Limerick Generating Station
Pottstown, Pennsylvania
After Action Report

Exercise Date – September 26, 2023
Radiological Emergency Preparedness (REP) Program

December 11, 2023

FEMA

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Executive Summary

On September 26, 2023, a full participation Hostile Action Based Plume Exposure Pathway exercise was conducted and evaluated for the 10-Mile Emergency Planning Zone (EPZ) around the Limerick Generating Station (LGS) by the U.S. Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), Region 3. The previous full-participation Plume Exercise at this site was evaluated on November 16, 2021.

Out-of-Sequence demonstrations were conducted on October 16, and 19, 2023. The purpose of the Exercise and Out-of-Sequence demonstrations 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 LGS. 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, two Level 2 Findings, and four Plan Issues. The Level 2 Finding assessed to the Daniel Boone Area School District was successfully redemonstrated during the exercise and is closed. The Level 2 Finding assessed to the Skippack Township Back-Up Route Alerting Team was successfully redemonstrated on November 29, 2023, after plans were revised and is now closed. The Level 1 Finding assessed to Boyertown/Colebrookdale Borough was successfully redemonstrated on November 8, 2023, and is now closed. The four Plan Issues remain open at the time of publication of this report.

A Level 1 Finding is defined by the FEMA Radiological Emergency Preparedness (REP) Program Manual as follows: “An observed or identified inadequacy of organizational performance in an assessment activity 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 assessment activity 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.”

FEMA wishes to acknowledge the efforts of the many individuals in the Commonwealth of Pennsylvania, and the three risk jurisdictions of Berks County, Chester County, and Montgomery County, and the two support jurisdictions of Bucks County, and Lehigh 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 Details,” “Planning Team Leadership,” and the “Participating Organizations.”

Section 2 of this report entitled “Exercise Design Summary” includes the “Exercise Purpose and Design,” “Exercise Objectives and Core Capabilities,” and the “Exercise Scenario Summary.”

Section 3 of this report entitled “Analysis of Capabilities” presents detailed “Exercise Evaluation and Results,” “Exercise Summary Results of Evaluation,” and “Capability Target Evaluation Summaries” which provide information on the demonstration for each jurisdiction or functional entity evaluated in a jurisdiction-based, issue-only format.

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.

Section 1: Exercise Overview

1.1. Exercise Details

Exercise Name
Limerick Generating Station Radiological Emergency Preparedness Exercise

Type of Exercise
Plume

Exercise Date
September 26, 2023

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Hostile Action Based with Radiological Release

1.2. Planning Team Leadership

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1.3. Participating Organizations

Agencies and organizations of the following jurisdictions participated in the LGS exercise:

State Jurisdiction

Commonwealth Response Coordination Center

- American Red Cross
- Pennsylvania Auxiliary Communications Program
- Pennsylvania Bureau of Radiation Protection
- Pennsylvania Department of Agriculture

- Pennsylvania Department of Corrections
- Pennsylvania Department of Education
- Pennsylvania Department of Environmental Protection
- Pennsylvania Department of General Services
- Pennsylvania Department of Human Services
- Pennsylvania Department of Labor and Industry
- Pennsylvania Department of Revenue
- Pennsylvania Department of State
- Pennsylvania Department of Transportation
- Pennsylvania Emergency Management Agency
- Pennsylvania Fish and Boat Commission
- Pennsylvania Office of Administration
- Pennsylvania Public Utility Commission
- Pennsylvania State Police

Risk-Area Jurisdictions

Berks County

- American Red Cross
- Berks County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Berks County Commissioners
- Berks County Department of Agriculture
- Berks County Emergency Management Office
- Berks County Emergency Medical Services
- Berks County Emergency Services
- Berks County Emergency Worker Monitoring/Decontamination Station at Oley Township Municipal Building
- Berks County Evacuee Monitoring/Decontamination Station at Wilson High School Lower House
- Berks County Mass Care Assessment at Wilson High School Upper House
- Berks County Mass Care Center at Wilson High School Lower House
- Berks County Police Department
- Berks County Public Information Office
- Berks County Reception Center at Oley Township Municipal Building
- Berks County Sheriff's Office
- Boyertown Area School District
- Boyertown Area School District, Boyertown Area Senior High School
- Boyertown Area School District, Boyertown Middle School West
- Daniel Boone Area School District
- Oley Fire Company
- Oley Fire and Rescue (Ambulance)
- Pennsylvania Department of Transportation
- Spring Township Fire and Rescue
- Wyomissing Fire Department

Amity Township

- Amity Township Emergency Management Office

Boyertown/Colebrookdale Township
- Boyertown/Colebrookdale Township Emergency Management Office

Douglass Township
- Amity Volunteer Fire Company
- Berks County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Douglass Township Administrator
- Douglass Township Emergency Management Office
- Douglass Township Police Department

Earl Township
- Earl Township Emergency Management Office

Union Township
- Berks County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Tower Direct Ambulance
- Union Township Department of Conservation & Water Resources
- Union Township Emergency Management Office

(BWB) Washington Township
- Berks County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Eastern Berks Volunteer Fire Department
- Valley Emergency Medical Services
- Washington Township Board of Supervisors
- Washington Township Department of Public Works
- Washington Township Department of Transportation

Chester County
- American Red Cross
- Downingtown Area School District
- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Chester County 911 Center
- Chester County Commissioners Office
- Chester County Department of Emergency Services
- Chester County Department of Information Services
- Chester County Detectives Office
- Chester County Evacuee Monitoring/Decontamination Station at West Whiteland Township Building
- Chester County Hazardous Material Team
- Chester County Health Department
- Chester County Reception Center at West Whiteland Township Building
- Great Valley School District
- Lancaster County Department of Emergency Services
- Owen J. Roberts School District
- Owen J. Roberts School District, Owen J. Roberts High School
- Owen J. Roberts School District, Owen J. Roberts Middle School

- Owen J. Roberts School District, West Vincent Elementary School
- Phoenixville Area School District
- Phoenixville Area School District, Barkley Elementary School
- Phoenixville Area School District, Manavon Elementary School
- Phoenixville Area School District, Schuylkill Elementary School
- Phoenixville Area School District, Phoenixville Area Early Learning Center

Charlestown Township

- Charlestown Township Emergency Management Office
- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- East Whiteland Fire Company EMS Station
- West End Fire Company EMS Station

East Coventry Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- East Coventry Board of Supervisors
- East Coventry Emergency Management Office
- East Coventry Township Department of Public Works
- East Coventry Township Police Department
- Ridge Fire Company

East Nantmeal Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Chester County Hazmat Station 15
- East Nantmeal Township Emergency Management Office
- Glenmoore Fire Company Engine 48

East Pikeland Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- East Pikeland Township Board of Supervisors
- East Pikeland Township Emergency Management Office
- East Pikeland Township Hazmat
- East Pikeland Township Police Department
- East Pikeland Township Public Safety
- East Pikeland Township Public Works
- Kimberton Fire Company

East Vincent Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- East Vincent Township Emergency Management Office
- East Vincent Township Department of Public Works
- East Vincent Township Fire Department
- East Vincent Township Police Department

North Coventry Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Goodwill Emergency Medical Services
- Norco Fire Company
- North Coventry Township Emergency Management Office
- North Coventry Township Fire Marshall
- North Coventry Township Manager
- North Coventry Township Police Department
- North Coventry Township Public Works
- North Coventry Township Roadmaster

Phoenixville Borough

- Phoenixville Emergency Management Office
- Phoenixville Fire Department
- Phoenixville Police Department
- Phoenixville Public Works

Schuylkill Township

- Schuylkill Township Emergency Management Office
- Schuylkill Township Fire Department
- Schuylkill Township Public Health Services

South Coventry Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- South Coventry Township Emergency Management Office

Spring City Borough

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Liberty Steam Fire Engine Company #1
- Spring City Borough Council
- Spring City Borough Public Services

Upper Uwchlan Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Lionville Volunteer Fire Company
- Upper Uwchlan Township Board of Supervisors
- Upper Uwchlan Township Emergency Management Office
- Upper Uwchlan Township Police Department

Uwchlan Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Uwchlan Township Board of Supervisors
- Uwchlan Township Department of Public Works

- Uwchlan Township Emergency Management Office
- Uwchlan Township Fire Department
- Uwchlan Township Police Department

Warwick Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Warwick Township Emergency Management Office

West Pikeland Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- West Pikeland Township Board of Supervisors
- West Pikeland Township Emergency Management Office
- West Pikeland Township Police Department

West Vincent Township

- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- West Vincent Township Emergency Management Office
- West Vincent Township Fire Department
- West Vincent Township Police Department
- West Vincent Township Public Works

Montgomery County

- American Red Cross
- Methacton School District
- Methacton School District, Eagleville Elementary School
- Methacton School District, Methacton Senior High School
- Methacton School District, Woodland Elementary School
- Montgomery County 911 Center
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services
- Montgomery County Department of Public Safety
- Montgomery County Division of Emergency Management
- Montgomery County Emergency Worker Monitoring/Decontamination Station at Indian Valley Middle School
- Montgomery County Evacuee Monitoring/Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department
- Montgomery County Hazardous Materials Response Team
- Montgomery County Incident Support Team
- Montgomery County Reception Center at Montgomery Mall demonstrated at Montgomery Township Fire Department
- Montgomery County Urban Search and Rescue Unit
- Montgomery Township Fire Department
- Perkiomen Valley School District
- Perkiomen Valley School District, Perkiomen Valley Middle School East
- Perkiomen Valley School District, South Elementary School

- Pottsgrove School District
- Pottsgrove School District, Pottsgrove High School
- Pottsgrove School District, West Pottsgrove Elementary School
- Pottstown School District
- Pottstown School District, Lincoln Elementary School
- Pottstown School District, Pottstown High School
- Souderton Area School District
- Souderton Area School District, Salford Hills Elementary School
- Spring-Ford Area School District
- Spring-Ford Area School District, 5th and 6th Grade Center
- Spring-Ford Area School District, 7th Grade Center
- Spring-Ford Area School District, 8th Grade Center
- Spring-Ford Area School District, Spring-Ford High School (10th-12th)
- Spring-Ford Area School District, Upper Providence Elementary School
- Telford Diving and Search and Rescue Unit
- Upper Perkiomen School District
- Upper Perkiomen School District, Marlborough Elementary School

Collegeville Borough

- Collegeville Borough Emergency Management
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services

Douglass Township

- Douglass Township Public Works
- Douglass Township Emergency Management Agency
- Gilbertsville Ambulance
- Gilbertsville Board of Directors
- Gilbertsville Fire Department
- Gilbertsville Police Department
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services

Greenlane-Marlborough Township

- Greenlane-Marlborough Township Emergency Management

Limerick Township

- Freedom Valley Medical Rescue
- Limerick Township Department of Administration
- Limerick Township Department of Code Enforcement
- Limerick Township Department of Parks & Recreation
- Limerick Township Department of Planning & Zoning
- Limerick Township Emergency Management
- Limerick Township Fire Department
- Limerick Township Police Department
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services
- Royersford Ambulance

Lower Frederick Township
- Lower Frederick Township Emergency Management
- Lower Frederick Township Manager
- Lower Frederick Township Police Department
- Lower Frederick Township Public Works Department
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services

Lower Pottsgrove Township
- Lower Pottsgrove Township Commissioners
- Lower Pottsgrove Township Emergency Management
- Lower Pottsgrove Township Manager
- Lower Pottsgrove Township Police Department
- Lower Pottsgrove Township Public Works Department
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services
- Sanatoga Volunteer Fire Department

Lower Providence Township
- Lower Providence Township Emergency Medical Services
- Lower Providence Volunteer Fire Company
- Lower Providence Township Fire Marshal/Emergency Management
- Lower Providence Township Police Department
- Lower Providence Township Public Works
- Lower Providence Volunteer Fire Company
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services

Lower Salford Township
- Lower Salford Township Emergency Management

New Hanover Township
- New Hanover Township Emergency Management

Perkiomen Township
- Perkiomen Township Board of Supervisors
- Perkiomen Township Citizen Volunteers
- Perkiomen Township Department of Code Enforcement
- Perkiomen Township Department of Parks & Recreation
- Perkiomen Township Department of Public Works
- Perkiomen Township Emergency Management
- Perkiomen Township Volunteer Fire Company

Pottstown Borough
- Pottstown Borough Emergency Management

Schwenksville Borough

- Lower Frederick Volunteer Fire Department
- Schwenksville Borough Emergency Management
- Schwenksville Borough Manager
- Schwenksville Borough Secretary
- Schwenksville Borough Public Health
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services

Skippack Township

- Skippack Township Emergency Management

Upper Pottsgrove

- Upper Pottsgrove Township Administration
- Upper Pottsgrove Township Emergency Management
- Upper Pottsgrove Township Fire Company
- Upper Pottsgrove Township Police Department
- Upper Pottsgrove Township Public Works Department
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services

Upper Providence Township & Trappe Borough

- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services
- Spring-Ford Police Department
- Trappe Borough Board of Supervisors
- Upper Providence Township Board of Supervisors
- Upper Providence Township Emergency Management Agency
- Upper Providence Township Fire Fighting
- Upper Providence Township Human Resources
- Upper Providence Township Parks and Recreation
- Upper Providence Township Public Health and Medical Services
- Upper Providence Township Planning & Zoning
- Upper Providence Township Public Safety and Security
- Upper Providence Township Public Works and Engineering

Upper Salford Township

- Upper Salford Township Emergency Management

West Pottsgrove Township

- West Pottsgrove Township Emergency Management

Support Jurisdictions

Bucks County

- Bucks County Emergency Management
- Bucks County Evacuee Monitoring/Decontamination Station at County Line Plaza demonstrated at Perseverance Volunteer Fire Company
- Bucks County Reception Center at County Line Plaza demonstrated at Perseverance Volunteer Fire Company

- Bucks County Special Operations
- Perseverance Volunteer Fire Department
- Telford Volunteer Fire Department

Lehigh County

- American Red Cross Pennsylvania Rivers Chapter
- Borough of Emmaus Police Department
- City of Allentown Bureau of Health
- Emmaus Emergency Medical Services
- Emmaus Fire Department
- Lehigh Valley County Animal Response Team
- Lehigh County Emergency Management
- Lehigh County Evacuee Monitoring/Decontamination Station at Emmaus High School
- Lehigh County Mass Care Center at Eyer Middle School
- Lehigh County Radio Amateur Civil Emergency Service
- Lehigh County Reception Center at Emmaus High School
- Lehigh County Special Operations Team
- Lehigh County Community Emergency Response Team
- Lehigh Valley Special Operations Team
- Lehigh Volunteer Medical Reserve Corp
- Lower Milford Fire Department
- Pennsylvania State Police
- Upper Macungie Community Emergency Response Team

Incident Command Post at the Limerick Fire Station

- Constellation Energy Security
- Constellation Energy Emergency Preparedness
- Constellation Energy Radiation Protection
- Federal Bureau of Investigation
- Limerick Township Fire Marshalls Office
- Limerick Township Police Department
- Montgomery County Department of Public Safety
- Pennsylvania Emergency Management Agency
- Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection
- Pennsylvania State Police, Troop J
- Pennsylvania State Police, Troop K

Staging Area at Incident Command Post at the Limerick Township Fire Department

- Constellation Maintenance Personnel
- Limerick Police Department
- Limerick Township Radiological Officer

Tactical Operations Center at the Limerick Township Fire Department

- Limerick Township Department of Emergency Services
- Limerick Township Police Department
- Pennsylvania State Police, Troop K

Private/Volunteer Organizations

- American Red Cross
- Berks County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Chester County Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service
- Constellation Energy
- Montgomery County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services

Federal Jurisdictions

- Cybersecurity and Infrastructure Security Agency
- Federal Bureau of Investigation
- Federal 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 radiological 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 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 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 of the plans and procedures 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 Plume Exposure Pathway Exercise was conducted on September 26, 2023, to assess the capabilities of State and local emergency preparedness organizations in implementing their Radiological Emergency Response Plans (RERP) and procedures to protect the public health and safety during a radiological emergency involving the LGS.

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, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," December 2019; and
- Radiological Emergency Preparedness Program Manual, December 2019

Emergency Planning Zone Description:
The Limerick Generating Station is located in southeastern Pennsylvania on the Schuylkill River about 1.7 miles southeast of Pottstown Borough. The river passes through the site, separating. the western portion, which is in East Coventry Township in Chester County, from the eastern portion, which is in Limerick and Lower Pottsgrove Townships in Montgomery County.

The plant is owned and operated by Constellation Nuclear. Two boiling water reactors each generate an electrical output of 1,050 megawatts (MW). Unit 1 was issued a full-power license in August 1985; commercial operations began in February 1986. Unit 2 was issued a full power license in August 1989 with commercial operations beginning in January 1990.

The site encompasses 595 acres and is divided into three (3) parts. The principal portion, where the major operating equipment and buildings are located, is on the east bank of the Schuylkill River. This portion is separated from the second segment, where the cooling water intake is located, near the main line of the Reading Railroad. The third portion lies on the west bank of the river, adjacent to Conrail railroad tracks. The site coordinates are approximately 40°13'27"N and 75°35'15"W.

The minimum exclusion distance for the LGS is 2,500 feet from the center of each reactor. The utility owns all the land within the exclusion area. No private residences are located within the exclusion area; however, some farming may be permitted.

There are 165 sirens installed to cover the 10-mile plume exposure pathway EPZ. These sirens are activated three (3) minutes before the Emergency Alert System (EAS) messages issued by the Commonwealth of Pennsylvania are broadcast. Soils in this area are of the Reaville-Penn-Klinesville Association and are characteristic of rolling uplands. They are underlain by sedimentary rocks of the Brunswick Formation, consisting mostly of red shale with some fine-grained sandstone interbedding. The normal pool elevation of the Schuylkill River in this area is 200 feet above mean sea level (msl). The topography of the area is hilly, with elevations ranging from 100-300 feet above msl within five (5) miles of the site. The plant is approximately 217 feet above msl.

The climate in this area is dominated by prevailing westerly winds that produce humid, continental-type weather characterized by warm summers and moderately cold winters. Montgomery County is the warmest part of Pennsylvania, with an average annual temperature of 57°F. Annual precipitation is approximately 42 inches. The area in the immediate vicinity of the plant is made up mostly of agricultural and other open land. The Pottstown Borough in Montgomery County is the nearest community. The nearest major population center (more than 25,000 people) is Philadelphia that lies 25 miles to the southeast of the site.

Two major industries employ a total of 850 persons within two (2) miles of the plant. Two small airfields are also located nearby. A small private airfield is about one (1) mile to the northeast, but its runway is oriented so that the flight path does not pass over the plant. The Pottstown Municipal Airport is 4.3 miles northwest of the site. The LGS does not lie in the approach pattern for this airport. No major thoroughfares are located in the immediate vicinity of the plant. The main line of the Reading Railroad runs along the north bank of the Schuylkill River and traverse the site about 500 feet from the plant.

2.2. Exercise Objectives and Core Capabilities

The objectives of the LGS 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 EPZ. Core capabilities-based planning allowed the exercise planning team to develop the objective and observe associated outcomes through a framework of specific action items. Additionally, the objective and capability target assessed met Radiological Emergency Preparedness Program Manual guidance.

The core capabilities demonstrated during this exercise were:

A. Operational Coordination
B. Planning
C. Environmental Response/Health and Safety
D. Public Information and Warning
E. Mass Care Services
F. Public Health
G. Healthcare and Emergency Medical Services
H. Situational Assessment
I. Critical Transportation
J. Operational Communications
K. Access Control/Identity Verification
L. On-Scene Security
M. Protection
N. Law Enforcement

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, and the Emergency Alert System (EAS). All these communication resources were employed and evaluated, and non-public exercise messages were generated via the EAS. Media information was prepared but not actually released.

For the HAB scenario element, the coordination and integration of offsite resources with the onsite response to the hostile action was evaluated.

An essential capability of the REP Program 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 REP Program. 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. Exercise Scenario Summary

The scenario for this exercise, developed by Constellation Energy, with input provided by the exercise planning team, involved several required scenario elements. This scenario included the hostile action based (HAB) scenario element. The HAB scenario element is required at least once in the 8-year exercise cycle and entails hostile actions directed at the Limerick Generating Station and involves the integration of offsite response organizations with onsite response. This HAB scenario included a radiological release. The release did not exceed the EPA Protective Action Guidelines (PAGs) for evacuation.

This scenario also included the resource integration scenario element. The resource integration scenario element is required at least once in the 8-year exercise cycle and may be combined with other scenario elements. The resource integration element entails demonstrating the integration of offsite resources with onsite response efforts. While commonly combined with the HAB scenario element, this scenario element may be combined with any other scenario elements or utilized on its own.

This scenario included the rapid escalation scenario element. The rapid escalation scenario element is required at least once in the 8-year exercise cycle. Rapid escalation is defined as an initial classification of or rapid escalation, within 30 minutes, to a Site Area Emergency (SAE) or General Emergency (GE).

<u>Initial Conditions</u>

The scenario will take place on a Tuesday afternoon with sunny skies and a light breeze from the north. The crew will take the shift with both units operating at 100% power.

At 1601, a Security Officer will call to inform the Central Alarm Station (CAS) that a vehicle entered the Owner Controller Area at high speed. The truck cut through the parking lot and headed towards the Materials Management Building (MMB). The vehicle crashed into the MMB South Gate and exploded, setting the corner of the warehouse on fire. Two armed hostiles jumped from the truck prior to detonation, exchanged gunfire with security officers and were neutralized.

By 1620 the Shift Manager will declare an ALERT due to Notification by the Security Force that a HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA.

Notifications will be made to offsite response organizations and state and local government agencies will respond in accordance with plans and procedures.

At 1610, a security guard reports that two separate forces of four (4) hostiles each will be identified exiting the HazMat Shop, one group approaching the Spray Pond Pump House (SPPH) and one heading toward the fence north of the Circ Water Pump House (CWPH). At this time, they will remain outside of the PA, and therefore no additional escalation of the event will be required.

At 1625 the hostile force will breech the Protected Area. The crew will be informed by control message that three of the hostiles were neutralized at the fence, while one (1) has successfully entered the SPPH. Shortly after, there is a big explosion in the west side of the SPPH. Before

1640, the Shift Emergency Director will declare a SITE AREA EMERGENCY within the PROTECTED AREA.

Offsite response organizations, including law enforcement agencies, will respond in accordance with plans and procedures. Precautionary actions may be implemented for the public and the alert and notification system may be activated.

The four hostiles will make it into the PA. One explosion will cause damage to plant systems. A second explosion will cause damage to water piping systems and the pumps will fail. A series of explosions will occur, and four (4) hostiles attempt to run to an access door. Two hostiles are neutralized. Two hostiles enter the building, and an explosion causes a rapid loss of vacuum and a release-in-progress. Another explosion occurs 45 minutes later.

A release in progress will escalate. The Shift Manager (Shift ED) will declare a GENERAL EMERGENCY HOSTILE ACTION resulting in loss of physical control of the facility. The Corporate Emergency Director will develop the Protective Action Recommendation to Shelter 5-mile radius and provide this to the Pennsylvania Emergency Management Agency (PEMA) and risk counties.

PEMA will consider the PAR and make a Protective Action Decision (PAD), considering all of the factors involved in the incident. PEMA and risk counties will activate the alert and notification system to communicate the PAD with the public.

Offsite and onsite personnel will integrate to formulate strategies to mitigate the release. Utility staff will prioritize work and brief maintenance teams to return to the site with law enforcement escort. Maintenance crews are escorted to site and transferred to Site Security.

The exercise will be terminated after all lead facility evaluators agree that the selected objectives have been evaluated.

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 LGS Hostile Action Based Plume Exposure Pathway REP Exercise on September 26, 2023. The Exercise was conducted 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 LGS.

Each jurisdiction and functional entity were evaluated based on their demonstration of the appropriate "Demonstration and Evaluation Guidance" contained in the REP Program Manual. Detailed information on the Demonstration and Evaluation Guidance, and the Extent-of-Play Agreement is found in Appendix C.

3.2. Exercise Summary Results of Evaluation

The matrix presented in Table 3.1, on the following pages, presents the status of the Capability Targets from the REP Program Manual that were scheduled for demonstration during this Drill by all participating jurisdictions and functional entities. Drill Demonstration and Evaluation Guidance 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.
- (L1) Level 1 Finding: An observed or identified inadequacy of organizational performance during an assessment activity 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 in the vicinity of a Nuclear Power Plant.
- (L2) Level 2 Finding: An observed or identified inadequacy of organizational performance during an assessment activity that is not considered, by itself, to adversely impact public health and safety.
- (P) Plan Issue: An observed or identified inadequacy in the off-site response organizations' emergency plan/implementing procedures, rather than that of the ORO's performance.
- (N) Not Demonstrated: The term applied to the status of a REP 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 status of a REP Evaluation Area Criterion indicating that the participating ORO demonstrated all demonstration criteria for the Evaluation Area Criterion to the level required in the Extent-of-Play Agreement with no findings assessed in the current exercise and no unresolved prior findings.

Tables 3.1 - Summary of Exercise Evaluation

Table 3.1a: Exercise Evaluation Findings and Issues by Classification

Location	Capability Target	Capability Target Description	Status
Boyertown/Colebrookdale Emergency Operation Center, Berks County	1.2	Direction and Control	L1 – Closed
	2.2	Emergency Worker Exposure Control	
	3.2	Alert and Notification to the Public	
Skippack Township Emergency Operation Center, Montgomery County	3.2	Alert and Notification to the Public	L2 – Closed
Daniel Boone Area School District	1.5	Protective Action Decision Implementation for the Plume Phase	L2 – Closed
Owen J. Roberts School District	1.5	Protective Action Decision Implementation for the Plume Phase	Plan – Open
Phoenixville Area School District	1.5	Protective Action Decision Implementation for the Plume Phase	Plan – Open
Upper Providence Elementary School, Spring-Ford Area School District	1.5	Protective Action Decision Implementation for the Plume Phase	Plan – Open
Upper Perkiomen School District	1.5	Protective Action Decision Implementation for the Plume Phase	Plan – Open

Table 3.1b: Exercise Evaluation Assessments Met

Location	Capability Target	Capability Target Description	Status
Objective 1: Emergency Operations Management			
Commonwealth Response Coordination Center (CRCC), State	1.1	Mobilization	M
Commonwealth Joint Information Center (JIC) at CRCC - Joint Information Center, State	1.1	Mobilization	M
Pennsylvania Accident Assessment Center at the CRCC - State	1.1	Mobilization	M
Constellation Joint Information Center (JIC) - Joint Information Center, Utility	1.1	Mobilization	M
Constellation Emergency Operations Facility (EOF) – Emergency Operations, Utility	1.1	Mobilization	M
State Field Monitoring Team R3V (BRP) - Field Monitoring, State	1.1	Mobilization	M
State Field Monitoring Team A (BRP) - Field Monitoring, State	1.1	Mobilization	M

Pennsylvania State Police Troop K - Incident Command Post (Dispatch), State	1.1	Mobilization	M
Pennsylvania State Police Troop J – Traffic and Access Control, State	1.1	Mobilization	M
Incident Command Post (ICP) – Incident Command Post, State	1.1	Mobilization	M
Tactical Operations Center (TOC) – Incident Command Post, State	1.1	Mobilization	M
Staging Area – Incident Command Post, State	1.1	Mobilization	M
Berks County Department of Emergency Services – County, Risk	1.1	Mobilization	M
Amity Township Emergency Management Office – Municipality, Risk	1.1	Mobilization	M
Boyertown/Colebrookdale Emergency Operation /Center – Municipality, Risk	1.1	Mobilization	M
Douglass Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Earl Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Union Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
BWB (Washington Township) Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Berks County Reception Center at Oley Township Municipal Building – Reception Center	1.1	Mobilization	M
Berks County Emergency Worker Monitoring/Decontamination Station at Oley Valley High School – Monitoring/Decontamination Station	1.1	Mobilization	M
Berks County Evacuee Monitoring/Decontamination Station at Wilson High School Lower House – Monitoring/Decontamination Station	1.1	Mobilization	M
Berks County Mass Care Center at Wilson High School Lower House – Mass Care Center	1.1	Mobilization	M
Chester County Emergency Operation Center – County, Risk	1.1	Mobilization	M
Charlestown Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
East Coventry Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
East Nantmeal Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
East Pikeland Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
East Vincent Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M

North Coventry Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Phoenixville Borough Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Schuylkill Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
South Coventry Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Spring City Borough Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Upper Uwchlan Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Uwchlan Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Warwick Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
West Pikeland Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
West Vincent Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Chester County Reception Center at West Whiteland Township Building – Reception Center	1.1	Mobilization	M
Chester County Evacuee Monitoring/Decontamination Station at West Whiteland Township Building – Monitoring/Decontamination	1.1	Mobilization	M
Montgomery County Emergency Operation Center – County, Risk	1.1	Mobilization	M
Collegeville Borough Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Douglass Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Greenlane-Marlborough Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Limerick Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Lower Frederick Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Lower Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Lower Providence Emergency Operation Center - Municipality, Risk	1.1	Mobilization	M
Lower Salford Township Emergency Operation Center - Municipality, Risk	1.1	Mobilization	M
New Hanover Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Perkiomen Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M

Pottstown Borough Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Royersford Borough Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Schwenksville Borough Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Skippack Township Emergency Operation /Center – Municipality, Risk	1.1	Mobilization	M
Upper Frederick Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Upper Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Upper Providence Township/Trappe Borough Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Upper Salford Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
West Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.1	Mobilization	M
Montgomery County Reception Center at Montgomery Mall demonstrated at Montgomery Township Fire Department – Mass Care Center	1.1	Mobilization	M
Montgomery County Evacuee Monitoring/Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department – Monitoring/Decontamination Station	1.1	Mobilization	M
Montgomery County Emergency Worker Monitoring/Decontamination Station at Indian Valley Middle School	1.1	Mobilization	M
Bucks County Emergency Operation Center – County, Support	1.1	Mobilization	M
Bucks County Reception Center at County Line Plaza demonstrated at Perseverance Volunteer Fire Company – Reception Center	1.1	Mobilization	M
Bucks County Evacuee Monitoring/Decontamination Station at County Line Plaza demonstrated at Perseverance Volunteer Fire Company – Monitoring/Decontamination Station	1.1	Mobilization	M
Lehigh County Emergency Operation Center – County, Support	1.1	Mobilization	M
Lehigh County Reception Center at Emmaus High School – Reception Center	1.1	Mobilization	M
Lehigh County Evacuee Monitoring/Decontamination Station at Emmaus High School – Monitoring/Decontamination	1.1	Mobilization	M

Lehigh County Mass Care Center at Eyer Middle School – Mass Care Center	1.1	Mobilization	M
Commonwealth Response Coordination Center (CRCC), State	1.2	Direction and Control	M
Commonwealth Joint Information Center (JIC) at CRCC - Joint Information Center, State	1.2	Direction and Control	M
Pennsylvania Accident Assessment Center at the CRCC - State	1.2	Direction and Control	M
Constellation Joint Information Center (JIC) - Joint Information Center, Utility	1.2	Direction and Control	M
Constellation Emergency Operations Facility (EOF) – Emergency Operations, Utility	1.2	Direction and Control	M
State Field Monitoring Team R3V (BRP) - Field Monitoring, State	1.2	Direction and Control	M
State Field Monitoring Team A (BRP) - Field Monitoring, State	1.2	Direction and Control	M
Pennsylvania State Police Troop K - Incident Command Post (Dispatch), State	1.2	Direction and Control	M
Pennsylvania State Police Troop J – Traffic and Access Control, State	1.2	Direction and Control	M
Tactical Operations Center (TOC) – Incident Command Post, State	1.2	Direction and Control	M
Staging Area – Incident Command Post, State	1.2	Direction and Control	M
Berks County Department of Emergency Services – County, Risk	1.2	Direction and Control	M
Amity Township Emergency Management Office – Municipality, Risk	1.2	Direction and Control	M
Douglass Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Earl Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Union Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
BWB (Washington Township) Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Berks County Reception Center at Oley Township Municipal Building – Reception Center	1.2	Direction and Control	M
Berks County Emergency Worker Monitoring/Decontamination Station at Oley Valley High School – Monitoring/Decontamination Station	1.2	Direction and Control	M
Berks County Evacuee Monitoring/Decontamination Station at Wilson High School Lower House – Monitoring/Decontamination Station	1.2	Direction and Control	M

Berks County Mass Care Center at Wilson High School Lower House – Mass Care Center	1.2	Direction and Control	M
Chester County Emergency Operation Center – County, Risk	1.2	Direction and Control	M
Charlestown Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
East Coventry Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
East Nantmeal Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
East Pikeland Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
East Vincent Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
North Coventry Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Phoenixville Borough Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Schuylkill Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
South Coventry Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Spring City Borough Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Upper Uwchlan Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Uwchlan Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Warwick Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
West Pikeland Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
West Vincent Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Chester County Reception Center at West Whiteland Township Building – Reception Center	1.2	Direction and Control	M
Chester County Evacuee Monitoring/Decontamination Station at West Whiteland Township Building – Monitoring/Decontamination	1.2	Direction and Control	M
Montgomery County Emergency Operation Center – County, Risk	1.2	Direction and Control	M
Collegeville Borough Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Douglass Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Greenlane-Marlborough Township Emergency Operation Center –	1.2	Direction and Control	M

Municipality, Risk			
Limerick Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Lower Frederick Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Lower Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Lower Providence Emergency Operation Center - Municipality, Risk	1.2	Direction and Control	M
Lower Salford Township Emergency Operation Center - Municipality, Risk	1.2	Direction and Control	M
New Hanover Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Perkiomen Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Pottstown Borough Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Royersford Borough Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Schwenksville Borough Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Skippack Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Upper Frederick Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Upper Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Upper Providence Township/Trappe Borough Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Upper Salford Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
West Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.2	Direction and Control	M
Montgomery County Reception Center at Montgomery Mall demonstrated at Montgomery Township Fire Department – Mass Care Center	1.2	Direction and Control	M
Montgomery County Evacuee Monitoring/Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department – Monitoring/Decontamination	1.2	Direction and Control	M
Montgomery County Emergency Worker Monitoring/Decontamination Station at Indian Valley Middle School	1.2	Direction and Control	M
Bucks County Emergency Operation Center – County, Support	1.2	Direction and Control	M
Bucks County Reception Center at County Line Plaza demonstrated at Perseverance	1.2	Direction and Control	M

Volunteer Fire Company – Reception Center			
Bucks County Evacuee Monitoring/Decontamination Station at County Line Plaza demonstrated at Perseverance Volunteer Fire Company – Monitoring/Decontamination Station	1.2	Direction and Control	M
Lehigh County Emergency Operation Center – County, Support	1.2	Direction and Control	M
Lehigh County Reception Center at Emmaus High School – Reception Center	1.2	Direction and Control	M
Lehigh County Evacuee Monitoring/Decontamination Station at Emmaus High School – Monitoring/Decontamination	1.2	Direction and Control	M
Lehigh County Mass Care Center at Eyer Middle School – Mass Care Center	1.2	Direction and Control	M
Pennsylvania Accident Assessment Center at the CRCC – State	1.3	Protective Action Recommendations	M
Constellation Emergency Operations Facility (EOF) – Emergency Operations, Utility	1.3	Protective Action Recommendations	M
Commonwealth Response Coordination Center (CRCC) - State	1.4	Protective Action Decisions for the Plume Phase	M
Pennsylvania Accident Assessment Center at the CRCC - State	1.4	Protective Action Decisions for the Plume Phase	M
Commonwealth Response Coordination Center (CRCC) – State	1.5	Protective Action Decision Implementation for the Plume Phase	M
Incident Command Post (ICP) – Incident Command Post, State	1.5	Protective Action Decision Implementation for the Plume Phase	M
Berks County Department of Emergency Services – County, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Amity Township Emergency Management Office – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Boyertown/Colebrookdale Emergency Operation /Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Douglass Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Earl Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Union Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
BWB (Washington Township) Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Boyertown Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Boyertown Area School District, Boyertown Area Senior High School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Boyertown Area School District, Boyertown Middle School West – School	1.5	Protective Action Decision Implementation for the Plume Phase	M

123Daniel Boone Area School District, Daniel Boone Area High School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Chester County Emergency Operation Center – County, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Charlestown Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
East Coventry Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
East Nantmeal Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
East Pikeland Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
East Vincent Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
North Coventry Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Phoenixville Borough Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Schuylkill Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
South Coventry Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Spring City Borough Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Upper Uwchlan Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Uwchlan Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Warwick Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
West Pikeland Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
West Vincent Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Downingtown School District - School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Great Valley School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Owen J. Roberts School District, Owen J. Roberts High School - School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Owen J. Roberts School District, Owen J. Roberts Middle School - School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Owen J. Roberts School District, West Vincent Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Phoenixville Area School District, Barkley Elementary School - School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Phoenixville Area School District, Schuylkill Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Phoenixville Area School District, Manavon Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M

Phoenixville Area School District, Phoenixville Early Learning Center – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Montgomery County Emergency Operation Center – County, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Collegeville Borough Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Douglass Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Greenlane-Marlborough Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Limerick Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Lower Frederick Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Lower Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Lower Providence Emergency Operation Center - Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Lower Salford Township Emergency Operation Center - Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
New Hanover Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Perkiomen Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Pottstown Borough Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Royersford Borough Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Schwenksville Borough Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Skippack Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Upper Frederick Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Upper Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Upper Providence Township/Trappe Borough Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Upper Salford Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
West Pottsgrove Township Emergency Operation Center – Municipality, Risk	1.5	Protective Action Decision Implementation for the Plume Phase	M
Methacton School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Methacton School District, Eagleville Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Methacton School District, Methacton Senior High School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M

Methacton School District, Woodland Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Perkiomen Valley School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	
Perkiomen Valley School District, South Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Perkiomen Valley School District, Perkiomen Valley Middle School East – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Pottsgrove School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Pottsgrove School District, Pottsgrove High School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Pottsgrove School District, West Pottsgrove Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Pottstown School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Pottstown School District, Lincoln Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Pottstown School District, Pottstown High School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Souderton Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Souderton Area School District, Salford Hills Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Spring-Ford Area School District – School District	1.5	Protective Action Decision Implementation for the Plume Phase	M
Spring-Ford Area School District, 5th and 6th Grade Center- School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Spring-Ford Area School District, 7th Grade Center – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Spring-Ford Area School District, 8th Grade Center – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Spring-Ford Area School District, Spring-Ford High School (10th-12th) – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Upper Perkiomen School District, Marlborough Elementary School – School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Bucks County Emergency Operation Center – County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Lehigh County Emergency Operation Center – County, Support	1.5	Protective Action Decision Implementation for the Plume Phase	M
Objective 2: Exposure Control			
Pennsylvania Accident Assessment Center at the CRCC – State	2.1	Emergency Worker Exposure Control Decision-Making Process	M
State Field Monitoring Team R3V (BRP) - Field Monitoring, State	2.2	Emergency Worker Exposure Control Management	M
State Field Monitoring Team A (BRP) - Field Monitoring, State	2.2	Emergency Worker Exposure Control Management	M

Staging Area – Incident Command Post, State	2.2	Emergency Worker Exposure Control Management	M
Berks County Department of Emergency Services – County, Risk	2.2	Emergency Worker Exposure Control Management	M
Amity Township Emergency Management Office – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Earl Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control management	M
Union Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
BWB (Washington Township) Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Berks County Emergency Worker Monitoring/Decontamination Station at Oley Valley High School – Monitoring/Decontamination Station	2.2	Emergency Worker Exposure Control Management	M
Berks County Evacuee Monitoring/Decontamination Station at Wilson High School Lower House – Monitoring/Decontamination Station	2.2	Emergency Worker Exposure Control Management	M
Chester County Emergency Operation Center – County, Risk	2.2	Emergency Worker Exposure Control Management	M
Charlestown Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
East Coventry Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
East Nantmeal Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
East Pikeland Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
East Vincent Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
North Coventry Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Phoenixville Borough Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Schuylkill Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
South Coventry Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Spring City Borough Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Upper Uwchlan Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Uwchlan Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Warwick Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
West Pikeland Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M

West Vincent Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Chester County Evacuee Monitoring/Decontamination Station at West Whiteland Township Building – Monitoring/Decontamination	2.2	Emergency Worker Exposure Control Management	M
Montgomery County Emergency Operation Center – County, Risk	2.2	Emergency Worker Exposure Control Management	M
Collegeville Borough Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Greenlane-Marlborough Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Limerick Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Lower Frederick Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Lower Pottsgrove Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Lower Providence Emergency Operation Center - Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Lower Salford Township Emergency Operation Center - Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
New Hanover Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Perkiomen Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Pottstown Borough Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Royersford Borough Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Schwenksville Borough Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Skippack Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Upper Frederick Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Upper Pottsgrove Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Upper Providence Township/Trappe Borough Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Upper Salford Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
West Pottsgrove Township Emergency Operation Center – Municipality, Risk	2.2	Emergency Worker Exposure Control Management	M
Montgomery County Evacuee Monitoring/Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department – Monitoring/Decontamination	2.2	Emergency Worker Exposure Control Management	M

Montgomery County Emergency Worker Monitoring/Decontamination Station at Indian Valley Middle School	2.2	Emergency Worker Exposure Control Management	M
Bucks County Evacuee Monitoring/Decontamination Station at County Line Plaza demonstrated at Perseverance Volunteer Fire Company – Monitoring/Decontamination Station	2.2	Emergency Worker Exposure Control Management	M
Lehigh County Evacuee Monitoring/Decontamination Station at Emmaus High School – Monitoring/Decontamination	2.2	Emergency Worker Exposure Control Management	M
Objective 3: Alert and Notification			
Commonwealth Response Coordination Center (CRCC), State	3.1	Communications	M
Commonwealth Joint Information Center at CRCC - Joint Information Center, State	3.1	Communications	M
Pennsylvania Accident Assessment Center at the CRCC - State	3.1	Communications	M
Constellation Joint Information Center (JIC) - Joint Information Center, Utility	3.1	Communications	M
State Field Monitoring Team R3V (BRP) - Field Monitoring, State	3.1	Communications	M
State Field Monitoring Team A (BRP) - Field Monitoring, State	3.1	Communications	M
Pennsylvania State Police Troop K - Incident Command Post, State	3.1	Communications	M
Pennsylvania State Police Troop J – Traffic and Access Control, State	3.1	Communications	M
Incident Command Post (ICP) – Incident Command Post, State	3.1	Communications	M
Tactical Operations Center (TOC) – Incident Command Post, State	3.1	Communications	M
Staging Area – Incident Command Post, State	3.1	Communications	M
Berks County Department of Emergency Services – County, Risk	3.1	Communications	M
Amity Township Emergency Management Office – Municipality, Risk	3.1	Communications	M
Boyertown/Colebrookdale Emergency Operation /Center – Municipality, Risk	3.1	Communications	M
Douglass Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Earl Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Union Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
BWB (Washington Township) Emergency Operation Center – Municipality, Risk	3.1	Communications	M

Berks County Reception Center at Oley Township Municipal Building – Reception Center	3.1	Communications	M
Berks County Emergency Worker Monitoring/Decontamination Station at Oley Valley High School – Monitoring/Decontamination Station	3.1	Communications	M
Berks County Evacuee Monitoring/Decontamination Station at Wilson High School Lower House – Monitoring/Decontamination Station	3.1	Communications	M
Berks County Mass Care Center at Wilson High School Lower House – Mass Care Center	3.1	Communications	M
Chester County Emergency Operation Center – County, Risk	3.1	Communications	M
Charlestown Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
East Coventry Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
East Nantmeal Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
East Pikeland Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
East Vincent Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
North Coventry Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Phoenixville Borough Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Schuylkill Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
South Coventry Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Spring City Borough Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Upper Uwchlan Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Uwchlan Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Warwick Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
West Pikeland Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
West Vincent Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Chester County Reception Center at West Whiteland Township Building – Reception Center	3.1	Communications	M
Chester County Evacuee Monitoring/Decontamination Station at	3.1	Communications	M

West Whiteland Township Building – Monitoring/Decontamination			
Montgomery County Emergency Operation Center – County, Risk	3.1	Communications	M
Collegeville Borough Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Douglass Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Greenlane-Marlborough Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Limerick Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Lower Frederick Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Lower Pottsgrove Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Lower Providence Emergency Operation Center - Municipality, Risk	3.1	Communications	M
Lower Salford Township Emergency Operation Center - Municipality, Risk	3.1	Communications	M
New Hanover Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Perkiomen Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Pottstown Borough Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Royersford Borough Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Schwenksville Borough Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Skippack Township Emergency Operation /Center – Municipality, Risk	3.1	Communications	M
Upper Frederick Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Upper Pottsgrove Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Upper Providence Township/Trappe Borough Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Upper Salford Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
West Pottsgrove Township Emergency Operation Center – Municipality, Risk	3.1	Communications	M
Montgomery County Reception Center at Montgomery Mall demonstrated at Montgomery Township Fire Department – Mass Care Center	3.1	Communications	M
Montgomery County Evacuee Monitoring/Decontamination Station at	3.1	Communications	M

Montgomery Mall demonstrated at Montgomery Township Fire Department – Monitoring/Decontamination			
Montgomery County Emergency Worker Monitoring/Decontamination Station at Indian Valley Middle School	3.1	Communications	M
Bucks County Emergency Operation Center – County, Support	3.1	Communications	M
Lehigh County Emergency Operation Center – County, Support	3.1	Communications	M
Lehigh County Reception Center at Emmaus High School – Reception Center	3.1	Communications	M
Lehigh County Evacuee Monitoring/Decontamination Station at Emmaus High School – Monitoring/Decontamination	3.1	Communications	M
Lehigh County Mass Care Center at Eyer Middle School – Mass Care Center	3.1	Communications	M
Commonwealth Response Coordination Center (CRCC), State	3.2	Alert and Notification to the Public	M
Berks County Department of Emergency Services – County, Risk	3.2	Alert and Notification to the Public	M
Amity Township Emergency Management Office – Municipality, Risk	3.2	Alert and Notification to the Public	M
Douglass Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Earl Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Union Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
BWB (Washington Township) Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Chester County Emergency Operation Center – County, Risk	3.2	Alert and Notification to the Public	M
Charlestown Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
East Coventry Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
East Nantmeal Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
East Pikeland Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
East Vincent Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
North Coventry Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Phoenixville Borough Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Schuylkill Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M

South Coventry Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Spring City Borough Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Upper Uwchlan Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Uwchlan Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Warwick Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
West Pikeland Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
West Vincent Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Montgomery County Emergency Operation Center – County, Risk	3.2	Alert and Notification to the Public	M
Collegeville Borough Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Douglass Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Greenlane-Marlborough Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Limerick Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Lower Frederick Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Lower Pottsgrove Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Lower Providence Emergency Operation Center - Municipality, Risk	3.2	Alert and Notification to the Public	M
Lower Salford Township Emergency Operation Center - Municipality, Risk	3.2	Alert and Notification to the Public	M
New Hanover Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Perkiomen Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Pottstown Borough Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Royersford Borough Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Schwenksville Borough Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Skippack Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Upper Frederick Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Upper Pottsgrove Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M

Upper Providence Township/Trappe Borough Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Upper Salford Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
West Pottsgrove Township Emergency Operation Center – Municipality, Risk	3.2	Alert and Notification to the Public	M
Bucks County Emergency Operation Center – County, Support	3.2	Alert and Notification to the Public	M
Lehigh County Emergency Operation Center – County, Support	3.2	Alert and Notification to the Public	M
Commonwealth Joint Information Center (JIC) at CRCC - Joint Information Center, State	3.3	Emergency Information and Instructions for the Public and News Media	M
Constellation Joint Information Center (JIC) - Joint Information Center, Utility	3.3	Emergency Information and Instructions for the Public and News Media	M
Berks County Emergency Operation Center – County, Risk	3.3	Emergency Information and Instructions for the Public and News Media	M
Chester County Emergency Operation Center – County, Risk	3.3	Emergency Information and Instructions for the Public and News Media	M
Montgomery County Emergency Operation Center – County, Risk	3.3	Emergency Information and Instructions for the Public and News Media	M
Bucks County Emergency Operation Center – County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Lehigh County Emergency Operation Center – County, Support	3.3	Emergency Information and Instructions for the Public and News Media	M
Objective 4: Detect, Measure, Sample, Analyze, and Assess			
Pennsylvania Accident Assessment Center at the CRCC – State	4.1	Field Monitoring Teams Management	M
State Field Monitoring Team R3V (BRP) – Field Monitoring, State	4.1	Field Monitoring Teams Management	M
Field Monitoring Team A (BRP) – Field Monitoring, State	4.2	Plume Phase Measurements and Sampling	
Pennsylvania Accident Assessment Center at the CRCC – State	4.5	Plume Phase Analysis and Dose Assessment	M
Objective 5: Operate			
Berks County Reception Center at Oley Township Municipal Building – Reception Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Berks County Evacuee Monitoring/Decontamination Station at Wilson High School Lower House – Monitoring/Decontamination Station	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Berks County Mass Care Center at Wilson High School Lower House – Mass Care Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Berks County Mass Care Center at Wilson High School Upper House – Mass Care Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M

Bucks County Reception Center at County Line Plaza demonstrated at Perseverance Volunteer Fire Company – Reception Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Bucks County Evacuee Monitoring/Decontamination Station at County Line Plaza demonstrated at Perseverance Volunteer Fire Company – Monitoring/Decontamination Station	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Chester County Reception Center at West Whiteland Township Building – Reception Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Chester County Evacuee Monitoring/Decontamination Station at West Whiteland Township Building – Monitoring/Decontamination	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Lehigh County Reception Center at Emmaus High School – Reception Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Lehigh County Evacuee Monitoring/Decontamination Station at Emmaus High School – Monitoring/Decontamination	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Lehigh County Mass Care Center at Eyer Middle School – Mass Care Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Montgomery County Reception Center at Montgomery Mall demonstrated at Montgomery Township Fire Department – Mass Care Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Montgomery County Evacuee Monitoring/Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department – Monitoring/Decontamination	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
Berks County Emergency Worker Monitoring/Decontamination Station at Oley Valley High School – Monitoring/Decontamination	5.2	Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles	M
Montgomery County Emergency Worker Monitoring/Decontamination Station at Indian Valley Middle School – Monitoring/Decontamination	5.2	Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles	M
Commonwealth Response Coordination Center (CRCC), State	5.4	Traffic and Access Control	M
Pennsylvania State Police Troop J – Traffic and Access Control, State	5.4	Traffic and Access Control	M
Berks County Department of Emergency Services – County, Risk	5.4	Traffic and Access Control	M
Amity Township Emergency Management Office – Municipality, Risk	5.4	Traffic and Access Control	M
Boyertown/Colebrookdale Township Emergency Operation Center –	5.4	Traffic and Access Control	M

Municipality, Risk			
Douglass Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Earl Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Union Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
BWB (Washington Township) Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Chester County Emergency Operation Center – County, Risk	5.4	Traffic and Access Control	M
Charlestown Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
East Coventry Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
East Nantmeal Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
East Pikeland Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
East Vincent Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
North Coventry Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Phoenixville Borough Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Schuylkill Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
South Coventry Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Spring City Borough Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Upper Uwchlan Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Uwchlan Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Warwick Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
West Pikeland Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
West Vincent Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Montgomery County Emergency Operation Center – County, Risk	5.4	Traffic and Access Control	M
Collegeville Borough Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Douglass Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Greenlane-Marlborough Township Emergency Operation Center –	5.4	Traffic and Access Control	M

Municipality, Risk			
Limerick Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Lower Frederick Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Lower Pottsgrove Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Lower Providence Emergency Operation Center - Municipality, Risk	5.4	Traffic and Access Control	M
Lower Salford Township Emergency Operation Center - Municipality, Risk	5.4	Traffic and Access Control	M
New Hanover Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Perkiomen Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Pottstown Borough Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Royersford Borough Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Schwenksville Borough Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Skippack Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Upper Frederick Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Upper Pottsgrove Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Upper Providence Township/Trappe Borough Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
Upper Salford Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M
West Pottsgrove Township Emergency Operation Center – Municipality, Risk	5.4	Traffic and Access Control	M

3.3. Capability Target Evaluation Summaries

3.3.1 State Jurisdictions

In summary, the status of DHS/FEMA criteria for the County and Private Sector Organizations are as follows:

3.3.1.1 Commonwealth Response Coordination Center (CRCC)

a. Met: 1.1, 1.2, 1.4, 1.5, 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

3.3.1.2 Commonwealth Joint Information Center (JIC) at the CRCC

a. Met: 1.1, 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

3.3.1.3 Pennsylvania Accident Assessment Center (BRP) at the CRCC

a. Met: 1.1, 1.2, 1.3, 1.4, 2.1, 3.1, 4.1, 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

3.3.1.4 State Field Monitoring Team R3V (BRP)

a. Met: 1.1, 1.2, 2.2, 3.1, 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

3.3.1.5 State Field Monitoring Team A (BRP)

a. Met: 1.1, 1.2, 2.2, 3.1, 4.2
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f, Prior Issues – Unresolved: NONE

3.3.1.6 Pennsylvania State Police Troop J, Embreeville Barracks, Traffic Control Point/ Access Control Point (TCP/ACP)

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

3.3.1.7 Pennsylvania State Police Troop K, Skippack Barracks, Traffic Control Point/ Access Control Point (TCP/ACP)

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

3.3.1.8 Constellation Joint Information Center (JIC)

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

3.3.1.9 Constellation Emergency Operation Facility (EOF)

a. Met: 1.1, 1.2, 1.3, 3.1
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: None
e. Prior Issues - Resolved: NONE
f. Prior Issues – Unresolved: NONE

3.3.2 Risk Jurisdictions

In summary, the status of DHS/FEMA capability targets for the risk jurisdictions are as follows:

3.3.2.1 Berks County

3.3.2.1.1 Berks County Emergency Operations Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 3.3, 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

3.3.2.1.2 Amity 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

3.3.2.1.3 Boyertown/Colebrookdale Emergency Operation Center

a. Met: 1.1, 1.5, 3.1, 5.4
b. Level 1 Findings: ONE (CLOSED)
   Issue Number: 35-23-1.2-L1-005

   ISSUE FOR CAPABILITY TARGETS:
   Multiple performance findings were identified during the exercise. The findings were assessed for capability targets 1.2 (Direction & Control, Facilities, Equipment), 2.2 (Emergency Worker Exposure Control), and 3.2 (Alert and Notification). In accordance with the DHS/FEMA Radiological Emergency Preparedness Manual, these performance findings will be assessed under a single Level 1 Finding.

CONDITIONS:

1. During the exercise, the Emergency Management Coordinator (EMC) was in charge of all actions in the Emergency Operations Center (EOC). The EMC did not conduct any briefings throughout the exercise. No brief outs were requested from functional areas, and no actions were conducted, tracked, or completed. Situational awareness was tracked from communication with the Berks County EOC, but no situational awareness was tracked from within the municipality. No coordination occurred between the municipality and other agencies beyond acknowledgement of information from the County EOC. This includes ensuring that special populations, schools, and congregate facilities were contacted and cared for based on the scenario. The facility was adequate to support the emergency response, but no technology was used to maintain awareness of the situation at Limerick Generating Station (LGS) beyond 800mHz radios that were used to communicate with Berks County.
2. During the exercise, the Municipality's Radiological Officer (RO) and the RO backup did not arrive at the EOC to participate in the exercise. The Police Chief attempted to cover for the position and delivered a radiological briefing for emergency worker's that would be going into the field. He also issued dosimetry and KI (simulated). However, during the demonstration, the EOC did not attempt to get 30-minute readings from the EWs. This was redemonstrated following engagement with the State observer, and then notifying the EMC. The Police Chief acting in the RO's position did not brief staff in the EOC on dosimetry and KI use, and no dosimetry was issued or checked. The jurisdiction is located within the EPZ.
3. When the sirens were sounded at SAE and GE, the EMC did not direct the EMS coordinator to send teams to notify the hearing impaired of conditions at Limerick Generating Station (LGS) or protective action recommendations. This was in contradiction of approved plans and procedures.

POSSIBLE CAUSE:

- Inadequate training, lack of familiarity with plans and procedures, lack of technology (no laptops, computers, displays, etc.).
- No Radiological Officer, inadequate training, lack of familiarity with plans and procedures, inadequate inventory sheets.

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, E.1.a, E.3, F.1, F.1.a, F.1.b, F.1.c, F.3, H.6, and O.1)
- Radiological Emergency Response Plan for Boyertown Borough/Colebrookdale Township; ESF #20 - Direction and Control Limerick Generating Station Support Annex

EFFECTS:

- The municipality did not take actions during the scenario regarding direction and control and therefore took no actions to protect the health and safety of the public or ensure that actions were taken by the county to protect the health and safety of the public.
- Not checking the dosimetry of emergency workers could allow the workers to inadvertently be exposed to the harmful effects of radiation. Not briefing or issuing KI or dosimetry to the EOC staff could inadvertently expose the EOC staff to the harmful effects of radiation.

- Not notifying hearing impaired members of the public could prevent them from taking action based on protective action recommendations or expose them to the harmful effects of radiation.

RECOMMENDATIONS:

- Conduct periodic situational awareness updates within the EOC. By periodically holding these updates, each staff member can relay what work they have accomplished, tasks they are currently working on, and actions planned if the emergency progresses. Thus, each staff person is held accountable for the required actions according to the RERP. The EMC also needs to be more assertive and detailed in performing task on the EMC checklist and following through to make sure staff have completed their required functions.
- Conduct a comprehensive review of plans and procedures including all position checklists. This will enable the EMC to have a better understanding of anticipated actions by the staff in the EOC. In addition, the EMC should confirm that all anticipated actions at ECLs are being completed.
- Re-evaluate the availability of staff listed to occupy the responsibility of the Radiological Officer. Improve the simplicity of the radiological briefing so that others may step up and provide the briefing without missing key elements.
- Conduct a remedial exercise within 120 days of the identification of the Level 1 Finding (September 29, 2023).

CORRECTIVE ACTIONS:
On November 9, 2023, a remedial exercise was conducted for the Boyertown/Colebrookdale Township Emergency Operations Center (EOC), specifically for Capability Targets 1.2 (Direction and Control), 2.2 (Emergency Worker Exposure Control Management), and Capability Target 3.2 (Alert and Notification of the Public).

During the remedial exercise, staff from Boyertown/Colebrookdale EOC successfully demonstrated the implementation of the revised procedures and demonstrated adequate direction and control, situational awareness, emergency worker exposure control management, and the alerting of residents. There was adequate staffing to support the operation and there was constant communication with Berks County EOC throughout the exercise.

Based on the results of the remedial 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 the remedial exercise.

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

3.3.2.1.4 Boyertown/Colebrookdale Emergency Operation Center Back Up Route Alerting (BURA)

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

3.3.2.1.5 Douglass 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

3.3.2.1.6 Earl 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

3.3.2.1.7 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

3.3.2.1.8 BWB (Washington 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

3.3.2.1.9 Berks County Reception Center at Oley Township Municipal Building

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

3.3.2.1.10 Berks County Emergency Worker Monitoring and Decontamination Station at Oley Valley High School

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

3.3.2.1.11 Berks County Evacuee Monitoring and Decontamination Station at Wilson High School Lower House

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

3.3.2.1.12 Berks County Mass Care Center at Wilson High School Lower House

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

3.3.2.1.13 Berks County Mass Care Assessment at Wilson High School Upper House

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

3.3.2.1.14 Berks County Mass Care Assessment at Muhlenberg 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

3.3.2.1.15 Berks County Mass Care Assessment at Muhlenberg Middle 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

3.3.2.1.16 Berks County Boyertown 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

3.3.2.1.17 Berks County Boyertown Area School District, Boyertown 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

3.3.2.1.18 Berks County, Boyertown Area School District, Boyertown Middle School West

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

3.3.2.1.19 Berks County, Daniel Boone School District

a. Met: 1.5
b. Level 1 Findings: NONE
c. Level 2 Findings: ONE (CLOSED)
Issue Number: 35-23-I.5-L2-006

CONDITION:
The Daniel Boone School District failed to execute the current Radiological Emergency Response Plan for Incidents at Limerick Generating Station, Dated September 2023, resulting in students not being relocated to the pre-identified host school in a timely manner prior to a General Emergency being issued.

POSSIBLE CAUSE:
School District officials were provided the updated plan dated September 2023, but were not trained on the plan nor had it available for reference during the exercise. The School District was also provided updated checklists, but they were not initially used during the exercise.

REFERENCE:
- NUREG-0654/FEMA-REP-1, Rev. 2, J.11.g
- Daniel Boone School District Radiological Emergency Response Plan for Incidents
- at Limerick Generating Station, dated September 2023
- PEMA Annex E, Radiological Emergency Preparedness Response to Nuclear Power

- Plant Incidents, School Radiological Plans Interim Guidance, dated January 10, 2022

EFFECT:
School District actions were not in consonance with their current school plan and, if not corrected, could lead to a protective action that potentially expose children, staff, faculty, and school bus drivers to the harmful effects of ionizing radiation.

CORRECTIVE ACTION:
The exercise was paused, and time was allowed for on-the-spot training with School District Officials. It was determined that School District Officials did not have the current plan in their reference binder. The School District Officials were given time to review the updated plan and checklists. A redemonstration was conducted with the School District Officials using the current plan and updated checklists. The School District then successfully redemonstrated the implementation of precautionary and protective actions for schools during the Limerick Generating Station (LGS)Out of Sequence Exercise on October 19, 2023.

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

3.3.2.1.19 Berks County, Daniel Boone School District, Daniel Boone Area 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

3.3.2.2 Chester County

3.3.2.2.1 Chester County Emergency Operations Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 3.3, 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

3.3.2.2.2 Charlestown 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

3.3.2.2.3 East Coventry 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

3.3.2.2.4 East Nantmeal 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

3.3.2.2.5 East Nantmeal Township 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

3.3.2.2.6 East Pikeland 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

3.3.2.2.7 East Vincent 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

3.3.2.2.8 North Coventry 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

3.3.2.2.9 Phoenixville Borough 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

3.3.2.2.10 Schuylkill 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

3.3.2.2.11 South Coventry 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

3.3.2.2.12 Spring City Borough 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

3.3.2.2.13 Upper Uwchlan 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

3.3.2.2.14 Uwchlan 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

3.3.2.2.15 Warwick 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

3.3.2.2.16 West Pikeland 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

3.3.2.2.17 West Vincent 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

3.3.2.2.18 Chester County Reception Center at West Whiteland Township Building

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

3.3.2.2.19 Chester County Evacuee Monitoring and Decontamination Station at West Whiteland township Building

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

3.3.2.2.20 Chester County, Downingtown 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

3.3.2.2.21 Chester County, Great Valley 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

3.3.2.2.22 Chester County, Owen J. Roberts School District

a. Met: NONE
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: ONE
Issue Number: 35-23-1.5-P-002

ISSUE FOR CAPABILITY TARGET: 1.5

CONDITION:
The Owen J. Roberts School District Radiological Emergency Response Plan dated August 2021 has not been revised to reflect current interim guidance issued by the Pennsylvania Emergency Management Agency (PEMA). Specifically, the plan calls for mobilization of buses at a General Emergency and protective action implementation after a General Emergency.

POSSIBLE CAUSE:
Officials have not updated the School District Plan and communicated to School Principals to update their checklists.

REFERENCES:
- NUREG NUREG-0654/FEMA-REP-1, Rev. 2, J.11.g
- Owen J. Roberts Emergency Response Plan
- PEMA Annex E, Radiological Emergency Preparedness Response to Nuclear Power Plant Incidents, School Radiological Plans Interim Guidance, dated January 10, 2022

EFFECT:
School District plans are not in consonance with current school planning guidance and, if not corrected, could lead to a protective action that potentially expose children, staff, faculty, and school bus drivers to the harmful effects of ionizing radiation.

RECOMMENDATIONS:
The school district plan should be updated to comply with the Annex E, Interim Guidance for Schools and Colleges, School Radiological Interim Guidance dated January 10, 2022.

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

3.3.2.2.23 Chester County, Owen J. Roberts School District, Owen J. Roberts 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

3.3.2.2.24 Chester County, Owen J. Roberts School District, Owen J. Roberts 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

3.3.2.2.25 Chester County, Owen J. Roberts School District, West Vincent 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

3.3.2.2.26 Chester County, Phoenixville Area School District

a. Met: NONE
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: ONE
Issue Number: 35-23-1.5-P-007

FOR CAPABILITY TARGET 1.5

CONDITIONS:

1. Though Revision 13 of the Phoenixville Area School District (PASD) Radiological Emergency Response Plan (RERP) for Incidents at the Limerick Generating Station calls for the PASD Superintendent to review and update the RERP annually, the RERP has not been updated since September 2021.
2. Revision 13 of the RERP has not been revised to reflect current interim guidance issued by the Pennsylvania Emergency Management Agency (PEMA). Specifically, the RERP calls for preparation of vehicles for an evacuation at Site Area Emergency and mobilization of vehicles for completion of evacuation at a General Emergency (GE). The RERP also calls for the PASD Superintendent to provide protective action recommendations to district building Principals at a GE.
3. Though the RERP tasks the PASD Superintendent with training PASD personnel utilized in the implementation of the RERP, the Superintendent has not received training and lacked a general awareness of radiological emergency preparedness principles and protective action procedures, including the Commonwealth of Pennsylvania's policy and approval process for the administration of potassium iodide (KI).

POSSIBLE CAUSES:

1. Revision 13 of the RERP has not been revised to reflect PEMA Annex E,
2. Radiological Emergency Preparedness Response to Nuclear Power Plant Incidents, School Radiological Plans Interim Guidance, dated January 10, 2022.
3. The PASD Superintendent has not received adequate training, briefings, or

4. planning guidance in accordance with the RERP.

REFERENCES:
- 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)
- Phoenixville Area School District Radiological Emergency Response Plan
- for Incidents at the Limerick Generating Station, Revision 13
- Pennsylvania Emergency Management Agency Annex E, Radiological Emergency Preparedness Response to Nuclear Power Plant Incidents, School Radiological Plans
- Interim Guidance, dated January 10, 2022

EFFECTS:
- The PASD RERP is not in consonance with current school planning guidance and, if not corrected, could lead to a protective action that may potentially expose children, staff, faculty, and school bus drivers to the harmful effects of ionizing radiation.
- The PASD and schools may not be adequately prepared to respond to an emergency at the Limerick Generating Station.

RECOMMENDATIONS:
1. Recurring training /orientation on the radiological emergency preparedness program should be provided to the PASD Superintendent, executive leadership team, and other key positions.
2. Regular coordination with the Department of Education, through the Pennsylvania Emergency Management Agency and the Chester County Department of Emergency Services, should be undertaken to ensure that planning guidance is provided to the Superintendent of PASD.
3. The PASD RERP should be updated to comply with the Annex E, Interim Guidance for Schools and Colleges, School Radiological Interim Guidance dated on January 10, 2022.
4. Training on the updated PASD RERP should be conducted with the PASD executive leadership team and all schools/ principals in the PASD.
5. The PASD RERP shall be reviewed and updated annually to ensure consonance with the Chester County RERP.
6. To eliminate confusion, the PASD RERP should provide language to clarify the difference between the distribution of KI and the ingestion of KI, as well as clear language describing the approval process for ingestion of KI.

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

3.3.2.2.27 Chester County, Phoenixville Area School District, Barkley 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

3.3.2.2.28 Chester County, Phoenixville Area School District, Schuylkill 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

3.3.2.2.29 Chester County, Phoenixville Area School District, Manavon 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

3.3.2.2.30 Chester County, Phoenixville Area School District, Phoenixville Area Early Learning Center

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

3.3.2.3 Montgomery County

3.3.2.3.1 Montgomery County Emergency Operations Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 3.3, 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

3.3.2.3.2 Collegeville 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

3.3.2.3.3 Douglass 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

3.3.2.3.4 Greenlane- Marlborough 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

3.3.2.3.5 Limerick 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

3.3.2.3.6 Lower Frederick 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

3.3.2.3.7 Lower Pottsgrove 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

3.3.2.3.8 Lower Providence 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

3.3.2.3.9 Lower Salford 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

3.3.2.3.10 New Hanover 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

3.3.2.3.11 Perkiomen 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

3.3.2.3.12 Pottstown 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

3.3.2.3.13 Royersford 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

3.3.2.3.14 Schwenksville 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

3.3.2.3.15 Skippack 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

3.3.2.3.16 Skippack Township Emergency Operation Center Back Up Route Alerting

a. Met: 1.1, 2.2, 3.1
b. Level 1 Findings: NONE
c. Level 2 Findings: ONE (CLOSED)
Issue Number: 35-23-3.2-L2-001

ISSUE FOR CAPABILITY TARGET 3.2: Alert and Notification of the Public

CONDITIONS:
The back-up route alerting team assigned to Skippack Township failed to complete alerting of the public after being notified of a failed siren within the recommended time of 45 minutes. Skippack Township was notified that siren #63 failed. Two team deployed to the area to conduct route alerting.
Team #1 completed at 1900 (75 minutes), and Team #2 completed its portion at 1945 (120 minutes).

POSSIBLE CAUSES:
1. The route for siren #63 is not capable of being completed as currently designed within the prescribed recommended time
2. Route alert maps do not provide clear directions for the driver to follow
3. Inadequate training provided to emergency workers that conducted the route alerting

REFERENCES:
- NUREG-0654/FEMA-REP-1, Rev. 2 (E.2, E.4, E.5, F.3, and O.1);
- DHS/FEMA Radiological Emergency Preparedness Program Manual 2019, Part V.B.1 (4)
- Radiological Emergency Response Plan for Skippack Township Montgomery County,
- Pennsylvania, Annex E (To the Municipal Emergency Operations Plan For Incidents at the Limerick Generating Station) March 2023; Attachment A Section II.4 page 54

EFFECTS:
- Revise route alert plans for Skippack Township so that the plan provides clear directions for the driver.
- Split the route for siren #63 into multiple routes that can be accomplished within the prescribed recommended time.
- Rewrite and/or update county plans to provide adequate resources needed to conduct backup route alerting procedures within Skippack Township
- Update county plans to include recommended goal for backup route alerting.
- Provided corrected action response training to emergency workers.
Conduct a remedial exercise, evaluated by FEMA, as soon as practicable.

CORRECTIVE ACTION:
On November 29, 2023, a remedial exercise was conducted for the Skippack Township Back-Up Route Alerting team. Prior to the remedial exercise, officials from PEMA, Montgomery County, and Skippack Township revised the routes by creating two separate routes (78B and 78E) for siren #63 and essentially splitting the routes

into two zones with two teams running each zone simultaneously. The times for the revised routes were substantially lower than the original routes run during the September 26th exercise and were successfully re-demonstrated within the design objective. The plan revisions, coupled with the re-demonstration exercise, provides reasonable assurance that the public can be alerted if the primary alerting system fails.

FEMA recommends a further analysis of all routes in Skippack Township to ensure that design objectives for back-up alerting can be achieved within a reasonable time, with a goal of 45 minutes.

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

3.3.2.3.17 Upper Frederick 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

3.3.2.3.18 Upper Pottsgrove 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

3.3.2.3.19 Upper Providence Township/Trappe 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

3.3.2.3.20 Upper Salford 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

3.3.2.3.21 West Pottsgrove 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

3.3.2.3.22 Montgomery County Reception Center at Montgomery Mall demonstrated at Montgomery Township Fire Department

a. Met: 1.1, 1.2, 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

3.3.2.3.23 Montgomery County Evacuee Monitoring and Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department

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

3.3.2.3.24 Montgomery County Emergency Worker Monitoring and Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department

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

3.3.2.3.25 Montgomery County Mass Care Assessment at Abington Junior 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

3.3.2.3.26 Montgomery County Mass Care Assessment at Abington 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

3.3.2.3.27 Montgomery County Mass Care Assessment at Cedarbrook Middle 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

3.3.2.3.28 Montgomery County Mass Care Assessment at Cheltenham 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

3.3.2.3.29 Montgomery County, Methacton 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

3.3.2.3.30 Montgomery County, Methacton School District, Eagleville 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

3.3.2.3.31 Montgomery County, Methacton School District, Methacton 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

3.3.2.3.32 Montgomery County, Methacton School District, Woodland

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

3.3.2.3.33 Montgomery County, Perkiomen Valley School District

a. Met: 11.5
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: NONE
e. Prior Issues – Resolved: NONE
f. Prior Issues – Unresolved: NONE

3.3.2.3.34 Montgomery County, Perkiomen Valley School District, South 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

3.3.2.3.35 Montgomery County, Perkiomen Valley School District, Perkiomen Valley Middle School East

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

3.3.2.3.36 Montgomery County, Pottsgrove 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

3.3.2.3.37 Montgomery County, Pottsgrove School District, Pottsgrove 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

3.3.2.3.38 Montgomery County, Pottsgrove School District, West Pottsgrove 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

3.3.2.3.39 Montgomery County, Pottstown 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

3.3.2.3.40 Montgomery County, Pottstown School District, Lincoln 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

3.3.2.3.41 Montgomery County, Pottstown School District, Pottstown 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

3.3.2.3.42 Montgomery County, Souderton 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

3.3.2.3.43 Montgomery County, Souderton Area School District, Salford Hills 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

3.3.2.3.44 Montgomery County, Spring-Ford 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

3.3.2.3.45 Montgomery County, Spring-Ford Area School, Upper Providence Elementary School

a. Met: NONE
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: ONE
Issue Number: 35-23-1.5-P-003

ISSUE FOR CAPABILITY TARGET: 1.5

CONDITION:
Emergency classification level checklists used by schools in the Spring-Ford Area School District (SFASD) are not aligned with the district plan. Specifically, the Upper Providence Elementary School and the Spring-Ford Middle School (7th Center) emergency classification level checklists have not been revised to reflect the host school designation, Montgomery County Community College, as indicated in the SFASD plan. The checklists identified the Plymouth Whitemarsh Senior High School as the host school. The Plymouth Whitemarsh facility was the decontamination center, as told to the evaluator by the police officer at the school.

POSSIBLE CAUSE:
Planners have not updated the school checklists.

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)
- Spring-Ford Area School District Radiological Emergency Response Plan, Revision 13, dated October 2, 2023
- Spring-Ford Area School District School Emergency Classification Level Checklists

EFFECT:
Individual school check lists were not in consonance with current district procedures and, if not corrected, could lead to confusion between the principals (at the time of a real or postulated event) and the district Transportation Director, who was responsible for transporting students to Montgomery County Community College. (Note: the information sent to parents indicated the host school was Montgomery County Community College).

RECOMMENDATION:
Conduct a comprehensive review of all district school checklists for emergencies at Limerick Generating Station; and ensure that they are updated to align with the Spring-Ford Area School District Radiological Emergency Response Plan, Revision 13, dated 10/2/23.

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

3.3.2.3.46 Montgomery County, Upper Perkiomen School District

a. Met: NONE
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Plan Issues: ONE NONE

Issue Number: 35-23-1.5-P-004

ISSUE FOR CAPABILITY TARGET: 1.5

CONDITION:
The Upper Perkiomen School District Radiological Emergency Response Plan, Revision 15, dated September 2023, had conflicting information regarding evacuation of students who reside within the plume EPZ but attend a school located outside the plume EPZ. Two sections of the plan state that these students will be retained at the school they normally attend when an evacuation of the EPZ is ordered, while the enclosed Letter to Parents states these students will be transported to the Upper Perkiomen High school and another section of the plan merely states they will be evacuated (with no location specified).

POSSIBLE CAUSE:
Recent planning guidance from PEMA concerning evacuation of students attending schools outside the Plume EPZ but residing within the Plume EPZ has not been fully incorporated into all sections of the plan.

REFERENCE:
- NUREG-0654/FEMA-REP-1, Rev. 2, J.11.g
- Upper Perkiomen School District Radiological Emergency Response Plan
- PEMA Annex E, Radiological Emergency Preparedness Response to Nuclear Power Plant Incidents, School Radiological Plans Interim Guidance dated January 10, 2022

EFFECT:
School District officials could be confused by the conflicting information and their implementation of an evacuation protective action decision may not being consonance with the revised PEMA planning guidance for students who attend school outside the EPZ but reside within the EPZ. This could result in students being moved, or not moved, to the locations where parents expect to pick them up. In addition, unnecessary movement of students to host schools could impact the availability of transportation resources for schools located within the EPZ.

RECOMMENDATIONS:
- All sections of the school district plan, including the Letter to Parents, should be

reviewed, and updated to comply with the Annex E, Interim Guidance for Schools and Colleges, School Radiological Interim Guidance dated on January 10, 2022.
- Provide initial and recurring training to school district staff on implementing the updated plan.

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

3.3.2.3.47 Montgomery County, Upper Perkiomen School District, Marlborough 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

3.3.3.4 Support Jurisdictions

3.3.3.4.1 Bucks County Emergency Operation Center

a. Met: 1.2, 2.3, 3.2, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Prior Issues – Resolved: NONE
e. Prior Issues – Unresolved: NONE
f. Prior Issues – Unresolved: NONE

3.3.3.4.2 Bucks County Reception Center at County Line Plaza demonstrated at Perseverance Volunteer Fire Company

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

3.3.3.4.3 Bucks County Evacuee Monitoring and Decontamination Station at County Line Plaza demonstrated at Perseverance Volunteer Fire Company

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

3.3.3.4.4 Bucks County Mass Care Assessment at Council Rock North High School

a. Met: 5.1
b. Level 1 Findings: NONE

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

3.3.3.4.5 Bucks County Mass Care Assessment at Council Rock South High School

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

3.3.3.4.6 Bucks County Mass Care Assessment at Central Bucks West High School

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

3.3.3.4.7 Bucks County Mass Care Assessment at Central Bucks South High School

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

3.3.3.4.8 Bucks County Mass Care Assessment at Central Bucks East High School

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

3.3.3.5 Lehigh County

3.3.3.5.1 Lehigh County Emergency Operation Center

a. Met: 1.2, 2.3, 3.2, 3.3
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Prior Issues – Resolved: NONE
e. Prior Issues – Unresolved: NONE
f. Prior Issues – Unresolved: NONE

3.3.3.5.1 Lehigh County Reception Center at Emmaus High School

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

3.3.3.5.2 Lehigh County Mass Care Center at Eyer Middle School

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

3.3.3.5.3 Lehigh County Evacuee Monitoring and Decontamination Station at Emmaus High School

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

3.3.3.5.4 Lehigh County Mass Care Assessment at Southern Mountain Middle School

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

3.3.3.5.3 Lehigh County Evacuee Monitoring and Decontamination Station at Emmaus High School

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

3.3.3.6 Incident Command Post at the Limerick Fire Department, Limerick, PA

3.3.3.6.1 Incident Command Post

a. Met: 1.1, 1.2, 1.4, 1.5, 3.1, 5.4

b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Prior Issues – Resolved: NONE
e. Prior Issues – Unresolved: NONE
f. Prior Issues – Unresolved: NONE

3.3.3.6.2 Tactical Operation Center at the Incident Command Post

a. Met: 1.1, 1.2, 1.4, 1.5, 3.1, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Prior Issues – Resolved: NONE
e. Prior Issues – Unresolved: NONE
f. Prior Issues – Unresolved: NONE

3.3.3.6.3 Staging Area at the Incident Command Post

a. Met: 1.1, 1.2, 1.4, 1.5, 3.1, 5.4
b. Level 1 Findings: NONE
c. Level 2 Findings: NONE
d. Prior Issues – Resolved: NONE
e. Prior Issues – Unresolved: NONE
f. Prior Issues – Unresolved: NONE

Section 4: Demonstrated Strengths

4.1. State Jurisdiction

4.1.1 Commonwealth of Pennsylvania Joint Information Center at the Commonwealth Response Coordination Center

The Joint Information Center Manager's and Public Information Officer's knowledge and understanding of procedures exuded confidence from the whole team. The coordination and information sharing between them in the Situation Room was very obvious through the demonstration. The process for implementing messaging and public information across multiple traditional, technological, and social media platforms by the staff was stellar.

4.1.2 Pennsylvania State Police Troop K Traffic Control Point/Access Control Point (TCP/ACP) located at the Limerick Fire Department

A folder provided to the Pennsylvania State Police containing relevant radiological and emergency worker information, traffic control instructions, and pertinent emergency information contributed to an organized and efficient Traffic and Access Control demonstration.

4.1.3 Pennsylvania State Police Troop K at the Incident Command Post located at the Limerick Fire Department

There was excellent coordination between the Pennsylvania State Police and the Limerick Township Police Department integrating and establishing a functional Incident Command Post.

4.1.4 Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection, located at the Limerick Fire Department

The Bureau of Radiation Protection maintained an ongoing status board with radiological data and current information concerning the onsite hostile action incident at the Incident Command Post located at the Limerick Fire Department.

4.2 Risk Jurisdictions

4.2.1 Berks County Emergency Management Center

The Berks County Emergency Management and Berks County Amateur Radio Emergency Services/Radio Amateur Civil Emergency Services (ARES/RACES) have a tremendous communications capability network, supporting each other throughout the Exercise. Berks County has provided the Berks County ARES/RACES a state-of—the-art separate communications room at the Berks County EOC. Berks County ARES/RACES also had radiomen in each of the six local risk jurisdictions providing communications and emergency information between those locations and the Berks County EOC.

4.2.2 Berks County, Boyertown School District, Boyertown Middle School West

The Boyertown School District has four (4) Student Unification Kits which contain vests, signs, barrier tape, administrative supplies, evacuation maps, procedures, and Kit Student Unification Cards for release of students to parents or guardians.

4.2.3 East Nantmeal Township Emergency Operation Center, Chester County

East Nantmeal personnel were very familiar with the designated back-alerting routes.

4.2.4 East Pikeland Township Emergency Operation, Center, Chester County

All Emergency Operation Center staff were very proactive in making sure they received accurate and timely information to carry out their roles and responsibilities for their township. East Pikeland Township responders displayed excellent leadership and teamwork.

4.2.5 North Coventry Township Emergency Operation Center, Chester County

The North Coventry Township Emergency Operation staff worked well together and supported each other in their duties. As assigned tasks were completed, they assisted others in completing tasks that were more time consuming.

4.2.6 Phoenixville Borough Emergency Operation Center, and Schuylkill Township Emergency Operation Center, Chester County

The Phoenixville Borough Emergency Operations Center (EOC) had an excellent method of contacting and tracking special populations and persons with access and functional needs. An exhaustive list of people that might potentially need assistance was loaded on the EOC display computer and able to be accessed for use. The list included transportation needs and reasons for inclusion on the list. Also available was a detailed list of elderly residents and methods to contact them through a call down tree that could be initiated by EOC staff. The system also contained a method to contact known homeless populations within the community. The ability to contact all these citizens with potential needs during an emergency at Limerick Generating Station was very impressive.

4.2.7 Schuylkill Township Emergency Operation Center, Chester County

The presence of Council Members in the EOC; and a great discussion about the possibility of making Highway 724 a one-way road during an evacuation.

4.2.8 Uwchlan Township Emergency Operation Center, Chester County

The radiological briefing to emergency workers was well and thoroughly done. Emergency workers felt free to ask questions even though they were being evaluated.

The Emergency Management coordinator conducted frequent briefings to the EOC to include all relevant and current information, as well as to determine actions being taken by the various department.

4.2.9 West Pikeland Township Emergency Operation Center, Chester County

The West Pikeland Township Radiological Safety Officer was a key member of the EOC operations who communicated and disseminated information on radiation safety procedures in a timely and efficient manner to ensure the safety of all emergency personnel. She went above and beyond her regular duties by stepping in to lead EOC briefings and effectively coordinate with various response partners.

The West Pikeland Director thoroughly reviewed all incoming notifications via a smart device. When he noticed an error with the Governor's name, he was quick to call the Chester County Public Information Officer and request the error be corrected.

4.2.10 West Vincent Township Emergency Operation Center, Chester County

The West Vincent Township Radiological Safety Officer coordinated activities for the West Vincent, and the West Pikeland Emergency Operation staff who were co-located in their EOC and communicated and disseminated information on radiation safety procedures in a timely and efficient manner to ensure the safety of all emergency personnel. She went above and beyond her regular duties by stepping in to lead EOC briefings and effectively coordinate with various response partners.

4.2.11 Chester County, Great Valley School District

The Great Valley School District Superintendent was very pro-active looking ahead of the Emergency Classification Level (ECL) and using the plan extensively for each change in the ECL before making a decision.

4.2,12 Chester County, Owen J, Roberts School District, Owen J. Roberts Middle School

The Owen J. Roberts Middle School has a system called SkyAlert which it uses to communicate with parents and teachers for a variety of issues to include bad weather, evacuation, early dismissals, etc. This would also be used to communicate to parents and guardians about where/how to pick-up their student(s) at a host school or other location.

4.2.13 Chester County, Owen J. Roberts School District, West Vincent Elementary School

The West Vincent Elementary School nurse was extremely well prepared and provided a lot of input during the discussions with the school principal. The school nurse was caring for a student who was ill, and the discussion centered around whether an ill student would be released to a parent or guardian during an evacuation. The general consensus was that an ill student would be quarantined and evacuate with the remainder of the student population as they did not want to risk have additional parents or guardians arriving at the school.

The school nurse had a pre-organized supply of Potassium Iodide (KI) sorted by homeroom and grade level with accompanying rosters and students whose parents did not give permission to administer KI. This forward thinking would save considerable time with the distribution process and allow the nurse to focus on other responsibilities.

The principal and assistant superintendent worked out how to handle a real-world school trip occurring within the Emergency Planning Zone deciding to notionally relocate those students and staff directly to the host school using the buses on the trip. The principal had great communications up and down the line to better support decisions.

4.2.14 Montgomery County Emergency Operation Center

The Montgomery County Emergency Operation Center used WebEOC to verify critical communications were received by local municipalities. Messages were communicated to the municipalities using multiple methods. Often the messages were communicated using their Everbridge mass notification system and WebEOC. Municipalities were asked to confirm receipt of their messages on WebEOC.

Montgomery County Watch Officers monitored the status of each township to confirm receipt of the messages. Townships that did not indicate that they received the message were contacted by a Watch Center Communicator to confirm receipt.

4.2.15 Montgomery County Emergency Worker Monitoring and Decontamination Station located at the Indian Valley Middle School

Montgomery County has enough trained personnel to equip, supply, set-up, and manage their three (3) emergency worker monitoring and decontamination stations, and their two (2) evacuee monitoring and decontamination centers simultaneously.

4.2.16 Montgomery County Reception Center at Montgomery Mall

The Coordinator did an excellent job of getting the facility set-up, assigning tasks, overseeing monitoring and decontamination, and preparing dosimetry and survey instruments.

4.2.17 Montgomery County, Perkiomen Valley School District, South Elementary School

The school district had a recent emergency and has now implemented a new plan to control the influx of many parents that would arrive for pick-up of students. However, he stressed that once a relocation/evacuation was underway no pick-ups would be permitted.

4.2.18 Montgomery County, Pottsgrove School District

The Pottsgrove School District has developed an excellent detailed and thorough checklist for actions to be taken at each Emergency Classification Level. There are separate checklists for when school is in session and when school is out of session. The checklists were designed for the Emergency Team (School District Office) and building Principals. A Radiological Emergency Response Procedure Instruction Sheet for teachers, nurses, and custodians was also developed. These checklists and procedures were utilized very effectively throughout the exercise.

4.2.19 Collegeville Borough Emergency Operation Center, Montgomery County

The Emergency Management Coordinator for the Collegeville Borough Emergency Operation Center performed admirably upon notification that he would be short-staffed due to a COVID outbreak. He worked diligently coordinating single handedly with the Montgomery County Emergency Operation Center for any required additional resources and to sustain operations. His calm demeanor under pressure was also exemplary demonstrating exceptional leadership characteristics and qualities. He used foresight in planning for any potential surprises so that he was prepared to solve any unforeseen problems.

4.2.20 Limerick Township Emergency Operation Center, Montgomery County

The Limerick Township Radiological Officer provided a thorough and accurate radiological briefing to the Incident /Command Post located at the Limerick Fire Department.

The Limerick Township Police Department Sergeant, the Tactical Operation Center Officer, did an outstanding demonstration of his duties. His decision making was done quickly and accurately in getting personnel where they needed to be deployed.

4.3 Support Jurisdiction

4.3.1 Bucks County Emergency Operation Center

The Bucks County Emergency Operation Center staff demonstrated excellent teamwork and was knowledgeable of their plans and procedures.

4.4 Joint Information Center

4.4.1 Joint Information Center (JIC), Coatesville, PA

The Constellation Joint Information Center traditionally had a separate room for the Commonwealth of Pennsylvania representatives. During this exercise, the Commonwealth staff were invited into the Constellation JIC room allowing for better collaboration and input when crafting press releases and other messaging.

4.4.2 Constellation Emergency Operation Facility (EOF), Coatesville, PA

Due to the exercise scenario for a Hostile Action Based event, the Constellation Field Monitoring Teams could not be deployed, but were instead requested from the Peach Bottom Atomic Power Station. Field monitoring team readings and air sample results from the PA Department of Environmental Protection, Bureau of Radiation Protection, were provided to the utility to validate dose projection calculation using the Unified Radiological Assessment System for Consequence Analysis Interface.

Section 5: Conclusion

The Commonwealth of Pennsylvania and risk jurisdictions demonstrated knowledge of their Radiological Emergency Response Plans (RERP) and procedures were adequately implemented during the Limerick Generating Station Plume Exercise evaluated on September 26, 2023, and the Out-of-Sequence demonstrations conducted on October 16 and 19, 2023.

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 and 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.

FEMA evaluators assessed 518 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

The evaluation of this exercise determined that there was one Level 1 Finding, two Level 2 Findings, and four Plan Issues. The Level 2 Finding assessed to the Daniel Boone Area School District was successfully redemonstrated during the exercise and is closed. The Level 2 Finding assessed to the Skippack Township Back-Up Route Alerting Team was successfully redemonstrated on November 29, 2023, after plans were revised and is now closed. The Level 1 Finding assessed to Boyertown/Colebrookdale Borough was successfully redemonstrated on November 8, 2023, and is now closed. The four Plan Issues remain open at the time of publication of this report.

Based on the results of the exercise, out-of-sequence demonstrations, remedial exercises, 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.

An Improvement Plan (IP) will not be developed as part of this report.

Appendix A: Exercise Timeline

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*								
		CRCC	CRCC JIC	BRP Accident Assessment	Constellation Joint Information Center	Constellation EOF	Incident Command Post	Tactical Operations Center	ICP Staging Area	Troop K Dispatch
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	1607	1613	1625	1640	1619	1625	1645	1647	1647	1606
Site Area Emergency	1631	1637	1644	1644	1643	1648	1655	1655	1655	
General Emergency	1844	1853	1901	1853	1846	1845	1902	1902	1902	
Start of Simulated Radiation Release	1841	1847	1849	1847	1849	1847	1801	1801	1801	
Termination of Simulated Radiation Release	2045	2045	2045	2045	2045	2045	2045	2045	2045	
Facility Declared Operational		1631	1631	1631	1648	1648	1645	1645	1645	
Governor's Declaration of State of Emergency		1720	1720	1720	1720	1720	1735	1735	1735	
Exercise Terminated		2049	2049	2047	2047	2046	2043	2043	2043	
Precautionary Actions: Describe										
Air (3 miles/3,00 ft) Rail (Entire EPZ), and Waterways (Entire EPZ)		1705	1740	1645	1739	1739	1745	1745	1745	
Schools-Cancel Activities and Close Next Day		1645	1650	1645	1645	1645	1745	1745	1745	
Shelter Livestock place on stored feed & covered water		1917	1925	1917	1924	1920	1930	1930	1930	
1st Siren Activation:		1708	1708	1708	1708	1708	1708	1708	1708	
Establish security zone / Stay tuned to EAS instructions		1711	1711	1711	1711	1711	1711	1711	1711	
2d Siren Activation:		1939	1939	1939	1939	1939	1939	1939	1939	
Recommend for all persons in 10-mile EPZ to remain indoors / Stay tuned to EAS instructions		1942	1942	1942	1942	1942	1942	1942	1942	
KI Decision - General Public		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
KI Decision – Emergency Workers		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*									
		Berks County EOC	Amity Township EOC	Boyertown/ Colebrookdale EOC	Douglass Township EOC	Earl Township	Union Township EOC	Washington (BRB) Township EOC	Chester County EOC	Charlestown Township EOC	East Coventry Township EOC
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	1607	1615	1635	1636	1639	1640	1640	1638	1614	1655	1634
Site Area Emergency	1631	1646	1656	1655	1651	1650	1650	1648	1639	1702	1703
General Emergency	1844	1904	1913	1914	1915	1915	1909	1909	1854	1859	1859
Start of Simulated Radiation Release	1741	1743	1853	1820	1737	1854	1755	1723	1723	1752	1752
Terminated of Simulated Radiation Release	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	1758
Facility Declared Operational		1656	1652	1726	1710	1656	1713	1732	1624	1725	1654
Governor's Declaration of State of Emergency		1729	1809	1811	1729	1811	1813	1809	1729	1719	1734
Exercise Terminated		2047	2045	2046	2044	2046	2046	2047	2049	2049	2047
Precautionary Actions: Describe											
Air (3 miles/3,00 ft) Rail (Entire EPZ), and Waterways (Entire EPZ)		1713	1728	1722	1724	1722	1725	1720	1723	1725	1728
Schools-Cancel Activities and Close Next Day		1732	1733	1734	1734	1734	1730	1728	1727	1725	1725
Shelter Livestock place on stored feed & covered water		1928	1928	1950	1932	1932	1950	1734	1924	1926	1924
1st Siren Activation:		1708	1708	1708	1708	1708	1708	1708	1708	1708	1708
Establish security zone / Stay tuned to EAS instructions		1711	1711	1711	1711	1711	1711	1711	1711	1711	1711
2d Siren Activation:		1939	1939	1939	1939	1939	1939	1939	1939	1939	1939
Recommend for all persons in 10-mile EPZ to remain indoors / Stay tuned to EAS instructions		1942	1942	1942	1942	1942	1942	1942	1942	1942	1942
KI Decision – General Public		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KI Decision – Emergency Worker		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*									
		East Nantmeal Township EOC	East Pikeland Township EOC	East Vincent Township EOC	North Coventry Township EOC	Phoenixville Borough EOC	Schuylkill Township EOC	South Coventry Township EOC	Spring City Borough EOC	Upper Uwchlan Township EOC	Uwchlan Township EOC
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	1607	1637	1639	1635	1634	1651	1651	1634	1634	1637	1618
Site Area Emergency	1631	1643	1707	1705	1708	1704	1704	1706	1702	1703	1715
General Emergency	1844	1859	1900	1900	1900	1900	1900	1900	1900	1904	1900
Start of Simulated Radiation Release	1841	1852	1850	1855	1853	1850	1850	1858	1850	1904	1855
Terminated of Simulated Radiation Release	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045
Facility Declared Operational		1658	1655	1655	1712	1704	1704	1650	1645	1657	1650
Governor's Declaration of State of Emergency		1719	1734	1832	1735	1742	1742	1738	1734	1734	1719
Exercise Terminated		2047	2047	2047	2030	2048	2048	2047	2048	2047	1947
Precautionary Actions: Describe											
Air (3 miles/3,00 ft) Rail (Entire EPZ), and Waterways (Entire EPZ)		1707	1707	1707	1710	1741	1741	1716	1706	1707	1714
Schools-Cancel Activities and Close Next Day		1716	1719	1719	1719	1719	1720	1728	1723	1728	1729
Shelter Livestock place on stored feed & covered water		1925	1925	1925	1925	1924	1924	1925	1925	1923	1943
1st Siren Activation		1708	1708	1708	1708	1708	1708	1708	1708	1708	1708
Establish security zone / Stay tuned to EAS instructions		1711	1711	1711	1711	1711	1711	1711	1711	1711	1711
2d Siren Activation		1939	1939	1939	1939	1939	1939	1939	1939	1939	1939
Recommend for all persons in 10-mile EPZ to remain indoors / Stay tuned to EAS instructions		1942	1942	1942	1942	1942	1942	1942	1942	1942	1942
KI Decision – General Public		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KI Decision – Emergency Workers		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*									
		Warwick Township EOC	West Pikeland Township EOC	West Vincent Township EOC	Montgomery County EOC	Collegeville Borough EOC	Douglass Township EOC	Green Lane/ Marlborough Township EOC	Limerick Township EOC	Lower Frederick Township EOC	Lower Pottsgrove Township EOC
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/Aa	N/A	N/A	N/A	N/A
Alert	1607	1628	1608	1608	1614	1632	1628	1628	1628	1631	1628
Site Area Emergency	1631	1755	1704	1704	1650	1655	1701	1658	1654	1653	1653
General Emergency	1844	1908	1904	1904	1903	1909	1910	1907	1909	1909	1911
Start of Simulated Radiation Release	1841	1904	1904	1904	1852	1837	1739	1854	1854	1854	1855
Terminated of Simulated Radiation Release	2045	2050	2050	2049	2049	2049	2049	2049	2049	2049	2049
Facility Declared Operational		1715	1713	1713	1632	1700	1646	1647	1658	1645	1641
Governor's Declaration of State of Emergency		1738	1734	1734	1742	1749	1749	1744	1742	1746	1746
Exercise Terminated		2039	2047	2047	2051	2110	2051	2047	2050	2050	2050
Precautionary Actions: Describe											
Air (3 miles/3,00 ft) Rail (Entire EPZ), and Waterways (Entire EPZ)		1707	1707	1707	1707	1725	1724	1740	1724	1725	1741
Schools-Cancel Activities and Close Next Day		1728	1742	1742	1728	1728	1728	1729	1726	1728	1728
Shelter Livestock place on stored feed & covered water		1924	1924	1924	1924	1941	1940	1939	1941	1941	1929
1st Siren Activation:		1708	1708	1708	1708	1708	1708	1708	1708	1708	1708
Establish security zone / Stay tuned to EAS instructions		1711	1711	1711	1711	1711	1711	1711	1711	1711	1711
2d Siren Activation:		1939	1939	1939	1939	1939	1939	1939	1939	1939	1939
Recommend for all persons in 10-mile EPZ to remain indoors / Stay tuned to EAS instructions		1942	1942	1942	1942	1942	1942	1942	1942	1942	1942
KI Decision – General Public		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KI Decision – Emergency Workers		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*									
		Lower Providence Township EOC	Lower Salford Township EOC	New Hanover Township EOC	Perkiomen Township EOC	Pottstown Borough EOC	Royersford Borough EOC	Schwenksville Borough EOC	Skippack Township EOC	Upper Frederick Township EOC	Upper Pottsgrove Township EOC
Unusual Event	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	N/A	N/A	N/A
Alert	1607	1631	1642	1629	1628	1629	1629	1629	1631	1631	1628
Site Area Emergency	1631	1701	1653	1640	1654	1742	1654	1651	1712	1703	1657
General Emergency	1844	1910	1907	1909	1858	1910	1909	1910	1910	1909	1910
Start of Simulated Radiation Release	1841	1739	1742	1739	1737	1737	1737	1737	1750	1739	1737
Terminated of Simulated Radiation Release	2045	2049	2050	2100	2049	2054	2054	2053	2100	2100	2100
Facility Declared Operational		1646	1730	1642	1647	1655	1645	1718	1650	1715	1646
Governor's Declaration of State of Emergency		1742	1742	1806	1754	1744	1742	1749	1750	1742	1745
Exercise Terminated		2051	2051	2051	2050	2052	2051	2051	2050	2050	2052
Precautionary Actions: Describe											
Air (3 miles/3,00 ft) Rail (Entire EPZ), and Waterways (Entire EPZ)		1725	1725	1724	1724	1725	1725	1724	1725	1725	1726
Schools-Cancel Activities and Close Next Day		1700	1657	1705	1713	1720	1725	1720	1715	1720	1713
Shelter Livestock place on stored feed & covered water		1943	1941	1941	1943	1941	1941	1941	1941	1942	1943
1st Siren Activation:		1708	1708	1708	1708	1708	1708	1708	1708	1708	1708
Establish security zone / Stay tuned to EAS instructions		1711	1711	1711	1711	1711	1711	1711	1711	1711	1711
2d Siren Activation:		1939	1939	1939	1939	1939	1939	1939	1939	1939	1939
Recommend for all persons in 10-mile EPZ to remain indoors / Stay tuned to EAS instructions		1942	1942	1942	1942	1942	1942	1942	1942	1942	1942
KI Decision – General Public		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KI Decision – Emergency Workers		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Emergency Classification Level or Event	Time Utility Declared	*Time That Notification Was Received at the Listed Location*									
		Upper Providence/ Trappe EOC	Upper Salford Township EOC	West Pottsgrove Township EOC	Bucks County EOC	Lehigh County EOC					
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A					
Alert	1607	1630	1624	1622	1623	1638					
Site Area Emergency	1631	1654	1654	1641	1641	1650					
General Emergency	1844	1912	1909	1911	1902	1900					
Start of Simulated Radiation Release	1841	1850	1854	1854	1855	1855					
Terminated of Simulated Radiation Release	2045	2053	2053	2053	2053	2054					
Facility Declared Operational		1650	1650	1642	1652	1653					
Governor's Declaration of State of Emergency		1740	1746	1750	1719	1729					
Exercise Terminated		2053	2051	2053	2044	2044					
Precautionary Actions: Describe											
Air (3 miles/3,00 ft) Rail (Entire EPZ), and Waterways (Entire EPZ)		1724	1724	1726	1726	1726					
Schools-Cancel Activities and Close Next Day		1708	1708	1709	1711	1711					
Shelter Livestock place on stored feed & covered water		1941	1941	1944	1941	1942					
1st Siren Activation:		1708	1708	1708	1708	1708					
Establish security zone / Stay tuned to EAS instructions		1711	1711	1711	1711	1711					
2d Siren Activation:		1939	1939	1939	1939	1939					
Recommend for all persons in 10-mile EPZ to remain indoors / Stay tuned to EAS instructions		1942	1942	1942	1942	1942					
KI Decision – General Public		N/A	N/A	N/A	N/A	N/A					
KI Decision – Emergency Workers		N/A	N/A	N/A	N/A	N/A					

Appendix B: Exercise Evaluators and Team Leaders

The following is the list of Evaluators and Team Leaders for the Limerick Generating Station Radiological Emergency Preparedness Plume Pathway Exercise evaluated on September 26, 2023, and Out-of-Sequence Exercises on October 16 and 19, 2023. The following constitutes the managing staff for the Exercise Evaluation:

- Thomas Scardino, DHS/FEMA, Regional Assistance Committee (RAC) Chair
- Joe Suders, DHS/FEMA, Team Leader
- Kathy Duran, DHS/FEMA, Site Specialist

Location/Venue	Evaluator	Agency
Commonwealth Response Coordination Center (CRCC)	Dan Rose (TL)	FEMA R3
Commonwealth Response Coordination Center (CRCC)	Taylor Griffiths	FEMA R3
Commonwealth Response Coordination Center (CRCC)	Jose Kerlin (OJT)	FEMA R3
Commonwealth Joint Information Center at the CRCC	Darren Bates	FEMA HQ
Pennsylvania Accident Assessment Center (BRP) at the CRCC	Mike Howe (TL)	FEMA HQ
Pennsylvania Accident Assessment Center (BRP) at the CRCC	Narvaez Stinson	FEMA HQ
Constellation Joint Information Center (JIC)	Matt Welshans	FEMA HQ
Constellation Emergency Operations Facility (EOF)	Ken Wierman	FEMA HQ
State Field Monitoring Team (R3V) (BRP)	John Wills	REP Support Team
State Field Monitoring Team A (BRP)	Mike DeBonis	FEMA R2
Pennsylvania State Police Skippack Barracks, Troop K (Dispatch)	Todd Gemski	FEMA R5
Pennsylvania State Police Troop K (TCP/ACP) at Incident Command Post	Todd Gemski	FEMA R5
Incident Command Post at the Limerick Fire Department	Joe Suders (TL)	FEMA R3
Incident Command Post at the Limerick Fire Department	John Christiansen	REP Support Team
Tactical Operations Center at the Limerick Fire Department	Jeff Clark	FEMA R7
Staging Area at the Limerick Fire Department	Janise Stoliarova	FEMA HQ
Berks County Emergency Operation Center	Brian Hasemann (TL)	FEMA R2
Berks County Emergency Operation Center	Peter Connell	FEMA R3

Berks County Emergency Operation Center	Tina Thomas	FEMA R3
Amity Township Emergency Operation Center	Ronald Schmitt	REP Support Team
Boyertown/Colebrookdale Emergency Operation Center	Cody McKown	FEMA R7
Boyertown/Colebrookdale Emergency Operation Center Back Up Route Alerting	PJ Nied	REP Support Team
Douglass Township Emergency Operation Center	Bill Webb	REP Support Team
Earl Township Emergency Operation Center	George LaBonte	FEMA R3
Union Township Emergency Operation Center	John Wiecjorek	REP Support Team
BWB (Washington Township) Emergency Operation Center	Marynette Herndon	REP Support Team
Chester County Emergency Operation Center	Lee Torres (TL)	FEMA R3
Chester County Emergency Operation Center	Zachary Corle	FEMA R3
Chester County Emergency Operation Center	David Zarnick	FEMA R3
East Coventry Township Emergency Operation Center	Kevin Malone	FEMA R2
East Nantmeal Township Emergency Operation Center	Steve Candurra	FEMA R2
East Nantmeal Township Emergency Operation Center Back-Up Route Alerting	Tim Pflieger	FEMA R6
East Pikeland Township Emergency Operation Center	Helen LaForge	FEMA R1
East Vincent Township Emergency Operation Center	David Kayen	REP Support Team
North Coventry Township Emergency Operation Center	Melody Geer	REP Support Team
Phoenixville Borough Emergency Operation Center	Bart Ray	REP Support Team
Schuylkill Township Emergency Operation Center	Meg Swearingen	REP Support Team
South Coventry Township Emergency Operation Center	Cheryl Weaver	REP Support Team
Spring City Borough Emergency Operation Center	Terry Blackmon	REP Support Team
Upper Uwchlan Township Emergency Operation Center	Taneeka Hollins	FEMA R1
Uwchlan Township Emergency Operation Center	Rebecca Thomsen	REP Support Team
Warwick Township Emergency Operation Center	Paul Anderson	REP Support Team

West Pikeland Township Emergency Operation Center	Linda Gee	FEMA R6
West Vincent Township Emergency Operation Center	James Fumbanks	FEMA HQ
Montgomery County Emergency Operation Center	Alex Hazard (TL)	FEMA R3
Montgomery County Emergency Operation Center	Chris Cammarata	FEMA R2
Montgomery County Emergency Operation Center	Dennis Cribben	FEMA R3
Montgomery County Emergency Operation Center	Bob Zucker	FEMA R3
Collegeville Borough Emergency Operation Center	Alonzo McSwain	FEMA HQ
Douglass Township Emergency Operation Center	Tom Reynolds	REP Support Team
Greenlane-Marlborough Emergency Operation Center	Roy Smith	REP Support Team
Limerick Township Emergency Operation Center	Kevin Reed	REP Support Team
Lower Frederick Township Emergency Operation Center	Deb Blunt	REP Support Team
Lower Pottsgrove Township Emergency Operation Center	Bruce Swiren	REP Support Team
Lower Providence Emergency Operation Center	Herb Massie	REP Support Team
Lower Salford Emergency Operation Center	Tom Essig	REP Support Team
New Hanover Township Emergency Operation Center	Paul Ringheiser	REP Support Team
Perkiomen Township Emergency Operation Center	Bob Princic	REP Support Team
Pottstown Borough Emergency Operation Center	Brenda Rembert	REP Support Team
Royersford Borough Emergency Operation Center	Bill McDougall	REP Support Team
Schwenksville Borough Emergency Operation Center	Don Carlton	REP Support Team
Skippack Township Emergency Operation Center	George Odom	FEMA HQ
Skippack Township Emergency Operation Center Back-Up Route Alerting	George Odom	FEMA HQ
Upper Frederick Township Emergency Operation Center	Lynn Steffensen	REP Support Team
Upper Pottsgrove Township Emergency Operation Center	Jill Leatherman	REP Support Team
Upper Providence Township/Trappe Borough Emergency Operation Center	Reggie Rodgers	REP Support Team

Upper Salford Township Emergency Operation Center	Rosemary Samsel	REP Support Team
West Pottsgrove Township Emergency Operation Center	Richard Watts	REP Support Team
Bucks County Emergency Operation Center	LaShawn Halsey	FEMA HQ
Lehigh County Emergency Operation Center	Andy Chancellor	FEMA R7
Boyertown Area School District	Joe Suders (TL)	FEMA R3
Boyertown Area Senior High School	PJ Nied	REP Support Team
Boyertown Middle School West	Ken Wierman	FEMA HQ
Daniel Boone Area School District	Taylor Griffiths	FEMA R3
Daniel Boone Area High School	Lorenzo Leon (OJT)	FEMA R3
Downingtown Area School District	Mike DeBonis	FEMA R2
Great Valley School District	Jeff Clark	FEMA R7
Owen J. Roberts School District	Alex Hazard (TL)	FEMA R3
Owen J. Roberts High School	Reggie Rodgers	REP Support Team
Owen J. Roberts Middle School	Larry Broockerd	FEMA HQ
West Vincent Elementary School	Matt Welshans	FEMA HQ
Phoenixville Area School District	Dan Rose (TL)	FEMA R3
Barkley Elementary School	David Zarnick (OJT)	FEMA R3
Schuylkill Elementary School	Cody McKown	FEMA R7
Manavon Elementary School	Darren Bates	FEMA HQ
Phoenixville Area Early Learning Center	Stephen Watts	REP Support Team
Methacton School District	Lee Torres (TL)	FEMA R3
Eagleville Elementary School	Tina Thomas	FEMA R3
Methacton Senior High School	Dennis Cribben (OJT)	FEMA R3
Woodland Elementary School	March Campbell	REP Support Team
Perkiomen Valley School District	Andy Chancellor	FEMA R7
South Elementary School	Bart Ray	REP Support Team
Perkiomen Valley Middle School East	Roy Smith	REP Support Team
Pottsgrove School District	Brian Hasemann	FEMA R2

Pottsgrove High School	Deb Blunt	REP Support Team
West Pottsgrove Elementary School	Tom Gahan	REP Support Team
Pottstown School District	Chris Cammarata	FEMA R2
Lincoln Elementary School	Gary Goldberg	REP Support Team
Pottstown High School	Bill McDougall	REP Support Team
Souderton Area School District	Sam Paletta	REP Support Team
Salford Hills Elementary School	Kevin Reed	REP Support Team
Spring-Ford Area School District	Paul Ringheiser	REP Support Team
Upper Providence Elementary School	Carol Shepard	REP Support Team
5th and 6th Grade Center	Rosemary Samsel	REP Support Team
7th Grade Center	Richard Watts	REP Support Team
8th Grade Center	Bruce Swiren	REP Support Team
Spring-Ford High School	Lynn Steffensen	REP Support Team
Upper Perkiomen School District	Tom Morgan	FEMA R7
Marlborough Elementary School	Cheryl Weaver	REP Support Team
Berks County Reception Center at the Oley Township Municipal Building	Deb Blunt	REP Support Team
Berks County Emergency Worker Monitoring and Decontamination Station at Oley Valley High School	Ken Wierman	FEMA HQ
Berks County Emergency Worker Monitoring and Decontamination Station at Oley Valley High School	Mike DeBonis	FEMA R2
Berks County Evacuee Monitoring and Decontamination Station at Wilson High School Lower House	Jeff Clark	FEMA R7
Berks County Evacuee Monitoring and Decontamination Station at Wilson High School Lower House	Cheryl Weaver	REP Support Team
Berks County Mass Care Assessment at Wilson High School Upper House	Paul Ringheiser	REP Support Team
Berks County Mass Care Assessment at Muhlenberg High School	Lee Torres	FEMA R3

Berks County Mass Care Assessment at Muhlenberg Middle School	Lee Torres	FEMA R3
Berks County Mass Care at Wilson High School Lower House	Matt Welshans	FEMA HQ
Bucks County Reception Center at County Line Plaza demonstrated at Perseverance Volunteer Fire Company	Gary Goldberg	REP Support Team
Bucks County Evacuee Monitoring and Decontamination Station at County Line Plaza demonstrated at Perseverance Volunteer Fire Company	Andy Chancellor	FEMA R7
Bucks County Mass Care Assessment at Council Rock North High School	Alex Hazard	FEMA R3
Bucks County Mass Care Assessment at Council Rock South High School	Alex Hazard	FEMA R3
Bucks County Mass Care Assessment at Central Bucks West High School	Alex Hazard	FEMA R3
Bucks County Mass Care Assessment at Central Bucks South High School	Alex Hazard	FEMA R3
Bucks County Mass Care Assessment at Central Bucks East High School	Alex Hazard	FEMA R3
Chester County Reception Center at the West Whiteland Township Building	Cody McGown	FEMA R7
Chester County Reception Center at the West Whiteland Township Building	James Fumbanks	FEMA HQ
Chester County Evacuee Monitoring and Decontamination Station at the West Whiteland Township Building	Larry Broockerd	FEMA HQ
Lehigh County Reception Center at Emmaus High School	Bill McDougall	REP Support Team
Lehigh County Evacuee Monitoring and Decontamination Station at Emmaus High School	Brian Hasemann	FEMA R2

Lehigh County Evacuee Monitoring and Decontamination Station at Emmaus High School	Marcy Campbell	REP Support Team
Lehigh County Mass Care at Eyer Middle School	Kevin Reed	REP Support Team
Lehigh County Mass Care Assessment at Southern Mountain Middle School	Kathy Duran	FEMA R3
Montgomery County Reception Center at Montgomery Mall demonstrated at Montgomery Township Fire Department	Rosemary Samsel	REP Support Team
Montgomery County Evacuee Monitoring and Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department	Bary Ray	REP Support Team
Montgomery County Evacuee Monitoring and Decontamination Station at Montgomery Mall demonstrated at Montgomery Township Fire Department	Chris Cammarata	FEMA R2
Montgomery County Emergency Worker Monitoring and Decontamination Station at Indian Valley Middle School	Reggie Rodgers	REP Support Team
Montgomery County Emergency Worker Monitoring and Decontamination Station at Indian Valley Middle School	Roy Smith	REP Support Team
Montgomery County Mass Care Assessment at	Lee Torres	FEMA R3
Montgomery County Mass Care Assessment at	Lee Torres	FEMA R3
Montgomery County Mass Care Assessment at	Lee Torres	FEMA R3
Montgomery County Mass Care Assessment at	Lee Torres	FEMA R3

Appendix C: Extent-of-Play Agreement

The Extent-of-Play Agreement was extracted from the Exercise Plan, which was drafted by Pennsylvania Emergency Management Agency and is included in this report as an Appendix. The Extent- of-Play was negotiated and agreed upon by FEMA Region 3 and the Pennsylvania Emergency Management Agency.

The Exercise Plan was created as an overall tool for facilitation and implementation of the Limerick Generating Station Plume Exercise and to integrate the concepts and policies of the Homeland Security Exercise Evaluation Program with the Radiological Emergency Preparedness Program Exercise Methodology.

METHOD OF OPERATION AND EXTENT OF PLAY

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:
Pre-positioning of state emergency personnel (Liaison Officers) at the Emergency Operations Facility (EOF), the Utility Joint Information Center (JIC) and Risk and Support Counties is appropriate due to the commuting distance from the individual's duty location or residence. Risk municipalities will conduct callouts to demonstrate the mobilization of key personnel. The method for mobilizing staff will be discussed with the FEMA evaluator and any equipment utilized for notification will be shown and described through interview. • *Actual calls (or pager notifications) will be made to the municipal EOC personnel and law enforcement personnel involved in the HAB response for the Plume Phase exercise per plans and procedures.* • *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, Tactical Operations Center, Staging Area, and Incident Command Post will **NOT** pre-stage but will wait for notification of emergency before staffing their duty location. They may however wait in close proximity to their duty location.*

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:

The ICP/TOC may utilize a plan which FEMA may inspect in advance at a mutually agreed time and place for operational security purposes.

Montgomery County – Upper Providence and Trappe Borough have regionalized their emergency management efforts. They will demonstrate and be evaluated as one EOC.

Chester County EMC notified FEMA on August 14, 2023, that the Schuylkill Township EOC will demonstrate at the new Phoenixville Borough EOC location during the exercise.

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.

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. A box of KI will be available to the evaluator to verify the lot number and expiration date. KI questions will be addressed through interviews.

Annual Direct Reading Dosimeter leakage testing verification will be available to the evaluator. All DRDs "read" in units of Roentgens. The Commonwealth, counties and municipalities do not use DRDs which "read" in units of milli-Roentgens.

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, in sufficient quantities to support planning assumptions, will be available for viewing by evaluators. If Reception Centers are co-located 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: 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? Was 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, verification of lot numbers, and expiration dates. 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. All personnel staffing the centers shall be issued a simulated PRD and its use explained to the evaluator. Actual PRDs will be available for evaluator inspection.* *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 (based upon residential jurisdiction). Copies of these lists will not be provided to the evaluators; however, evaluators will be allowed to inspect the lists during the exercise.* ***NOTE:*** *Berks County maintains a countywide access/functional needs list for individuals requiring assistance. This list may be viewed at the county as it will not be disseminated for exercise purposes.* *Evaluators may ask, by interview at the county, about the transportation plans concerning transportation, staging, source of vehicles, 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) will be actual. All subsequent calls will be simulated. Actual 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 centers 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, reoccupancy, 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 was 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 reoccupancy?
   - What factors were taken into account to consider reoccupancy?
   - 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?

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.

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.

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.

The Staging Area Supervisor will ensure that emergency workers under their control receive a radiological briefing, are equipped with radiological dosimetry and are practicing emergency worker exposure control. Dosimetry will be distributed to these initial deployment personnel as soon as reasonably possible.

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. For this exercise, a PEMA Fly Away Kit will be positioned for use at the TOC. For purposes of demonstration a drill kit will be utilized. The drill kit shall contain appropriate PPE for the mission per Annex E.
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, Medical Services hospital staffs). EMS crews transporting contaminated or potentially contaminated individuals outside of the EPZ are <u>not</u> 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. All staff shall be issued a PRD(simulated)and explain its use to the evaluator. Actual PRDs will be made available to the evaluator.

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:
The plant will communicate to the risk counties and CRCC utilizing the EMNet Communications System (primary) and the commercial telephone system (secondary). Risk and support counties will intercommunicate with the CRCC via the commercial telephone system (primary), SEVAN (secondary), 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 ***Montgomery 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.* *Bureau of Radiation Protection Field Teams will demonstrate two or more forms of communications. BRP is only being observed for this exercise.* *Law enforcement staff at the ICP/TOC and Staging Area will demonstrate two methods of communications.*

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 process, up to the point of dissemination of the EAS message, will be demonstrated to the evaluator. 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.* ***All actions to broadcast stations will be simulated. Systems that use automatic sending technology may be demonstrated by explanation during an interview.*** *Each evaluated municipality per risk county will demonstrate, by interview, route alerting of the hearing-impaired residents within their jurisdiction. Hearing impaired notification teams will not be deployed.* *Back-up alert notification of the public due to a simulated siren failure will be demonstrated. (Refer to Attachment A, Section II.4) County liaisons will give an inject to the county siren dispatcher, upon confirmation that sirens were sounded, that a particular siren has failed in the municipalities scheduled to demonstrate back-up route alerting. Notice of the siren failure will then be communicated to the appropriate municipalities/locations so they can demonstrate their recommended goal of 45 minute per-identified back-up route alert run as per Attachment A, Section II.4 Pennsylvania does not have any "exception areas." The 45-minute clock starts when the siren dispatcher receives the notification that a siren has failed. For the 2023 Exercise, if the route requires two vehicles to meet the objective of a recommended goal of 45 minutes to complete, then the FEMA evaluator will run a segment with the first vehicle (second vehicle to wait for return of FEMA*

evaluators), then the FEMA evaluator will run the second segment with the second vehicle. Maps of back-up route alerting will be provided to FEMA in advance of the exercise.

NOTE: Non-emergency personnel are not permitted to ride along in emergency vehicles (e.g. fire trucks, police vehicles) during the route alerting demonstration. FEMA evaluators will need to drive in their own vehicles.

IPAWS may be used, as long as it does not interfere with the required, demonstrated, and evaluated notifications. Alternate methods of alerting will NOT be evaluated.

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 inquires 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. This will **NOT** be subject to specific time requirements. 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 evaluators will meet the field teams at the Radiological Rapid Response Vehicle (R3V) staging area at Wilson Farm Park, 500 Lee Road in Chesterbrook, Pennsylvania 19087 at 1:30 p.m. on September 26, 2023 to evaluate instrumentation checks and equipment inventory verification. *Field Team Control will be performed within or near the 10-mile EPZ using the DEP R3V. During the exercise, the field teams will be directed to take measurements in locations to provide information sufficient to characterize the plume and impacts. If necessary, field teams will be provided with inject(s) for additional demonstration. The inject(s) will have no impact on the CRCC's activities. In addition to field team measurements, remote detectors may be placed by the field teams near the expected plume pathway. These detectors may transmit data to the R3V. ADM-300s will be used for this exercise. Field teams will follow As Low As Reasonably Achievable (ALARA) principles in the deployment of these detectors.* *Field teams will <u>not</u> 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.
    - Were 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 the DEP/BRP, in accordance with the State Annex E, Appendix 6, BRP Technical Assessment ad Protective Actions, and the BRP Standard Implementing Procedures (IPs). Two mobile monitoring teams from the BRP Southeast Regional Office will demonstrate ambient radiation monitoring and radioiodine, and particulate sampling. Field teams will be equipped with appropriate dosimetry and KI. Field teams <u>will not</u> be evaluated by FEMA. Each team will be directed to monitoring locations and perform actual radiation measurements at each location. Measurements may consist of truck installed radiation monitor or hand-held radiation instruments. Field teams will take simulated air samples, as directed and relay information to the R3V. In place of silver zeolite cartridges, field teams will simulate using charcoal cartridges during the exercise. All measurements and data will be immediately forwarded to the R3V. All field team data that is forwarded to the R3V, can be entered into the RadResponder Network either by hand-

held mobile devices (FMTs) or laptop computer (R3V). That data will be maintained for further evaluation and assessment.

FEMA evaluators will meet the field teams on September 26, 2023, at 1:30 p.m. at the R3V staging area at Wilson Farm Park, 500 Lee Road in Chesterbrook, Pennsylvania 19087. At this time, FEMA evaluators are permitted to ride along in the BRP vehicles.

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 evaluated 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?
   - Was 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.

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 (stand-alone – non-mon/decon activity sites) *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.*

Floor plans showing set-up (inside), and visual traffic pattern layouts (outside) must be provided at Reception Centers.

Bucks County will demonstrate the County Line Plaza activities at an alternate location: Perseverance Volunteer Fire Company located at 266 North Second Street, Souderton, PA 18964.

Montgomery County will demonstrate the Montgomery Mall activities at an alternate location: Montgomery Township Fire Department Station located at 325 Stump Road, North Wales, PA 19454.

County Plans will include floor plans and diagrams showing facility set up and vehicular traffic flow.

***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. County Plans will include floor plans and diagrams of monitoring/decontamination centers 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 using either portal monitors or hand- held meters,** a minimum of six volunteer evacuees will be monitored (or any combination of individuals totaling six demonstrations). 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 remain contaminated after two decontamination attempts. Exercise participants will be prepared to discuss the process of handling the evacuee following the failed decontamination attempts. 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.*

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

***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. Floor plans with a visual set-up (Visual Aid) for evacuee monitoring/decontamination centers and emergency worker monitoring and decontamination stations need to be provided.

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 mass care center operations during the out-of-sequence window 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, Section I.4).

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 October 19, 2023 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. This out-of-sequence demonstration window will be on October 19, 2023 from 7:00 p.m. to 9:30 p.m. (See Attachment A, Section I.4)

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. Should the facility be inaccessible or closed, the ARC will provide assessment documentation and participate in interviews with FEMA to fulfill this requirement. FEMA may conduct the interview either in-person or virtually with the Regional ARC Coordinator for a given county.

AMERICAN RED CROSS RISK AND SUPPORT COUNTY CHAPTERS:

Philadelphia Chapter (Serving
Bucks County) 2221 Chestnut
Street
Philadelphia, Pennsylvania 19103
Michael Williams: (267) 379-3110
michael.williams13@redcross.org

Delaware Valley Chapter
(Serving Montgomery and Chester Counties) 601
Westtown Road, Suite 385
West Chester, Pennsylvania 19382 Lee
Moultrie: (215) 779-2805
lee.moultrie@redcross.org

PA Rivers Chapter (Serving Berks
County) 701 Centre Avenue
Reading, Pennsylvania 19601
Danielle Henkel: (484) 294-1631
danielle.henkel@redcross.org

PA Rivers Chapter (Serving Lehigh
County) 3939 Broadway
Allentown, Pennsylvania 18104
Danielle Henkel: (484) 294-1631
danielle.henkel@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. Decontamination should be performed in accordance with plans and procedures. Vehicle decontamination will be demonstrated in accordance with plans and procedures. If water is not used then the process for the flow of water will be explained to the evaluator. 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 may be used for vehicle decontamination.* ***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 Holy Redeemer Hospital, Montgomery County on October 25, 2022. The other Medical Services hospitals were federally evaluated in 2022: Abington-Jefferson Health on September 22, Lehigh Valley Hospital on June 23, and Reading Hospital Tower Health on May 18.

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 through controller inject or interview 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 will receive the inject only.*