J.8.b, J.10, J.10.a, J.10.b, J.11.c-g, and O.1)
Intent: The capability to utilize appropriate factors and necessary coordination in the decision-making process used to make PADs for the public.

Demonstration and Evaluation Guidance:

1. Coordinate and make PADs for members of the general public.
   - Who, by title and organization, made PADs?
   - Did PADs need to be coordinated with other jurisdictions?
   - Did all appropriate OROs communicate and coordinate precautionary protective actions and/or PADs amongst each other? Who was involved?
   - What applicable Federal guidelines were utilized when making PADs?
   - Were precautionary protective actions and/or initial PADs made in a timely manner based on the scenario?
   - What were PADs based on (e.g., ETEs, predetermined actions, information/PARs from the licensee, protective action strategy, ORO assessment of plant status, weather conditions, and/or radiological releases, other incident information, input from appropriate ORO authorities, overall risk assessment of evacuation vs. shelter-in-place, considerations for those with access and functional needs, etc.)?
   - Are any supplemental resources necessary to implement a PAD (e.g., law enforcement, fire service, HAZMAT, and medical resources)? If so, who can request Federal support?
   - Were PADs coordinated with the ICP, if applicable?
   - Were all decisions communicated with all affected locations in a timely manner?
2. Coordinate and make PADs for those with access and functional needs.
   - What factors were considered for PADs made for those with access and functional needs?
   - Were there specific PADs for those with access and functional needs?
   - What was the basis of the PADs for those with access and functional needs?
3. Coordinate and make PADs for students at schools.
   - How did the ORO alert and notify all school systems/districts of emergency conditions?
   - What were protective actions for schools based on?
   - What PADs were made?

- How were the PADs coordinated?

4. Coordinate and make subsequent or alternate PADs.
   - Were subsequent or alternate PADs made? What were they? On what were they based (e.g., changing metrological conditions, field data, updated dose projections, changes in plant conditions)?
   - Was the process for making PADs during a rapidly escalating situation different?
   - What were subsequent/alternate PADs based on?
5. Coordinate and make decisions on the administration of KI (where applicable) for the public and institutionalized members of the population.
   - What was the KI decision-making process?
   - Did the decision require coordination with assessment and decision-making staff? Was it based on projected thyroid dose compared with the established PAGs?
   - Was there coordination among OROs involved in the decision-making process for KI administration?
   - Was the message content clear on KI instructions?
   - How was KI information provided to those who needed to take it?

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.

State Negotiated Extent of Play:
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 at any time during the exercise at the CRCC if required.

Capability Target 1.5: Protective Action Decision Implementation for the Plume Phase *(Vice Sub-Element 3.b.1; 3.c.1; 3.c.2)*
Core Capabilities: Operational Coordination; Public Information and Warning; Environmental Response/Health and Safety; Critical Transportation; Health and Social Services; Housing; Natural and Cultural Resources; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (A.4, C.2.a, G.1, J.11, J.11.a, J.11.b, J.11.c, J.11.e, J.11.g, and O.1)
Intent: The capability to implement precautionary protective action and/or PADs, including evacuation and/or sheltering, for all populations within the plume and ingestion exposure pathway EPZs. The populations include those with access and functional needs, students, and institutionalized individuals.

Demonstration and Evaluation Guidance:

1. Implement PADs, ensuring communication and coordination with all appropriate jurisdictions.
   - Were resources identified and utilized effectively?
   - Did OROs communicate and work together in an effective manner?
   - What type of coordination occurred on the implementation of protective actions?
   - Was the public kept informed and was the information provided relevant?

- Were PADs implemented as directed?
- What types of populations are in the plume exposure pathway EPZ (e.g., institutionalized, access and functional needs, non-English speaking, etc.)? Who is responsible for notifying each, and at what point during the incident?
- Were there any gaps in resources identified? If so, how were they addressed?

2. Assist those with access and functional needs during the implementation of PADs.
   - What time was the order received for those with access and functional needs?
   - Were the facility/facilities receiving those with access and functional needs listed in the plans?
   - How were individuals with services animals addressed
3. Communicate, coordinate, and implement protective actions for schools.
   - What school districts are located within the plume exposure pathway EPZ?
   - Who notifies school districts? How?
   - What was the protective action that the school took?
   - With regard to processing students, faculty, and staff, what sort of PADs were made?
   - At which ECL were the school districts notified?
   - If students were moved, which reclamation centers were they sent to? Which is the host school?
   - How were parents and/or guardians notified?
   - Are there schools located outside the plume exposure pathway EPZ that have students living within the EPZ? What arrangements are made for those students?
   - What type of transportation was provided to the students (e.g., bus, etc.)?
   - Who notifies the bus drivers?
   - Were there adequate buses available? And how do they communicate with the school?
   - Do the bus drivers know where to take the students? Are they trained on what to do?
   - Was the school evacuated during the plume? What means of monitoring and decontamination were used?
4. Communicate with transportation officials.
   - What transportation needs, or resources were required?
   - Was a list of the transportation providers available?
   - Were transportation providers contacted?
   - How were needs for transportation-dependent individuals met?
   - Were designated pick-up points used?
5. Identify evacuation routes for the general public.
   - What evacuation routes were selected?
   - Were the direction of the wind/plume and/or other hazardous conditions considered in determining which evacuation routes were used?
   - How was this information communicated to the media and the public?
   - How were alterations to the pre-designated routes communicated to the media and the public?
   - Was the facility evacuated during the plume?
6. Make KI available to both institutionalized persons and the general public, in accordance with plans and procedures.
   - How was the decision to take KI disseminated to the public and institutionalized persons?
   - Did the ORO provide KI to the general public and institutionalized persons? If so, how was it distributed?

- What quantities of KI are available?
- Where is KI stored?
- What dosages of KI are available?
- What is the expiration date of KI? If there is an extended policy, where is the letter certifying the extension?
- Did the ORO ensure that the KI is stored in a temperature-controlled facility?
- What information was provided to the general public with regard to KI?
- What instructions were provided for the use of KI?
- Did the instructions include dosages and frequency to take KI?
- Did the instructions include contradictions and side effects of using KI? How was it explained?
- How was KI ingestion documented for institutionalized persons?
- Did staff maintain lists of the institutionalized individual who ingested KI?

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.

State 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. KI is not distributed to the general public at the time of an emergency. *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. Each will be issued a simulated PRD with mock serial numbers. For purposes of demonstration, a minimum of one PRD will be issued.* *If the scenario has no radiological release, or potential of a radiological release, the decision-making process on the need to recommend KI can be addressed through an interview if required.* *The names, locations, and contact information of identified individuals with access/functional needs are maintained on a list at their respective municipal EOC. 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 at the county, about the transportation plans concerning transportation, staging, source of vehicles, numbers of transportation dependent and functional needs individuals, radiological protection of the drivers/emergency workers, and routes or assignments of vehicles for transportation dependent individuals and transportation of persons with disabilities and access/functional needs. No buses or drivers will be mobilized.*

Initial contact, by the County, with special populations (hospitals, nursing homes and county correctional facilities) may be simulated, actual or by interview. All subsequent actual calls will be simulated. Simulated contacts (up to two per risk county) will be made with transportation providers per their plan. All actual and simulated contacts should be logged.

School students will not be involved during the exercise. Actions and activities associated with the demonstration of (Capability Target 1.5) will be limited to the School District Administration key personnel, evaluated schools, and the County. Evacuation of students will be conducted through an interview process with School District personnel or the building principal.

The role of the bus driver may be conducted through an interview with school or transportation officials (or designee). 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 unless returning to the EPZ to fulfill relocation requirements.

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

Capability Target 1.6: Protective Action Decisions for the Post-Plume Phase *(Vice Sub-Element 2.d.1, 2.e.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Situational Assessment; Critical Transportation; Housing; Planning
Recommended Evaluation Frequencies: At least once every 8-years
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (J.12, J.14, J.14.a-f, M.1, M.1.b, M.4, M.5, M.6, M.7, M.8, and O.1)
Intent: The capability to assess the radiological consequences for the ingestion exposure pathway and post-plume phase, relate them to the appropriate PAGs, and make and coordinate timely, appropriate PADs to mitigate exposure.
Demonstration and Evaluation Guidance:

1. Make post-plume phase decisions in a timely manner.
   - Who has the authority to make ingestion exposure pathway decisions?
   - Who has the authority to make decisions for relocation, reentry, preoccupancy, or return?
   - What Federal guidance was utilized in the decision-making process?
   - What additional resources, if any, were requested or anticipated?
   - Were there any precautionary protective actions for the ingestion exposure pathway considered prior to analytical data?
   - Did ingestion exposure pathway assessment include analysis of water, food, and release characterization?

- What times were decisions regarding the ingestion exposure pathway made, including precautionary protective actions?
- How were boundaries of temporary embargo zones identified?
- How were the boundaries of the deposition footprint determined (e.g., field and/or aerial measurements, deposition projections or a combination of sources)?
- Were crops grown in affected areas identified? Was there a determination on how crops would be harvested or tracked?
- How were water supply sources identified?
- Were sample results obtained from specified labs? Were dose assessments based upon sample results? Were locations plotted on a map to identify areas that exceed PAGs?
- What watershed and agricultural data were used to make decisions?
- Did ANI participate, and did they address compensation of loss?

2. Make relocation decisions for the post-plume phase in a timely manner.
   - How were integrated doses in contaminated areas estimated? Were they compared to the PAGs?
   - How were the areas to be restricted identified/determined? What factors were used to make the decision (e.g., the mix of radionuclides in deposited materials, calculated exposure rates vs. the PAGs, field samples of vegetation and soil analyses, etc.)?
   - Was the optional approach (230 μR/hr) to determine the restricted area boundary utilized?
   - How was access to evacuated and restricted areas controlled? What agencies have that responsibility?
   - How was the area of interest identified?
   - If aerial measurements were used, what method or procedure will be used to identify the area of interest that is below the detection limit of the aircraft?
   - How did the ORO relocate members of the evacuated public who lived in areas that now have residual radiation levels in excess of the PAGs?
   - How did the ORO determine the area(s) to be restricted?
   - What resources are available for providing medical and social assistance for relocated individuals?
3. Make reentry decisions for the post-plume phase in a timely manner.
   - What was the coordinated strategy for authorized reentry of individuals to the restricted zone? What was considered when forming the strategy (e.g., established exposure limits, maintenance of essential services and/or property, security, retrieval of possessions, etc.)?
   - How did the ORO determine location of control points, who should be allowed to re-enter the restricted zone, and what provisions were made to determine and control their exposure?
   - How did the ORO provide for exit from the restricted area, including monitoring of persons, vehicles, and equipment?
   - What were the exposure limits, including the time period over which the dose would accumulate?
4. Make return decisions for the post-plume phase in a timely manner.
   - What were the return boundaries based on? (e.g., political boundaries, physical boundaries)
   - Was return permitted to the boundary of the restricted area or was a buffer zone established?
   - Did decision-makers consider restoration of services for areas where return was allowed? (e.g., medical facilities, schools, utilities, roads, and intermediate housing).
5. Make re-occupancy decisions for the post-plume phase in a timely manner.
   - What considerations are made for preoccupancy?

- What factors were taken into account to consider preoccupancy?
- What community organizations were part of the decision-making process?
- What instructions were provided to the population allowed to reoccupy areas?
- Were any additional actions necessary for populations to reoccupy an area? (e.g., washing down buildings, restricting use of backyard produce gardens)

6. Coordinate PADs as appropriate.
   - What arrangements were made to coordinate potential decisions?
   - How were decisions coordinated internally and with other jurisdictions?
   - How were decisions communicated?

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.

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

Capability Target 1.7: Protective Action Decision Implementation for the Post-Plume Phase *(Vice Sub-Element: 3.a.1, 3.d.1, 3.e.1, 3.e.2, 3.f.1, 5.b.1)*
Core Capabilities: Operational Coordination; Public Information and Warning; Environmental Response/Health and Safety; Critical Transportation; Health and Social Services; Housing; Natural and Cultural Resources; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (C.2, J.12, J.14, J.14.a-f, M.1, M.1.b, M.4, M.5, M.6, M.7, M.8, and O.1)
Intent: The capability to implement and coordinate PADs to mitigate exposure and address long-term radiological consequences.

Demonstration and Evaluation Guidance:

1. Communicate and implement protective actions for agribusinesses, such as dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points.
   - How were agribusinesses notified of the PADs?
   - What coordination and communications among organizations responsible for implementing protective actions occurred? How were changes and developments communicated?
   - Were precautionary protective actions taken to prevent contamination?
   - Were Federal and other resources identified that will assist with determination and implementation of ingestion exposure pathway protective actions?
2. Formulate protective action information (e.g., brochures, email, text message, etc.) for the general public and food producers and processors.
   - Were there instructions in the protective actions provided on what foods or crops were being affected?
   - Were protective actions clearly provided and were maps provided identifying the specific areas in which to implement the protective actions by the decision-makers?

- Were reproduction-ready information and instructions to pre-determined individuals and businesses available for production and distribution (obtain copies of available information)? Was the information on the handouts current?

3. Control, restrict, or prevent distribution of contaminated food by commercial sectors, ensuring communication and coordination with agencies responsible for enforcing food controls.
   - What were the state/local requirements to implement embargos or condemnations?
   - Who delivered condemnation or embargo notices to agribusinesses?
   - How were necessary legal notices delivered?
   - Did the ORO use Federal resources as identified in the National Response Framework Nuclear/Radiological Incident Annex, if needed?
   - What coordination and communications among organizations responsible for implementing protective actions occurred?
   - What measures were taken and what strategies were developed by the ORO to implement protective actions for general public and for food producers in the ingestion exposure pathway EPZ, including preventing distribution of potentially contaminated food?
   - Was there current information on the locations of permanent agribusiness facilities available? From what source was this information obtained?
   - In addition to the location of agribusiness sites, what other information (e.g., name and address of owner) was available?
   - Was there current information on harvest times available? From what source was this information obtained?
   - Was a plan developed to monitor transportation routes out of the affected areas and to monitor and sample foods on vehicles leaving the area?
   - Who is responsible to monitor and sample foods on vehicles and where will they be located?
   - Where or how were condemned food products taken for disposal?
4. Communicate instructions to the public regarding relocation decisions and intermediate-term housing for relocated persons.
   - What coordination and communications among organizations responsible for implementing protective actions occurred?
   - How were decisions and instructions for relocation communicated to organizations and the public?
   - Was a monitoring and decontamination location included in the information provided to the public?
5. Coordinate and implement decisions concerning relocation, including short- and/or long-term relocation of evacuees.
   - What coordination and communications among organizations responsible for implementing protective actions occurred?
   - How did the ORO coordinate and implement decisions concerning relocation of individuals from now-restricted areas?
   - What were the provisions of short-, intermediate-, and long-term relocation of evacuees from now-restricted areas?
   - Was the ORO prepared to provide housing?
   - What were the arrangements made to relocate those displaced as a result of contamination? What provisions were made for their care and support?

- How were transportation-dependent evacuees transported from the restricted zone if they had not been previously evacuated? What transportation was provided? How was it communicated?

6. Control reentry and exit of individuals who are authorized by the ORO to temporarily reenter the restricted area.
   - What coordination and communications among organizations responsible for implementing protective actions occurred?
   - What coordination and implementation of decisions for temporary reentry of individuals to restricted areas occurred?
   - What instructions/information were provided prior to reentry (e.g., map and plots of radiation exposure rates, advice on areas to avoid, associated time frames, etc.)?
   - How were those individuals permitted temporary reentry to restricted areas protected from unnecessary radiation exposure?
   - Were DRDs and PRDs assigned for emergency workers and individuals permitted temporary reentry to a restricted area? What information was provided regarding dosimetry use?
   - Were persons reentering escorted by someone trained in the use of dosimetry?
   - What were the procedures for exit from the restricted area(s) emergency workers and individuals?
   - What were the procedures for exit from the restricted area(s) for vehicles and other equipment?
   - How were dosimetry and exposure record handled upon exit from the restricted area(s)?
   - Was monitoring and decontamination conducted at the exit from the restricted area or at a separate center?
   - How were individuals transported into and out of the restricted area?
7. Implement policies concerning return of members of the public to areas that were evacuated during the plume phase.
   - What coordination and communications among organizations responsible for implementing protective actions occurred?
   - How were services and facilities (e.g., utilities, food store/restaurants, hospitals, schools, etc.) that require restoration within a few days identified and prioritized?
   - What resources were available to facilitate restoration?
   - Was implementation of the decision to return supported by restoration of services and facilities?
   - Were hot spots decontaminated if necessary?

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.

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

OBJECTIVE 2 - Exposure Control

Capability Target 2.1: Emergency Worker Exposure Control Decision-Making Process *(Vice Sub-Element: 2.a.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Situational Assessment; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (C.2.c, H.11, K.2, K.2.b, K.3, K.3.a, M.1.b, M.8, and O.1)
Intent: The capability to assess and control the radiation exposure and dose received by emergency workers and utilize a decision-making chain to authorize emergency worker exposure limits to be exceeded for specific missions.

Demonstration and Evaluation Guidance:

1. Control emergency workers' exposure and dose, including offsite workers performing duties onsite.
   - Who was responsible for managing emergency workers' exposure and dose?
   - Were projected doses and likely exposure rate patterns considered before dispatching workers?
   - Were any of the following considered: alternate entry and exit routes; potential changes to meet conditions; area or roads to avoid; what to do in the event of equipment or vehicle failure; and previous doses?
   - Were safety issues, supplemental to radiation, considered for the locations of field teams, the ICP, and other appropriate personnel?
   - How did incoming mutual aid, including Federal or private resources, obtain dosimetry, radioprotective drugs, and subsequent just-in-time training?
   - Who briefed emergency workers? Did the briefing include the following:
     - Ensuring dosimetry are zeroed or initial reading is recorded.
     - Frequency to read and record dosimeters.
     - The process of reporting exposures.
     - Proper placement of dosimeters.
     - Proper use of PRDs.
     - Ingestion and documentation of radioprotective drugs.
     - Potential adverse effects of radioprotective drugs.
     - The location to report to for monitoring and decontamination.
2. Maintain record of dose as a result of exposure.
   - How were exposures and subsequent doses reported from the field documented?
3. Authorize exposures and dose in excess of identified limits.
   - Who authorized emergency workers to receive exposure in excess of identified limits?
   - What were the identified limits?
   - How was this authorization documented?
4. Process for considering occupational exposures and to authorize individuals to receive doses in excess of occupational dose limits.
   - Was occupational exposure considered for those working during the emergency, in both the intermediate and late phases of a NPP accident?

- Who authorized occupational doses in excess of Federal limits?

5. Determine a correction factor for DRD-based isotopic release mixture.
   - What approach was used to correct DRD readings to TED (e.g., dosimeter corrections factors)?
6. Control exposure and dose for temporary reentry of emergency workers, or members of the public, to restricted areas.
   - What provisions were available for controlling exposure and dose rates for temporary reentry to restricted areas?
   - How were controlled exposure and doses documented for those reentering restricted areas?
7. Determine the need to authorize radioprotective drugs using projected thyroid doses and field measurements. Projections are compared to previously established PAGs.
   - Who authorized emergency workers to take radioprotective drugs?
   - When was the decision made to authorize emergency workers to take radioprotective drugs?
   - Was the decision to use radioprotective drugs based on projected thyroid doses?
   - Were projected thyroid doses compared to establish PAGs?
   - Did the decision-making process for use of radioprotective drugs include close coordination with assessment and decision-making staff?
   - How was the decision to authorize radioprotective drugs communicated to emergency workers?
8. Adequately protect members of the public from radiological exposure and control dose for those who are authorized to temporarily reenter a restricted area.
   - What provisions were there for dosimetry and contamination control for emergency workers and members of the public temporarily reentering a restricted area?
   - What exposure rates or limits were established for emergency workers and members of the public temporarily reentering a restricted area?
   - How were exposure and doses documented and controlled for emergency workers and members of the public temporarily reentering restricted areas?
   - What was the process for decontamination, collection of dosimetry, and recording exposures for emergency workers or members of the public exiting the restricted area following temporary reentry?
   - How was contamination monitoring and decontamination conducted for those exiting a restricted area?

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.

State Negotiated Extent of Play:
If the scenario has no radiological release or potential for a radiological release the decision on 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 if required at the CRCC.

Capability Target 2.2: Emergency Worker Exposure Control Management *(VICE Sub-Element 3.a.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: Biennially

Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (C.2.c, H.11, H.11.b, K.2.b, K.3, K.3.a, M.1.b, and O.1)
Intent: The capability of emergency workers to manage dose and exposure, use equipment (e.g., dosimetry, radio protective drugs), and identify procedures to monitor their exposure and dose, including following procedures to obtain authorization to receive emergency exposures in excess of the PAGs.

Demonstration and Evaluation Guidance:

1. Maintain an appropriate inventory of DRDs that are leak-tested or current in calibration.
   - What types of DRDs were used?
   - Were they consistent with the plans?
   - Were they current in calibration or leak test?
2. Maintain an appropriate inventory of PRDs.
   - What type of PRDs were used?
   - Was the inventory of available PRDs sufficient for the number of workers?
   - How many PRDs were available?
3. Retain an adequate supply of radioprotective drugs.
   - Was there an adequate supply of radioprotective drugs?
   - How many doses of radioprotective drugs were available?
   - Was the quantity of radioprotective drugs available sufficient for the number of individuals needing to take it?
4. Adequately distribute appropriate DRDs and PRDs.
   - Was dosimetry distributed in a timely manner?
   - Was dosimetry distributed appropriately to read identified exposure limits?
   - Did workers receive personal dosimetry or group dosimetry?
5. Adequately distribute radioprotective drugs to emergency workers.
   - Were radioprotective drugs distributed in a timely manner?
6. Record and report exposures in the field.
   - Did workers read and record dosimetry on a regular basis?
   - At what frequency were readings recorded?
   - To whom were the readings reported?
   - Who briefed emergency workers? Did the briefing include the following:
     - Ensuring dosimetry are zeroed or initial reading is recorded.
     - Frequency to read and record dosimeters.
     - The process of reporting exposures.
     - Proper placement of dosimeters.
     - Proper use of PRDs.
     - Ingestion and documentation of radioprotective drugs.
     - Potential adverse effects of radioprotective drugs.
     - The location to report to for monitoring and decontamination.
7. Implement decisions to administer radioprotective drugs.
   - What was the quantity of the inventory of radioprotective drugs and the expiration date?
   - Was the available quantity of radioprotective drugs sufficient to support the number of emergency workers?

- Was the supply of radioprotective drugs stored according to manufacturer recommendations?
- How was the ingestion of radioprotective drugs documented?
- Did emergency workers have a basic knowledge of procedures for ingesting and recording the use of radioprotective drugs, even if the scenario did not drive its use?
- How were records of exposure and ingestion of radioprotective drugs maintained?
- Did plans/procedures include a mechanism for identifying an emergency worker who has declined to take radioprotective drugs in advance? If so, how was this documented?

8. Report to individual responsible for managing exposure and dose when limits are reached.
   - What was the identified exposure limit?
   - What was the dosimeter correction factor and how was it communicated to emergency workers?
   - What is the process for receiving approval for exceeding exposure limits and dose limits?
   - Who authorized emergency workers to exceed limits or replace a worker who has reached exposure limits?
   - Who coordinated with offsite emergency workers who were performing duties onsite?
9. Implement exposure control decisions to members of the public from radiological exposure and control dose for those who are authorized to temporarily reenter a restricted area.
   - What exposure control decisions were implemented to members of the public? What was the control dose for those who were authorized to temporarily reenter a restricted area?

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.

State Negotiated Extent of Play:
Radiological briefings will be provided to address exposure limits, procedures to replace those approaching limits, and how permission to exceed limits is obtained from the 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 to emergency workers. The completion of one "Dosimetry-KI Form" will be demonstrated.* *At any time, players may ask other players or supervisors to clarify radiological information.* *In Pennsylvania, emergency workers do not have turn-back values.* *Emergency workers who are assigned to low exposure rate areas, (e.g., counting laboratories, emergency operations centers, and communications centers) may have individual direct reading 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
Category C: 1 PRD

NOTE: Emergency responders located outside the EPZ have limited potential for radiation exposure (e.g., monitoring/decontamination teams, MS-1 hospital staffs). EMS crews transporting contaminated or potentially contaminated individuals outside of the EPZ are not provided dosimetry as per Annex E, Appendix 5 – Radiological Exposure Control, page E-5-35.

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. Simulation PRDs with mock serial numbers will be used.

Personnel assigned to operate monitoring/decontamination centers and stations are not issued DRDs or KI since the centers/stations are located outside the EPZ. Each will be issued a simulated PRD with mock serial numbers. For purposes of demonstration, a minimum of one PRD will be properly issued.

OBJECTIVE 3 - Alert and Notification

Capability Target 3.1: Communications *(Vice Sub-Element: 1.d.1)*
Core Capabilities: Operational Communications; Operational Coordination; Situational Awareness; Planning
Recommended Evaluation Frequencies: At every assessment activity

Recommended Assessment Activities: Exercise; Communication Drill (N.4.e)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (E.1.a, E.3, F.1, F.1.a, F.1.b, F.1.c, F.3, and O.1)
Intent: The capability to provide and maintain reliable communications with emergency personnel.

Demonstration and Evaluation Guidance:

1. Utilize communication systems that are fully functional, continuously available, and redundant.
   - What types of communications system(s) and method(s) were available? Which were demonstrated?
   - Was the communication system(s) fully functional?
   - Did personnel demonstrate familiarity of use with each system/method?
   - Was a communications check with other jurisdictions, field teams, and/or other support organizations required and completed?
2. Maintain periodic test results and corrective actions on a real time basis.
   - How were test results and corrective actions tracked in real time?
   - Was documentation of the test results and/or corrective actions made available?
3. Access at least one communication system that is independent of the commercial telephone system.
   - Which communication system(s) available was independent of commercial telephone?
   - Was it able to be accessed/utilized?
4. Manage the communication systems and ensure that all message traffic is handled without delays that might disrupt emergency operations.
   - Were there any delays in message traffic that disrupted emergency operations? If so, how were the delays addressed/mitigated?
5. Identify and address any failures of the systems.
   - Were there any communication failures? If so, how was the failure identified?
   - What actions were taken to correct the failure and/or how was the failure overcome?
   - Did the failure affect overall performance?
6. Transmit, receive, and understand messages (i.e., “content check”).
   - Were the messages transmitted/received understood by personnel?
   - What was the message?
   - Was a “content check” (i.e., informational message that could be received during an actual radiological emergency) performed?

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.

State Negotiated Extent of Play:
Risk and support counties will communicate with the CRCC via the commercial telephone system (primary), email, and other systems. In the event the plant is unable to contact the CRCC via the Dedicated Automatic Ring Down Telephone, the Power Plant will contact the CRCC via the commercial telephone system. If the plant cannot contact the CRCC, the Power Plant will contact the ***Luzerne County EOC,*** *and they will fulfill the role of primary contact until communications with the CRCC can be made.*

The Commonwealth coordinates commonwealth and county response via a phone/internet bridge line. When warranted, siren sounding will be coordinated on the phone/internet bridge line.

Risk counties will communicate with their risk municipalities via public safety radio frequencies (EMA Radio), commercial telephone, email, fax, or Amateur Radio Communications (ARES/RACES) or other available means.

Capability Target 3.2: Alert and Notification of the Public *(Vice Sub-Element: 5.a.1; 5.a.3; 5.a.4)*
Core Capabilities: Public Information and Warning; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Biennial exercise only
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (E.2, E.4, E.5, F.3, and O.1)
Intent: The capability to provide instructions to the public.

Demonstration and Evaluation Guidance:

Alert and Notification System

1. Sequentially provide an alert signal followed by an initial instructional message to populated areas.
   - Who has releasing authority of initial EAS or other notification method messaging?
   - Who made the decision to activate the alert and notification system?
   - What process is followed to activate the system?
   - Who activated the system?
   - What alert method(s) was used (siren-system, tone-alert radio, route alerting, telephone, Telecommunication Device for the Deaf/Teletype [TDD/TTY], etc.)?
2. Alert and notify the general public.
   - Was the same method used for approving and releasing subsequent alert and notification as the initial alert/ notification?
   - What alert method(s) was used (siren-system, tone-alert radio, route alerting, telephone, TDD/TTY, etc.)?
   - What message was sent out? Was it pre-scripted?
   - How often were messages repeated?
   - Conduct initial messaging with, at a minimum, the following four essential elements in the message:
     - Identification of the ORO responsible and the official with authority for providing the alert 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 online information) for use by the general public during an emergency;
     - 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.
3. Identify and address any failures of the system(s) or portion of a system(s).
   - Were there any failures of the system or a portion(s) of the system?

- How were any failures of the system or a portion(s) of the system identified?
- Was the failure attributed to a specific portion of the plume and/or ingestion exposure pathway EPZ or segment of the population? How?
- What alternate means of alert and notification (e.g., simultaneous, or concurrent failure models have overlapping systems which will seamlessly address failures; activation of additional system(s); route alerting; etc.) was utilized for the area of the plume and/or ingestion exposure pathway EPZ or segment of the population affected by the failure(s)? How were the alerts/notifications provided? What was the message?
- Once the failure was identified, what actions were taken?
- If message dissemination is identified as not being accomplished in a timely manner, what was the specific delay? What caused the message to not be provided in a timely manner?

4. Actual testing of the mobile public address system will be conducted at an agreed upon location.
   - What notification methods were tested?
   - How does the notification system deliver messages (e.g., via phone call, text message, and email based on a database of contact information associated with physical addresses)?
   - How, and how often, is the system tested?

EAS

1. Identify the process to activate the EAS.
   - What protocol or system was used to activate the EAS? (i.e., software, NWS, radio station, IPAWS)
   - How long did the process take to activate the system?
   - If NWS or radio station was used, was there verification between the ORO and the broadcast station of the EAS message prior to broadcast?
2. Ensure that updated emergency information is disseminated in a timely manner.
   - Were messages updated to relay the most current information concerning the incident?
3. Ensure that current emergency information is repeated at pre-established intervals.
   - What are the pre-established intervals?
   - How often was information repeated?
4. Identify the process to activate the EAS, to include the process to receive and then broadcast updated information/ messages and verification of the message, if applicable.
   - Did the station have a copy of current plans, procedures, and messages?
   - Did station staff demonstrate the process to broadcast messages?
   - If required, did the EAS station verify who the message came from and that it is the correct message?
   - Was the EAS station kept updated with new information and messages? How?
5. Broadcast the message on a 24-hour basis.
   - What is the 24-hour capability of this location?
   - Is there back-up power supply or is an alternate station used?

Route/Alternate Alerting

1. Complete route alerting, whether because of failure for system/portion of a system or for exception areas, as needed to demonstrate all routes are capable of being run in allotted time. Emphasis on the most challenging routes and demonstration of these routes will be varied from assessment activity to assessment activity. Challenging routes are defined as those that may be difficult to accomplish, such as those that are lengthy or with conditions (physical or otherwise)

that may affect the speed and accuracy with which the route can be completed (e.g., traffic patterns and/or capacity, road conditions, etc.).

- Why was route/alternate alerting initiated?
- Was this a FEMA-approved exception area?
- What organization(s) are responsible for providing route/alternate alerting?
- Under what conditions was route/alternate alerting initiated?
- Who notified the resources to begin route/alternate alerting? How were they notified?
- What resources provided route/alternate alerting?
- How long did it take to complete the route/alternate alerting?
- How was the message announced? What was the content of the message?
- For exception area notification, was it completed within 45 minutes of the initial decision by authorized offsite emergency officials to notify the public of an incident?
- What system was used for exception areas?
- Who approves the use of the system for alerting exception areas?
- Who deployed the system for alerting exception areas and what was the process?
- Can individual sub-areas be activated using the system to alert FEMA approved exception areas?
- Was a test done or was a previous tests report used as confirmation of operation in alerting exception areas?

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.

State 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 (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. Sirens will be coordinated, and the sounding simulated at the appropriate time with the simulated activation of EAS taking place approximately three minutes following the simulated activation of the sirens. The EAS will be read and explained to the evaluator and given a copy of the EAS to them. Regular broadcasting will not be interrupted on the EAS Stations. Broadcast of the message(s) or test message(s) is **NOT** required and **NOT** requested. Counties may elect to simulate county specific supplemental messages to their electronic local media.*

Following the decision to activate the alert and notification system, in accordance with the OROs' plan and/or procedures, ANS activation should be accomplished in a timely manner for primary alerting/notification. This action will be performed "with a sense of urgency and without undue delay" (REP Manual-January 2019).

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, notification of the hearing-impaired residents within their jurisdiction. Hearing impaired notification teams will not be deployed.

Backup route alerting of the public will be demonstrated by only one municipality in each of the risk counties (Luzerne and Columbia County). Only one (1) route per municipality will be demonstrated.

Capability Target 3.3: Emergency Information and Instructions for the Public and News Media *(Vice Sub-Element: 5.b.1; 3.e.2)*
Core Capabilities: Public Information and Warning; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Biennial exercise only
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (E.2, E.4, E.5, G.1, G.2, G.3, G.3.a, G.4, G.5, and O.1)
Intent: The capability to disseminate emergency information and instructions to the public during all phases of an incident.

Demonstration and Evaluation Guidance:

Plume Phase

1. Deliver coordinated, prompt, reliable, and actionable information in a timely manner.
   - Who approves the message content and authorizes the release of the message?
   - Was messaging coordinated with appropriate Federal, state, local, and tribal stakeholders prior to dissemination?
   - Were methods consistent with an established JIS?
   - How often was emergency information repeated?
2. Provide clear, concise, accessible messaging using plain language.
   - Was language clear, concise, accurate, and delivered in a timely manner?
   - Was the PAD correctly and appropriately reflected?
   - Was the ECL appropriately disclosed and adequately explained?
   - When needed, were familiar landmarks and boundaries to describe protective action areas?
   - Was there a closing statement included in the messaging? If so, what was it? How was it communicated to affected and/or potentially affected populations?
3. Messaging addresses appropriate cultural and linguistic considerations.
   - Is public information required to be available in non-English languages at this location/site? If so, how were messages translated and/or provided?
   - How are those with access and/or functional needs provided with messages and actionable information?
   - Are there any cultural and/or other linguistic considerations relevant for this area? If so, what are they and how were they implemented?
4. Ensure subsequent messaging is consistent with protective actions.
   - Are 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 access

and/or functional needs, and public inquiry hotline telephone number) to assist the public in carrying out the PADs provided?
- Was messaging consistent with protective actions?

5. Update information as the incident progresses, to include validating previously identified protective areas and clearly identifying any new protective action areas, any information that is no longer valid, and any changes to previously provided information (e.g., rerouting of evacuation routes due to impediments, etc.).
   - How often was information on the incident progression updated?
   - What new protective action areas were identified?
   - How was invalid information rescinded?
   - How was invalid information updated to reflect any changes?
   - Was follow-up and additional messaging coordinated and delivered? How?
6. Respond to media and public inquiries.
   - Were the appropriate PIOs or subject matter experts (SMEs) available?
   - How did PIOs or SMEs gather and verify information?
   - How did PIOs or SMEs coordinate information with appropriate personnel for approval?
   - How was exchange, discussion, and coordination of information among PIOs or SMEs conducted?
   - Were media briefings conducted? If so were they frequent, timely, and was information disseminated accurately?
   - Were media and public inquiries handled and addressed appropriately?
   - Were trends and/or rumors captured and addressed in media releases?

Post-Plume Phase

1. Rapidly disseminate of ingestion exposure pathway information to predetermined individuals and businesses.
   - Where there any delays or reasons why messages were not timely?
2. Provide information to the public that addresses temporary reentry to a restricted area, permanent relocation from areas not evacuated, and return to formerly restricted areas will be communicated.
   - What sort of information was provided to the public addressing temporary reentry into a restricted area, permanent relocation of areas not evacuated, and return to formerly restricted areas? How was the information communicated?

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.

State Negotiated Extent of Play:
*Subsequent emergency information and instructions should be provided to the public and the media in a timely manner. <u>This will **NOT** be subject to specific time requirements.</u> One media briefing will be demonstrated in each risk county and at the CRCC JIC.* *The Commonwealth, risk and support 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"). The Commonwealth and counties will receive approximately ten public inquiry calls from the State Exercise Cell assigned this responsibility. The Commonwealth and 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.

OBJECTIVE 4 - Detect, Measure, Sample, Analyze, and Assess

Capability Target 4.1: Field Monitoring Teams Management *(Vice Sub-Elements: 4.a.2)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (H.11, H.13, I.5, I.6, I.9, I.10, M.7, M.8, and O.1)
Intent: The capability to provide overall management of FMTs to direct movements and measurements to characterize the plume and its impacts.

Demonstration and Evaluation Guidance:

1. Brief FMTs on predicted plume location and direction, plume travel speed, equipment operational checks, background measurement, and exposure control procedures before deployment.
- What instructions or assignments were given to the FMT?
- Who briefed the FMTs prior to deployment? Was the pre-deployment briefing adequate? Did it address predicted plume location and direction, plume travel speed, and exposure/contamination control procedures before deployment?

2. Direct the FMTs to monitoring locations, predesignated points or otherwise, at times and locations sufficient to characterize the plume.
- Who controlled the FMTs' movement and determination of sample location?
- Were FMTs directed to locations at times sufficient to characterize the plume?
- What approach was used to select appropriate sampling locations, pre-designated sampling points, or plume traverse (while maintaining specified exposure limits)?
- What time were assignments completed?
- During a HAB incident, were there provisions for the field team management to inform Incident Command of FMT activities and location? Was this activity observed?

3. Obtain peak plume measurements from FMTs.
- Which agency's (i.e., ORO, licensee, or other) FMTs were assigned the responsibility of finding the plume edge, obtaining peak measurements in the plume, and obtaining maximum radiation readings in the downwind areas (e.g., centerline measurements)?

4. Direct FMTs to collect air samples at locations and times sufficient to characterize the plume.
- How were locations at which to collect air samples selected?
- Were the samples taken sufficient to characterize the plume?

5. Keep Incident Command informed of FMTs activities and location(s) during a HAB incident or other instances when an ICP or other may be in use.
- How were activities and locations communicated with Incident Command during a HAB incident?

6. Coordinate and share information amongst all FMTs (licensee, Federal, state, and local).
- Did all FMTs (i.e., licensee, Federal, and ORO) share and coordinate plume measurement information?
- Did the ORO coordinate or use any resources from other agencies, e.g., Federal, mutual aid, or compact?

7. Coordinate sample analysis from field to those responsible for assessing radiological data.
- How was field data coordinated with dose assessors or those responsible for assessing radiological data?
8. Coordinate transfer of sample media to locations and organizations responsible for assessing radiological data.
- Did coordination concerning transfer of samples, including a chain-of-custody form(s), to a radiological laboratory or laboratories occur?
9. Assist with development and modification of sampling plans, as appropriate.
- How were sampling plans developed and maintained?

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.

State Negotiated Extent of Play:
Department of Environmental Protection (DEP), Bureau of Radiation Protection (BRP) field teams are equipped with the necessary instrumentation and supplies. FEMA observers will meet the field teams at the R3V staging area at the ***Talen Energy Facility at East Mountain Business Center, 1190 East Mountain Boulevard, Wilkes-Barre, Pennsylvania 18702 at 1:30 p.m. on October 18, 2022,*** *to observe instrumentation checks and equipment inventory verification.* *Field Team Control will be performed within or 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 are not required but* ***may*** *be placed by the field teams near the expected plume pathway. These detectors will automatically transmit data to the R3V and the CRCC. Field teams will follow ALARA principles in the deployment of these detectors.* *Field teams W**ill NOT** be evaluated by FEMA.*

Capability Target 4.2: Plume Phase Measurements and Sampling *(Vice Sub-Element: 4.a.3)*
Core Capabilities: Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Environmental Monitoring Drill (N.4.d)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (H.9, H.11, H.11.a, H.11.b, H.12, H.13, I.2, I.5, I.6, I.7, I.8, I.9, I.10, and O.1)
Intent: The capability to make and report measurements of ambient radiation.

Demonstration and Evaluation Guidance:

1. Maintain emergency equipment including calibration and operational checks according to manufacturer's specifications or per national standards.
   - Did each FMT perform an operational check on each radiation survey instrument, including a source-response check which is compared to a known range of readings to confirm the instrument can properly measure radiation?
   - Did each FMT obtain a background radiation measurement with each radiation survey instrument before entering the affected area?
2. Maintain inventory for emergency kits.
   - Were kits inventoried prior to deployment?
   - Did kits contain supplies and equipment sufficient to support field team operations?
3. Operate and monitor radiation survey instruments to detect changes in radiation exposure rate while moving and in stationary positions.
   - Did FMTs operate and monitor survey instruments continuously and in a way that prevented inadvertent exposure to an active plume?
4. Use appropriate contamination control and PPE.
   - Did field teams use appropriate contamination control techniques?
   - What PPE was used?
   - How was instrumentation protected from contamination?
5. Be in location(s) at the appropriate time(s) to detect and characterize the active release (plume).
   - What agencies participated as part of the FMT?
   - Were field teams moved to potential locations where the plume was predicted to pass?
6. Obtain peak plume measurements either directly or from licensee field teams.
   - Were peak plume measurements obtained? If so, from where?
7. Correctly interpret survey instrument readings to determine submersion in the active plume.
   - What exposure rate did FMTs use to determine the possible edge of the plume?
   - Did FMTs compare waist high open-window and closed-window exposure rates to determine submersion in an active plume?
   - Did FMTs take samples? What samples were taken?
   - Did field team record and report area surveys (ambient exposure rates) at multiple locations?
8. Collect representative air samples in the active plume on particulate media (e.g., glass or paper filter) and iodine selective media (e.g., silver zeolite cartridge).
   - Was air sampling accomplished at a flow rate between 1.5 cfm and 2 cfm to maintain maximum collection efficiencies of the particulate and iodine sampling media?
   - Was the ambient exposure rate monitored to note changes during air sampling? How often was the ambient exposure rate noted (e.g., beginning, mid-sampling, end-of-sampling, or continuously monitored)?
9. Handle sample media and equipment to avoid sample cross-contamination, contamination of equipment and personnel contamination.
   - What methods were used to prevent sample cross-contamination?
   - How were instruments and equipment used for sample counting handled to prevent spread of contamination?
   - How was radiologically contaminated waste handled?
10. Determine an appropriate low background location to count sample media.
    - What was the background counting rate in the low background location selected to count the samples in the field?

11. Count iodine and particulate media using appropriate and effective instrumentation and counting geometries or have samples analyzed by a supporting laboratory within four hours.
    - What instrument was used to count the media in the field?
    - What means were used to ensure an effective, repeatable counting geometry?
    - If samples were not counted in the field, what was the dedicated transportation means that ensured samples were analyzed by the supporting laboratory within four hours?
12. Report to field monitoring team manager all survey and counting results in format and units suitable for use by the organization's dose assessor.
    - Were results of surveys and, if taken, field results from air samples documented? How were they transmitted?
13. Procedures, qualified collection and counting efficiencies, and calculations are capable of detecting airborne radioactive iodine concentrations as low as 10-7 µCi/cc.
    - Was the flow rate, sample volume, counting efficiencies, and appropriate calculations performed to prove the ability to detect concentrations as low as 10-7 Ci/cc?
14. Preparation of packaging, sample identification, and chain-of-custody forms ensures integrity of samples throughout transportation and transfer.
    - Was packaging and handling adequate to prevent cross-contamination?
    - Was sample identification and chain-of-custody completed to maintain integrity of the samples?

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.

State Negotiated Extent of Play:
Measurements will be made by Department of Environmental Protection (DEP), Bureau of Radiation Protection (BRP), in accordance with the State Annex E, Appendix 6, and BRP Standard Implementing Procedures (IPs). Two mobile monitoring teams from BRP DEP Southeastern Regional Office will demonstrate ambient radiation monitoring and radioiodine and particulate sampling. Field teams will be equipped with appropriate dosimetry and KI. ***Field teams will NOT be evaluated by FEMA.*** *Each team will be directed to monitoring locations and perform actual or simulated radiation measurements at each location. Measurements may consist of truck installed radiation monitor or hand-held radiation instruments.* ***<u>An actual air sample will be taken at the R3V staging area prior to field team departure.</u>*** *Field teams will discuss air sample counting procedures via an interview process. 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.* *FEMA Observers will meet the field teams at Talen Energy Facility at East Mountain Business Center, 1190 East Mountain Boulevard, Wilkes-Barre, Pennsylvania 18702 on* ***October 18, 2022 at 1:30 p.m.***

Capability Target 4.3: Post-Plume Phase Measurements and Sampling *(Vice Sub-Element: 4.b.1)*
Core Capabilities: Environmental Response/Health and Safety; Planning

Recommended Evaluation Frequencies: At least once every 8-years
Recommended Assessment Activities: Exercise; Environmental Monitoring Drill (N.4.d)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (H.11, H.11.a, H.11.b, H.12, H.13, I.2, I.5, I.6, I.8, M.7, and O.1)
Intent: The capability to report measurements of ambient radiation and collect environmental, food, and drinking water samples for laboratory analyses that support decision-making.

Demonstration and Evaluation Guidance:

1. Maintain and prepare instruments, equipment, and supplies for use, including performing pre-operational checks of radiation survey instruments.
   - Did each FMT perform an operational check on each radiation survey instrument, including a source-response check which is compared to a known range of readings to confirm the instrument can properly measure radiation?
   - Did each FMT obtain a background radiation measurement with each radiation survey instrument before entering the affected area?
2. Use appropriate contamination control and PPE.
   - What sort of contamination controls and PPE was utilized?
3. Execute the sampling plan.
   - Were samples collected consistent with samples specified in the sampling plan?
4. Collect each type of sample necessary to assess the ingestion exposure pathway and to support reentry, relocation, and return decisions. The types of samples necessary are based on the exercise scenario and may include drinking water, soil, vegetation, milk, crops, or other agriculture samples.
   - Which types of samples did FMTs collect?
   - Were samples collected at the locations identified by the field team manager?
   - Did each FMT follow the appropriate procedure for collecting each type of sample?
5. Obtain and record ambient radiation measurements at each sample location and at other locations, as directed.
   - Was an ambient radiation measurement taken at each sample location?
6. Handle sample media to avoid sample cross-contamination and equipment/personnel contamination.
   - Did each FMT properly package each sample?
   - What precautions were taken to prevent cross-contamination of samples?
   - Did each FMT properly document each sample?
   - Was a chain-of-custody record created?
   - Was each sample assigned a unique identification number?
7. Prepare and package samples appropriately (e.g., geometries specific to those used in the processing samples, including sample identification, and chain-of-custody forms) to ensure the integrity of samples throughout transportation and transfer.
   - Did each FMT properly document each sample, including creating a chain-of-custody record? Was each sample assigned a unique identification number?
   - Were samples collected by the ORO at a central location (e.g., sample control point) or delivered directly to the laboratory?
   - Did sample control point personnel follow appropriate procedures for receiving samples?
   - Were chain-of-custody records properly maintained?
   - How were samples transported to the laboratory?

- Were any samples identified as having exposure rates or contamination levels too high to be accepted by a particular laboratory? If so, what was done with those samples?

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.

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

Capability Target 4.4: Laboratory Operations *(Vice Sub-Element: 4.c.1)*
Core Capabilities: Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: At least once every 8-years
Recommended Assessment Activities: Laboratory Drill (N.4.c)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (C.4, H.11, H.11.b, H.13, I.2, I.6, M.7, and O.1)
Intent: The capability to perform laboratory analyses of radioactivity in environmental, food, and drinking water samples to support decision-making.

Demonstration and Evaluation Guidance:

1. Prepare analytical equipment for use, including performing calibrations, quality control checks, and background counts, as appropriate.
   - Was the equipment used calibrated using standards traceable to the National Institute of Standards and Technology (NIST) in the appropriate geometries? Were quality control checks and background counts performed in accordance with procedures?
2. Receive and track samples, including completing chain-of-custody records.
   - Did laboratory personnel follow their procedures for receiving samples?
   - Were samples properly documented, including completing chain-of-custody records?
   - How were samples tracked throughout the analysis process?
3. Prepare and process each type of sample necessary to assess the ingestion plume exposure pathway and to support reentry, relocation, and return decisions. The types of samples necessary are based on the exercise scenario and may include drinking water, soil, vegetation, milk, crops, or other agriculture samples.
   - Which types of samples (e.g., air cartridge and filter, soil, vegetation, water, milk, crops, etc.) did the laboratory have the capability to analyze? What samples were processed during the demonstration?
   - Did laboratory personnel follow their procedures for sample preparation? What measures were taken to control contamination?
4. Analyze samples to determine the concentration of each radionuclide in each sample. Minimum detection limits (MDLs) for various radionuclides must be low enough to support ORO decisions.
   - Did the gamma spectroscopy systems use high-purity germanium detectors or another type? Did the software library include the radionuclides expected to be released during a nuclear power plant incident?
   - Did the laboratory have the capability to analyze samples for strontium-90? If so, how long would that analysis take? If not, did the ORO have plans in place to obtain such analysis?

- What count times were used? Were the MDLs for various radionuclides low enough to support ORO decisions?
- For food and milk samples, were the MDLs less than the FDA DILs?
- For soil samples, were the MDLs low enough to support relocation decisions?
- For drinking water samples, were MDLs lower than the EPA DRLs?
- Did the laboratory have radiation level or contamination level limits for incoming samples? If so, what happens to samples exceeding those limits?
- How many samples could the laboratory process in one day and in what order would samples be processed? Did the ORO have a method to identify priority samples?
- How would samples be stored after counting is completed? What methods would be used to prevent spoilage of perishable samples? Were storage locations shielded or located far enough away to prevent increased radiation levels near the counting equipment?

5. Provide analysis results to the appropriate organization.
   - How were counting results processed and reported to the ORO? Were results reported in appropriate units (e.g., soil sample results reported in units of activity per area, not in units of activity per weight)? Were results decay corrected to the sample collection time or to another time? Were results transmitted electronically or by hard copy?
6. If the laboratory is used to count air samples during the early phase of an incident and prepare, process, and analyze air filters and cartridges, provide analysis results in a timely manner to support ORO decisions.
   - If the laboratory would be used to count air samples during the early phase of an incident, what would be the approximate time from when a sample is collected by FMTs to when the results would be provided to the ORO?

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.

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

Capability Target 4.5: Plume Phase Analysis and Dose Assessment *(Vice Sub-Element: 2.b.1)*
Core Capabilities: Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (A.3, H.13, I.6, I.8, I.10, K.3, and O.1)
Intent: The capability to collect data, project doses to members of the public and emergency workers and analyze and communicate the results.

Demonstration and Evaluation Guidance:

1. Obtain adequate data to make dose projections.
   - What information was used to make dose projections?
   - Did the information include information/recommendations of the licensee, release data, and meteorological data?

2. Use software and/or other methods (e.g., manual calculations) to make dose projections for members of the public (both TED and thyroid dose) based on plant data.
   - What modeling system was used to make dose projections?
   - Did the ORO demonstrate the capability to use other methods, such as manual calculations?
3. Compare dose projections to members of the public to EPA PAGs.
   - Did the ORO make TED and thyroid dose projections available to members of the public based on information/ recommendations of the licensee, release data, and meteorological data?
   - Did the ORO compare dose projections to EPA PAGs and make PARs?
4. Compare dose projections to the public with those of the licensee and discuss differences greater than a factor of ten with the licensee and explain reasons for the difference.
   - Were differences in dose projection greater than a factor of ten discussed with the licensee? If so, were the differences resolved and considered in the PAR?
5. Make initial PARs based on recommendations of the licensee, release data, meteorological data, and other pertinent information.
   - Were initial PARs based on recommendations from the licensee, release data, meteorological data, and any other pertinent information? If not, what were the initial PARs based on?
6. Promptly communicate PARs to decision-makers.
   - How were PARs communicated to decision-makers?
   - How quickly were PARs communicated to decision-makers?
7. Receive ambient exposure rates from FMTs and compare to model projections.
   - Were ambient exposure rates received from FMTs and compared to modeled exposure rates?
8. Calculate iodine and particulate concentrations from FMT air samples.
   - Did the ORO calculate iodine and particulate concentrations from FMT air sample data?
9. Calculate plume ratios of noble gas, iodine's, and particulates, and compare to model projections.
   - Did the ORO calculate iodine and particulate concentrations from FMT air sample data?
10. Adjust PARs, as necessary, based on analysis of field data.
    - Did the ORO adjust PARs based on exposure rates measured by iodine and particulate ratios calculated from air samples collected by FMTs?
11. Calculate an incident-specific correction factor for emergency workers inside the plume exposure pathway EPZ.
    - Did the ORO calculate an incident-specific correction factor for emergency workers inside the plume exposure pathway EPZ?
    - Was the correction factor adjusted for emergency workers inside the plume exposure pathway EPZ based on air sample data collected by FMTs?
    - Was the incident-specific correction factor communicated to emergency workers inside the plume exposure pathway EPZ?

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.

State Negotiated Extent of Play:

If the scenario has no radiological release, or potential of a radiological release, the decision-making process used to make protective action decisions (PADs) can be addressed through an interview at the CRCC if required.

Capability Target 4.6: Post-Plume Phase Sampling Plan Development and Analysis *(Vice Sub-Element: New)*
Core Capabilities: Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: At least once every 8-years
Recommended Assessment Activities: Exercise; Environmental Monitoring Drill (N.4.d)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (A.3, H.13, I.2, I.6, I.8, I.10, J.12, J.14.b, J.14.c, K.3, M.7, M.8, and O.1)
Intent: The capability to identify and prioritize sampling, collect data, determine areas where relocation is recommended, identify food that is contaminated above federally approved limits, and analyze and communicate the results.

Demonstration and Evaluation Guidance:

1. Periodically conduct radiological assessment of public exposure.
   - What methods were used to assess public exposure and at what frequencies?
2. Estimate projected doses in contaminated areas and identify areas where projected doses exceed relocation PAGs.
   - Did the ORO calculate projected doses based on laboratory analyses of soil samples?
   - Did the ORO calculate a DRL for relocation for each area with a homogeneous radionuclide deposition mixture?
   - Were areas exceeding DRLs identified?
3. Develop and modify sampling plan to assess the radiological consequences of a release on the food and drinking water supplies.
   - How was the area of interest identified (e.g., depositions footprint)?
   - Did the ORO's assessment include an evaluation of the radiological analyses of representative samples of drinking water, food, and other ingestible substances of local interest from potentially impacted areas?
   - Did the ORO's assessment include a characterization of the releases from the facility?
   - Did the ORO's assessment include the extent of areas potentially impacted by the release?
4. Determine areas to be restricted based on factors such as mix of radionuclides in deposited materials, calculated exposure rates compared to PAGs, and analysis of vegetation and soil samples.
   - How were the boundaries of the deposition determined?
   - If deposition boundaries were determined by projections, how were the projected areas verified (e.g., field measurements, environmental sampling)?
5. Evaluate the radiological analyses of representative samples of drinking water, food, and other ingestible substances of local interest from potentially impacted areas.
   - Were the pre-determined DILs the same as the 1998 FDA DILs? If not what, were the differences? If other than the FDA DILs were used, what rationale was given for other decision criteria?
   - What projected doses were used to recommend protective actions for food, drinking water, and persons being relocated?

6. Compare radiological impacts of analysis on food and water and other representative samples to appropriate ingestion PAGs.
   - Did the ORO demonstrate the capability to obtain sample results from the specified laboratory?
   - Were results reported in appropriate units? (e.g., were soil sample results reported in units of activity per area—not in units of activity per weight?)
   - Were results decay corrected to the sample collection time or to some other time?

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.

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

OBJECTIVE 5 - Operate

Capability Target 5.1: Monitoring, Decontamination, Sheltering, and Registration of Evacuees *(Vice Sub-Element: 6.a.1; 6.c.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Mass Care; Planning
Recommended Evaluation Frequencies: Biennially*
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (J.11.d, J.13, K.4, and O.1)
Intent: The capability to implement radiological monitoring and decontamination of evacuees, and to identify, register, temporarily shelter, and provide congregate care for evacuees at reception centers.

Demonstration and Evaluation Guidance:

1. Set-up operations.
   - Was the facility set up and operational? Did it include route markings, instrumentation, record keeping, and contamination control measures?
   - Where did monitoring, decontamination, and registration of evacuees occur?
   - How was contamination minimized within the facility? What contamination control provisions were utilized?
   - What supplies were available to set up the facility?
   - What supplies were available to prevent, and control spread of contamination?
   - What personal protective supplies were available?
2. Operationally check instruments and equipment.
   - What types of monitoring instruments and equipment were available?
   - Were the instruments current in calibration?
   - Were instruments and equipment operationally checked using an appropriate check source against a known range of reading to verify proper operation?
   - Was an appropriate radioactive check source used to verify proper operational response for each low-range radiation measurement instrument?
   - Were background readings taken?
   - How were background radiation levels established?

Monitoring

1. Attain and sustain the overall monitoring productivity rate per hour needed to monitor 20 percent of the plume exposure pathway EPZ population, including transients, within a 12-hour period at each facility. The monitoring productivity rate per hour is the number of evacuees that can be monitored, per hour, per location, by the total complement of monitors using an appropriate procedure.
   - What is the total population, including transients, of the plume exposure pathway EPZ? What is 20 percent of that figure (the estimate of needed monitoring capability)?
   - What was the time for monitoring sequences for the first six simulated evacuees, per monitoring team (determine percentage)
   - Were evacuees monitored using hand-held survey instruments or portal monitors?

- If portal monitors were used, was a body survey made after triggering the portal monitor using hand-held instrument to locate, quantify, and isolate the exact location of the contamination?
- Where were portal monitors used?
- Was a minimum of six simulated evacuees and one-third of the equipment (at that facility) demonstrated?
- Were the monitoring sequences for these simulated evacuees timed by the evaluators to determine whether the monitoring productivity rate per hour can be met?
- Was the facility able to maintain the rate to monitor 20 percent?

Based on the demonstration, was the facility able to monitor 20 percent of anticipated evacuees within 12 hours? At this rate, is the facility going to meet the 20 percent goal?

2. Monitor evacuees, service animals, pets, vehicles, and possessions.
   - Was there an adequate number of personnel available to perform monitoring of vehicles and evacuees?
   - What are the provisions for monitoring service animals and pets?
   - What were the provisions for individuals who had completed monitoring (and decontamination, if needed)?
   - What means were used to indicate that evacuees, and their service animals, pets, possessions, and vehicles, have been monitored, cleared, and found to have no contamination or contamination below the trigger/action level indicated (e.g., hand stamp, sticker, bracelet, form, etc.)?
3. Utilize trigger/action levels for determining the need for decontamination.
   - Did monitoring personnel use trigger/action levels to determine the need for decontamination?
   - What trigger or action levels were identified?

Decontamination

1. Decontaminate evacuees, and personal belongings, while limiting the spread of contamination.
   - What provisions were in place to ensure privacy?
   - What is the process for providing modesty garments to evacuees?
   - How was decontamination conducted for small areas of contamination?
   - How were contaminated individuals separated from non-contaminated individuals?
   - How are contaminated clothing and other personal belongings handled?
   - What contamination control procedures were utilized?
   - Were provisions made to collect contaminated waste and to prevent it from increasing the background radiation levels near portal monitors and survey equipment?
   - What is the process to indicate that an individual has been monitored and, if necessary, decontaminated (e.g., hand stamp, sticker, bracelet, form, etc.)?
2. Follow-up with any evacuee(s) who cannot be appropriately decontaminated for assessment; ensure the capability to provide evacuee-referrals.
   - What procedures were used if evacuees could not be adequately decontaminated?
   - What was the follow-up and associated assessment process for those evacuees who could not appropriately be decontaminated?

Vehicles

1. Monitor and decontaminate vehicles.

- How are vehicles monitored? Were the following monitored: air intake systems, radiator grills, bumpers, wheel wells, tires, and door handles?
- What procedures were demonstrated for vehicle monitoring?
- Was at least one vehicle monitored?
- Was there adequate space for the expected number of vehicles (space must be observed by evaluator)?
- How are vehicles decontaminated?
- What contamination control procedures were utilized?

2. Provide adequate, separate space for both contaminated and non-contaminated vehicles.
   - Was there appropriate space for vehicle parking of both contaminated and non-contaminated vehicles?
   - How were non-contaminated vehicles separated from contaminated or not-yet-monitored vehicles?
3. Monitor emergency worker personnel and their equipment and vehicles for contamination.
   - Was there adequate space for evacuee vehicles at the facility?
   - Were there an adequate number of personnel trained to operate monitoring equipment at the facility?
   - What provisions were in place to ensure privacy?
4. Decontaminate evacuee vehicles based on trigger/action levels.
   - What is the action level for determining the need for decontamination of vehicles?
   - What process is used to decontaminate vehicles?
   - What was done when an evacuee's vehicle could not be successfully decontaminated?

Sheltering and Congregate Care

1. Coordinate for incoming evacuees who have been monitored and, if necessary, decontaminated.
   - How was coordination amongst and between congregate care facilities/mass care for those evacuees that have already been monitored and, if necessary, decontaminated?
   - What identifier was used for those evacuees (and where applicable, service animals, pets, and vehicles) who had been monitored, decontaminated as appropriate, and registered?
2. Establish shelter operations.
   - What is the process for determining if evacuees, service animals, and pets had been monitored for contamination, decontaminated as appropriate, and registered before entering the facility?
   - Did the staff check for arriving individual's confirmation of monitoring/decontamination?
   - Did the ORO appropriately plan for the population expected at this location?
3. Congregate care centers and operations in host/support jurisdictions are sufficient to support the expected number of evacuees.
   - What agency (or agencies) is responsible for managing the congregate care center?
   - What is the capacity of the congregate care center?
   - What resources were available for evacuees (real or simulated) arriving at the congregate care center?

Registration

1. Register evacuees.
   - What is the process to register evacuees after they have completed the monitoring and decontamination process?

- Did the record contain the individual's name, address, results of monitoring, and time of any decontamination needed?
- What organization(s) registered evacuees upon completion of monitoring and decontamination?
- What is the process for registering evacuees?
- Was a registration record established for each individual?

2. Ensure the registration area is clean and controlled.
   - Was the access to the clean registration area controlled adequately? How?

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.

*****Exercise participation may be rotated among facilities, but each facility designated in the plan must be evaluated no less than once every eight years.

State Negotiated Extent of Play:
Radiological monitoring demonstration sites should possess a roster of the monitoring personnel required to process the population allocated to the facility within a 12-hour period. *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.* ***Use of water will be simulated; no actual water will be used.*** *Radiological monitoring of the public may be co-located at either reception centers or mass care centers depending on the county plan.* ***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. Note: Co-located facilities do not require strip maps or written directions, the process will be done by interview.* ***Mass care centers and mass care monitoring/decontamination centers*** *will be demonstrated per Attachment A during the out-of-sequence window. The counties will provide space at designated mass care centers for operation of monitoring/decontamination centers. Schematics of these monitoring/decontamination centers will be available to show the organization and layout within the facility and space management for monitoring and decontamination. Procedures will be demonstrated to show the separation of contaminated and non-contaminated (clean) individuals to minimize cross contamination.* ***At the evacuee monitoring/decontamination centers (if using hand-held meters),*** *a minimum of six (6) volunteer evacuees will be monitored (or one volunteer evacuee may be monitored six times).* ***Centers using portal monitors are also required to demonstrate,*** *a minimum of six (6) volunteer evacuees, 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.*

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, see below.***

At the emergency worker monitoring/decontamination stations*, two (2) emergency workers will be monitored, or one emergency worker may be monitored two times. 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.***

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 Interim Annex E letter, April 2009 or superseding document shall apply.*

Monitoring/decontamination centers and 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. Simulated permanent record dosimeters (PRDs) will be worn.

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 pad (if used). Long runs of plastic covered with paper will not be demonstrated, but the materials may be available and explained (as appropriate). Positioning of a fire apparatus on-site may be simulated if otherwise required.

Counties demonstrating the operation of mass care centers during the out-of-sequence events will provide floor plans of the mass care centers 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)

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 responsible American Red Cross

*chapter will show the source and quantities, by job functional description, to be provided to mass care centers to support the 24-hour operation. The responsible Red Cross Chapter(s) will be visited, or telephonically contacted during business hours on September 26th and 27th***,** 2022, *by an exercise evaluator, or interviewed at the mass care center (as appropriate) during the out-of-sequence evaluation to provide information regarding the 24-hour operation. 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 and a list provided if available.* ***This out-of-sequence demonstration window will be on September 26, 2022 at Lackawanna County and on September 27, 2022 at Union County 6:00 p.m. – 9:30 p.m.***
****** *Re-demonstrations may be performed as appropriate and if time permitting. Those facilities identified for the FEMA walk-down evaluations will be supported by a participating representative from the appropriate Red Cross Chapter(s). An interview process will be conducted to determine facility compliance of the above stated requirements. The walkdowns will held on during the week of September 26, 2022.*

AMERICAN RED CROSS CHAPTERS POINTS OF CONTACTS AS FOLLOW:

Columbia County – Edna Reinard / edna.reinard@redcross.org

Luzerne County – Kate Crowley / kate.crowley@redcross.org

Lycoming County – Chriss Schultz / chriss.schultz@redcross.org

Capability Target 5.2: Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles *(Vice Sub-Element: 6.b.1*)
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (K.4 and O.1)
Intent: The capability to implement radiological monitoring and decontamination of emergency workers, equipment, and vehicles.

Demonstration and Evaluation Guidance:

1. Set-up operations.
   - Where will monitoring and decontamination of emergency workers occur?
   - Where will emergency workers' equipment be monitored and decontaminated?
   - Was the facility set up and operational? Did it include route markings, instrumentation, record keeping, and contamination control measures?

- What supplies were available to set up the facility?
- What supplies were available to prevent, and control spread of contamination?
- What personal protective supplies were available?
- How was contamination minimized within the facility?
- What contamination control provisions were utilized?

2. Operationally check instruments and equipment.
   - Were the instruments current in calibration?
   - Were instruments and equipment operationally checked using an appropriate check source against a known range of reading to verify proper operation?
   - Was an appropriate radioactive check source used to verify proper operational response for each low-range radiation measurement instrument?
   - Were background readings taken?
   - How were background radiation levels established?
3. Monitor emergency worker personnel and their equipment and vehicles for contamination.
   - Was there adequate space for emergency workers at the facility?
   - Were there an adequate number of personnel trained to operate monitoring equipment at the facility?
   - During vehicle monitoring, were the following monitored: air intake systems, radiator grills, bumpers, wheel wells, tires, and door handles?
   - What provisions were in place to ensure privacy?
4. Decontaminate emergency worker personnel and their equipment and vehicles based on trigger/action levels.
   - What is the action level for determining the need for decontamination of personnel, equipment, and vehicles?
   - What process is used to decontaminate personnel, equipment, and vehicles?
   - How was decontamination conducted for small areas of contamination?
   - What was done when an emergency worker could not be successfully decontaminated?
5. Control the spread of contamination.
   - What procedures are used to minimize contamination within the facility?
   - How are contaminated emergency workers separated from non-contaminated emergency workers?
   - How are contaminated clothing and other personal belongings addressed? Will clean clothing be provided to emergency workers?
   - Were contamination control procedures, including storage of contaminated clothing and possessions followed?
6. Create and maintain a record of monitoring and decontaminating workers upon completion of monitoring and decontamination activities.
   - Was a record of monitoring and decontamination (if necessary) kept for each emergency worker?
7. Process for prioritizing emergency workers and equipment before the public in facilities where the public and emergency workers are both processed for contamination.
   - What is the process for prioritizing emergency workers and equipment before the public in facilities where the public and emergency workers are both processed for contamination?

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.

*Exercise participation may be rotated among facilities, but each facility designated in the plan must be evaluated no less than once every eight years.

State Negotiated Extent of Play:
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. Schematics of these monitoring/decontamination stations will be available to show organization and space management within the facility. The evaluator will request that decontamination procedures be explained after the vehicle which has simulated contamination has been monitored. One radiological survey meter will be issued to each 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 including clearly defined exit areas, per contamination control procedures and/or step-off pads (if used); with the exception of long runs of plastic covered with paper which will not be demonstrated, but the materials may be available and explained (as appropriate.). *Decontamination capabilities, and provisions for vehicles and equipment that cannot be decontaminated, will be simulated, and conducted by interview. Water will **NOT** be used.* ***Note:** Re-demonstrations may be performed as appropriate and time permitting.*

Capability Target 5.3: Transportation and Treatment of Contaminated, Injured Individuals *(Vice Sub-Element: 6.d.1)*
Core Capabilities: Environmental Response/Health and Safety; Public Health, Healthcare, Emergency Medical Services; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Medical Services Drill (N.4.b)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (C.2.d, F.2, H.11, H.12, J.2, K.3, K.4, L.1, L.3, L.4, and O.1)
Intent: The capability to provide medical transport and treatment services to contaminated, injured individuals.

Demonstration and Evaluation Guidance:

Transportation

1. Transport contaminated, injured individuals to medical facilities.
   - Who dispatched the medical transport provider and what information was provided?
   - Did the appropriate briefings occur? What was contained in the briefings?
   - Which agency or agencies demonstrated the transportation of contaminated, injured individuals to appropriate medical facilities?

- What type of vehicle was used for the transportation of the contaminated, injured individuals?
- Was the site of pick-up in a potentially contaminated area? If so, what precautions were taken?
- How did the medical transport provider know to take radiological precautions with the contaminated, injured individual?
- Was the contaminated, injured individual monitored for radiological contamination before arrival or during initial evaluation by the transport provider?
- Who did the monitoring?
- What survey instruments were used?
- Were the instruments current in calibration?
- Did medical care take priority over monitoring?
- Were instruments and equipment operationally checked using an appropriate check source against a known range of reading to verify proper operation?
- What contamination control measures were taken by the medical transport crew?
- How was the patient transferred from the medical transport vehicle to the medical facility?
- Were accident scene survey records transferred to the medical facility staff? Was the transfer made taking care not to spread contamination?
- Was the medical transport crew knowledgeable about where the medical transport vehicle (or other transport vehicle) and crew would be monitored and decontaminated?
- Where and by whom will the medical transport crew and medical transport vehicle (or other transport vehicle) be monitored and decontaminated, if required?

2. Maintain communications between the medical transportation provider and the receiving medical facility.
   - What communications occurred between the medical transport crew and the receiving hospital? How?

Medical Facility

1. Operationally check instruments and equipment.
   - How were background measurements obtained on a continuous basis?
   - What survey instruments were used?
   - Were the instruments current in calibration?
   - Were instruments and equipment operationally checked using an appropriate check source against a known range of reading to verify proper operation?
   - Was an appropriate radioactive check source used to verify proper operational response for each low-range radiation measurement instrument?
   - Did the receiving facility personnel don the appropriate PPE in accordance with procedures and in a manner to prevent the spread of contamination?
2. Set-up, activate, and operate an REA.
   - How was the hospital notified to establish a REA? With regard to the REA, what information was provided to the medical facility by the medical transport crew?
   - Were staff, equipment, and supplies readily available for monitoring and decontamination, and setting up the REA?
   - How was access into the REA controlled?
   - Did urgent medical care take precedence over monitoring, decontamination, and contamination control efforts by facility medical staff?

- Who performed and/or supervised treatment of contaminated, injured individuals?
- What equipment and supplies were available for treatment of contaminated, injured individuals?
- How were items assured to be free of contamination before they were transferred out of the REA to the clean area?
- After treatment and decontamination, how was the individual transferred out of the REA?
- How did the staff exit the REA?
- Was a doffing procedure correctly implemented?
- Was the REA, and equipment within, monitored for contamination prior to returning it to normal operations?

3. Monitor and decontaminate the individual, equipment, and other items.
   - How were monitoring (i.e., survey measurements and samples) results documented and recorded?
   - Did the medical staff make decisions on the need for decontamination of the individual and follow appropriate decontamination procedures?
   - What contamination threshold triggers the need for decontamination of the individual?
   - What methods were used to decontaminate the potentially contaminated individual (once that person is medically stabilized)? Were decontamination methods progressive (e.g., mild decontamination used prior to scrubbing)?
   - What procedure was used if decontamination was not successful?
   - What methods were used to collect and analyze samples, including swabs and skin wipes?
   - Who did the monitoring? What equipment was used?
   - What records were maintained with regard to survey and decontamination?
   - What was the procedure for handling, decontaminating, and storage of contaminated items?
   - What was the action level to determine if equipment was contaminated or not?
   - Who decontaminated the equipment and other items?
   - How was wastewater from decontamination operations handled?
   - What contamination control measures were taken?

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.

State Negotiated Extent of Play:
This sub-element was evaluated at UPMC Williamsport Hospital on November 4, 2021.

Capability Target 5.4: Traffic and Access Control *(Vice Sub-Element: 3.d.1; 3.d.2)*
Core Capabilities: Critical Transportation; Access Control/Identity Verification; Environmental Response/Health and Safety; On-Scene Security, Protection, and Law Enforcement; Operational Coordination; Planning; Situational Assessment.
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (H.12, J.8, J.8.b, J.10, J.10.a, J.11.c, J.11.e, J.11.f, J.14.d, J.14.e, M.1.b, and O.1)
Intent: The capability to select, establish, and staff traffic and access control points and removing impediments to the flow of evacuation traffic.

Demonstration and Evaluation Guidance:

1. Select, establish, and staff appropriate TCP/ACPs, consistent with current conditions and PADs (e.g., evacuating, sheltering, and relocation), in a timely manner.
   - Were there pre-identified TCPs/ACPs in the plan?
   - What was the basis for determining the location of TCPs/ACPs (e.g., evacuation of area, danger in area, etc.)?
   - At what ECL were TCPs/ACPs established?
   - Who was responsible for establishing traffic routes and/or TCPs/ACPs?
   - Who deployed TCP/ACP personnel to the assigned location?
   - Were necessary resources available when needed?
   - Were there any gaps identified between the TCP/ACP resources needed and the resources available? If so, what alternate resource providers were identified, and resources provided?
   - Were TCPs/ACPs identified, staffed, and established in timely manner?
2. Provide instructions to TAC staff on actions to take, including when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled.
   - Did the TCP/ACP staff receive an emergency worker briefing? If so, what did the briefing include?
   - When PADs expanded into the affected area, were TAC personnel relocated?
   - Were instructions provided to TCP/ACP staff on the modification of PADs?
   - Were TCP/ACP personnel able to provide the following information:
     - Location of TCPs/ACPs.
     - Location of reception/registration centers.
     - Location of emergency worker monitoring and decontamination center.
     - Equipment available (e.g., cones) to establish TCPs/ACPs.
     - The means used to verify emergency worker identification and access.
     - Their roles and responsibilities.
   - What plans/procedures were in place for verifying emergency worker identification and access authorization?
3. Contact the state or Federal agencies that have the authority for the different transportation modes (e.g., rail, water, and air traffic).
   - Who notified which agency for control of water, rail, and air traffic?
   - Were times and ECLs documented when rail, water, and air traffic access control were notified by the ORO?
   - What actions were requested? How were actions coordinated?
4. Identify and take appropriate actions concerning impediments that affect the evacuation and evacuation routes.
   - Were there impediments to evacuation? If so, where did the impediment occur on the evacuation route? Was the impediment on the evacuation route left in place for the remainder of the demonstration or was it removed?
   - Were appropriate actions for impediments that affected evacuation routes identified?
   - How were the resources to remove impediments to evacuation identified and coordinated? Was this done in a timely manner? What organizations assisted in impediment removal?
5. Make the decision to re-route traffic and coordinate with key decision-makers and the JIC to ensure the alternate route information is appropriately communicated to evacuees.

- What key decision-makers were involved in the coordinated effort to re-route traffic?
- Who made the decision to re-route traffic?
- What coordination occurred among various OROs, such as local law enforcement, state law enforcement, National Guard, and/or state and/or local transportation departments?
- What coordination occurred to alert the public of the need to take an alternate route?
- How and when was the public alerted to take an alternate route?
- Were decisions made in coordination with all agencies (both internal and external) involved?
- Was the messaging coordinated and consistent?

6. Establish procedures to control access to and monitor people and vehicles from the evacuated and restricted areas.
   - How did the ORO determine location of ACPs?
   - How was the area identified (e.g., ropes, fences, gates, etc.)?
   - What did the ORO do to control access to the restricted areas?
   - Which agencies have the responsibility to establish procedures to control access to evacuated and restricted areas?
7. Authorize reentry of individuals into the restricted areas.
   - What was the process to approve individuals to reenter the restricted areas?
   - How were individuals authorized to reenter the restricted areas?
   - What provisions were made to determine and control their exposure?
   - How were these individuals tracked to ensure they returned out of the restricted areas?
8. Establish exit procedures.
   - How were individuals, vehicles, and equipment monitored?
   - What was the decision-making guidance for decontamination?
   - What was the disposition of dosimeters, maintenance of the reentry radiation exposure records of dosimetry, and maintenance of emergency worker radiation exposure records?

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.

State 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. *OROs should demonstrate the capability, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. 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 <u>through controller inject or interview</u> 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)*

ATTACHMENT A
Susquehanna Steam Electric Station
Extent-of-Play Demonstration Tables

I. PLUME PHASE EXERCISE

A. Activities – October 18, 2022

1. School Exercise

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 FEMA. 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
Columbia	Berwick Area School District	Salem Elementary School
	Bloomsburg Area School District	Beaver Main Elementary School
Luzerne	Greater Nanticoke Area School District	Greater Nanticoke Area Senior High School
	Hazleton Area School District	Drums Elementary Middle School
	Northwest Area School District	Northwest Primary School

2. County Emergency Operations Centers (EOCs)

Time: Per Scenario

DEMONSTRATION FOR EOC MOBILIZATION FOR COUNTIES (Plume Phase Exercise)		
County	**Date**	**Time**
Columbia	October 18, 2022	5:00 p.m. to 9:00 p.m.
Luzerne	October 18, 2022	5:00 p.m. to 9:00 p.m.
Lackawanna	October 18, 2022	5:00 p.m. to 9:00 p.m.
Lycoming	October 18, 2022	5:00 p.m. to 9:00 p.m.
Northumberland	October 18, 2022	5:00 p.m. to 9:00 p.m.
Schuylkill	October 18, 2022	5:00 p.m. to 9:00 p.m.

Union	October 18, 2022	5:00 p.m. to 9:00 p.m.
Wyoming	October 18, 2022	5:00 p.m. to 9:00 p.m.

3. Municipal Emergency Operations Centers (EOC)

Time: Per Scenario

DEMONSTRATION FOR EOC MOBILIZATION FOR MUNICIPALITIES (Plume Phase Exercise)		
RISK COUNTY	**MUNICIPALITY**	**DATE**
Columbia	Beaver Township	October 18, 2022
	Berwick Borough/Briar Creek Borough *	October 18, 2022
	Briar Creek Township	October 18, 2022
	Fishing Creek Township	October 18, 2022
	Mifflin Township (Traffic Impediment)	October 18, 2022
	North Centre Township	October 18, 2022
	South Centre Township (BU Route Alerting)	October 18, 2022
Luzerne	Black Creek Township (BU Route Alerting)	October 18, 2022
	Butler Township/Conyngham Borough *	October 18, 2022
	City of Nanticoke	October 18, 2022
	Conyngham Township	October 18, 2022
	Dorrance Township	October 18, 2022
	Hollenback Township	October 18, 2022
	Hunlock Township	October 18, 2022
	Huntington Township/New Columbus Borough *	October 18, 2022
Luzerne	Nescopeck Borough	October 18, 2022
	Nescopeck Township	October 18, 2022
	Newport Township (Traffic Impediment)	October 18, 2022
	Nuangola Borough	October 18, 2022
	Salem Township	October 18, 2022
	Shickshinny Borough	October 18, 2022
	Slocum Township	October 18, 2022
	Sugarloaf Township	October 18, 2022
	Union Township	October 18, 2022

Note: asterisk (*) locations are combined EOCs.

4. Traffic Control Points (October 18, 2022)

Columbia	Beaver Twp.	October 18, 2022
	Berwick Borough/Briar Creek Borough	October 18, 2022
	Briar Creek Township	October 18, 2022
	Fishing Creek Township **(NO LOCAL TCP'S)**	No Evaluation Needed
	Mifflin Township **(Shared police – Evaluated in South Centre Twp.)**	No Evaluation Needed
	North Centre Township **(NO LOCAL TCP'S)**	No Evaluation Needed
	South Centre Township	October 18, 2022
Luzerne	Black Creek Twp	October 18, 2022
	Butler Twp/Conyngham Borough	October 18, 2022
	City of Nanticoke	October 18, 2022
	Conyngham Township	October 18, 2022
	Dorrance Township	October 18, 2022
	Hollenback Township	October 18, 2022
	Hunlock Township	October 18, 2022
	Huntington Twp/New Columbus Borough	October 18, 2022
	Nescopeck Borough	October 18, 2022
	Nescopeck Township	October 18, 2022
	Newport Township	October 18, 2022
	Nuangola Borough	October 18, 2022
	Salem Township	October 18, 2022
	Shickshinny Borough	October 18, 2022
	Slocum Township	October 18, 2022
	Sugarloaf Township	October 18, 2022
	Union Township	October 18, 2022

II. OUT OF SEQUENCE ACTIVITIES

A. Traffic and Access Control Points (October 19, 2022)

PENNSYLVANIA STATE POLICE (PSP)	
COUNTY	**PSP STATION**
Columbia	PSP Bloomsburg

a. The Pennsylvania State Police (PSP) will brief at the PSP Bloomsburg Barracks, 6850 Hidlay Church Road, Bloomsburg, Pennsylvania 17815. Those attending the briefing will not actually deploy to the TCP/ACPs.

b. The PSP briefing will be performed out-of-sequence in a demonstration window of 10:00 a.m. until 12:00 p.m. on October 19, 2022.

c. Each municipal/regional police force with a TCP assigned in its plan will demonstrate all preparation duties including TCP responsibilities and radiological briefing. Dispatch of persons to the TCP site will not occur during the exercise.

d. 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 evacuation route.

B. Reception Center/Mass Care/Mon Decon (September 26th and 27th)

Demonstration of Reception Center, Mass Care, Evacuee Mon Decon		
COUNTY	**DATE**	**TIME**
Lackawanna	September 26, 2022	6:00 p.m. – 8:00 p.m.
Union	September 27, 2022	6:00 p.m. – 8:00 p.m.

C. Emergency Worker Monitoring/Decontamination Stations (September 29th)

COUNTY	**LOCATION**	**DATE**	**TIME**
Luzerne	Sweet Valley Fire Department	September 29, 2022	6:00 p.m. – 8:00 p.m.

D. MASS CARE WALKDOWNS

COUNTY	**LOCATION**	**DATE**
Lycoming	Hughesville High School	September 26, 2022
Lycoming	Montoursville High School	September 26, 2022
Lycoming	Lycoming College	September 26, 2022
Wyoming	Lackawanna Trails Jr/Sr HS	September 28, 2022
Wyoming	Tunkhannock Admin	September 28, 2022

APPENDIX C: PARTICIPATING AGENCIES AND SITE MAPS

See PEMA Extent of Play in Appendix B.

APPENDIX D: DIRECTIONS/ADDRESSES

See Action Location Addresses Document provided by the Utility.

APPENDIX E: OPEN ISSUES

No Open Issues.

APPENDIX F: ACRONYMS

Acronym	Description
AAC	Accident Assessment Center
AAM	After-Action Meeting
AAR	After-Action Report
ACP	Access Control Point
ALARA	As Low As Reasonably Achievable
ALC	Annual Letter of Certification
ANS	Alert and Notification System
ANSI	American National Standards Institute
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
A-Team	Advisory Team for Environment, Food, and Health
BRP	Bureau of Radiation Protection
BURA	Back Up Route Alerting
SSES	Susquehanna Steam Electric Station
BZ	Buffer Zone
CAD	Computer Aided Display
C/E	Controller and Evaluator
CED	Committed Effective Dose
CC	Core Capabilties
CCC	Congregate Care Center
CDC	U.S. Center for Disease Control and Prevention
CCL	Core Capabilities List
CCNP	Cisco Certified Network Professional
CCNPP	Calvert Cliffs Nuclear Power Plant
C/E	Controller Evaluator
CDE	Committed Dose Equivalent
CDV	Civil Defense Victoreen
CERC	Corporate Emergency Response Center
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CNS	Commonwealth Notification System
C&O	Concepts and Objectives Meeting
CO	Communication Officer
COL	Combined Operating License
CPG	Comprehensive Preparedness Guide
CPM	Counts Per Minute
CRCC	Commonwealth Response Coordination Center
CST	Civil Support Team

DAC	Dose Assessment Coordinator
DAD	Digital Alarming Dosimetry
DAS	Director of Auxillary Services
DCPM	Disintegrating Counts Per Minute
DDHS	U.S. Department of Health and Human Services
DEMA	Delaware Emergency Management Agency
DHS	U.S. Department of Homeland Security
DIL	Derived Intervention Level
DIR	Disaster Initiated Review
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DRD	Direct Reading Dosimeter
DRF	Dosimetry Record Form
DRL	Derived Response Level
DSP	Delaware State Police
EA	Exception Area
EA	Exclusion Area
EA	External Affairs
EAC	Evacuation Assembly Center
EAL	Emergency Action Level
EARA	Exception Area Route Alerting
EAS	Emergency Alert System
EC	Emergency Coordinator
EEG	Exercise Evaluation Guide
ECL	Emergency Classification Level
ECO	Exposure Control Officer
EDE	Effective Dose Equivalent
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMnet	Emergency Management Network
EMS	Emergency Medical Services
ENS	Emergency Notification System
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Extent of Play
EPA	U.S. Environmental Protection Agency
EPT	Exercise Planning Team
EPZ	Emergency Planning Zone
ER	Emergency Room
ERDS	Emergency Response Data System
ERM	Emergency Response Manager

ERO	Emergency Response Organization
ERV	Emergency Response Vehicle
ESC	Emergency Services Coordinator
ESF	Emergency Support Function
ESP	Early Site Permit
ETA	Estimated Time of Arrival
ETE	Evacuation Time Estimate
EW	Emergency Workers
EWMDS	Emergency Worker Monitoring and Decontamination Station
ExPlan	Exercise Plan
FBI	Federal Bureau of Investigation
FCC	U.S. Federal Communications Commission
FD	Fire Department
FDA	U.S. Food and Drug Administration
FE	Functional Exerise
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FPE	Full Participation Exercise
FPM	Final Planning Meeting
FRMAC	Federal Radiological Monitoring Assessment Center
FRPCC	Federal Radiological Preparedness Coordinating Committee
FSE	Full Scale Exercise
FST	Field Sampling Team
FTC	Field Team Coordinator
GE	General Emergency
GIS	Geographic Information Systems
GM	Guidance Memorandum
G-M	Geiger-Mueller
GPS	Global Positioning System
Gy	Gray
HAB	Hostile Action Based
HAN	Health Alert Network
HHS	U.S. Health and Human Services
HazMat	Hazardous Materials
HF	High Frequency
HP	Health Physicist
HSEEP	Homeland Security Exercise and Evaluation Program
HSPD	Homeland Security Presidential Directive

IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IP	Improvement Plan
IPAWS	Integrated Public Alert and Warning System
IPM	Initial Planning Meeting
IPZ	Ingestion Pathway Zone
IWP	Initial Warning Point
JIC	Joint Information Center
JIS	Joint Information System
KI	Potassium Iodide
LCD	Liquid Crystal Display
LEOF	Local Emergency Operations Facility
LGS	Limerick Generating Station
LHD	Local Health Department
LOA	Letter of Agreement
MCC	Mass Care Center
MDDT	Mobile Data Display Terminal
MDE	Maryland Department of Environment
MDEM	Maryland Department of Emergency Management
MDT	Mobile Data Terminals
MJOC	Media Joint Operations Center
MHz	Megahertz
MIDAS	Meteorological Information Dose Assessment System
MOU	Memorandum of Understanding
MS-1	Medical Services Hospital
MSEL	Master Scenario Events List
MSP	Maryland State Police
NAPS	North Anna Power Station
NAWAS	National Warning System
NEP	National Exercise Program
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NNSA	National Nuclear Security Administration
NOAA	National Oceanic and Atmospheric Administration
NPD	National Preparedness Directorate
NOUE	Notification of Unusual Event
NPP	Nuclear Power Plant
NPS	National Preparedness System
NRC	U.S. Nuclear Regulatory Commission

NRIA	Nuclear Radiological Incident Annex
NUREG	Nuclear Regulatory
NWS	National Weather Service
OCA	Owner Controlled Area
OJT	On-The-Job Training
OOS	Out of Sequence
ORH	Office of Radiological Health
ORO	Offsite Response Organization
OSC	Operations Support Center
OSD	Optically Stimulated Dosimeter
OSHA	U.S. Occupational Safety and Health Administration
OSLD	Optically Stimulated Luminescence Dosimeter
PA	Public Affairs
PAD	Protective Action Decision
PAG	Protective Action Guideline
PAR	Protective Action Recommendation
PARA	Primary Area Route Alerting
PAZ	Protective Action Zone
PCA	Preliminary Capabilities Assessment
PBAPS	Peach Bottom Atomic Powers Station
PD	Police Department
PDAFN	Persons with Disabilities/Access and Funtional Needs
PED	Personal Electronic Dosimeter
PEMA	Pennsylvania Emergency Management Agency
PII	Personally Identifiable Information
PIO	Public Information Officer
PPD	Presidential Policy Directive
PPE	Personal Protective Equipment
PPP	Post-Plume Phase
PRA	Primary Route Alerting
PRD	Permanent Record Dosimeter
PS	Planning Standard
PSP	Pennsylvania State Police
R	Roentgen
RA	Regional Administrator
R/h	Roentgen per hour
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Services
RAD	Radiation Absorbed Dose
RAO	Radiation Assessment Officer

RC	Reception Center or Relocation Center
RDO	Radiation Defense Officer
REA	Radiation Emergency Area
REC	Radiation Exposure Control
REM	Roentgen Equivalent Man (rem)
REP	Radiological Emergency Plan
REPP	Radiological Emergency Preparedness Program
RERP	Radiological Emergency Response Plan
RHP	Radiological Health Program
RML	Radiological Mobile Laboratory
RO	Radiological Officer
ROO	Radiological Operations Officer
RPM	Radiological Emergency Preparedness Program Manual
RSO	Radiation Safety Oficer
RTF	Radiological Task Force
SA	Staging Area
SAC	Staging Area Coordinator
SAE	Site Area Emergency
SAIC	Science Applications International Corporation
SAM	Staging Area Manager
SAV	Staff Assistance Visit
SCBA	Self-Contained Breathing Apparatus
SEOC	State Emergency Operations Center
SERS	State Emergency Radio System
SEVAN	State Emergency Voice Activation Network
SFMT	State Field Monitoring Team
SHC	Salem Hope Creek
SIP	Shelter In Place
SIRS	Statewide Interoperability Radio System
SME	Subject Matter Expert
SO	State Official
SOP	Standard Operating Procedure
SPS	Surry Power Station
SRO	School Resources Officer
SSES	Susquehanna Steam Electric Station
SSO	Social Services Officer
STARS	Statewide Area Radio System
SPS	Surry Power Station
Sv	Sievert (sv)
SWAN	State Warning Alert Notification
TAC	Technical Assistance Center

TACP	Traffic and Access Control Point
TCP	Traffic Control Point
TED	Total Effective Dose (whole body dose)
TEDE	Total Effective Dose Equivalent
TEP	Training and Exercise Plan
TEPW	Training and Exercise Planning Workshop
THD	Technological Hazards Division
THIRA	Threat and Hazard Identification and Risk Assessment
TLD	Thermoluminescent Dosimeter
TMI	Three Mile Island
TO	Transportation Officer
TSC	Technical Support Center
TTD/TTY	Telecommunication Device for the Deaf/TeleType
TTX	Tabletop Exercise
UEM	Utility Emergency Manager
USDA	U.S. Department of Agriculture
UTL	Universal Task List
VDEM	Virginia Department of Emergency Management
VDH	Virginia Department of Health
VDOT	Virginia Department of Transportation
VEOC	Virginia Emergency Operations Center
VERT	Virginia Emergency Response Team
VEST	Virginia Emergency Support Team
VHF	Very High Frequency
VMS	Variable Message Sign
VSP	Virginia State Police
VOAD	Voluntary Organizations Active in Disaster
VOIP	Voice Over Internet Protocol
WEA	Wireless Emergency Alerts
WVDEP	West Virginia Department of Environmental Protection
WVDHHR	West Virginia Department of Health and Human Resources
WVDHSEM	West Virginia Division of Homeland Security and Emergency Management
WVSP	West Virginia State Police