



Limerick Generating Station
Limerick, Pennsylvania
After Action Report/Improvement Plan
Exercise Date – November 16, 2021
Radiological Emergency Preparedness (REP) Program



FEMA

Published February 1, 2022

This page is intentionally blank.

Limerick Generating Station

After Action Report/Improvement Plan

Published February 1, 2022

EXECUTIVE SUMMARY	5
SECTION 1: EXERCISE OVERVIEW	7
1.1 Exercise Details.....	7
1.2 Exercise Planning Team Leadership	7
1.3 Participating Organizations	7
SECTION 2: EXERCISE DESIGN SUMMARY	19
2.1 Exercise Purpose and Design	19
2.2 Exercise Objectives, Capabilities and Activities.....	21
2.3 Scenario Summary	22
SECTION 3: ANALYSIS OF CAPABILITIES.....	23
3.1 Exercise Evaluation and Results.....	23
3.2 Summary Results of Exercise Evaluation	23
3.3 Criteria Evaluation Summaries	30
3.3.1 State Jurisdictions	30
3.3.2 Risk Jurisdictions	33
3.3.3 Support Jurisdictions.....	54
3.3.4 Mass Care Assessments.....	55
SECTION 4: DEMONSTRATED STRENGTHS	63
4.1 Risk Jurisdictions.....	63
4.2 Support Jurisdictions.....	65
4.3 Schools/School Districts.....	66
SECTION 5: CONCLUSION.....	68
APPENDIX A: EXERCISE TIMELINE.....	69
APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS	75
APPENDIX C: ACRONYMS AND ABBREVIATIONS.....	81
APPENDIX D: EXTENT OF PLAY AGREEMENT.....	84

This page is intentionally blank.

EXECUTIVE SUMMARY

On November 16, 2021, a full participation 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-scale Plume Exercise at this site was evaluated on November 19, 2019.

Out-of-Sequence demonstrations were conducted on October 20, November 17, and December 1-2, 2021. 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 Limerick Generating Station. The findings in this report are based on the evaluations of the Federal evaluation team, with final determinations made by the FEMA, Region 3 Regional Assistance Committee (RAC) Chairperson, and approved by FEMA Headquarters. These reports are provided to the Nuclear Regulatory Commission (NRC) and participating States. State and local governments utilize the findings contained in these reports for the purposes of planning, training, and improving emergency preparedness.

The evaluation of this exercise determined that there were no Level 1 Findings, no Level 2 Findings, and two Plan Issues which were resolved prior to the publish date of this report after revised plans and procedures were received by FEMA.

A Level 1 Finding is defined by the FEMA Radiological Emergency Preparedness Program Manual as follows: "An observed or identified inadequacy of organizational performance in an exercise that could cause a determination that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a Nuclear Power Plant (NPP)."

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

Finally, a Plan Issue is: "An observed or identified inadequacy in the ORO's 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; 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 Planning Team" and the "Participating Organizations."

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

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

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

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

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

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

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Limerick Generating Station Plume Exercise

Type of Exercise

Plume

Exercise Date

November 16, 2021

Program

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type

Radiological Release

1.2 Exercise Planning Team Leadership

Kathy Duran

Senior Emergency Management Specialist

DHS/FEMA Region 3

One Independence Mall, 6th Floor

615 Chestnut Street

Philadelphia, PA, 19106-4404

(215) 478-2921

Kathryn.duran@fema.dhs.gov

Sandra B. Silva

Planning Administrator (Division Chief)

Pennsylvania Emergency Management Agency

Nuclear Power Plants Division

1310 Elmerton Avenue

Harrisburg, Pennsylvania 17110

(717) 651-2235

sansilva@pa.gov

1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Limerick Generating Station (LGS) exercise:

State Jurisdictions

Commonwealth of Pennsylvania

- Commonwealth of Pennsylvania
- Pennsylvania Department of Aging
- Pennsylvania Department of Agriculture
- Pennsylvania Department of Conservation and Natural Resources
- Pennsylvania Department of Corrections
- Pennsylvania Department of Drug and Alcohol Programs
- Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection
- Pennsylvania Department of General Services
- Pennsylvania Department of Health
- Pennsylvania Department of Human Services
- Pennsylvania Department of Labor and Industry
- Pennsylvania Department of Military and Veterans Affairs
- Pennsylvania Department of Transportation
- Pennsylvania Emergency Management Agency
- Pennsylvania Fish and Boat Commission
- Pennsylvania Game Commission
- Pennsylvania Office of Administration
- Pennsylvania Public Utilities Commission
- Pennsylvania State Police
- Pennsylvania Watch Center

Risk Jurisdictions

Berks County

- Berks Area Regional Transportation Authority
- Berks County Affiliated Services Branch
- Berks County Animal Control
- Berks County Business and Industry
- Berks County Commissioners
- Berks County Cooperative Extension Agency
- Berks County Cumru Township Fire Department
- Berks County Department of Mental Health and Developmental Disabilities
- Berks County Emergency Medical Services
- Berks County Emergency Services Branch
- Berks County Fire Services
- Berks County Health and Medical
- Berks County Intermediate Unit
- Berks County Mass Care Coordinator
- Berks County Sheriff's Department
- Berks County Social Services
- Berks County Special Operations Group (SOG)
- Berks County Department of Emergency Services
- Birdsboro Union Fire Department
- Brandywine Heights High School Mass Care Center
- Fleetwood Area High School Mass Care Center

- Fleetwood Area Middle School Mass Care Center
- Fleetwood Volunteer Fire Company Station 45
- Hamburg Area High School Mass Care Center
- Hamburg Area Middle School Mass Care Center
- Kutztown Area High School Mass Care Center
- Kutztown Area Middle School Mass Care Center
- Robeson Township Police Department
- Schuylkill Valley High School Mass Care Center
- Schuylkill Valley Middle School Mass Care Center
- Township of Robeson Emergency Management
- Township of Robeson Road Services

Amity Township

- Amity Police Department
- Amity Township Emergency Management Coordinator
- Amity Fire Rescue
- Monarch Fire Company
- Pennsylvania Department of Health, Emergency Medical Services
- Western Berks Ambulance

Boyertown and Colebrookdale Townships

- Boyertown Area School District
- Boyertown Fire & Rescue Department
- Boyertown Public Works
- Colebrookdale Emergency Management
- Colebrookdale Radiological Officer
- Colebrookdale Township Manager
- Eastern Berks Police Department

Douglass Township

- Douglass Township Board of Supervisors
- Douglass Township Emergency Management Agency
- Douglass Township Emergency Medical Services
- Douglass Township Fire Department
- Douglass Township Police Department
- Downingtown Area School District

Earl Township

- Earl Township Emergency Management
- Earl Township Fire Company
- Earl Township 911 Communications

Union Township

- Birdsboro/Union Fire Department
- Union Township Emergency Management

Washington Township

- Bally Community Ambulance Company
- Borough of Bally Emergency Management Agency
- Borough of Bechtelsville Emergency Management Agency
- Eastern Berks 97 Fire & Rescue
- Radio Amateur Civil Emergency Services (RACES)
- Washington Township Emergency Management Agency

Chester County

- Avon Grove High School Mass Care Center
- Charles Patton Middle School Mass Care Center
- Chester County Department of Emergency Services
- Chester County Health and Human Services
- Chester County Sherriff's Office
- Coatesville Area High School Mass Care Center
- Coatesville 9-10 Center Mass Care Center
- Downingtown Fire Department
- Kennett High School Mass Care Center
- Lionville Fire Department
- Mary C. Lang Elementary School Mass Care Center
- Minquas Fire Department
- North Brandywine Middle School Mass Care Center
- Scott Middle School Mass Care Center
- Unionville High School Mass Care Center

Charlestown Township

- Charlestown Township Board of Supervisors
- Charlestown Township Emergency Management Agency
- Chester County ARES/Races

East Coventry Township

- Chester County ARES/RACES
- East Coventry Township Board of Supervisors
- East Coventry Township Emergency Management Agency
- East Coventry Township Police Department
- Ridge Fire Company Station 62

East Nantmeal Township

- Chester County ARES/RACES
- East Nantmeal Township Board of Supervisors
- East Nantmeal Township Emergency Management
- Lionville Fire Department Station 47

East Pikeland Township

- Chester County ARES/RACES
- East Pikeland Township Board of Supervisors

- East Pikeland Township Emergency Management
- East Pikeland Township Police Department
- Kimberton Fire Department Station 61

East Vincent Township

- Chester County ARES/RACES
- East Vincent Township Board of Supervisors
- East Vincent Township Emergency Management
- East Vincent Township Police Department
- Liberty Steam No. 1 Station 63

North Coventry Township

- Chester County ARES/RACES
- Goodwill Ambulance
- Norco Fire Company Station 64
- North Coventry Township Board of Supervisors
- North Coventry Township Emergency Management

Phoenixville Borough

- Borough of Phoenixville Police Department
- Chester County ARES/RACES
- Friendship Dive Rescue Company #77
- Phoenixville Borough Council
- Phoenixville Borough Emergency Management, and Schuylkill Township Emergency Management
- Phoenixville Fire Department Station 65
- Schuylkill Township Police Department
- Trappe Fire and Emergency Medical Services
- Valley Forge Volunteer Fire Company Station 68/67

Schuylkill Township

- Schuylkill Township Police Department
- South Coventry Township
- Valley Forge Volunteer Fire Company
- West End Fire and Emergency Medical Services

South Coventry Township

- Chester County ARES/RACES
- South Coventry Township Board of Supervisors
- South Coventry Township Emergency Management

Spring City Borough

- Chester County ARES/RACES
- Spring City Borough Council
- Spring City Borough Emergency Management
- Spring City Borough Police Department

- Liberty Steam Fire Engine #1 Station 63

Upper Uwchlan Township

- Chester County ARES/RACES
- Upper Uwchlan Township Board of Supervisors
- Upper Uwchlan Township Emergency Management
- Upper Uwchlan Township Police Department
- Lionville Fire Department Station 47

Uwchlan Township

- Chester County ARES/RACES
- Lionville Fire Department Station 47
- Uwchlan Ambulance Corp Station 87
- Uwchlan Township Board of Supervisors
- Uwchlan Township Emergency Management
- Uwchlan Township Police Department

Warwick Township

- Chester County ARES/RACES
- Twin Valley Fire Department Station 69
- Warwick Township Board of Supervisors
- Warwick Township Emergency Management

West Pikeland Township

- Chester County ARES/RACES
- West Pikeland Township Board of Supervisors
- West Pikeland Township Emergency Management
- West Pikeland Township Police Department

West Vincent Township

- Chester County ARES/RACES
- Ludwig's Corner Volunteer Fire Company Station 73
- West Vincent Township Board of Supervisors
- West Vincent Township Emergency Management
- West Vincent Police Department

Montgomery County

- East Greenville Fire Company
- Hatboro-Horsham Senior High School Mass Care Center
- Keith Valley Middle School Mass Care Center
- Montgomery County Department of Health and Human Services
- Montgomery County Department of Information and Technology Solutions
- Montgomery County Department of Public Safety
- Montgomery County Hazardous Materials Response Team
- Montgomery County Incident Support Team
- Plymouth Fire and Rescue

- Plymouth Fire Company #1
- Red Hill Fire Company
- Springfield High School Mass Care Center
- Springfield Middle School Mass Care Center
- Springfield Police Department

Collegeville Borough

- Collegeville Borough Business Manager
- Collegeville Emergency Management Agency
- Collegeville Fire Company
- Collegeville Police Department

Douglass Township

- Douglass Township Board of Supervisors
- Douglass Township Emergency Management Agency
- Douglass Township Emergency Medical Services
- Douglass Township Fire Department
- Douglass Township Police Department

Green Lane-Marlborough Township

- Green Lane Fire Department
- Harleysville Emergency Management Services
- Marlborough Police Department
- Marlborough Public Works
- Marlborough Transportation

Limerick Township

- Friendship Emergency Medical Services
- Limerick Township Fire Department
- Limerick Township Police Department
- Limerick Elementary School Staff
- Montgomery County Department of Public Services
- Trappe Emergency Medical Services
- Spring-Ford School District Police Department

Lower Frederick Township

- Lower Fredrick Township Public Works
- Lower Fredrick Township
- Station 52 Fire Company

Lower Pottsgrove Township

- Lower Pottsgrove Township Board of Commissioners
- Lower Pottsgrove Township Communications
- Lower Pottsgrove Township Emergency Management
- Lower Pottsgrove Township Public Health and Medical Services
- Lower Pottsgrove Township Public Works and Transportation

- Lower Pottsgrove Township Police
- Montgomery County Station 58 Fire Company

Lower Providence Township

- Lower Providence Township Fire Marshal / Emergency Management
- Lower Providence Township Police Department
- Lower Providence Township Emergency Medical Services
- Lower Providence Township Volunteer Fire Company
- Lower Providence Township Public Works
- Montgomery County ARES / RACES Club

Lower Salford Township

- Lower Salford Township Fire Department
- Lower Salford Township Police Department

New Hanover Township

- New Hanover Township Board of Supervisors
- New Hanover Township Fire Department
- New Hanover Township Police Department

Perkiomen Township

- Perkiomen Township
- Perkiomen Township Fire Department
- Trappe Fire Company

Pottstown Borough

- Pottstown Borough Administration
- Pottstown Borough Emergency Management
- Pottstown Borough Public Works
- Pottstown Borough Transportation
- Pottstown Fire Department
- Pottstown Middle School
- Pottstown Police Department
- Pottstown School District

Royersford Borough

- Royersford Borough Emergency Medical Services
- Royersford Borough Fire Department
- Royersford Borough Office of Emergency Management
- Royersford Borough Police Department
- Royersford Borough Public Works
- Royersford Elementary School
- Spring-Ford Area School District

Schwenksville Borough

- Lower Frederick Fire Company

- Schwenksville Borough
- Schwenksville Elementary School

Skippack Township

- Skippack Emergency Medical Services
- Skippack Fire Department
- Skippack Public Works
- Skippack Township Emergency Management Agency

Trappe Borough

- Radio Amateur Civil Emergency Service (RACES)
- Trappe Borough Administration
- Trappe Borough Emergency Medical Services
- Trappe Borough Fire Department
- Trappe Borough Parks & Recreation
- Trappe Borough Police
- Trappe Borough Public Works

Upper Frederick Township

- Upper Frederick Township Emergency Operations Center
- Upper Frederick Fire Company

Upper Pottsgrove Township

- Upper Pottsgrove Township Manager
- Upper Pottsgrove Township Police Services
- Upper Pottsgrove Township Fire Police
- Upper Pottsgrove Township Public Works

Upper Providence Township

- Radio Amateur Civil Emergency Service (RACES)
- Upper Providence Parks & Recreation
- Upper Providence Township Administration
- Upper Providence Township Emergency Medical Services
- Upper Providence Township Fire Department
- Upper Providence Township Police
- Upper Providence Township Public Works

Upper Salford Township

- Montgomery County RACES/ARES
- Upper Salford Township
- Upper Salford Volunteer Fire Company

West Pottsgrove Township

- West Pottsgrove Township Board of Commissioners
- West Pottsgrove Township Communications
- West Pottsgrove Township Emergency Management

- West Pottsgrove Township Fire Department
- West Pottsgrove Township Oil/HazMat (Radiological)
- West Pottsgrove Township Police Department
- West Pottsgrove Township Public Health and Medical Services
- West Pottsgrove Township Public Works and Engineering
- West Pottsgrove Township Transportation

Support Jurisdictions

Bucks County

- Belmont Hills Elementary School Mass Care Center
- Bensalem High School Mass Care Center
- Bristol Boro Junior/Senior School Mass Care Center
- Brookwood Elementary School Mass Care Center
- Bucks County Emergency Health Services
- Bucks County Emergency Management Agency
- Bucks County Emergency Services Director
- Bucks County Fire/Rescue
- Bucks County Public Information Officer
- Bucks County Sheriff's Office
- Cecilia Snyder Middle School Mass Care Center
- Cornwells Elementary School Mass Care Center
- Franklin D. Roosevelt Middle School Mass Care Center
- Harry S. Truman High School Mass Care Center
- Morrisville Middle/Senior High School Mass Care Center
- Neil Armstrong (Bristol) Mass Care Center
- Pennsbury High School East Mass Care Center
- Pennsbury High School West Mass Care Center
- Robert Shafer Middle School Mass Care Center
- Samuel K. Faust Elementary School Mass Care Center
- Snyder-Girotti Elementary School Mass Care Center
- Trevoise Fire Company
- Warwick Township Board of Supervisors
- Warwick Township Department of Transportation
- Warwick Township Emergency Manager
- Warwick Township Fire Company
- Warwick Township Public Works
- William Penn Middle School Mass Care Center

Lehigh County

- Allentown Emergency Management Agency
- Allentown Health Bureau
- Allentown Volunteer Medical Reserve Corps
- DeSales University Mass Care Center
- Lehigh County Commissioners
- Lehigh County Emergency Management

- Lehigh County General Services
- Lehigh County 911 Center
- Lehigh County Special Operations Team
- Lehigh Valley County Animal Response Team
- Lehigh Valley International Airport
- Salisbury Middle School Mass Care Center
- Salisbury High School Mass Care Center
- South Whitehall Township
- Upper Saucon Fire Department
- Upper Saucon Township Office of Emergency Management
- Upper Saucon Township

School/School Districts

- Boyertown Area School District
- Boyertown Elementary School
- Middle School East
- Daniel Boone School District
- Daniel Boone Intermediate Center
- Downingtown School District
- Great Valley School District
- Charlestown Elementary School
- Owen J. Roberts School District
- French Creek Elementary School
- East Coventry Elementary School
- East Vincent Elementary School
- Phoenixville Area School District
- Phoenixville Area Middle School
- Phoenixville Area Senior High School
- Phoenixville Area Kindergarten Center
- Methacton School District
- Arcola Intermediate
- Skyview Upper Elementary
- Perkiomen Valley School District
- Perkiomen Valley High School
- Schwenksville Elementary School
- Pottsgrove School District
- Lower Pottsgrove Elementary School
- Pottstown School District
- Pottstown Middle School
- Franklin Elementary School
- Spring-Ford Area School District
- Royersford Elementary School
- Evans Elementary School
- Limerick Elementary School
- 9th Grade Center

Private/Volunteer Organizations

- American Red Cross Southeastern Pennsylvania Region
- American Red Cross of Delaware Valley PA Chapter
- American Red Cross of Philadelphia Chapter
- American Red Cross Greater Pennsylvania Region
- American Red Cross of Pennsylvania Rivers Chapters
- Exelon Nuclear
- Met-Ed First Energy
- Reading Hospital – Tower Health

Federal Organizations

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

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

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

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

- A. Taking the lead in offsite emergency planning and in the review and evaluation of Radiological Emergency Response Plans (RERPs) and procedures developed by State and local governments;
- B. Determining whether such plans and procedures can be implemented based on observation and evaluation of exercises conducted by State and local governments;
- C. Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated December 7, 2015 (Federal Register, Vol. 81, No. 57, March 24, 2016); and
- D. Coordinating the activities of the following Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Commerce
 - U.S. Nuclear Regulatory Commission
 - U.S. Environmental Protection Agency
 - U.S. Department of Energy
 - U.S. Department of Health and Human Services
 - U.S. Department of Transportation
 - U.S. Department of Agriculture
 - U.S. Department of the Interior
 - U.S. Food and Drug Administration

Representatives of these agencies serve on the Region 3 Regional Assistance Committee (RAC), which is Chaired by FEMA. A REP Plume Exposure Pathway Exercise was conducted during the week of November 15, 2021, to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Limerick Generating Station (LGS). The purpose of this exercise report is to present the exercise results and findings on the performance of the off-site response organizations (ORO) 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. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, "November 1980
- Radiological Emergency Preparedness Program Manual, January 2016

Emergency Planning Zone Description:

Limerick Generating Station (LGS) 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 Exelon Nuclear. Two boiling water reactors each generate an electrical output of 1,050 megawatts. Unit 1 was issued a full-power license in August 1985; and 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, Capabilities and Activities

The objectives of the 2021 Limerick Generating Station (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 Emergency Planning Zone (EPZ).

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

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

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

2.3 Scenario Summary

The weather forecast for the exercise is partly sunny with light winds from the northwest. Highs will be in the low to mid 40s. The skies will become cloudy in the evening with temperatures in the high 30s. The chance of precipitation is 0%. Wind Direction is from 300 degrees at 8 miles per hour (mph).

At 1600 the exercise begins. For the postulated event, the effected unit is Unit #1.

Unit #1 is operating at 100% power; Unit #2 is operating at 100% power.

At 1625 the Shift Manager declares a NOTIFICATION OF UNUSAL EVENT Emergency Classification Level (ECL)

At 1656 the Shift Manager declares an ALERT ECL with a monitored release in progress. OROs mobilize personnel and staff emergency facilities.

At 1800 the Shift Manager declares a SITE AREA EMERGENCY with an airborne radiation release in progress. OROs may make protective/precautionary actions in accordance with plans and procedures.

At 1915 the Shift Manager declares a GENERAL EMERGENCY with an airborne radiation release in progress. The Licensee makes a Protective Action Recommendation (PAR) to the Commonwealth. Decision makers consider the Licensee PAR and other factors and OROs make protective actions based on plans and procedures.

At 2030 the exercise was terminated.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluations of all jurisdictions and locations that participated in the November 16, 2021 Biennial Plume Exposure Pathway 10-mile Emergency Planning Zone (EPZ) Radiological Emergency Preparedness (REP) Exercise. These exercises were conducted to demonstrate the ability of the Offsite Response Organizations of State and local government to protect the health and safety of the public in the 10-mile EPZ surrounding the Limerick Generating Station.

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

3.2 Summary Results of Exercise Evaluation

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

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

Tables 3.1 - Summary of Exercise Evaluation

<p style="text-align: center;">DATE: 11/16/2021 SITE: Limerick Generating Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue</p>	Mobilization	Facilities	Direction and Control	Communications Equipment	Equipment and Supplies to Support Operations
Emergency Operations Management	1a1	1b1	1c1	1d1	1e1
Commonwealth Response Coordination Center	M	M	M	M	M
Commonwealth Joint Information Center	M			M	
Pennsylvania Accident Assessment Center - Bureau of Radiation Protection (BRP))	M	M	M	M	M
Exelon Media Operations Center	M			M	
Exelon Emergency Operations Facility				M	M
Radiological Rapid Response Vehicle	M			M	M
State Field Monitoring Team A (BRP)	M			M	M
State Field Monitoring Team B (BRP)	M			M	M
Pennsylvania State Police	M			M	M
Berks County Department of Emergency Services	M	M	M	M	M
Amity Township Emergency Management Office	M	M	M	M	M
Amity Township Emergency Management Office Back-Up Route Alerting	M			M	M
Boyertown/Colebrookdale Emergency Operation Center	M	M	M	M	M
Douglass Township Emergency Operation Center	M	M	M	M	M
Earl Township Emergency Operation Center	M	M	M	M	M
Union Township emergency Operation Center	M	M	M	M	M
BWB Emergency Management Agency (Washington Township)	M	M	M	M	M
Chester County Emergency Operation Center	M	M	M	M	M
Charlestown Township Emergency Operation Center	M	M	M	M	M
East Coventry Township Emergency Operation Center	M	M	M	M	M
East Nantmeal Township Emergency Operation Center	M	M	M	M	M
East Pikeland Township Emergency Operation Center	M	M	M	M	M
East Vincent Township Emergency Operation Center	M	M	M	M	M
East Vincent Township Emergency Operation Center Back-Up Route Alerting	M			M	M
North Coventry Township Emergency Operation Center	M	M	M	M	M
Phoenixville Borough Emergency Management Agency	M		M	M	M
Schuylkill Township Emergency Operation Center	M		M	M	M
South Coventry Township Emergency Operation Center	M	M	M	M	M
Spring City Borough Emergency Operation Center	M	M	M	M	M
Upper Uwchlan Township Emergency Operation Center	M	M	M	M	M
Uwchlan Township Emergency Operation Center	M	M	M	M	M
Warwick Township Emergency Operation Center	M	M	M	M	M
West Pikeland Township Emergency Operation Center	M	M	M	M	M
West Vincent Township Emergency Operation Center	M	M	M	M	M
Montgomery County Emergency Operation Center	M	M	P	M	M
Collegeville Borough Emergency Operation Center	M	M	M	M	M
Douglass Township Emergency Operation Center	M	M	M	M	M
Greenlane-Marlbrough Township Emergency Operation Center	M	M	M	M	M
Limerick Township Emergency Operation Center	M	M	M	M	M
Lower Frederick Township Emergency Operation Center	M	M	M	M	M
Lower Pottsgrove Township Emergency Operation Center	M	M	M	M	M

After Action Report/Improvement Plan

Limerick Generating Station

Lower Providence Township Emergency Operation Center	M	M	M	M	M
Lower Providence Township Emergency Back-Up Route Alerting	M			M	M
Lower Salford Township Emergency Operation Center	M	M	M	M	M
New Hanover Township Emergency Operation Center	M	M	M	M	M
Perkiomen Township Emergency Operation Center	M	M	M	M	M
Pottstown Borough Emergency Operation Center	M	M	M	M	M
Royersford Borough Emergency Operation Center	M	M	M	M	M
Schwenksville Borough Emergency Operation Center	M		M	M	M
Skippack Township Emergency Operation Center	M	M	M	M	M
Trappe Borough Emergency Operation Center	M		M	M	M
Upper Frederick Township Emergency Operation Center	M	M	M	M	M
Upper Pottsgrove Township Emergency Operation Center	M	M	M	M	M
Upper Providence Township Emergency Operation Center	M	M	M	M	M
Upper Salford Township Emergency Operation Center	M	M	M	M	M
West Pottsgrove Township Emergency Operation Center	M	M	M	M	M
Bucks County Emergency Operation Center	M	M	M	M	M
Lehigh County Emergency Operation Center	M	M	M	M	M

DATE: 11/16/2021 SITE: Limerick Generating Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue,	Emergency Worker Exposure Control	Dose Assessment & PARs & PADs for the Emergency Event		PADs for the Protection of persons with disabilities and access/functional needs	Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return
Protective Action Decision-Making	2a1	2b1	2b2	2c1	2d1	2e1
Commonwealth Response Coordination Center	M			P		
Pennsylvania Accident assessment Center (BRP)	M	M	M			
Berks County Department of Emergency Services				M		
Chester County Emergency Operation Center				M		
Montgomery County Emergency Operation Center				M		

DATE: 11/16/2021 SITE: Limerick Generating Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue,	Implementation of Emergency Worker Exposure Control	Implementation of KI Decision for Institutionalized Individuals and the Public	Implementation of Protective Actions for persons with disabilities and access/functional needs		Implementation of Traffic and Access Control		Implementation of Ingestion Exposure Pathway Decisions		Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions
Protective Action Implementation	3a1	3b1	3c1	3c2	3d1	3d2	3e1	3e2	3f1
Commonwealth Response Coordination Center		M			M				
Radiological Rapid Response Vehicle	M								
State Field Monitoring Team A	M								
State Field Monitoring Team B	M								
Berks County Department of Emergency Services	M	M	M	M	M	M			
Amity Township Emergency Management Office	M	M	M		M				

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Amity Township Emergency Management Office (TCP/ACP)					M				
Amity Township Back-Up Route Alerting	M								
Boyertown/Colebrookdale Emergency Operation Center	M	M	M		M				
Boyertown/Colebrookdale (TCP/ACP)					M				
Douglass Township Emergency Operation Center	M	M	M		M				
Douglass Township (TCP/ACP)					M				
Earl Township Emergency Operation Center	M	M	M		M				
Union Township Emergency Operation Center	M	M	M		M				
Union Township (Impediment)						M			
BWB Emergency Management Agency (Washington Township)	M	M	M		M				
Chester County Emergency Operation Center	M	M	M	M	M	M			
Charlestown Township Emergency Operation Center	M	M	M		M				
East Coventry Township Emergency Operation Center	M	M	M		M				
East Coventry Township (TCP/ACP)					M				
East Nantmeal Township Emergency Operation Center	M	M	M		M				
East Pikeland Township Emergency Operation Center	M	M	M		M				
East Pikeland Township (TCP/ACP)					M				
East Pikeland Township (Impediment)						M			
East Vincent Township Emergency Operation Center	M	M	M		M				
East Vincent Township (Back-Up Route Alerting)	M								
North Coventry Township Emergency Operation Center	M	M	M		M				
North Coventry Township (TCP/ACP)					M				
Phoenixville Borough Emergency Management Agency	M	M	M		M				
Phoenixville Borough (TCP/ACP)					M				
Schuylkill Township Emergency Operation Center	M	M	M		M				
Schuylkill Township (TCP/ACP)					M				
South Coventry Township Emergency Operation Center	M	M	M		M				
Spring City Borough Emergency Operation Center	M	M	M		M				
Spring City Borough (TCP/ACP)					M				
Upper Uwchlan Township Emergency Operation Center	M	M	M		M				
Upper Uwchlan Township (TCP/ACP)					M				
Uwchlan Township Emergency Operation Center	M	M	M		M				
Uwchlan Township (TCP/ACP)					M				
Warwick Township Emergency Operation Center	M	M	M		M				
West Pikeland Township Emergency Operation Center	M	M	M		M				
West Pikeland Township (TCP/ACP)					M				
West Vincent Township Emergency Operation Center	M	M	M		M				
West Vincent Township (TCP/ACP)					M				
Montgomery County Emergency Operation Center	M	M	M	M	M	M			
Collegeville Borough Emergency Operation Center	M	M	M		M				
Collegeville Borough (TCP/ACP)					M				
Douglass Township Emergency Operation Center	M	M	M		M				
Douglass Township (TCP/ACP)					M				

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Greenlane-Marlborough Township Emergency Operation Center	M	M	M		M				
Greenlane-Marlborough (TCP/ACP)					M				
Limerick Township Emergency Operation Center	M	M	M		M	M			
Limerick Township (TCP/ACP)					M				
Lower Frederick Township Emergency Operation Center	M	M	M		M				
Lower Frederick Township (TCP/ACP)					M				
Lower Pottsgrove Township Emergency Operation Center	M	M	M		M				
Lower Providence Township Emergency Operation Center	M	M	M		M				
Lower Providence Township (Back-Up Route Alerting)	M								
Lower Providence Township (TCP/ACP)					M				
Lower Salford Township Emergency Operation Center	M	M	M		M				
Lower Salford Township (TCP/ACP)					M				
New Hanover Township Emergency Operation Center	M	M	M		M				
New Hanover Township (TCP/ACP)					M				
Perkiomen Township Emergency Operation Center	M	M	M		M				
Pottstown Borough Emergency Operation Center	M	M	M		M				
Pottstown Borough (TCP/ACP)					M				
Royersford Borough Emergency Operation Center	M	M	M		M				
Royersford Borough (TCP/ACP)					M				
Schwenksville Borough Emergency Operation Center	M	M	M		M				
Skippack Township Emergency Operation Center									
Trappe Borough Emergency Operation Center	M	M	M		M				
Upper Frederick Township Emergency Operation Center	M	M	M		M				
Upper Pottsgrove Township Emergency Operation Center	M	M	M		M				
Upper Pottsgrove Township (TCP/ACP)	M	M	M		M				
Upper Providence Township Emergency Operation Center	M	M	M		M				
Upper Providence Township (TCP/ACP)					M				
Upper Salford Township Emergency Operation Center	M	M	M		M				
West Pottsgrove Township (TCP/ACP)	M	M	M		M				
Boyertown Area School District				M					
Boyertown Elementary School				M					
Middle School East				M					
Daniel Boone School District				M					
Daniel Boone Intermediate Center				M					
Downingtown School District				M					
Great Valley School District				M					
Charlestown Elementary School				M					
Owen J. Robert School District				M					
French Creek Elementary School				M					
East Coventry Elementary School				M					

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

East Vincent Elementary School				M					
Phoenixville Area School District				M					
Phoenixville Area Middle School				M					
Phoenixville Area Senior High School				M					
Phoenixville Area Kindergarten				M					
Methacton School District				M					
Arcola Intermediate				M					
Skyview Upper Elementary				M					
Perkiomen Valley School District				M					
Perkiomen Valley High School				M					
Schwenksville Elementary School				M					
Pottsgrove School District				M					
Lower Pottsgrove Elementary				M					
Pottstown School District				M					
Pottstown Middle School				M					
Franklin Elementary School				M					
Spring-Ford Area School District				M					
Royersford Elementary School				M					
Evans Elementary School				M					
Limerick Elementary School				M					
9 th Grade Center				M					

<p style="text-align: center;">DATE: 11/16/2021 SITE: Limerick Generating Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue,</p>	Field Teams Obtain Sufficient Information	Field Teams Manage Sample Collection Appropriately
	4a2	4a3
Radiological Rapid Response Vehicle	M	
State field Monitoring Team A (BRP)		M
State Field Monitoring Team B (BRP)		M

<p style="text-align: center;">DATE: 11/16/2021 SITE: Limerick Generating Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue,</p>	Activation of the Prompt Alert and Notification System				Emergency Information and Instructions for the Public and the Media
Emergency Notification and Public Information	5a1	5a2	5a3	5a4	5b1
Commonwealth Response Coordination Center	M				M
Commonwealth Joint Information Center					M
Exelon Media Operations Center					M
Berks County Department of Emergency Services	M		M		M
Amity Township Emergency Management Office Back-Up Route Alerting			M		

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Chester County Emergency Operation Center	M		M		M
East Vincent Township Emergency Operation Center Back-Up Route Alerting			M		
Montgomery County Emergency Operation Center	M		M		M
Lower Providence Township Emergency Back-Up Route Alerting			M		
Bucks County Emergency Operation Center					M
Lehigh County Emergency Operation Center					M

<p style="text-align: center;">DATE: 11/16/2021 SITE: Limerick Generating Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan</p>	Monitoring, Decontamination, and Registration of Evacuees	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	Temporary Care of Evacuees	Transportation and Treatment of Contaminated Injured Individuals
Support Operations to Facilities	6a1	6b1	6c1	6d1
Avon Grove High School Mass Care Center			M	
Belmont Hills Elementary School Mass Care Center			M	
Bensalem High School Mass Care Center			M	
Brandywine Heights High School Mass Care Center			M	
Bristol-Boro Junior/Senior School Mass Care Center			M	
Brookwood Elementary School Mass Care Center			M	
Cecilia Snyder Middle School Mass Care Center			M	
Charles Patton Middle School Mass Care Center			M	
Coatesville Area High School Mass Care Center			M	
Coatesville 9-10 Center Mass Care Center			M	
Cornwells Elementary School Mass Care Center			M	
Daniel Boone Area High School Emergency Worker Monitoring/Decontamination Station		M		
DeSales University Mass Care Center			M	
Downingtown High School (demonstrated at Chester County Government Services Center) Reception Center	M			
Downingtown High School (demonstrated at Chester County Government Services Center) Evacuee Monitoring/Decontamination Station	M			
Fleetwood Area High School Mass Care Center			M	
Fleetwood Area Middle School Evacuee Monitoring/Decontamination Station	M			
Fleetwood Area Middle School Mass Care Center			M	
Franklin D. Roosevelt Middle School Mass Care Center			M	
Fred Eagle Middle School Mass Care Center			M	
Hamburg Area High School Mass Care Center			M	
Hamburg Area Middle School Mass Care Center			M	
Harry S. Truman High School Mass Care Center			M	
Hatboro-Horsham Senior High School Mass Care Center			M	
Keith Valley Middle School Mass Care Center			M	
Kennett High School Mass Care Center			M	
Kutztown Area High School Mass Care Center			M	

After Action Report/Improvement Plan

Limerick Generating Station

Kutztown Area Middle School Mass Care Center			M	
Lionville Middle School (demonstrated at Chester County Government Services Center) Emergency Worker Monitoring/Decontamination Station		M		
Mary C. Lang Elementary School Mass Care Center			M	
Morrisville Middle/Senior High School Mass Care Center			M	
Neil Armstrong (Bristol) Mass Care Center			M	
Neshaminy Mall (demonstrated at the Trevoise Fire Company) Reception Center	M			
Neshaminy Mall (demonstrated at the Trevoise Fire Company) Evacuee Monitoring/Decontamination Station	M			
North Brandywine Middle School Mass Care Center			M	
Pennsbury High School East Mass Care Center			M	
Pennsbury High School West Mass Care Center			M	
Plymouth Metroplex (demonstrated at Plymouth Fire Company #1) Evacuee Monitoring/Decontamination Station	M			
Plymouth Metroplex (demonstrated at Plymouth Fire Company #1) Reception Center	M			
Robert Shafer Middle School Mass Care Center			M	
Robeson Township Building Reception Center	M			
Salisbury High School Mass Care Center			M	
Salisbury Middle School Mass Care Center			M	
Samuel K. Faust Elementary School Mass Care Center			M	
Schuylkill Valley Middle School Mass Care Center			M	
Schuylkill Valley High School Mass Care Center			M	
Scott Middle School Mass Care Center			M	
Snyder-Girotti Elementary School Mass Care Center			M	
Southern Lehigh High School Reception Center	M			
Southern Lehigh Mass Care Center			M	
Southern Lehigh Evacuee Monitoring/Decontamination Station	M			
Springfield High School Mass Care Center			M	
Springfield Middle School Mass Care Center			M	
Unionville High School Mass Care Center			M	
Upper Perkiomen High School Emergency Worker Monitoring/Decontamination Station		M		
William Penn Middle School Mass Care Center			M	

3.3 Criteria Evaluation Summaries

3.3.1 State Jurisdictions

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

3.3.1.1 Commonwealth of Pennsylvania Response Coordination Center (CRCC)

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.c.1, 3.b.1, 3.d.1, 5.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: ONE

ISSUE NO: 35-21-2c1-P-002

CRITERION: 2.c.1 Protective Action Decisions For Special Populations

CONDITION: The current Pennsylvania Emergency Management Agency (PEMA) planning guidance for school districts and schools does not provide for relocation of students prior to a General Emergency (GE) and/or radiological release. Further, the planning guidance does not provide for adequate exposure control equipment for school bus drivers that would be required to make trips in and out of the Emergency Planning Zone (EPZ) after a GE and/or radiological release. Draft Interim Guidance issued following the 2019 Three Mile Island FEMA-evaluated exercise, and subsequent to a Plan Issue being assessed to PEMA, has not been implemented by schools and school districts in the Limerick Generating Station EPZ.

POSSIBLE CAUSE: Distribution of the Draft Interim Guidance and subsequent school plan changes have not been incorporated. Plan omissions to provide for early, precautionary relocation of students and providing adequate radiological exposure protection to bus drivers has not been implemented.

REFERENCE: *NUREG-0654/ FEMA-REP-1, (D.4; J.9; J.10.d, e K.3a, b, K.4)*

- PEMA Annex E, Appendix 12, Response by Schools and Colleges
- Commonwealth of Pennsylvania Interim Radiological Plans Guidance; April 6, 2009; Enclosure 1, Nuclear Power Plant Incident Emergency Worker Survey Equipment, Dosimetry and Potassium Iodide (KI) for the Emergency Phase
- 2019 FEMA Three Mile Island Biennial Exercise After Action Report
- PEMA Annex E, Appendix 12, Response by Schools and Colleges, Draft Interim Radiological Plans Guidance – School Planning, October 11, 2019; drafted by PEMA Planning Administrator, Mr. Alan Brinser

EFFECT: Delaying the notification of busses for relocation of students until the GE, and subsequent evacuation of the schools during the GE, could unnecessarily expose the students, staff, and bus drivers to ionizing radiation. Further, there are no provisions in the plans for the monitoring or decontamination of persons or equipment when they would arrive at the host school or controlling the spread of contamination to persons and equipment.

RECOMMENDATION: Implement the October 11, 2019 Draft Interim Guidance for Schools throughout all county and municipal emergency management agencies, school districts and schools.

CORRECTED ACTION: On January 10, 2022, the Pennsylvania Emergency Management Agency provided updated PEMA Annex E, Appendix 12, Response by Schools and College Interim Guidance that will be included in the Commonwealth's Annex E and shared with the risk counties and affected risk school districts.

- e. Prior Issues – Resolved: ONE (2019 TMI Plan Issue for 2.c.1)
- f. Prior Issues - Unresolved: NONE

3.3.1.2 Commonwealth of Pennsylvania Joint Information Center

- a. Met: 1.a.1, 1.d.1, 5.b.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

3.3.1.3 Pennsylvania Accident Assessment Center at the CRCC

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 4.a.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

3.3.1.4 Pennsylvania Radiological Rapid Response Vehicle

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.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

3.3.1.5 Pennsylvania State Field Monitoring Team A

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.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

3.3.1.6 Pennsylvania State Field Monitoring Team B

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.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

3.3.1.7 Pennsylvania State Police

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 3.d.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 Exelon Media Operations Center

- a. Met: 1.a.1, 1.d.1, 5.b.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

3.3.1.9 Exelon Emergency Operations Center

- a. Met: 1.d.1, 1.e.1, 2.b.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 criteria for the Risk jurisdictions are as follows:

3.3.2.1 Berks County Emergency Operations Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.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 Berks County Reception Center at the Robeson Township Building

- a. Met: 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.a.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 Berks County Emergency Worker Monitoring/Decontamination Station at the Daniel Boone Area High School

- a. Met: 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.b.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

3.3.2.4 Berks County Evacuee Monitoring/Decontamination Station at the Fleetwood Area Middle School

- a. Met: 1.b.1, 1.c.1, 1.d.1, 1.e.1, 6.a.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

3.3.2.5 Berks County Mass Care Center at the Fleetwood Area Middle School

- a. Met: 1.d.1, 3.a.1, 6.b.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

3.3.2.6 Amity Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: YES
- f. Prior Issues - Unresolved: NONE

3.3.2.7 Amity Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.8 Amity Township Emergency Operation Center Back-Up Route Alerting

- a. Met: 1.a.1, 1.d.1, 1.e., 3.a.1, 5.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.2.9 Boyertown/Colebrookdale Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.10 Boyertown/Colebrookdale Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.11 Douglass Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.12 Douglass Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.13 Earl Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.14 Union Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.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

3.3.2.15 BWB Emergency Management Agency (Washington Township) Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.16 Boyertown Area School District

- a. Met: 3.c.2
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.2.17 Boyertown Elementary School

- a. Met: 3.c.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

3.3.2.18 Middle School East

- a. Met: 3.c.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

3.3.2.19 Daniel Boone School District

- a. Met: 3.c.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

3.3.2.20 Daniel Boone Intermediate School

- a. Met: 3.c.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

3.3.2.21 Chester County Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 5.a.1, 5.a.3, 5.b.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

3.3.2.22 Chester County Reception Center at the Downingtown High School – West

- a. Met: 1.d.1, 1.e.1, 3.a.1, 6.a.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

3.3.2.23 Chester County Emergency Worker Monitoring/Decontamination Station at the Lionville Middle School

- a. Met: 1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.b.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

3.3.2.24 Chester County Evacuee Monitoring/Decontamination Station at the Downingtown High School – West

- a. Met: 1.c.1, 1.d.1, 1.e.1, 6.a.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

3.3.2.25 Charlestown Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.26 East Coventry Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.27 East Coventry Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.28 East Nantmeal Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.29 East Pikeland Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.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

3.3.2.30 East Pikeland Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.31 East Vincent Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e., 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.32 East Vincent Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.33 East Vincent Township Emergency Operation Center Back-Up Route Alerting

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 5.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.2.34 North Coventry Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.35 North Coventry Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.36 Phoenixville Borough Emergency Operation Center

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.37 Phoenixville Borough Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.38 Schuylkill Township Emergency Operation Center

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.39 Schuylkill Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.40 South Coventry Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.41 Spring City Borough Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.42 Spring City Borough Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.43 Upper Uwchlan Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.44 Upper Uwchlan Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.45 Uwchlan Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.46 Uwchlan Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.47 Warwick Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.48 West Pikeland Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.49 West Pikeland Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.50 West Vincent Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.51 West Vincent Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.52 Downingtown School District

- a. Met: 3.c.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

3.3.2.53 Great Valley School District

- a. Met: 3.c.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

3.3.2.54 Charlestown Elementary School

- a. Met: 3.c.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

3.3.2.55 Owen J. Roberts School District

- a. Met: 3.c.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

3.3.2.56 French Creek Elementary

- a. Met: 3.c.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

3.3.2.57 East Coventry Elementary School

- a. Met: 3.c.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

3.3.2.58 East Vincent Elementary School

- a. Met: 3.c.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

3.3.2.59 Phoenixville Area School District

- a. Met: 3.c.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

3.3.2.60 Phoenixville Area Middle School

- a. Met: 3.c.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

3.3.2.61 Phoenixville Area Senior High School

- a. Met: 3.c.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

3.3.2.62 Phoenixville Area Kindergarten Center

- a. Met: 3.c.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

3.3.2.63 Montgomery County Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: ONE

ISSUE NO: 35-21-1c1-P-001

CRITERION: 1.c.1 - Key personnel with leadership roles for the offsite response organization (ORO) provide direction and control to that part of the overall response effort for which they are responsible.

CONDITION: Key staff in the Montgomery County Emergency Operation Center (MCEOC) failed to notify municipal Emergency Operation Centers (EOCs) of the timing of the second siren and Emergency Alert System (EAS) activation.

POSSIBLE CAUSE: A planning oversight whereby MCEOC forms did not include a designated and conspicuous area for the MCEOC to input the times of siren soundings and broadcasts of EAS messages prior to transmitting the form to the municipal EOCs.

REFERENCE: NUREG-0654 / FEMA-REP-1, A.1.d; A.2.a, b; A.3; C.4, 6
County of Montgomery Department of Public Safety Emergency Operations Plan, Annex VIII, Appendix I, Radiological Emergency Response Procedure (RERP), Revision 9

EFFECT: Municipal EOCs would not have been forewarned of the sounding of sirens and the broadcast of the EAS message. In the event of a siren failure, the municipal EOCs would not have been postured to anticipate the potential need for (and may have been unprepared to initiate) backup route alerting missions and hearing-impaired notifications.

RECOMMENDATION: Develop a templated form which includes a designated and conspicuous area for the MCEOC to input the times of siren soundings and broadcasts of EAS messages prior to transmitting the form to the municipal EOCs. Also, coordinate with the municipal EOCs to institute a procedure by which receipt of the form, including siren/EAS times, is acknowledged by the municipal EOCs.

CORRECTED ACTION: On December 23, 2021, Montgomery County implemented a new siren sounding template within their mass notification system that would prompt the Montgomery County Watch Officer to send all relevant details of a siren sounding in a timely manner to their stakeholders. Montgomery County also provided screenshots of the template, as well as the output message, to PEMA and FEMA.

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

**3.3.2.64 Montgomery County Reception Center at the Plymouth Metroplex
(demonstrated at Plymouth Fire Company #1)**

- a. Met: 1.d.1, 1.e.1, 3.a.1, 6.a.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

**3.3.2.65 Montgomery County Emergency Worker Monitoring/Decontamination
Station at the Upper Perkiomen High School**

- a. Met: 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.b.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

**3.3.2.66 Montgomery County Evacuee Monitoring/Decontamination Station
(demonstrated at Plymouth Fire Company #1)**

- a. Met: 1.c.1, 1.d.1, 1.e.1, 6.a.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

3.3.2.67 Collegeville Borough Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.68 Collegeville Borough Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.69 Douglass Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.70 Douglass Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.71 Greenlane-Marlborough Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.72 Greenlane-Marlborough Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.73 Limerick Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.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

3.3.2.74 Limerick Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.75 Lower Frederick Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.76 Lower Frederick Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.77 Lower Pottsgrove Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.78 Lower Pottsgrove Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.79 Lower Providence Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.80 Lower Providence Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.81 Lower Providence Township Emergency Operation Center Back-Up Route Alerting

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 5.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.2.82 Lower Salford Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.83 Lower Salford Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.84 New Hanover Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.85 New Hanover Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.86 Perkiomen Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.87 Pottstown Borough Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.88 Pottstown Borough Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.89 Royersford Borough Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.90 Royersford Borough Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.91 Schwenksville Borough Emergency Operation Center

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.92 Skippack Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.93 Trappe Borough Emergency Operation Center

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.94 Upper Frederick Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.95 Upper Pottsgrove Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.96 Upper Pottsgrove Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.97 Upper Providence Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: YES
- f. Prior Issues - Unresolved: NONE

3.3.2.98 Upper Providence Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.99 Upper Salford Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.100 West Pottsgrove Township Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.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

3.3.2.101 West Pottsgrove Township Emergency Operation Center TCP/ACP

- a. Met: 3.d.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

3.3.2.102 Methacton School District

- a. Met: 3.c.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

3.3.2.103 Arcola Intermediate

- a. Met: 3.c.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

3.3.2.104 Skyview Upper Elementary

- a. Met: 3.c.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

3.3.2.105 Perkiomen Valley School District

- a. Met: 3.c.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

3.3.2.106 Perkiomen Valley High School

- a. Met: 3.c.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

3.3.2.107 Schwenksville Elementary School

- a. Met: 3.c.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

3.3.2.108 Pottsgrove School District

- a. Met: 3.c.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

3.3.2.109 Lower Pottsgrove Elementary School

- a. Met: 3.c.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

3.3.2.110 Pottstown School District

- a. Met: 3.c.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

3.3.2.111 Pottstown Middle School

- a. Met: 3.c.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

3.3.2.112 Franklin Elementary School

- a. Met: 3.c.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

3.3.2.113 Spring-Ford Area School District

- a. Met: 3.c.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

3.3.2.114 Royersford Elementary School

- a. Met: 3.c.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

3.3.2.115 Evans Elementary School

- a. Met: 3.c.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

3.3.2.116 Limerick Elementary School

- a. Met: 3.c.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

3.3.2.117 9th Grade Center

- a. Met: 3.c.2
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.3 Support Jurisdictions

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

3.3.3.1 Bucks County Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.3.2 Bucks County Reception Center at the Neshaminy Mall (demonstrated at the Trevoze Fire Company)

- a. Met: 1.d.1, 1.e.1., 3.a.1, 6.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.3.3 Bucks County Evacuee Monitoring/Decontamination Station at the Neshaminy Mall (demonstrated at the Trevoze Fire Company)

- a. Met: 1.c.1, 1.d.1, 1.e.1., 6.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.3.4 Lehigh County Emergency Operation Center

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.3.5 Lehigh County Reception Center at the Southern Lehigh High School

- a. Met: 1.d.1, 1.e.1, 3.a.1, 6.a.1

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

3.3.3.6 Lehigh County Mass Care Center at the Southern Lehigh High School

- a. Met: 1.c.1., 1.d.1, 1.e.1, 6.c.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

3.3.3.7 Lehigh County Evacuee Monitoring/Decontamination Station at the Southern Lehigh High School

- a. Met: 1.c.1, 1.d.1, 1.e.1, 6.a.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

3.3.4 Limerick Generating Station Mass Care Assessments

3.3.4.1 Berks County, Brandywine Heights High School

- a. Met: 6.c.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

3.3.4.2 Berks County, Fleetwood High School

- a. Met: 6.c.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

3.3.4.3 Berks County, Hamburg Area High School

- a. Met: 6.c.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

3.3.4.4 Berks County, Hamburg Area Middle School

- a. Met: 6.c.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

3.3.4.5 Berks County, Kutztown Area High School

- a. Met: 6.c.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

3.3.4.6 Berks County, Kutztown Area Middle School

- a. Met: 6.c.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

3.3.4.7 Berks County, Schuylkill Valley High School

- a. Met: 6.c.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

3.3.4.8 Berks County, Schuylkill Valley Middle School

- a. Met: 6.c.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

3.3.4.9 Bucks County, Belmont Hills Elementary School

- a. Met: 6.c.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

3.3.4.10 Bucks County, Bensalem High School

- a. Met: 6.c.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

3.3.4.11 Bucks County, Bristol Boro Junior/Senior School

- a. Met: 6.c.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

3.3.4.12 Bucks County, Brookwood Elementary School

- a. Met: 6.c.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

3.3.4.13 Bucks County, Cecilia Snyder Middle School

- a. Met: 6.c.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

3.3.4.14 Bucks County, Cornwells Elementary School

- a. Met: 6.c.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

3.3.4.15 Bucks County, Franklin D. Roosevelt Middle School

- a. Met: 6.c.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

3.3.4.16 Bucks County, Harry S. Truman High School

- a. Met: 6.c.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

3.3.4.17 Bucks County, Morrisville Middle/Senior High School

- a. Met: 6.c.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

3.3.4.18 Bucks County, Neil Armstrong (Bristol)

- a. Met: 6.c.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

3.3.4.19 Bucks County, Pennsbury High School East

- a. Met: 6.c.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

3.3.4.20 Bucks County, Pennsbury High School West

- a. Met: 6.c.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

3.3.4.21 Bucks County, Robert Shafer Middle School

- a. Met: 6.c.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

3.3.4.22 Bucks County, Samuel K. Faust Elementary School

- a. Met: 6.c.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

3.3.4.23 Bucks County, Snyder-Girotti Elementary School

- a. Met: 6.c.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

3.3.4.24 Bucks County, William Penn Middle School

- a. Met: 6.c.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

3.3.4.25 Chester County, Avon Grove High School

- a. Met: 6.c.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

3.3.4.26 Chester County, Charles Patton Middle School

- a. Met: 6.c.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

3.3.4.27 Chester County, Coatesville Area High School

- a. Met: 6.c.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

3.3.4.28 Chester County, Coatesville 9-10 Center

- a. Met: 6.c.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

3.3.4.29 Chester County, Fred Eagle Middle School

- a. Met: 6.c.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

3.3.4.30 Chester County, Kennett High School

- a. Met: 6.c.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

3.3.4.31 Chester County, Mary C. Lang Elementary School

- a. Met: 6.c.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

3.3.4.32 Chester County, North Brandywine Middle School

- a. Met: 6.c.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

3.3.4.33 Chester County, Scott Middle School

- a. Met: 6.c.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

3.3.4.34 Chester County, Unionville High School

- a. Met: 6.c.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

3.3.4.35 Lehigh County, DeSales University

- a. Met: 6.c.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

3.3.4.36 Lehigh County, Salisbury High School

- a. Met: 6.c.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

3.3.4.37 Lehigh County, Salisbury Middle School

- a. Met: 6.c.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

3.3.4.38 Montgomery County, Hatboro-Horsham Senior High School

- a. Met: 6.c.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

3.3.4.39 Montgomery County, Keith Valley Middle School

- a. Met: 6.c.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

3.3.4.40 Montgomery County, Springfield High School

- a. Met: 6.c.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

3.3.4.41 Montgomery County, Springfield Middle School

- a. Met: 6.c.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

SECTION 4: DEMONSTRATED STRENGTHS

4.1 Risk Jurisdictions

4.1.1 Berks County Department of Emergency Services

A camera and audio system added to the media room allows for Berks County media briefings to be projected on a large screen in the Emergency Operations Center (EOC) that provides up to date emergency information to staff.

4.1.2 Amity Township Emergency Management Office (Berks County)

The Amity Township EOC demonstrated excellent communication and coordination. There was constant communication throughout the exercise and consistent information-sharing. In addition to verbal communication, they kept a board with all the important times, updated in real time.

4.1.3 Amity Township Emergency Management Office (Berks County)

While there were two separate fire companies running three backup routes (two from Amity and one from Monarch), they all worked extremely well together. During the backup route ride with Amity, both routes were in constant communication with each other, confirming locations and that all areas were routed before returning to the EOC.

4.1.4 Charlestown Township (Chester County)

The Incident Commander did an exceptional job educating and engaging his 6-person all volunteer staff, as they played simulated ESF positions.

4.1.5 East Vincent Township (Chester County)

The Emergency Management Coordinator (EMC) and his staff worked well together as a team and did a great job of ensuring everyone was informed, aware, and supported as they executed their responsibilities, a true team environment.

4.1.6 Phoenixville Borough Emergency Management Agency (Chester County)

The Radiological Officer serving the joint Phoenixville/Schuylkill Township EOC, gave periodic radiological briefings throughout the exercise. An overall radiological safety briefing with instructions on personal dosimetry was presented after the Alert ECL was received. At three other times throughout the exercise, after escalations of ECL and when PAD was received, the RO briefed the staff, reminding them of requirements, the importance of dose record keeping and the effectiveness and use of potassium iodide. The information was extremely clear and easy to understand. The frequent updates highlighted the importance of dosimetry use and kept the team aware on how dose was tracked.

4.1.7 Schuylkill Township Emergency Operation Center (Chester County, co-located with Phoenixville Emergency Management Agency)

The Radiological Officer serving the joint Phoenixville/Schuylkill Township EOC, gave periodic radiological briefings throughout the exercise. An overall radiological safety briefing with instructions on personal dosimetry was presented after the Alert ECL was received. At three other times throughout the exercise, after escalations of ECL and

when PAD was received, the RO briefed the staff, reminding them of requirements, the importance of dose record keeping and the effectiveness and use of potassium iodide. The information was extremely clear and easy to understand. The frequent updates highlighted the importance of dosimetry use and kept the team aware on how dose was tracked.

4.1.8 West Pikeland Township (Chester County)

The West Pikeland Township Director and Deputy Director were out of area during the exercise, which required the Training Officer/Public Information Officer to serve as Interim Director. It should be noted that he has never served in this capacity before, but demonstrated the ability to follow the approved plan, requirements for Chester County and other requirements and expectations. At no time did he exhibit a lack of knowledge or ability to process requirements with key agencies within the EOC in meeting the needs of the citizens within the Township.

4.1.9 West Vincent Township Emergency Operation Center (Chester County)

Three EOC members were unable to participate, but two experienced individuals were able to use those three position checklists and execute the duties of those individuals.

4.1.10 Collegeville Borough Emergency Operation Center (Chester County)

The Collegeville Borough EOC personnel were diligent in following their procedures and worked well as a team.

4.1.11 Douglass Township (Montgomery County)

Douglass Township used the Montgomery County system "Ready MONTCO" web-based application to effectively coordinate and communicate.

4.1.12 Lower Pottsgrove Township Emergency Operation Center (Montgomery County)

Deputy Emergency Management Coordinator (DEMC) responded to a real-world event during the exercise demonstration. He left the township EOC to respond to a traffic accident with trapped passengers. The EOC operated seamlessly while he was gone. He jumped right back into his role when he returned from the accident response.

4.1.12 Lower Pottsgrove Township Emergency Operation Center (Montgomery County)

The Deputy Emergency Management Coordinator was a strong leader with years of experience. He made sure that all participants were fully informed of incident information and kept everyone on task by ensuring they used their checklists and accomplished required actions for each emergency classification level.

4.1.13 Royersford Borough Emergency Operation Center (Montgomery County)

The Emergency Management Coordinator was very well informed and communicated well with the staff by conducting briefings and asking appropriate questions to keep the exercise moving. The Deputy was responsible for communicating with the County via WebEOC. It was the first time the EOC used it for an exercise.

4.1.14 Trappe Borough Emergency Operation Center (Montgomery County)

The EOC for Trappe and Upper Providence worked in a regional response due to flooding damages and the exercise went extremely well working the challenges in a regional response.

4.1.15 Trappe Borough Emergency Operation Center (Montgomery County)

The facility is brand new and activation of the EOC required assembling and connecting communications. The agencies had no problems assembling the EOC and it was operational with minimal delay.

4.1.16 Trappe Borough Emergency Operation Center (Montgomery County)

Trappe Borough used detailed check lists for each ESF/Agency tracking execution times from each item to insure accountability and better situational awareness.

4.1.17 Trappe Borough Emergency Operation Center (Montgomery County)

All significant activity was tracked on an overhead projector with detailed notes including ESF/Agency carrying out the task. Responders in the EOC or those walking into the EOC could easily follow the battle rhythm and keep pace with the emergency.

4.1.18 Upper Providence Township Emergency Operation Center (Montgomery County)

The Emergency Management Coordinators for Upper Providence and Trappe effectively coordinated the response with little time to prepare (3-4 months) for the REP exercise.

4.1.19 Upper Providence Township Emergency Operation Center (Montgomery County)

The EMC for Upper Providence developed job aids for tracking events which were broadcasted overhead by a projector.

4.1.20 Upper Providence Township Emergency Operation Center (Montgomery County)

The EMC for Upper Providence developed an organizational chart separate from the RERP plan making the mobilization, directions and control more streamlined.

4.1.21 Upper Providence Township Emergency Operation Center (Montgomery County)

The Combined Upper Providence and Trappe EOC planning and hands on setup far exceeded the documentation in the plan.

4.2 Support Jurisdictions

4.2.1. Bucks County Emergency Operation Center

BCEOC staff developed new checklists for each position, and this was the first exercise that they were being used. Each participant was able to follow the checklists, understand their roles and take appropriate actions.

4.2.2. Bucks County Emergency Operation Center

BCEOC was well organized and all materials including PRDs, Plans and Procedures, and other general equipment were easily accessible.

4.2.3. Bucks County Emergency Operation Center

There were a lot of new staff, and it was clear they received proper training from existing staff members due to the knowledge they demonstrated.

4.3 Schools/School Districts

4.3.1. Boyertown Area School District (Berks County)

Boyer Middle School staff encouraged parents to place signs in their car windows with the name of the student to be picked up. At dismissal time, several school staff members would stand outside at the pick-up area and radio the students' names to staff supervising students in the auditorium and cafeteria.

4.3.2. Boyertown Area School district (Berks County)

The use of the signs in parents' vehicles enabled Boyer Middle School to conduct student pick-up in a quicker, more efficient manner and prevented crowding of students in the pick-up area.

4.3.3. Great Valley School District (Chester County)

The Grand Valley School District (GVSD) Emergency Operations Center (EOC) was a well-oiled machine. During the exercise, the whole team was very focused, not just what was required by the plans, but what consequences would occur due to each action and also discussed multiple "what-if" scenarios. Even once the evacuation of students was complete, the group discussed many options and ideas for bettering their plans, including how to address teachers that wanted/needed to leave early (alert/SAE) because their home was in the EPZ and they needed to prepare to evacuate, assuring they had information available for families picking up children on how to proceed to a shelter, to the difficulties of providing KI to some students and not others.

4.3.4. Owen J. Roberts School District (Chester County)

With the Superintendent being new to the position at French Creek Elementary School and unfamiliar with the nuclear exercise process, the Assistant Superintendent stood up and did an exceptional job leading the School District's efforts. She has a great grasp of the plan, was able to anticipate any issues, but also talked through all of her decisions to help the new Superintendent better understand for the future.

4.3.5. Owen J. Roberts School District (Chester County)

The East Coventry Elementary School formed a Community Emergency Response Team (CERT) to assist school personnel during all types of emergencies including responses to the Limerick Generating Station. The Principal of the ECES has initiated bi-monthly training and review sessions with School Staff, the CERT Team, and Security personnel from the Owen J. Roberts School District.

4.3.6. Pottstown School District (Montgomery County)

All participants referenced the Pottstown School District Emergency Procedures for Radiological Incidents at the Limerick Generating Station while they actively and enthusiastically completed their tasks and participated in discussions. All participants appeared extremely knowledgeable of and comfortable with the plan/procedures.

4.3.7 Spring-Ford Area School District

The Limerick Elementary School Principal and staff diligently followed their procedures and worked well as a team.

SECTION 5: CONCLUSION

The Commonwealth of Pennsylvania and local jurisdictions except where noted in this report demonstrated knowledge of their Radiological Emergency Response Plans (RERP) and procedures were adequately implemented during the Limerick Generating Station Plume Exercise evaluated on November 16, 2021, and the Out of Sequence Demonstrations conducted October 20, November 17, and December 1 and 2, 2021.

Federal Emergency Management Agency (FEMA) evaluators assessed 656 evaluation criteria in six Assessment Areas:

- Evaluation Area 1: Emergency Operations Management
- Evaluation Area 2: Protective Action Decision Making
- Evaluation Area 3: Protective Action Implementation
- Evaluation Area 4: Field Measurement and Analysis
- Evaluation Area 5: Emergency Notification and Public Information
- Evaluation Area 6: Support Operation/Facilities

These analyses resulted in a determination of no Level 1 Findings, no Level 2 Finding, and two new Plan Issues which were resolved prior to the publish date of this report after revised plans and procedures were received by FEMA.

Based on the results of the exercise and a review of the offsite radiological emergency response plans and procedures submitted, FEMA Region 3 has determined they are adequate (meet the planning and preparedness standards of NUREG-0654/FEMA-REP-1, Revision 1, November 1980, as referenced in 44 CFR 350.5) and there is reasonable assurance they can be implemented, as demonstrated during this exercise.

LGS APPENDIX A – EXERCISE TIMELINE

This section contains the Exercise Timeline. A table that depicts the times when an event or notifications were noted at participating agencies and locations. See next page.

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Emergency Classification Level or Event	Time Utility Declared	<i>Time That Notification Was Received at the Listed Location</i>									
		CRCC	CRCC JIC	Accident Assessment (BRP)	Exelon EOF	Berks County	Amity Township	Boyertown Borough/Cole-Brookdale Township	Douglass Township Berks County	Earl Township	Union Township
Unusual Event	1636	1647	1647	1647	1654	1646	-	-	-	-	-
Alert	1646	1656	1656	1655	1710	1656	1718	1720	1722	1659	1656
Site Area Emergency	1805	1817	1817	1807	1807	1817	1821	1821	1823	1822	1825
General Emergency	1841	1853	1853	1844	1843	1851	1857	1858	1859	1853	1858
Start of Simulated Radiation Release	1636	1646	1647	1647	1647	1851	1857	1858	1859	1853	1858
Terminated of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1659	1659	1659	1710	1710	1730	1812	1755	1736	1817
Governor's Declaration of State of Emergency		1819	1819	1819	1831	1830	1835	1831	1835	1832	1830
Exercise Terminated		2047	2047	2047	2040	2045	2019	2044	2030	2040	2037
1 st Siren Sounding		1838	1838	1838	1838	1838	1838	1838	1838	1838	1838
1 st EAS Message Broadcast		1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
1 st Precautionary Action Decision:		1824	1824	1824	1830	1824	1824	1830	1845	1835	1827
Vessel restrictions all waterways; restrict all rail service 0-10-mi EPZ; air restricted 3mi/3,000 ft; place livestock on stored feed and covered water		1824	1824	1824	1830	1824	1824	1830	1845	1835	1827
2 nd Siren Sounding		1932	1932	1932	1932	1932	1932	1932	1932	1932	1932
2 nd EAS Message Broadcast		1935	1935	1935	1935	1935	1935	1935	1935	1935	1935
2 nd Protective Action Decision		1925	1925	1928	1927	1925	1928	1935	1935	1935	1927
Governor recommends evacuation: 10-mile EPZ, 360 degrees; and Shelter-in-place special populations (prisons, jails, institutionalized persons 0-2 miles); KI for Emergency Workers, General Public, and Institutionalized Persons		1925	1925	1928	1927	1925	1928	1928	1930	1932	1927

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Emergency Classification Level or Event	Time Utility Declared	<i>Time That Notification Was Received at the Listed Location</i>									
		BWB EMA (Washington Township)	Bucks County	Chester County	Charlestown Township	East Coventry Township	East Nantmeal Township	East Pikeland Township	East Vincent Township	North Coventry Township	Phoenixville Borough
Unusual Event	1636	-	1656	1646	-	-	1655	1654	1652	1646	-
Alert	1646	1728	1710	1656	1649	1646	1711	1704	1654	1658	1703
Site Area Emergency	1805	1821	1821	1812	1822	1822	1824	1822	1823	1822	1822
General Emergency	1841	1858	1853	1851	1858	1856	1858	1859	1858	1859	1859
Start of Simulated Radiation Release	1636	1858	1856	1851	1858	1856	1858	1859	1858	1859	1859
Terminated of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1759	1743	1700	1716	1710	1729	1712	1710	1703	1715
Governor's Declaration of State of Emergency		1835	1858	1822	1832	1853	1854	1841	1832	1833	1853
Exercise Terminated		2045	2018	2020	2012	2019	1948	2010	1952	2020	2019
1 st Siren Sounding		1838	1843	1838	1838	1838	1838	1838	1838	1838	1838
1 st EAS Message Broadcast		1841	1845	1841	1843	1841	1841	1841	1841	1841	1841
1 st Precautionary Action Decision:		1834	1824	1824	1843	1847	1847	1841	1904	1833	1830
Vessel restrictions all waterways; restrict all rail service 0-10-mi EPZ; air restricted 3mi/3,000 ft; place livestock on stored feed and covered water		1834	1824	1824	1843	1847	1847	1841	1904	1833	1830
2 nd Siren Sounding		1932	1932	1932	1932	1932	1932	1932	1932	1932	1932
2 nd EAS Message Broadcast		1935	1935	1935	1935	1935	1935	1932	1935	1935	1935
2 nd Protective Action Decision		1927	1927	1925	1927	1926	1927	1932	1926	1922	1932
Governor recommends evacuation: 10-mile EPZ, 360 degrees; and Shelter-in-place special populations (prisons, jails, institutionalized persons 0-2 miles); KI for Emergency Workers, General Public, and Institutionalized Persons		1927	1927	1925	1927	1926	1927	1932	1926	1930	1932

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Emergency Classification Level or Event	Time Utility Declared	<i>Time That Notification Was Received at the Listed Location</i>									
		Schuylkill Township	South Coventry Township	Spring City Borough	Upper Uwchlan Township	Uwchlan Township	Warwick Township	West Pikeland Township	West Vincent Township	Lehigh County	Montgomery County
Unusual Event	1636	-	-	1653	-	1647	-	1646	-	-	1646
Alert	1646	1703	1646	1654	1645	1653	1705	1653	1653	1704	1654
Site Area Emergency	1805	1822	1825	1825	1825	1822	1822	1822	1822	1815	1816
General Emergency	1841	1859	1859	1902	1859	1853	1902	1858	1859	1856	1850
Start of Simulated Radiation Release	1636	1859	1829	1902	1859	1853	1902	1958	1859	1856	1648
Terminated of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1715	1725	1700	1700	1709	1713	1724	1742	1729	1650
Governor's Declaration of State of Emergency		1853	1835	1842	1842	1832	1822	1832	1832	1840	1822
Exercise Terminated		2019	1936	2030	2020	2014	2020	2015	2025	2019	2047
1 st Siren Sounding		1838	1838	1838	1838	1838	1838	1838	1838	1838	1838
1 st EAS Message Broadcast		1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
1 st Precautionary Action Decision:		1826	1826	1840	1840	1826	1828	1845	1829	1826	1826
Vessel restrictions all waterways; restrict all rail service 0-10-mi EPZ; air restricted 3mi/3,000 ft; place livestock on stored feed and covered water		1826	1826	1840	1840	1826	1828	1845	1829	1826	1826
2 nd Siren Sounding		1932	1932	1932	1930	1932	1928	1932	1936	1932	1932
2 nd EAS Message Broadcast		1935	1935	1935	1930	1935	1928	1935	1936	1935	1935
2 nd Protective Action Decision		1932	1927	1928	1930	1926	1928	1927	1926	1927	1922
Governor recommends evacuation: 10-mile EPZ, 360 degrees; and Shelter-in-place special populations (prisons, jails, institutionalized persons 0-2 miles); KI for Emergency Workers, General Public, and Institutionalized Persons		1932	1927	1928	1912	1942	1928	1927	1926	1927	1922

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Emergency Classification Level or Event	Time Utility Declared	<i>Time That Notification Was Received at the Listed Location</i>									
		Collegeville Borough	Douglass Township (Montgomery County)	Greenlane/Marlborough Township	Limerick Township	Lower Frederick Township	Lower Pottsgrove Township	Lower Providence Township	Lower Salford Township	New Hanover Township	Perkiomen Township
Unusual Event	1636	1646	1646	-	1652	1636	-	1645	1645	1646	-
Alert	1646	1659	1654	1659	1659	1646	1659	1700	1738	1654	1655
Site Area Emergency	1805	1817	1816	1819	1815	1818	1815	1815	1819	1815	1815
General Emergency	1841	1856	1854	1859	1854	1856	1854	1855	1854	1854	1854
Start of Simulated Radiation Release	1636	1659	1654	1706	1656	1654	1659	1815	1653	1654	1655
Terminated of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1655	1658	1700	1723	1700	1710	1653	1724	1755	1715
Governor's Declaration of State of Emergency		1929	1835	-	1822	-	-	-	-	1928	1930
Exercise Terminated		2048	2048	2057	2048	2030	2047	2047	2047	2000	2048
1 st Siren Sounding		1838	1832	1838	1838	1838	1838	1838	1838	1838	1838
1 st EAS Message Broadcast		1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
1 st Precautionary Action Decision:		1829	1828	1828	1828	1833	1828	1828	1832	1838	1828
Vessel restrictions all waterways; restrict all rail service 0-10-mi EPZ; air restricted 3mi/3,000 ft; place livestock on stored feed and covered water		1829	1828	1828	1828	1833	1828	1928	1832	1838	1828
2 nd Siren Sounding		1932	1932	1932	1932	1932	1932	1932	1932	1932	1932
2 nd EAS Message Broadcast		1935	1935	1935	1935	1935	1935	1935	1935	1935	1935
2 nd Protective Action Decision		1929	1927	1927	1914	1929	1947	1928	1928	1929	1928
Governor recommends evacuation: 10-mile EPZ, 360 degrees; and Shelter-in-place special populations (prisons, jails, institutionalized persons 0-2 miles); KI for Emergency Workers, General Public, and Institutionalized Persons		1929	1927	1859	1914	1929	1947	1928	1928	1929	1928

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Emergency Classification Level or Event	Time Utility Declared	<i>Time That Notification Was Received at the Listed Location</i>									
		Pottstown Borough	Royersford Borough	Schwenksville Borough	Skippack Township	Trappe Borough	Upper Frederick Township	Upper Pottsgrove Township	Upper Providence Township	Upper Salford Township	West Pottsgrove Township
Unusual Event	1636	-	-	1654	1646	1652	-	1646	1652	1646	-
Alert	1646	1655	1654	1654	1654	1655	1654	1654	1655	1659	1658
Site Area Emergency	1805	1815	1817	1816	1815	1815	1817	1818	1815	1815	1816
General Emergency	1841	1853	1841	1854	1854	1854	1855	1855	1854	1854	1853
Start of Simulated Radiation Release	1636	1655	1655	1654	1646	1659	1654	1818	1659	1659	1658
Terminated of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1707	1659	1736	1705	1720	1808	1719	1700	1730	1705
Governor's Declaration of State of Emergency		1941	1928	1915	1923	1947	1902	1900	1947	1912	1920
Exercise Terminated		2048	2045	2048	2014	2049	2047	2049	2049	2048	2048
1 st Siren Sounding		1838	1838	1838	1838	1838	1838	1838	1838	1838	1838
1 st EAS Message Broadcast		1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
1 st Precautionary Action Decision:		1830	1828	1829	1827	1835	1828	1828	1835	1830	1829
Vessel restrictions all waterways; restrict all rail service 0-10-mi EPZ; air restricted 3mi/3,000 ft; place livestock on stored feed and covered water		1830	1828	1829	1827	1835	1828	1828	1835	1830	1829
2 nd Siren Sounding		1932	1932	1932	1932	1932	1932	1932	1932	1932	1932
2 nd EAS Message Broadcast		1935	1935	1935	1935	1935	1935	1935	1935	1935	1935
2 nd Protective Action Decision		1945	1928	1931	1927	1946	1928	1935	1946	1938	1928
Governor recommends evacuation: 10-mile EPZ, 360 degrees; and Shelter-in-place special populations (prisons, jails, institutionalized persons 0-2 miles); KI for Emergency Workers, General Public, and Institutionalized Persons		1945	1928	1931	1927	1946	1928	1935	1946	1938	1928

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leaders for the Limerick Generating Station 2021 Radiological Emergency Preparedness Plume Pathway Exercise evaluated on November 16, 2021. The following constitutes the managing staff for the Exercise Evaluation:

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

Limerick Generating Station

LOCATION	TEAM LEADER	AGENCY
Commonwealth Response Coordination Center (CRCC); Commonwealth Joint Information Center at the CRCC; Exelon Media Operations Center; Exelon Emergency Operations Facility; Pennsylvania State Police	Lee Torres	FEMA R3
Pennsylvania Accident Assessment Center (BRP) at the CRCC; Radiological Rapid Response Vehicle; State Field Team A; State Field Team B; Lehigh County Out of Sequence Reception Center, Mass Care Center, and Evacuee Monitoring/Decontamination Station	Kenneth Wierman	FEMA HQ
Berks County Department of Emergency Services	Joe Suders	FEMA R3
Bucks County Emergency Operation Center	Andy Chancellor	FEMA R7
Chester County Emergency Operation Center	Tina Thomas	FEMA R3
Lehigh County Emergency Operation Center	Matt Celia	FEMA HQ
Montgomery County Emergency Operation Center	Dan Rose	FEMA R3
Berks County, Chester County, and Montgomery County Schools, and School Districts	Kathy Duran	FEMA R3
Berks County Out of Sequence Reception Center, Emergency Worker Monitoring/Decontamination Station, Evacuee Monitoring/Decontamination Station, and Mass Care Center	Joe Suders	FEMA R3
Bucks County Out of Sequence Reception Center, and Evacuee Monitoring/Decontamination Station	Dan Rose	FEMA R3
Chester County Out of Sequence Reception Center, Emergency Worker Monitoring/Decontamination Station, and Evacuee Monitoring/Decontamination Station	Kenneth Wierman	FEMA HQ
Montgomery County Out of Sequence Reception Center, Emergency Worker Monitoring/Decontamination Station, and Evacuee Monitoring/Decontamination Station	Lee Torres	FEMA R3
Berks County Out of Sequence Mass Care Walkdowns	Joe Suders	FEMA R3
Bucks County Out of Sequence Mass Care Walkdowns	Kathy Duran	FEMA R3
Chester County Out of Sequence Mass Care Walkdowns	Lee Torres	FEMA R3
Lehigh County Out of Sequence Mass Care Walkdowns	Kathy Duran	FEMA R3
Montgomery County Out of Sequence Mass Care Walkdowns	Dan Rose	FEMA R3

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

LOCATION	EVALUATOR	AGENCY
Commonwealth Response Coordination Center (CRCC) Pennsylvania Emergency Management Agency	Lee Torres	FEMA R3
	Rahuel Preciado	FEMA R3
	Kerry Holmes	FEMA R3
Commonwealth Joint Information Center (JIC) at the CRCC	Daren Bates	FEMA HQ
Pennsylvania Accident Assessment Center (BRP) at the CRCC	Janise Stolarova	FEMA HQ
	Kenneth Wierman	FEMA HQ
Exelon Media Operations Center	Cristina Schulingkamp	EPA R3
Exelon Emergency Operations Facility	Mike Howe	FEMA HQ
Radiological Rapid Response Vehicle	Nick Buls	FEMA R3
State Field Monitoring Team A	Brad McRee	ICF
State Field Monitoring Team B	Mike DeBonis	FEMA R2
Pennsylvania State Police	Gary Bolender	ICF
Berks County Department of Emergency Services	Joe Suders	FEMA R3
	Michelle Sturman	FEMA R2
	Cody McKown	FEMA R7
	Taylor Griffiths	FEMA R3
Amity Township Emergency Operation Center	Cheryl Weaver	ICF
Amity Township TCP/ACP	Cheryl Weaver	ICF
Amity Township Back-Up Route Alerting	Sarah Davis	ICF
Boyertown/Colebrookdale Emergency Operation Center	Bill Webb	ICF
Boyertown/Colebrookdale TCP/ACP	Bill Webb	ICF
Douglass Township Emergency Operation Center	Bruce Swiren	ICF
Douglass Township TCP/ACP	Bruce Swiren	ICF
Earl Township Emergency Operation Center	Ron Schmitt	ICF
Union Township Emergency Operation Center	Bridget Ahlgrim	ICF
BWB Emergency Management Agency (Washington Township)	Ron Bonner	ICF
Chester County Emergency Operation Center	Tina Thomas	FEMA R3
	Larry Broockerd	FEMA HQ
	Lisa Rink	FEMA HQ
Charlestown Township Emergency Operation Center	Peter Judge	ICF
East Coventry Township Emergency Operation Center	Jon Christiansen	ICF
East Coventry Township TCP/ACP	John Christiansen	ICF
East Nantmeal Township Emergency Operation Center	Tom Gahan	ICF
East Pikeland Township Emergency Operation Center	Heather Frey	FEMA HQ
East Vincent Township Emergency Operation Center	Miriam Weston Haas	FEMA R2
East Vincent Township TCP/ACP	Miriam Weston Haas	FEMA R2
East Vincent Township Back-Up Route Alerting	Alexis Gearing	ICF
North Coventry Township Emergency Operation Center	Doc Burriss	ICF
North Coventry Township TCP/ACP	Doc Burriss	ICF
Phoenixville Borough Emergency Management Agency	Gary Goldberg	ICF
Phoenixville Borough TCP/ACP	Gary Goldberg	ICF
Schuylkill Township Emergency Operation Center	Bart Ray	ICF

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Schuylkill Township TCP/ACP	Bart Ray	ICF
South Coventry Township Emergency Operation Center	Don Carlton	ICF
Spring City Borough Emergency Operation Center	Teri Engelhart	ICF
Upper Uwchlan Township Emergency Operation Center	Dave Kayen	ICF
Uwchlan Township Emergency Operation Center	Tom Reynolds	ICF
Uwchlan Township TCP/ACP	Tom Reynolds	ICF
West Pikeland Township Emergency Operation Center	Brenda Rembert	ICF
West Vincent Township Emergency Operation Center	Clay Spangenberg	ICF
Montgomery County Emergency Operation Center	Dan Rose	FEMA R3
	Roy Smith	ICF
	Brian Hasemann	FEMA R2
Douglass Township Emergency Operation Center	Henry Christiansen	ICF
Douglass Township TCP/ACP	Henry Christiansen	ICF
Greenlane-Marlborough Township Emergency Operation Center	Bonnie Sheffield	ICF
Limerick Township Emergency Operation Center	Lisa Hamilton	FEMA HQ
Limerick Township TCP/ACP	Lisa Hamilton	FEMA HQ
Lower Frederick Township Emergency Operation Center	Lynn Steffensen	ICF
Lower Frederick Township TCP/ACP	Lynn Steffensen	ICF
Lower Pottsgrove Township Emergency Operation Center	Marcy Campbell	ICF
Lower Pottsgrove Township TCP/ACP	Marcy Campbell	ICF
Lower Providence Township Emergency Operation Center	Gary Bolender	ICF
Lower Providence Township TCP/ACP	Gary Bolender	ICF
Lower Providence Township Back-Up Route Alerting	Denise Solomon	ICF
Lower Salford Township Emergency Operation Center	Bob Lemeshka	ICF
Lower Salford Township TCP/ACP	Bob Lemeshka	ICF
New Hanover Township Emergency Operation Center	Herb Massie	ICF
New Hanover Township TCP/ACP	Herb Massie	ICF
Perkiomen Township Emergency Operation Center	Deb Blunt	ICF
Pottstown Borough Emergency Operation Center	Rosemary Samsel	ICF
Pottstown Borough TCP/ACP	Rosemary Samsel	ICF
Royersford Borough Emergency Operation Center	Carol Shepard	ICF
Royersford Borough TCP/ACP	Carol Shepard	ICF
Schwenksville Borough Emergency Operation Center	John Wiecjorek	ICF
Skippack Township Emergency Operation Center	Roger Winkelman	ICF
Trappe Borough Emergency Operation Center	Vince Kalsan	FEMA R10
Upper Frederick Township Emergency Operation Center	Richard Watts	ICF
Upper Pottsgrove Township Emergency Operation Center	Kent Tosch	ICF
Upper Pottsgrove Township TCP/ACP	Kent Tosch	ICF
Upper Providence Township Emergency Operation Center	Chris Bellone	FEMA HQ
Upper Providence Township TCP/ACP	Chris Bellone	FEMA HQ
Upper Salford Township Emergency Operation Center	Stephen Watts	ICF

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

West Pottsgrove Township Emergency Operation Center	Alonzo McSwain	FEMA HQ
West Pottsgrove Township TCP/ACP	Alonzo McSwain	FEMA HQ
Bucks County Emergency Operation Center	Matthew Celia	FEMA HQ
Lehigh County Emergency Operation Center	Andy Chancellor	FEMA R7
Lehigh County Reception Center	Marcy Campbell	ICF
Lehigh County Mass Care Center	Roger Winkelman	ICF
Lehigh County Evacuee Monitoring/Decontamination Center	Deb Blunt	ICF
Boyertown Area School District	Richard Watts	ICF
Boyertown Elementary School	Richard Watts	ICF
Middle School East	Cheryl Weaver	ICF
Daniel Boone School District	Ron Schmitt	ICF
Daniel Boone Intermediate Center	Bill Webb	ICF
Downingtown School District	Bruce Swiren	ICF
Great Valley School District	Bridgett Ahlgrim	ICF
Charlestown Elementary School	Bridget Ahlgrim	ICF
Owen J. Robert School District	Peter Judge	ICF
French Creek Elementary School	Peter Judge	ICF
East Coventry Elementary School	Jon Christiansen	ICF
East Vincent Elementary School	Tom Graham	ICF
Phoenixville Area School District	John Wiecjorek	ICF
Phoenixville Area Middle School	John Wiecjorek	ICF
Phoenixville Area Senior High School	Stephen Watts	ICF
Phoenixville Area Kindergarten Center	Doc Burris	ICF
Methacton School District	Gary Goldberg	ICF
Arcola Intermediate	Gary Goldberg	ICF
Skyview Upper Elementary School	Bart Ray	ICF
Perkiomen Valley School District	Don Carlton	ICF
Perkiomen Valley High School	Teri Engelhart	ICF
Schwenksville Elementary School	Dave Kayen	ICF
Pottsgrove School District	Tom Reynolds	ICF
Lower Pottsgrove Elementary School	Tom Reynolds	ICF
Pottstown School District	Jim Greer	ICF
Pottstown Middle School	Jim Greer	ICF
Franklin Elementary School	Brenda Rembert	ICF
Spring-Ford Area School District	Rosemary Samsel	ICF
Royersford Elementary School	Rosemary Samsel	ICF
Evans Elementary School	Roy Smith	ICF
Limerick Elementary School	Reggie Rodgers	ICF
9 th Grade Center	Henry Christiansen	ICF
Lehigh County Reception Center	Marcy Campbell	ICF
Lehigh County Evacuee Monitoring/Decontamination Station	Deb Blunt	ICF
Lehigh County Mass Care Center	Roger Winkleman	ICF
Berks County Reception Center	Kathy Duran	FEMA R3

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Berks County Emergency Worker Monitoring/Decontamination Station	Nick Buls	FEMA R3
Berks County Evacuee Monitoring/Decontamination Station	Joe Suders	FEMA R3
Berks County Mass Care Center	Taylor Griffiths	FEMA R3
Bucks County Reception Center	Tom Scardino	FEMA R3
Bucks County Evacuee Monitoring/Decontamination Station	Dan Rose	FEMA R3
Chester County Reception Center	Heather Frey	FEMA HQ
Chester County Emergency Worker Monitoring/Decontamination Station	Kenneth Wierman	FEMA HQ
Chester County Evacuee Monitoring/Decontamination Station	Larry Broockerd	FEMA HQ
Montgomery County Reception Center	Tina Thomas	FEMA R3
Montgomery County Emergency Worker Monitoring/Decontamination Station	Cristina Schulingkamp	EPA R3
Montgomery County Evacuee Monitoring/Decontamination Station	Lee Torres	FEMA R3
Avon Grove High School Mass Care Center	Lee Torres	FEMA R3
Belmont Hills Elementary School Mass Care Center	Kathy Duran	FEMA R3
Bensalem High School Mass Care Center	Kathy Duran	FEMA R3
Brandywine Heights High School Mass Care Center	Joe Suders	FEMA R3
Bristol-Boro Junior/Senior School Mass Care Center	Kathy Duran	FEMA R3
Brookwood Elementary School Mass Care Center	Kathy Duran	FEMA R3
Cecilia Snyder Middle School Mass Care Center	Kathy Duran	FEMA R3
Charles Patton Middle School Mass Care Center	Lee Torres	FEMA R3
Coatesville Area High School Mass Care Center	Lee Torres	FEMA R3
Coatesville 9-10 Center Mass Care Center	Lee Torres	FEMA R3
Cornwells Elementary School Mass Care Center	Kathy Duran	FEMA R3
DeSales University Mass Care Center	Kathy Duran	FEMA R3
Fleetwood Area High School Mass Care Center	Kathy Duran	FEMA R3
Franklin D. Roosevelt Middle School Mass Care Center	Kathy Duran	FEMA R3
Fred Eagle Middle School Mass Care Center	Lee Torres	FEMA R3
Hamburg Area High School Mass Care Center	Joe Suders	FEMA R3
Hamburg Area Middle School Mass Care Center	Joe Suders	FEMA R3
Harry S. Truman High School Mass Care Center	Kathy Duran	FEMA R3
Hatboro-Horsham Senior High School Mass Care Center	Dan Rose	FEMA R3
Keith Valley Middle School Mass Care Center	Dan Rose	FEMA R3
Kennett High School Mass Care Center	Lee Torres	FEMA R3
Kutztown Area High School Mass Care Center	Joe Suders	FEMA R3
Kutztown Area Middle School Mass Care Center	Joe Suders	FEMA R3
Mary C. Lang Elementary School Mass Care Center	Lee Torres	FEMA R3
Morrisville Middle/Senior High School Mass Care Center	Kathy Duran	FEMA R3
Neil Armstrong (Bristol) Mass Care Center	Kathy Duran	FEMA R3
North Brandywine Middle School Mass Care Center	Lee Torres	FEMA R3

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

Pennsbury High School East Mass Care Center	Kathy Duran	FEMA R3
Pennsbury High School West Mass Care Center	Kathy Duran	FEMA R3
Robert Shafer Middle School Mass Care Center	Kathy Duran	FEMA R3
Salisbury High School Mass Care Center	Kathy Duran	FEMA R3
Salisbury Middle School Mass Care Center	Kathy Duran	FEMA R3
Samuel K. Faust Elementary School Mass Care Center	Kathy Duran	FEMA R3
Schuylkill Valley Middle School Mass Care Center	Joe Suders	FEMA R3
Schuylkill Valley High School Mass Care Center	Joe Suders	FEMA R3
Scott Middle School Mass Care Center	Lee Torres	FEMA R3
Snyder-Girotti Elementary School Mass Care Center	Kathy Duran	FEMA R3
Springfield High School Mass Care Center	Dan Rose	FEMA R3
Springfield Middle School Mass Care Center	Dan Rose	FEMA R3
Unionville High School Mass Care Center	Lee Torres	FEMA R3
William Penn Middle School Mass Care Center	Kathy Duran	FEMA R3

APPENDIX C: ACRONYMS AND ABBREVIATIONS

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

After Action Report/Improvement Plan

Limerick Generating Station

GIS	Geographic Information Systems
HazMat	Hazardous Materials
IPAWS	Integrated Public Alert & Warning System
IPX	Ingestion Pathway Zone
JIC	Joint Information Center
KI	Potassium Iodide
LGS	Limerick Generating Station
LOA	Letter of Agreement
MCC	Mass Care Center
MOU	Memorandum of Understanding
MSEL	Master Scenario Events List
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
OOS	Out of Sequence
ORH	Office of Radiological Health
ORO	Offsite Response Organization
OSD	Optically Stimulated Dosimeter
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PARA	Primary Area Route Alerting
PDAFN	Persons with Disabilities/Access Functional Needs
PEMA	Pennsylvania Emergency Management Agency
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Services
RC	Reception Center
REA	Radiation Emergency Area
REPP	Radiological Emergency Preparedness Program
RERP	Radiological Emergency Response Plan
RO	Radiological Officer
SAC	Staging Area Coordinator
SAE	Site Area Emergency
SAV	Staff Assistance Visit
SEOC	State Emergency Operations Center
SEVAN	State Emergency Voice Activation Network
TCP	Traffic Control Point
TRNSDEP	Transportation Dependent

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Limerick Generating Station

VHF	Very High Frequency
WEA	Wireless Emergency Alerts

APPENDIX D: EXTENT OF PLAY AGREEMENT

The 2021 Limerick Generating Station Plume Exercise Extent-of-Play (EOP) Agreement is a document created by the Commonwealth of Pennsylvania Emergency Management Agency that sets the parameters for exercise demonstration. The EOP agreement was signed by the FEMA Region 3 and Commonwealth of Pennsylvania Emergency Management Agency planning team members.



LIMERICK GENERATING STATION PLUME EXERCISE

By signing this Extent of Play Agreement, the Commonwealth of Pennsylvania and the FEMA Region III exercise planning team confirm that all conditions have been met to satisfy the requirements to drive exercise play and satisfy the Demonstration Criteria as agreed upon for the November 16, 2021 Limerick Generating Station Plume Exercise.

KATHRYN
DURAN

Digitally signed by
KATHRYN DURAN
Date: 2021.11.08
09:39:29 -05'00'

FEMA Site Specialist

Date


Lead State Planner

11/8/2021
Date

JOSEPH A
SUDERS

Digitally signed by JOSEPH A
SUDERS
Date: 2021.11.10 06:07:36 -05'00'

FEMA Team Leader

Date

LIMERICK GENERATING STATION

EXTENT OF PLAY

FINAL NEGOTIATION

2021 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

***FEMA REP Manual dated January 2016
will be used for this exercise***

This page is intentionally blank.

Table of Contents

METHOD OF OPERATION.....	89
I. Limerick Generating Station (LGS).....	89
II. Bureau of Radiation Protection (BRP)	89
III. PEMA Operations at the CRCC.....	89
IV. PEMA Area Office Operations	90
V. Counties Designated to Participate	90
VI. PEMA Liaison Officers.....	90
VII. Controllers	90
VIII. PEMA Observers.....	91
IX. Outside Observer Coordination.....	91
X. FEMA Evaluators	91
XI. Demonstration Windows	92
XII. Stand-down	93
XIII. General Concepts	94
XIV. Re-demonstrations	94
EXTENT-OF-PLAY AGREEMENT.....	95
EVALUATION AREA 1	95
EVALUATION AREA 2	102
EVALUATION AREA 3	108
EVALUATION AREA 4	116
EVALUATION AREA 5	121
EVALUATION AREA 6	127
AMERICAN RED CROSS RISK AND SUPPORT COUNTY CHAPTERS:.....	135
ATTACHMENT A.....	138
I. Out-of-Sequence Events	138
II. Plume Phase Exercise	139
III. Mass Care Center Evaluations (Walkdowns).....	143

LIMERICK GENERATING STATION
2021 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

METHOD OF OPERATION

I. Limerick Generating Station (LGS)

The facility normally uses off-watch section personnel to participate in the exercise. The plant's simulated events, radiation readings, and emergency classifications will trigger offsite exercise actions. A pre-approved exercise scenario will be used. LGS will notify the Commonwealth Response Coordination Center (CRCC), the Department of Environmental Protection's Bureau of Radiation Protection (BRP) and risk counties of emergency classifications.

II. Bureau of Radiation Protection (BRP)

BRP personnel will be present at the CRCC, the nuclear facility Emergency Operations Facility (EOF), and branch and field locations. BRP field teams **WILL** be evaluated during this exercise. BRP field monitoring teams (FMTs) will perform air sampling out-of-sequence, preferably before they deploy to the plume area due to the time of the exercise (seasonably darker early and visibly challenging).

III. PEMA Operations at the CRCC

This "Method of Operation" Document includes activities for the Full-Scale Plume Exercise (November 16, 2021), and the "Out-of-sequence" Activities (October 20 and November 17, 2021).

A. "Out-of-Sequence" Activities – October 20 & November 17, 2021

PEMA personnel will serve as "Observers" at the various field exercise locations (reception centers, emergency worker and general public monitoring/decontamination centers, and mass care centers). This will be performed out-of-sequence in a demonstration window of 7:00 p.m. to 9:30 p.m. on October 20, 2021 and November 17, 2021 (see Attachment A, Section I.4). An exercise coordinator will remain in the CRCC. The CRCC and counties **WILL NOT** be evaluated during the evening "Out-of-Sequence" component.

The Pennsylvania State Police (PSP) demonstration will take place at PSP Troop K – Skippack Barracks, 2047C Bridge Road, Schwenksville, PA. 19473, Montgomery County. The PSP briefing will be performed out-of-sequence in a demonstration window of 10:00 a.m. to 12:00 p.m. on November 17, 2021.

B. Plume Exercise – School “Out-of-Sequence” Activity – November 16, 2021

A PEMA Lead Controller will disseminate exercise-related messages from the CRCC to the risk counties for dissemination to the participating school districts during a demonstration window of 9:00 a.m. to 11:00 a.m. on November 16, 2021. The CRCC and County Emergency Operation Centers (EOCs) will participate but WILL NOT be evaluated during the “Out-of-Sequence” component. PEMA personnel will serve as Observers at the identified school districts and schools.

C. Plume Exercise – November 16, 2021

PEMA staff and Agency Representatives (AREPs) from designated state departments/agencies, will comprise initial operations at the CRCC during a demonstration window of 4:00 p.m. to 10:00 p.m. on November 16, 2021. The CRCC WILL be evaluated during this exercise.

IV. PEMA Area Office Operations

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

V. Counties Designated to Participate

The three risk counties (Berks, Chester, and Montgomery), in coordination with PEMA, will demonstrate the capability to mobilize appropriate staff, activate their respective EOCs and implement emergency response operations to include sheltering and/or evacuation. County government will provide direction and coordination to risk municipalities. The two support counties (Bucks and Lehigh) will participate in their assigned support roles. Actual sheltering or evacuation of the general public will be simulated.

VI. PEMA Liaison Officers

Liaison Officers will be present at the participating risk and support county EOCs, the LGS EOF, and LGS Joint Information Center (JIC) to provide assistance, guidance, and support. These Liaison Officers will participate as players in the exercise.

VII. Controllers

Controllers will be present at the emergency worker monitoring/decontaminating stations and the mass care monitoring/decontamination centers on October 20, 2021 and November 17, 2021. Controllers are not players. Controllers will provide pre-approved injects and information to the players, as appropriate, regarding radiological readings during the monitoring of personnel. Live radioactive sources will not be used.

Exception: Individuals tasked with the setup of portal monitoring equipment will use a standard 1 micro curie Cesium 137 source for the purpose of conducting operational tests. Additionally, appropriate test sources will be available and used to verify the operation of the monitoring/survey instruments per manufacturer's recommendations.

VIII. PEMA Observers

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

IX. Outside Observer Coordination

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

X. FEMA Evaluators

Federal Evaluators will be present at the risk and support county EOCs, risk municipal EOCs, CRCC and JIC, BRP FMTs & R3V vehicle location, and at appropriate field locations to evaluate player response to the actual and simulated events in the exercise scenario. FEMA will evaluate risk municipalities in Berks, Chester, and Montgomery counties.

Out-of-Sequence Period (October 20, November 16 and 17, 2021):

- On October 20 and November 17, Federal Evaluators will be present at identified Reception Centers, Emergency Worker and Evacuee Monitoring and Decontamination Centers, and Mass Care Centers, as identified in Attachment A, Sections I.1, I.2, I.3, and I.4
- On November 16, Federal Evaluators will be present at the identified "out-of-sequence" demonstration sites per Attachment A, Sections II.1 and II.2. These include the identified Public-School Districts and participating school buildings
- On November 17, Federal Evaluators will be present at PSP Troop K – Skippack Barracks for Traffic and Access Control Points demonstration as per Attachment A, Section II.6.a

Plume Phase Exercise (November 16, 2021): Federal Evaluators will be present at the risk and support county EOCs, risk municipal EOCs, CRCC and JIC, BRP FMTs & R3V vehicle location, and at appropriate field locations to evaluate player response to the actual and simulated events in the exercise scenario. FEMA will evaluate risk municipalities in Berks, Chester, and Montgomery counties.

XI. Demonstration Windows

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

The “demonstration windows” for this exercise are:

A. Out-of-Sequence Exercise

The out-of-sequence MS-1 hospital demonstration was federally evaluated at Holy Redeemer Hospital, Montgomery County on October 29, 2020. Additionally, the following MS-1 hospitals were federally evaluated in 2020: Abington-Jefferson Health on October 29, and Lehigh Valley Hospital and Reading Hospital-Tower Health on November 5.

Reception Centers, Emergency Worker Monitoring and Decontamination Stations, Evacuee Monitoring and Decontamination Centers, and Mass Care Centers, as identified in Attachment A, Sections I.1, I.2, I.3, and I.4 will be conducted on October 20, 2021 for Berks, Bucks, Chester, and Montgomery counties. Lehigh County will conduct theirs on November 17, 2021 from 7:00 p.m. to 9:30 p.m.

The out-of-sequence exercise window for school demonstrations will be on November 16, 2021 from 9:00 a.m. to 11:00 a.m.

The out-of-sequence interview of PSP traffic control/access control points will be on November 17, 2021 from 10:00 a.m. to 12:00 p.m.

41 mass care centers (8 in Berks, 16 in Bucks, 10 in Chester, 3 in Lehigh, and 4 in Montgomery) will receive “walkdown” baseline evaluations on December 1 and 2, 2021; Fleetwood High School in Berks County received theirs on October 20, 2021. *These 41 mass care centers will not be evaluated during the evening of October 20 and November 17, 2021. There are one co-located Mass Care/Monitoring and Decontamination Centers in Berks (October 20, 2021) and one in Lehigh (November 17, 2021) that will be evaluated. (Please refer to the Extent-of-Play Attachment A, Demonstration Tables)*

The mass care center evaluations (walkdowns) will have team(s) consisting of a FEMA Evaluator, PEMA, County Representative, ARC Representative, and Exelon Representative (optional). The mass care centers mentioned will have a team enter the facility to verify layout, usable common areas, square footage estimate, and capability of being used as a mass care facility. A walkdown assessment of mass care facilities scheduled for evaluation will be accomplished to satisfy FEMA's evaluation process. Should the facility be inaccessible or closed due to the COVID-19 pandemic, 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.

B. Plume Phase Exercise

Commonwealth, county and municipal EOC operations will be conducted on November 16, 2021 with exercise period from approximately 4:00 p.m. to 10:00 p.m. unless terminated by the Lead Controller in coordination with the Utility and PEMA. (Please refer to the Extent of Play Demonstration Tables, Attachment A)

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

C. Post Plume Exercise

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

XII. Stand-down

All jurisdictions will request approval on a jurisdiction-by-jurisdiction basis prior to stand-down. Upon completion of all requirements and after having been informed by the FEMA Evaluator that all evaluation areas have been demonstrated and/or completed, the risk municipality EOCs may request approval from their county EOC to stand-down their portion of the exercise.

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

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

- The risk municipalities will request termination from their respective risk county after it is confirmed that their FEMA Evaluator(s) have completed their evaluation and re-demonstration is not required.

XIII. General Concepts

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

XIV. Re-demonstrations

During the exercise, any activity that is not satisfactorily demonstrated may be re-demonstrated by the participants during the exercise with the approval of the Regional Assistance Committee (RAC) Chair as long as it does not negatively interfere with the exercise. Refresher training may be provided by the players, observers, and/or controllers. FEMA Evaluators are not permitted to provide refresher training. Re-demonstrations will be negotiated between the players, observers, controllers, and evaluators. PEMA will consult with the RAC Chair prior to initiating any re-demonstrations. It is permissible to extend the demonstration window, within reason, to accommodate the re-demonstration. Activities corrected from a re-demonstration will be so noted.

LIMERICK GENERATING STATION
2021 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

EXTENT-OF-PLAY AGREEMENT

EVALUATION AREA 1

Emergency Operations Management

Sub-element 1.a – Mobilization

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

Pre-positioning of state emergency personnel (Liaison Officers) at the EOF, the Utility JIC the CRCC, BRP, and Risk and Support Counties is appropriate due to the commuting distance from the individual's duty location or residence. Risk counties/municipalities will conduct call-outs to demonstrate the mobilization of key personnel. The Utility JIC will be evaluated for this drill.

- *Actual calls (or pager notifications) will be made to the municipal EOC personnel 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, will **NOT** pre-stage but will wait for notification of emergency before staffing their duty location.*

Sub-element 1.b – Facilities

INTENT

This sub-element derives from NUREG-0654/FEMA-REP-1, which provides that OROs have facilities to support the emergency response.

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

Assessment/Extent-of-Play

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

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

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

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

PEMA Negotiated Extent-of-Play:

All facilities will be evaluated during this exercise to satisfy the eight-year cycle requirement.

Chester County – Schuylkill Township will demonstrate at the Phoenixville Borough EOC due to renovations being done in their EOC; they will be evaluated separately.

Montgomery County – Upper Providence and Trappe Borough are in the process of regionalizing their emergency management efforts; however, they will demonstrate and be evaluated separately at the Upper Providence EOC.

These municipalities have their own plan and will be evaluated against them.

Montgomery County – Schwenksville Borough EOC has water damage from Hurricane Ida. They will demonstrate at the Schwenksville Elementary School for this exercise.

Sub-element 1.c – Direction and Control

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

PEMA Negotiated Extent of Play

None

Sub-element 1.d – Communications Equipment

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

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

PEMA Negotiated Extent-of-Play:

*The plant will communicate to the risk counties and CRCC utilizing the 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.

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have emergency equipment and supplies adequate to support the emergency response.

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

Assessment/Extent-of-Play

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

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

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

KI: Responsible OROs must demonstrate the capability to maintain inventories of KI sufficient for use by: (1) emergency workers; (2) institutionalized individuals, as indicated in capacity lists for facilities; and (3) where stipulated by the plans/procedures, members of the general public (including transients) within the plume pathway EPZ. In addition, OROs must demonstrate provisions to make KI available to specialized response teams (e.g., civil support team, Special Weapons and Tactics Teams, urban search and rescue, bomb squads, HAZMAT, or other ancillary groups) as identified in plans/procedures. The plans/procedures must include the forms to be used for documenting emergency worker ingestion of KI, as well as a mechanism for identifying emergency workers that have declined KI in advance. Consider carefully the placement of emergency workers that have declined KI in advance.

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

Dosimetry: Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers must be available for issuance to all emergency workers who will be

dispatched to perform an ORO mission. In addition, OROs must demonstrate provisions to make dosimetry available to specialized response teams (e.g., civil support team, Special Weapons and Tactics Teams, urban search and rescue, bomb squads, HAZMAT, or other ancillary groups) as identified in plans/procedures.

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

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

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

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

For FMTs, the instruments must be capable of measuring gamma exposure rates and detecting beta radiation. These instruments must be capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on air sample collection media, consistent with the intended use of the instrument and the ORO's plans/procedures. An appropriate radioactive check source must be used to verify proper operational response for each low-range radiation measurement instrument (less than 1R/hr) and for high-range instruments when available. If a source is not available for a high-range instrument, a procedure must exist to operationally test the instrument before entering an area where only a high-range instrument can make useful readings.

In areas where portal monitors are used, the OROs must set up and operationally check the monitor(s). The monitor(s) must conform to the standards set forth in the *Contamination Monitoring Standard for a Portal Monitor Used for Emergency Response*, FEMA-REP-21 (March 1995) or in accordance with the manufacturer's recommendations.

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

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

PEMA Negotiated Extent-of-Play:

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. KI questions will be addressed through interviews.

Annual Direct Reading Dosimeter leakage testing verification and KI extension letters (as appropriate) will be available to the evaluator.

All DRDs "read" in units of Roentgens. The Commonwealth, counties and municipalities do not use 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 will be available for viewing by evaluators. If Reception Centers are collocated with Monitoring/Decontamination centers and Mass Care Centers the use of maps or documents to provide direction does not apply. **Personnel manning reception centers should receive a radiological briefing and receive category C dosimetry due to potential for radiological contamination.***

Note: Bus drivers returning to the EPZ to fulfill relocation requirements will be equipped with Category A dosimetry and receive a radiological briefing.

EVALUATION AREA 2

Precautionary and/or Protective Action Decision-Making

Sub-element 2.a – Emergency Worker Exposure Control

INTENT

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

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

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

***Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for emergency workers, including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.
(NUREG-0654/FEMA-REP-1, C.6; f; K.3.a; K.4)***

Assessment/Extent-of-Play

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

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.

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

INTENT

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

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

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

Assessment/Extent-of-Play

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

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

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

When the licensee and ORO projected doses differ by more than a factor of 10, the ORO and licensee must determine the source of the difference by discussing input data and assumptions, using different models, or exploring possible reasons. Resolution of these differences must be

incorporated into the PARs if timely and appropriate. The ORO must demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated PARs.

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

PEMA Negotiated Extent-of-Play:

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.

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

Assessment/Extent-of-Play

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

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

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

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.

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

INTENT

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

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

Assessment/Extent-of-Play

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

Usually, it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of PAGs, except for incidents where there is a high-risk

environmental condition or where high-risk groups (e.g., the immobile or infirm) are involved. In these cases, factors that must be considered include weather conditions, shelter availability, availability of transportation assets, risk of evacuation versus risk from the avoided dose, and precautionary school evacuations. In addition, decisions must be coordinated/communicated with the incident command. In situations where an institutionalized population cannot be evacuated, the ORO must consider use of KI.

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

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.

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

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

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

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

EVALUATION AREA 3

Protective Action Implementation

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

INTENT

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

Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, K.3.a, b; K.4)

Assessment/Extent-of-Play

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

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

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

During a plume phase exercise, emergency workers must demonstrate the procedures to be followed when administrative exposure limits and turn-back values are reached. The emergency worker must report accumulated exposures during the exercise as indicated in the

plans/procedures. OROs must demonstrate the actions described in the plans/procedures by determining whether to replace the worker, authorize the worker to incur additional exposures, or take other actions. If exercise play does not require emergency workers to seek authorizations for additional exposure, evaluators must interview at least two workers to determine their knowledge of whom to contact in case authorization is needed, and at what exposure levels. Workers may use any available resources (e.g., written procedures and/or coworkers) in providing responses.

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

OROs may have administrative limits lower than EPA-400-R-92-001 dose limits for emergency workers performing various services (e.g., lifesaving, protection of valuable property, all activities). OROs must ensure that the process used to seek authorization for exceeding dose limits does not negatively impact the capability to respond to an incident where lifesaving and/or protection of valuable property may require an urgent response.

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

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

PEMA Negotiated Extent-of-Play:

Radiological briefings will be provided to address exposure limits, procedures to replace those approaching limits, and how permission to exceed limits is obtained from the county. Emergency workers will also be briefed on when to take KI and on whose authority. Distribution of KI will be simulated.

OROs should also demonstrate the use of all applicable dosimetry forms to emergency workers. The completion of one "Dosimetry-KI Form" will be demonstrated.

At any time, players may ask other players or supervisors to clarify radiological information. In Pennsylvania, emergency workers do not have turn-back values.

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

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

Category A: 1 PRD, 1 DRD, and 1 unit of KI

Category B: 1 PRD and 1 unit of KI

Category C: 1 PRD

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

All locations that have dosimetry equipment indicated within their Radiological Emergency Response Plan (RERP), will make the dosimetry equipment (and KI) available for inspection by the Federal Evaluator. Simulation PRDs with mock serial numbers will be used.

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

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

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

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

PEMA Negotiated Extent-of-Play:

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

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

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

If the scenario has no radiological release, or potential of a radiological release, the decision-making process on the need to recommend KI can be addressed through an interview if required.

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

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

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.

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

Assessment/Extent-of-Play

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

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

School students will not be involved during the exercise. Actions and activities associated with the demonstration of Criterion 3.c.2 will be limited to the School District Administration key personnel, 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.

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

INTENT

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

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

Assessment/Extent-of-Play

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

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

Traffic and access control staff must demonstrate accurate knowledge of their roles and responsibilities, including verifying emergency worker identification and access authorization to the affected areas, as per the Extent-of-Play Agreement. These capabilities may be demonstrated by actual deployment or by interview, in accordance with the Extent-of-Play Agreement. In instances where OROs lack authority necessary to control access by certain types of traffic (e.g., rail, water, and air traffic), they must demonstrate the capability to contact the State or Federal agencies that have the needed authority, as agreed upon in the Extent-of-Play Agreement.

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

PEMA Negotiated Extent-of-Play:

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

***Criterion 3.d.2: Impediments to evacuation are identified and resolved.
(NUREG0654/FEMA-REP-1, J.10.k)***

Assessment/Extent-of-Play

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

OROs must demonstrate the capability to identify and take appropriate actions concerning impediments to evacuations. In demonstrating this capability, the impediment must remain in place during the evacuation long enough that re-routing of traffic is required and must also result in demonstration of decision-making and coordination with the JIC to communicate the alternate route to evacuees.

When, due to specifics of the scenario or jurisdiction, the impediment cannot be located on an evacuation route, it must be located so as to impact the evacuation. When not possible, actual dispatch of resources need not be physically demonstrated; however, all contacts, actual or simulated, must be logged.

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

PEMA Negotiated Extent-of-Play:

ORO's 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.

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

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

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

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

EVALUATION AREA 4

Field Measurement and Analyses

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

INTENT

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

incident, it is important to collect field radiological data to help characterize any radiological release. Adequate equipment and procedures are essential to such field measurement efforts.

Criterion 4.a.1: [RESERVED]

Criterion 4.a.2: Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure.

(NUREG-0654/FEMA-REP-1, C.1; H.12; I.7, 8, 11; J.10.a)

Assessment/Extent-of-Play

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

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

Field measurements are needed to help characterize the release and support the adequacy of implemented protective actions, or to be a factor in modifying protective actions.

Teams must be directed to take measurements at such locations and times as necessary to provide sufficient information to characterize the plume and its impacts.

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

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

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

PEMA Negotiated Extent-of-Play:

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 November 16, 2021 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** be evaluated by FEMA.*

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

Assessment/Extent-of-Play

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

Two or more FMTs must demonstrate the capability to make and report measurements of ambient radiation to the field team coordinator, dose assessment team, or other appropriate authority. FMTs must also demonstrate the capability to obtain an air sample for measurement of airborne radioiodine and particulates, and to provide the appropriate authority with field data pertaining to measurement. If samples have radioactivity significantly above background, the authority must consider the need for expedited laboratory analyses of these samples.

Coordination concerning transfer of samples, including a chain-of-custody form(s), to a radiological laboratory(ies) must be demonstrated.

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

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

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

PEMA Negotiated Extent-of-Play:

*Measurements will be made by DEP/BRP, in accordance with the State Annex E, Appendix 6, BRP Technical Assessment and Protective Actions, and BRP Standard Implementing Procedures (IPs). Two mobile monitoring teams from BRP South East Regional Office will demonstrate ambient radiation monitoring and radioiodine, and particulate sampling. Field teams will be equipped with appropriate dosimetry and KI. **Field teams WILL 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 will be forwarded to the R3V immediately upon obtaining data. All field team data that is forwarded to the R3V, can be entered into RadResponder 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 at the R3V staging area at Wilson Farm Park, 500 Lee Road in Chesterbrook, Pennsylvania 19087 at 1:30 p.m. on November 16, 2021. At this time, FEMA evaluators are permitted to ride along in the BRP vehicles.

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

INTENT

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

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

Assessment/Extent-of-Play

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

The ORO's FMTs must demonstrate the capability to take measurements and samples at such times and locations as directed to enable an adequate assessment of the ingestion pathway and to support reentry, relocation, and return decisions. When resources are available, use of aerial surveys and in-situ gamma measurement is appropriate. All methodology, including

contamination control, instrumentation, preparation of samples, and chain-of-custody form(s) for transfer to a laboratory(ies), will be in accordance with the ORO's plans/procedures.

The FMTs and/or other sampling personnel must secure ingestion pathway samples from agricultural products and water. Samples in support of relocation and return must be secured from soil, vegetation, and other surfaces in areas that received radioactive ground deposition.

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

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

PEMA Negotiated Extent-of-Play:

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

Sub-element 4.c – Laboratory Operations

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

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

The laboratory staff must be qualified in radioanalytical techniques and contamination control procedures.

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

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

PEMA Negotiated Extent-of-Play:

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

EVALUATION AREA 5

Emergency Notification and Public Information

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

INTENT

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

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

Assessment/Extent-of-Play

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

Responsible OROs must demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile exposure pathway EPZ. Following the decision to activate the alert and notification system, OROs must complete system activation for primary alert/notification and disseminate the information/instructions in a timely manner. For exercise purposes, timely is defined as “with a sense of urgency and without undue delay.” If message dissemination is identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

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

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

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

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

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

ORO’s may demonstrate any means of primary alert and notification included in their plans/procedures as negotiated in the Extent-of-Play Agreement.

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

PEMA Negotiated Extent-of-Play:

*The Commonwealth of Pennsylvania has implemented a Statewide EAS Control System in cooperation with the Pennsylvania Association of Broadcasters per the State Emergency Communications Committee and Pennsylvania Emergency Alert System State EAS Plan (November 2, 2011). The CRCC (PEMA) is the initiating point for the activation of the EAS. Risk counties have the control equipment for activation of sirens. Coordination will occur between the CRCC and the affected counties with respect to the Alert and Notification System (ANS) process. Sirens will be coordinated, and the sounding simulated at the appropriate time with the simulated activation of EAS taking place approximately three minutes following the simulated activation of the sirens. The EAS will be read and explained to the evaluator and given a copy of the EAS to them. Regular broadcasting will not be interrupted on the EAS Stations. Broadcast of the message(s) or test message(s) is **NOT** required and **NOT** requested. Counties may elect to simulate county specific supplemental messages to their electronic local media.*

Following the decision to activate the alert and notification system, in accordance with the OROs' plan and/or procedures, ANS activation should be accomplished in a timely manner for primary alerting/notification. This action will be performed "with a sense of urgency and without undue delay" (REP Manual-January 2016).

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

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

Criterion 5.a.2: [RESERVED]

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

Assessment/Extent-of-Play

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

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

Backup alert and notification procedures that would be implemented in multiple stages must be structured such that the population closest to the plant (e.g., within 2 miles) is alerted and

notified first. The populations farther away and downwind of any potential radiological release would be covered sequentially (e.g., 2 to 5 miles, followed by downwind 5 to 10 miles, and finally the remaining population as directed by authorities). Topography, population density, existing ORO resources, and timing will be considered in judging the acceptability of backup means of alert and notification.

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

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

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

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

PEMA Negotiated Extent-of-Play:

Back-up alert notification of the public due to a simulated siren failure will be demonstrated. (Refer to Attachment A, Section II.5) 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.5 Pennsylvania does not have any "exception areas." The 45-minute clock starts when the siren dispatcher receives the notification that a siren has failed.

The COVID-19 pandemic has imposed a limited number of personnel allowed in a given EOC. For this exercise, the two teams required to complete a route will demonstrate and be timed separately. The first team will demonstrate in sequence with the exercise. When possible, the second team will demonstrate their route alerting thereafter. Once both teams have demonstrated, their FEMA Evaluator will leave the EOC.

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 route alerting will NOT be evaluated.

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

Assessment/Extent-of-Play

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

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

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

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

PEMA Negotiated Extent-of-Play:

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

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to disseminate appropriate emergency information and instructions, including any recommended protective actions, to the public. In addition, NUREG-0654/FEMA-REP-1

requires OROs to ensure that the capability exists for providing information to the media. This includes the availability of a physical location for use by the media during an emergency. NUREG-0654/FEMA-REP-1 also provides that a system must be available for dealing with rumors. This system will hereafter be known as the “public inquiry hotline.”

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

Assessment/Extent-of-Play

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

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

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

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

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

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

HAB considerations: The dissemination of information dealing with specific aspects of NPP security capabilities, actual or perceived adversarial (terrorist) force or threat, and tactical law enforcement response must be coordinated/communicated with appropriate security authorities (e.g., law enforcement and NPP security agencies) in accordance with ORO plans/procedures. All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

PEMA Negotiated Extent-of-Play:

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

EVALUATION AREA 6

Support Operations/Facilities

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

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

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

Monitoring activities shall not be simulated. Monitoring personnel must explain use of trigger/action levels for determining the need for decontamination. They must also explain the procedures for referring any evacuees who cannot be adequately decontaminated for assessment

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

Radiological monitoring demonstration sites should possess a roster of the monitoring personnel 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.

Mass care centers and mass care monitoring/decontamination centers will be demonstrated per Attachment A during the out-of-sequence window. The counties will provide space at designated mass care centers for operation of monitoring/decontamination centers. Schematics of these monitoring/decontamination centers will be available to show the organization and layout within the facility and space management for monitoring and decontamination. Procedures will be demonstrated to show the separation of contaminated and non-contaminated (clean) individuals to minimize cross contamination.

At the evacuee monitoring/decontamination centers 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.

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.

Reception Centers and Evacuee Monitoring and Decontamination Stations at Neshaminy Mall in Bucks County, Downingtown High School – West in Chester County, and Metroplex in Montgomery County are using alternate exercise sites for the exercise. Neshaminy Mall will demonstrate at Trevoise Fire Company, Downingtown High School – West will demonstrate at the Government Service Center, and Metroplex will demonstrate at the Plymouth Fire Company. See Attachment A, I.1 & I.3.

Note: *Re-demonstrations may be performed as appropriate and time permitting.*

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

INTENT

This Sub-element is derived from NUREG0654/FEMA-REP-1, which requires that OROs have the capability to implement radiological monitoring and decontamination of emergency workers and their equipment, inclusive of vehicles.

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

Assessment/Extent-of-Play

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

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

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

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

Decontamination of emergency workers may be simulated and conducted via interview. Provisions for separate showering and same-sex decontamination must be demonstrated or explained. The staff must demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs, and appropriate means (e.g., partitions, roped-off areas) to separate uncontaminated from potentially contaminated areas. Provisions must also exist to separate contaminated and uncontaminated individuals where applicable; provide changes of clothing for those with contaminated clothing; and store contaminated clothing and personal belongings to prevent further contamination of emergency workers or facilities.

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

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

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

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

PEMA Negotiated Extent-of-Play:

Emergency worker station personnel will consist of a minimum of one monitor and one recorder and sufficient personnel to demonstrate monitoring of at least one vehicle. Schematics of these monitoring/decontamination stations will be available to show organization and space management within the facility. The evaluator will request that decontamination procedures be explained after the vehicle which has simulated contamination has been monitored. One radiological survey meter will be issued to each monitoring/decontamination team. One vehicle and/or piece of equipment will not be able to be decontaminated. Simulated radiation contamination data will be included in the scenario package and injected by a controller. Set-up

of the facility will be performed as closely as possible to that for an actual emergency with all route markings in place including clearly defined exit areas, per contamination control procedures and/or step-off pads (if used); with the exception of long runs of plastic covered with paper which will not be demonstrated, but the materials may be available and explained (as appropriate.).

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

Emergency Worker Monitoring and Decontamination Station at Lionville Middle School in Chester County will use an alternate exercise site for the exercise. Lionville Middle School will demonstrate at the Government Service Center. See Attachment A, I.2.

Note: *Re-demonstrations may be performed as appropriate and time permitting.*

Sub-element 6.c – Temporary Care of Evacuees

INTENT

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

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

Assessment/Extent-of-Play

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

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

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

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

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

Counties demonstrating mass care center operations during the out-of-sequence window (Berks and Lehigh counties) 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 20, 2021 and November 17, 2021, 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 20, 2021 and November 17, 2021 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 due to the COVID-19 pandemic, 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
Matthew Breidenstein: (610) 533-0496
matthew.breidenstein@redcross.org

Delaware Valley Chapter

(Serving Montgomery and Chester Counties)
601 Westtown Road, Suite 385
West Chester, Pennsylvania 19382
Matthew Breidenstein: (610) 533-0496
matthew.breidenstein@redcross.org

PA Rivers Chapter

(Serving Berks County)
701 Centre Avenue
Reading, Pennsylvania 19601
Steve Leauber: (570) 419-0300
steve.leauber@redcross.org

PA Rivers Chapter

(Serving Lehigh County)
3939 Broadway
Allentown, Pennsylvania 18104
Steve Leauber: (570) 419-0300
steve.leauber@redcross.org

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

INTENT

This Sub-element is derived from NUREG0654/FEMA-REP-1, which requires that OROs have the capability to transport contaminated injured individuals to medical facilities with the capability to provide medical services.

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals.

(NUREG-0654/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4)

Assessment/Extent-of-Play

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

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

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

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

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

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

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

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

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

PEMA Negotiated Extent-of-Play:

This sub-element was evaluated at Holy Redeemer Hospital, Montgomery County on October 29, 2020. Additionally, the following MS-1 hospitals were federally evaluated in 2020: Abington Hospital on October 29, and Lehigh Valley Hospital and Reading Hospital-Tower Health on November 5.

ATTACHMENT A

2021 LIMERICK GENERATING STATION

EXTENT-OF-PLAY DEMONSTRATION TABLES

I. Out-of-Sequence Events

Activities – **Wednesday, October 20, 2021, or November 17, 2021**

1. Reception Centers

Time: 7:00 p.m. – 9:30 p.m.

The asterisks (*) indicate monitoring/decontamination center activities at the respective reception centers.

RECEPTION CENTER LOCATIONS		
COUNTY	LOCATION	DATE
Berks	Robeson Township Reception Center	October 20, 2021
Bucks*	Neshaminy Mall (demonstrate at Trevoise Fire Company)	
Chester*	Downingtown High School – West (demonstrate at Government Service Center)	
Montgomery*	Metroplex (demonstrate at Plymouth Fire Company)	
Lehigh*	Southern Lehigh High School	November 17, 2021

2. Emergency worker monitoring/decontamination stations for each risk county.

EMERGENCY WORKER MONITORING/DECONTAMINATION STATION		
COUNTY	LOCATION	DATE
Berks	Daniel Boone Area High School	October 20, 2021
Chester	Lionville Middle School (demonstrate at Government Service Center)	
Montgomery	Upper Perkiomen High School	

3. Evacuee monitoring/decontamination station for each risk and support counties.

The asterisks (*) indicate mass care center activities at the monitoring/decontamination centers.

EVACUEE MONITORING/DECONTAMINATION CENTER		
COUNTY	LOCATION	DATE
Berks*	Fleetwood Middle School	October 20, 2021
Bucks	Neshaminy Mall (demonstrate at Trevoise Fire Company)	
Chester	Downingtown High School – West (demonstrate at Government Service Center)	
Montgomery	Metroplex (demonstrate at Plymouth Fire Company)	
Lehigh*	Southern Lehigh High School	November 17, 2021

4. Mass Care Centers for risk and support counties.

MASS CARE CENTER		
COUNTY	LOCATION	DATE
Berks	Fleetwood Middle School	October 20, 2021
Lehigh	Southern Lehigh High School	November 17, 2021

II. Plume Phase Exercise

Activities – **Tuesday, November 16, 2021**

1. School Districts

Time: 9:00 a.m. – 11:00 a.m.

FEMA Evaluated – Risk Public School District Administration Offices and schools located within the EPZ.

PEMA Observed – Risk Public School District Administration Offices and schools located outside the EPZ with students living within the EPZ.

NOTE – If a Risk Public School District Administration Office is outside of the EPZ but has schools inside the EPZ, they will be evaluated by FEMA.

When a school system is comprised of multiple buildings (High School, Middle School, Elementary School), the affected buildings (those with students from the EPZ) will be evaluated on a rotational basis to coincide with the eight-year exercise cycle.

Asterisks (*) items indicate buildings not in EPZ – students may live in the EPZ. PEMA will observe these locations; no FEMA evaluator will attend those particular school districts or schools outside of the EPZ.

(^) School District Administration Office located outside of the EPZ with schools inside the EPZ. These will be evaluated by FEMA.

COUNTY	SCHOOL DISTRICT	SCHOOLS (approx. 1/4 th evaluated)
Berks	Boyertown	1. Boyertown S.D. Admin. Office 2. Boyertown Elementary School 3. Middle School East 4. Washington Elementary School*
	Daniel Boone	1. Daniel Boone S.D. Admin. Office 2. Daniel Boone Intermediate Center
Chester	Downingtown	1. Downingtown S.D. Admin. Office [^] 2. Pickering Valley Elementary School* 3. Downingtown High School East*
	Great Valley	1. Great Valley S.D. Admin. Office [^] 2. Charlestown Elementary School 3. Great Valley High School*
	Owen J. Roberts	1. Owen J. Roberts S.D. Admin. Office 2. East Coventry Elementary School 3. French Creek Elementary School 4. East Vincent Elementary School
	Phoenixville Area	1. Phoenixville Area S.D. Admin. Office 2. Phoenixville Senior High School 3. Phoenixville Middle School 4. Kindergarten Center
Montgomery	Methacton	1. Methacton S.D. Admin Office [^] 2. Arcola Intermediate 3. Skyview Upper Elementary School
	Perkiomen Valley	1. Perkiomen Valley S.D. Admin. Office 2. Perkiomen Valley High School 3. Schwenksville Elementary School
	Pottsgrove	1. Pottsgrove S.D. Admin. Office 2. Lower Pottsgrove Elementary School
	Pottstown	1. Pottstown S.D. Admin. Office 2. Franklin Elementary School 3. Pottstown Middle School
	Souderton Area	1. Souderton Area S.D. Admin. Office* 2. Indian Valley Middle School*
	Spring-Ford Area	1. Spring-Ford Area S.D. Admin. Office 2. Evans Elementary School 3. Limerick Elementary School 4. Royersford Elementary School 5. 9 th Grade Center
	Upper Perkiomen	1. Upper Perkiomen S.D. Admin. Office* 2. Upper Perkiomen High School*

2. County Emergency Operations Center (EOCs)

Time: Per Exercise Scenario

DEMONSTRATION FOR EOC MOBILIZATION FOR COUNTIES		
COUNTY	DATE	Time
Berks	November 16, 2021	Exercise Scenario
Bucks		
Chester		
Montgomery		
Lehigh		

3. BRP field teams will be **EVALUATED** at the R3V staging area located at Wilson Farm Park, 500 Lee Road, Chesterbrook, Pennsylvania on November 16, 2021 at 1:30 p.m. At this time, FEMA evaluators are permitted to ride along in the BRP vehicles.

4. Municipal Emergency Operations Center (EOCs)

Time: Per Exercise Scenario

DEMONSTRATION FOR EOC MOBILIZATION FOR MUNICIPALITIES (<u>FEMA EVALUATED</u>)		
RISK COUNTY	MUNICIPALITY	DATE
Berks	Amity Township – RA	November 16, 2021
	Boyertown Area EMA (Boyertown Borough/Colebrookdale Twp)	
	Douglass Township	
	Earl Township	
	Union Township	
	BWB EMA (Washington Township)	
Chester	Charlestown Township	
	East Coventry Township	
	East Nantmeal Township	
	East Pikeland Township	
	East Vincent Township – RA	
	North Coventry Township	
	Phoenixville Borough	
	Schuylkill Township	
	South Coventry Township	
	Spring City Borough	
	Upper Uwchlan Township	

	Uwchlan Township	November 16, 2021
	Warwick Township	
	West Pikeland Township	
	West Vincent Township	
Montgomery	Collegeville Borough	
	Douglass Township	
	Greenlane-Marlborough Township	
	Limerick Township	
	Lower Frederick Township	
	Lower Pottsgrove Township	
	Lower Providence Township – RA	
	Lower Salford Township	
	New Hanover Township	
	Perkiomen Township	
	Pottstown Borough	
	Royersford Borough	
	Schwenksville Borough	
	Skippack Township	
	Trappe Borough	
	Upper Frederick Township	
	Upper Pottsgrove Township	
	Upper Providence Township	
	Upper Salford Township	
	West Pottsgrove Township	

5. One back-up one route alerting demonstration by one municipality in each risk county. (During Scenario Exercise)

BACK-UP ROUTE ALERTING		
COUNTY	MUNICIPALITY / ROUTE / SIREN	DATE
Berks	Amity Township (2 teams)	November 16, 2021
Chester	East Vincent Township (2 teams)	
Montgomery	Lower Providence Township (2 teams)	

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.*

6. Traffic and Access Control Points

- a. The Pennsylvania State Police will brief at the PSP Troop K – Skippack Barracks, 2047C Bridge Road, Schwenksville, PA. 19473, Montgomery County. Members attending the briefing will NOT actually deploy to the TCP/ACPs.

- b. The PSP briefing will be performed out-of-sequence in a demonstration window of 10:00 a.m. – 12:00 p.m. on November 17, 2021.
- c. Each municipal/regional police force with a TCP assigned in its plan will demonstrate all preparation duties including TCP responsibilities and radiological briefing. Dispatch of persons to the TCP site will not occur during the exercise.
- d. Municipal and county staffs will be prepared to brief the FEMA evaluator on actions to be taken should there be an impediment to evacuation on a designated route. This will be demonstrated between 4:00 p.m. – 10:00 p.m. on November 16, 2021.

MUNICIPAL POLICE FORCES		
Berks	Chester	Montgomery
Amity Township	East Coventry Township	Collegeville Borough
Boyertown Area EMA	East Pikeland Township	Douglass Township
Douglass Township	East Vincent Township	Limerick Township
	North Coventry Township	Lower Frederick Township
	Phoenixville Borough	Lower Pottsgrove Township
	Schuylkill Township	Lower Providence Township
	Spring City Borough	Lower Salford Township
	Upper Uwchlan Township	Marlborough Township
	Uwchlan Township	New Hanover Township
	West Pikeland Township	Pottstown Borough
	West Vincent Township	Royersford Borough
		Upper Pottsgrove Township
		Upper Providence Township
		West Pottsgrove Township

III. Mass Care Center Evaluations (Walkdowns)

Berks and Lehigh Counties (*) conduct monitoring/decontamination center activities at their mass care centers.

MASS CARE CENTERS EVALUATION (WALKDOWNS)		
COUNTY	DATE	TIME
*Berks (8/21)	41 walkdowns are scheduled for December 1 and 2, 2021 See schedule below	
Bucks (16/57)		
Chester (10/10)		
*Lehigh (3/15)		
Montgomery (4/23)		

MASS CARE CENTER LOCATIONS		
COUNTY	LOCATION	Quantity
*Berks RED TEAM DECEMBER 1, 2021 8:00 AM	1. Fleetwood High School (<i>completed on October 20, 2021</i>) 2. Schuylkill Valley High School 3. Schuylkill Valley Middle School 4. Hamburg Area High School 5. Hamburg Area Middle School 6. Kutztown Area High School 7. Kutztown Area Middle School 8. Brandywine Heights High School	8
Bucks RED TEAM DECEMBER 2, 2021 8:00 A.M.	1. Morrisville Middle/Sr. High School 2. William Penn Middle School 3. Pennsbury High School East 4. Pennsbury High School West 5. Neil Armstrong (Bristol) 6. Brookwood Elementary School (formerly James Buchanan) 7. Harry S. Truman High School 8. Franklin D. Roosevelt Middle School 9. Bristol Boro Junior/Senior School 10. Snyder-Girotti Elementary School 11. Cornwells Elementary School 12. Cecilia Snyder Middle School 13. Robert Shafer Middle School 14. Bensalem High School 15. Belmont Hills Elementary School 16. Samuel K. Faust Elementary School	16
Chester BLUE TEAM DECEMBER 1, 2021 8:00 AM	1. North Brandywine Middle School 2. Scott Middle School 3. Coatesville 9-10 Center 4. Coatesville Area High School 5. Avon Grove High School 6. Fred Eagle Middle School 7. Kennett High School 8. Mary C. Lang Elementary School 9. Unionville High School 10. Charles Patton Middle School	10
Lehigh RED TEAM DECEMBER 1, 2021 1:00 PM	1. Salisbury Middle School 2. Salisbury High School 3. DeSales University	3
Montgomery	1. Springfield Middle School (tunnel to HS) 2. Hatboro-Horsham Senior High School	4

MASS CARE CENTER LOCATIONS		
COUNTY	LOCATION	Quantity
BLUE TEAM DECEMBER 1, 2021 1:00 PM*	3. Keith Valley Middle School 4. Springfield High School (tunnel to MS)	

*Time dependent on completion of prior county mass care walkdown/evaluation locations.

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

This page is intentionally blank.