



Peach Bottom Atomic Power Station
Delta, Pennsylvania
After Action Report/Improvement Plan
Exercise Date – March 2, 2021
Radiological Emergency Preparedness (REP) Program



FEMA

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EXECUTIVE SUMMARY

On March 2, 2021, a biennial Plume Exposure Pathway virtual exercise was conducted and evaluated for the 10-Mile Emergency Planning Zone (EPZ) around the Peach Bottom Atomic Power Station (PBAPS) by the U.S. Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), Region III. This exercise was postponed from April 21, 2020 in accordance with the FEMA Technological Hazards, Relief From Frequency Framework Due to the COVID-19 Pandemic. The previous full participation exercise at this site was evaluated on April 17, 2018.

Out-of-Sequence demonstrations were conducted on February 12, 2021 and March 12, 2021. The purpose of the Exercise and Out-of-Sequence demonstrations was to assess the capabilities of State, county, and local jurisdictions to implement Radiological Emergency Response Plans (RERP) and Procedures to protect the property and lives of residents and transients in the event of an emergency at the Peach Bottom Atomic Power Station. The findings in this report are based on the evaluations of the Federal evaluation team, with final determinations made by the FEMA, Region III 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 State of Maryland fulfilled all biennial requirements during the September 17, 2019 Calvert Cliffs Biennial Plume Exercise, and the Commonwealth of Pennsylvania fulfilled biennial requirements in the May 7, 2019 Three Mile Island Biennial Plume Exercise. The Pennsylvania risk counties of Lancaster and York fulfilled their biennial requirements in the May 7, 2019 Three Mile Island Biennial Plume Exercise, and Chester County during the November 19, 2019 Limerick Generating Station Biennial Plume Exercise. The State of Maryland submitted comprehensive documentation of actual COVID-19 response operations implemented by Cecil and Harford Counties, which was reviewed by FEMA and determined to merit the awarding of select demonstration credit for these response operations.

The evaluation of this exercise determined that there were no Level 1 Findings, no Level 2 Findings and no Plan Issues. There were two Level Two Findings from the 2018 biennial Plume Exercise; a Level 2 finding for Criteria 3.a.1 at the Lancaster Career and Technology Center Reception Center which was successfully redemonstrated during the exercise, and a Level 2 Finding for Criteria 5.b.1 for the Chester County Emergency Operations Center, successfully demonstrated during the November 19, 2019 Limerick Generating Station Biennial Plume Exercise.

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; risk jurisdictions of Chester, Lancaster, and York counties; the State of Maryland and the risk jurisdictions of Cecil and Harford Counties. 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: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Peach Bottom Atomic Power Station Plume Exercise

Type of Exercise

Plume

Exercise Date

March 2, 2021

Program

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type

Release

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Peach Bottom Atomic Power Station exercise:

State Jurisdictions

Commonwealth of Pennsylvania

- Pennsylvania Emergency Management Agency (PEMA)

State of Maryland

- Maryland Emergency Management Agency (MEMA)

Risk Jurisdictions

Cecil County

- Cecil County Department of Emergency Services

Chester County

- Chester County Department of Emergency Services
- Chester County Hazmat Team
- West Nottingham Township Emergency Management Agency

Harford County

- Harford County Department of Emergency Services

Lancaster County

- Drumore Township Emergency Management
- Fulton Township Emergency Management
- Lancaster County Emergency Management Agency
- Little Britain Township Emergency Management
- Martic Township Emergency Management

- SOLANCO Regional Emergency Management Agency

York County

- York County Department of Emergency Services
- Delta/Peach Bottom Borough
- Fawn Grove Township/Borough
- Lower Chanceford Township

Private Organizations

- ChristianaCare Union Hospital
- Exelon Corporation
- University of Maryland Upper Chesapeake Medical Center

Federal Organizations

- Federal Emergency Management Agency

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume the lead responsibility for all off-site 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 III Regional Assistance Committee (RAC), which is Chaired by FEMA. A REP Plume Exposure Pathway Exercise was conducted during the week of March 2, 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 Peach Bottom Atomic Power Station (PBAPS). 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 III 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

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

Emergency Planning Zone Description:

Exelon Corporation owns and operates the Peach Bottom Atomic Power Station (PBAPS). The station consists of one 40-megawatt (MW), high-temperature, gas-cooled reactor (Unit 1), decommissioned in October 1974, and two operating boiling water reactors (Units 2 and 3) rated at 1,065 MW per unit. The operating licenses for the facility were granted in October 1973 (Unit

2) and July 1974 (Unit 3); commercial operation began at the site in July 1974 (Unit 2) and December 1974 (Unit 3).

The coordinates of the plant site are 39°45'32" north (latitude) by 76°16'9" west (longitude). The site consists of 620 acres located on the west shore of Conowingo Pond; a reservoir formed by the backwater of the Conowingo Dam on the Susquehanna River. The site is primarily in Peach Bottom Township, York County, Pennsylvania; a small portion of the property lies in Lancaster County in southeastern Pennsylvania near the mouth of Rock Run Creek. The minimum exclusion distance (distance from the center point of the reactor vessel to the site area boundary) specified for the PBAPS is 2,700 feet. Exelon Nuclear owns all the land within the exclusion area; there are no private residences on site.

The plant is located about 38 miles north-northeast of Baltimore, Maryland; 45 miles southeast of Harrisburg, Pennsylvania; and 20 miles south-southeast of Lancaster, Pennsylvania. The nearest communities are Delta, Pennsylvania, and Cardiff, Maryland, which are located approximately four and five miles west-southwest of the site, respectively. There are 97 sirens providing coverage for the 10-mile EPZ; 65 are in Pennsylvania. Soils of the Manor-Glenelg Association predominate in the site area. These soils, which are generally underlain by schist or phyllite, are shallow to moderately deep and are found on moderate to very steep slopes. The general topography of the site is hilly, with elevations ranging from 110 feet to over 460 feet above mean sea level (MSL); the plant is 116 feet above MSL.

The site is characterized by broad ridge tops and steep hillsides along the river. The climate in this area of York County is mild but humid. Prevailing winds are from the west. The average rainfall is approximately 40.5 inches, and the average annual temperature is 52.8° Fahrenheit. The area in the immediate vicinity of the plant is mostly agricultural. There are no commercial airports within a 10-mile radius. The closest major airport is in Harrisburg, about 50 miles northwest of the site. A smaller airport servicing commuter and private aircraft is located in Lancaster, about 25 miles north of the site. No public highways pass through the plant, and no major arterial highways pass near it. Access to the plant is by two roads: one, from the nearby town of Delta, leads to the decommissioned Unit 1 area and Information Center; the other passes north of Delta and enters the plant area near Units 2 and 3.

2.2 Exercise Objectives, Capabilities and Activities

The objectives of the 2020 Peach Bottom Atomic Power Station (PBAPS) 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

In order to support the availability of municipal personnel for the virtual exercise, intended to maintain public health protection and distancing measures of the continuing COVID-19 pandemic, the scenario of this exercise used an objective, vice specific time based, Master Scenario Events List (MSEL). By this methodology, controllers at each location provided scenario injects to their respective locations once the objectives of the previous inject were met.

At the onset, meteorological conditions are overcast with rain projected to arrive by morning with an anticipated ¼" of rain tomorrow morning. Temperature is in the high 30s with projected low of 25 degrees around 11 PM. Wind is blowing from the WSW at 5 miles per hour with gusts to 10 miles per hour. The Peach Bottom Atomic Power Station has been operating normally without incident."

At the first controller inject Unit 2 declares an Alert. The plant advises that there is a leak in the Unit 2 spent fuel pool. This condition poses no immediate threat to the safety of the general public and there is no non-routine radioactive release at this time.

Once the respective Municipalities completed actions for Alert, controllers provided an inject that the plant has declared a Site Area Emergency for Unit 2. The plant advises that the water continues to leak from the spent fuel pool to the point that fuel is now uncovered. There is still no non-routine radioactive release at this time.

Once the respective Municipalities completed actions for Site Area Emergency, controllers provided an inject that the plant has declared a General Emergency for unit 2. The water in the fuel pool continues to lower, fuel bundles are degrading, and there is an airborne radiation release in progress from containment. This inject was followed by a subsequent controller inject that the Commonwealth of Pennsylvania had adopted a Protective Action Decision to evacuate the entire ten-mile Emergency Planning Zone (EPZ) for 360° to ten miles, and for Emergency Workers, the public, and institutionalized populations to ingest Potassium Iodide (KI).

Once the respective Municipalities completed actions for General Emergency and when directed by the lead evaluator the controllers in respective locations authorize termination of the exercise.

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 March 2, 2021, biennial Plume Exposure Pathway EPZ Radiological Emergency Preparedness (REP) Exercise. The exercise was 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 Emergency Planning Zone surrounding the Peach Bottom Atomic Power Station.

Each jurisdiction and functional entity was 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.

(C) Credit: Jurisdiction determined to have successfully demonstrated criteria through COVID-19 response actions or FEMA observed voluntary additional exercises.

Tables 3.1 - Summary of Exercise Evaluation

DATE: 03/02/2021 SITE: Peach Bottom Atomic Power Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated C: Exercise Credit Granted during COVID Response M*-Exercise credit awarded based on previous exercise demonstration within the exercise cycle.	Mobilization	Direction and Control	Communications Equipment	Equipment and Supplies to Support Operations	Emergency Worker Exposure Control	Dose Assessment & PARs & PADS for the Emergency Event		PADS for PDAFN
Emergency Operations Management	1a1	1c1	1d1	1e1	2a1	2b1	2b2	2c1
Cecil County EOC	C	C	C	M	C		C	C
Delta/Peach Bottom Borough EOC	M	M	M	M				
Drumore Township EOC	M	M	M	M				
Fawn Grove Township/Borough EOC	M	M	M	M				
Fulton Township EOC	M	M	M	M				
Harford County EOC	C	C	C	M	C		C	C
Little Britain Township EOC	M	M	M	M				
Lower Chanceford Township EOC	M	M	M	M				
Martic Township EOC	M	M	M	M				
SOLANCO Regional EOC	M	M	M	M				
Union Hospital				M				
Upper Chesapeake Medical Center				M				
West Nottingham Township EOC	M	M	M	M				

DATE: 03/02/2021 SITE: Peach Bottom Atomic Power Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated C: Exercise Credit Granted during COVID Response M*-Exercise credit awarded based on previous exercise demonstration within the exercise cycle.	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	Impediments to Evacuation	Plume Phase Field Measurement and Analysis	
Emergency Operations Management	3a1	3b1	3c1	3c2	3d1	3d2	4a2	4a3
Cecil County EOC	M	C	C		C	C		
Delta/Peach Bottom Borough EOC	M				M	M		
Drumore Township EOC	M				M	M		
Fawn Grove Township/Borough EOC	M				M	M		
Fulton Township EOC	M				M	M		
Harford County EOC	M	C	C		C	C		
Little Britain Township EOC	M				M	M		
Lower Chanceford Township EOC	M				M	M		
Martic Township EOC	M				M	M		
SOLANCO Regional EOC	M				M	M		
Union Hospital	M							
Upper Chesapeake Medical Center	M							
West Nottingham Township EOC	M				M	M		

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Peach Bottom Atomic Power Station

DATE: 03/02/2021 SITE: Peach Bottom Atomic Power Station - PA M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated C: Exercise Credit Granted during COVID Response M*-Exercise credit awarded based on previous exercise demonstration within the exercise cycle.	Activation of the Prompt Alert and Notification System	Emergency Information and Instructions for the Public and Media	Monitoring, Decontamination, Registration of Evacuees	Monitoring/Decontamination of Emergency Workers	Temporary Care of Evacuees	Transportation and Treatment of Contaminated Injured Individuals	
Emergency Operations Management	5a1	5a3	5b1	6a1	6b1	6c1	6d1
Cecil County EOC	C		C				
Delta/Peach Bottom Borough EOC							
Drumore Township EOC							
Fawn Grove Township/Borough EOC							
Fulton Township EOC							
Harford County EOC	C		C				
Little Britain Township EOC							
Lower Chanceford Township EOC							
Martic Township EOC							
SOLANCO Regional EOC							
Union Hospital							C
Upper Chesapeake Medical Center							C
West Nottingham Township EOC							

3.3 Criteria Evaluation Summaries

3.3.1 Risk Jurisdictions

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

3.3.1.1 Cecil County Emergency Operations Center

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

3.3.1.2 Chester County, West Nottingham Township Emergency Operations Center

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

3.3.1.3 Harford County Emergency Operations Center

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

3.3.1.4 Lancaster County, Drumore Township Emergency Operations Center

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

3.3.1.5 Lancaster County, Fulton Township Emergency Operations Center

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

3.3.1.6 Lancaster County, Little Britain Township Emergency Operations Center

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

3.3.1.7 Lancaster County, Martic Township Emergency Operations Center

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

3.3.1.8 Lancaster County, SOLANCO Regional Emergency Operations Center

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

3.3.1.9 York County, Delta/Peach Bottom Borough Emergency Operations Center

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

3.3.1.10 York County, Fawn Grove Township/Borough Emergency Operations Center

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

3.3.1.11 York County, Lower Chanceford Township Emergency Operations Center

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.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 Private Jurisdictions

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

3.3.2.1 Union Hospital

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

3.3.2.1 Upper Chesapeake Medical Center

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

SECTION 4: DEMONSTRATED STRENGTHS

4.1 Risk Jurisdictions

4.1.1 West Nottingham Emergency Operations Center

The West Nottingham Township Emergency Management Coordinator (EMC) did an outstanding job of demonstrating multiple roles during the Peach Bottom Out of Sequence Exercise. He moved seamlessly from one position to another, and was able to explain what was occurring, what would be the next step, and what he had completed in order to fulfill the requirements of each of the positions.

4.1.2 Drumore Township Emergency Operations Center

The Drumore Township Emergency Management Coordinator (EMC) did an outstanding job of successfully fulfilling multiple roles during the Peach Bottom Atomic Power Station (PBAPS) Out of Sequence Exercise. The EMC remained collected, professional and effectively progressed through the exercise with minimal staff support despite delays in start time. The EMC displayed a comprehensive understanding of all aspects of the Drumore Township Radiological Emergency Response (REP) Plan.

4.1.3 Fawn Grove Township/Borough Emergency Operations Center

The Fawn Grove Township / Borough Emergency Management Coordinator (EMC) conducted an accurate and all-inclusive Radiological Officer's (RO) Briefing that others should emulate.

SECTION 5: CONCLUSION

The Commonwealth of Pennsylvania, State of Maryland 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 Peach Bottom Atomic Power Station Plume Pathway exercise evaluated on March 2, 2021

Federal Emergency Management Agency (FEMA) evaluators assessed 97 evaluation criteria in five of the 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

For both the State of Maryland, and Commonwealth of Pennsylvania, Evaluation Area 4 is the responsibility of the State, and was demonstrated by Maryland during the Calvert Cliffs Biennial Plume Exercise of September 17, 2019 and by Pennsylvania in the Three Mile Island and Limerick Generating Station Biennial Exercises of May 7 and November 19, 2019 respectively.

These analyses resulted in a determination of no Level 1 Findings, no Level 2 Findings, and no new Plan Issues.

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

An After-Action Improvement Plan (IP) will be developed as part of this report.

PBAPS 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

Peach Bottom Atomic Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received at the Listed Location								
		W. Nottingham Twp.	Drumore Twp.	Fulton Twp.	Little Britain Twp.	Martie Twp.	SOLANCO Regional	Delta/Peach Bottom Twp.	Fawn Grove Twp./Borough	Lower Chanceford Twp.
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	N/A	1615/1625	1926	1620	1944/1945	1925/1925	1615/1630	1600/1633	1855/1905	1918
SAE	N/A	1705/1710	1941	1702	1953/1954	1948/1948	1650/1702	1640/1700	1910/1919	1931
GE	N/A	1725/1733	1955	1747	2005/2006	2033/2033	1740/1801	1730/1742	1928/1939	1945
Start of Simulated Radiation Release	1730/1928	1733	1955	1747	2006	2033	1801	1742	1939	1945
Termination of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		1644	1927	1623	1925	1925	1630	1644	1912	1925
Governor's Declaration of State of Emergency		N/A	N/A	N/A	N/A	N/A	N/A	1740	1947	N/A
Exercise Terminated		1810	2015	1827	2025	2049	1815	1810	1955	2008
First Precautionary/Protective Actions: Airspace Restrictions, Boating, fishing restriction Air, Rail Restrictions, Shelter and place livestock or stored feed and water		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Siren Sounding		1750	N/A	1807	N/A	N/A	1805	N/A	N/A	2010
EAS Broadcast time		1753	N/A	1810	N/A	2033	1808	N/A	N/A	2013
First Protective Actions: Recommend General Population to Evacuate 10 miles/360 degrees or KI for General Public and Emergency Workers and Special Populations		Evac 10-mi EPZ at 1742	N/A	1747	N/A	2033 evac EPZ	1747 evac 0-2 miles; 1802 evac all EPZ	1742	1939	1953
Siren Sounding		N/A	N/A	N/A	N/A	N/A	N/A	1755	1953	N/A
EAS Message Broadcast		N/A	N/A	N/A	N/A	N/A	N/A	1758	1956	N/A
KI Decision (YES) EWs		1742	N/A	1802	N/A	2033	1802	1758	1958	2003
KI Decision (YES) General Public		1742	N/A	N/A	N/A	2033	1802	1758	1958	2003
KI Decision (YES) Persons with Disabilities or Access Functional Needs		1742	N/A	N/A	N/A	2033	1802	1758	1958	2003

NOTE: Exercise times reflect two separate exercise demonstrations beginning at 1600 for the first demonstration and 1830 for the second demonstration. Municipal evaluations were driven with independent times via message injects by controllers within each jurisdiction resulting in a variant in times being documented by evaluators. The inject driven scenario was designed to drive municipal expected actions and did not include all Commonwealth or Utility actions and communications.

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leaders for the Peach Bottom Atomic Power Station 2020 Radiological Emergency Preparedness Plume Exposure Pathway Exercise evaluated on March 2, 2021. The following constitutes the managing staff for the Exercise Evaluation:

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

Peach Bottom Atomic Power Station

LOCATION	EVALUATOR	AGENCY
Cecil County Emergency Operations Center	Joseph Suders	FEMA Region 3
Delta/Peach Bottom Township Emergency Operations Center	Joseph Suders	FEMA Region 3
Drumore Township Emergency Operations Center	Kathy Duran	FEMA Region 3
Fawn Grove Township/Borough Emergency Operations Center	Joseph Suders	FEMA Region 3
Fulton Township Emergency Operations Center	Tina Thomas	FEMA Region 3
Little Britain Township Emergency Operations Center	Tina Thomas	FEMA Region 3
Lower Chanceford Township Emergency Operations Center	Lee Torres	FEMA Region 3
Martic Township Emergency Operations Center	Dan Rose	FEMA Region 3
SOLANCO Regional Emergency Operations Center	Dan Rose	FEMA Region 3
Union Hospital	Joseph Suders	FEMA Region 3
West Nottingham Township Emergency Operations Center	Lee Torres/Kathy Duran	FEMA Region 3

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
ARD	Automatic Ring Down
ARES	Amateur Radio Emergency Services
BRP	Bureau of Radiation Protection
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CRCC	Commonwealth Resource Coordination Center
CST	Civil Support Team
DHS	Department of Homeland Security
DRD	Direct Reading Dosimeter
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
EOF	Emergency Operations Facility
EOP	Extent of Play
EPT	Exercise Planning Team
EPZ	Emergency Planning Zone
ESF	Emergency Support Function
EW	Emergency Workers
FBI	Federal Bureau of Investigation
FD	Fire Department
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FRMAC	Federal Radiological Monitoring Assessment Center
FPE	Full Participation Exercise
FTC	Field Team Coordinator
GE	General Emergency
GIS	Geographic Information Systems

GPS	Global Positioning System
HAB	Hostile Action Based
HazMat	Hazardous Materials
JIC	Joint Information Center
JPIC	Joint Public Information Center
KI	Potassium Iodide
LCD	Liquid Crystal Display
LOA	Letter of Agreement
MEMA	Maryland Emergency Management Agency
MOU	Memorandum of Understanding
MSEL	Master Scenario Events List
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
OOS	Out of Sequence
ORO	Offsite Response Organization
OSD	Optically Stimulated Dosimeter
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PAZ	Protective Action Zone
PBAPS	Peach Bottom Atomic Power Station
PEMA	Pennsylvania Emergency Management Agency
PI	Planning Issue
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Services
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
SED	Station Emergency Director

APPENDIX D: EXTENT OF PLAY AGREEMENT

The 2020 Peach Bottom Atomic Power Station Plume Pathway 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 III and Commonwealth of Pennsylvania Emergency Management Agency planning team members.



FEMA

PEACH BOTTOM ATOMIC POWER 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 March 2, 2021 Peach Bottom Atomic Power Station Plume Exercise. The referenced modified evaluation methods which are noted in the Extent of Play Agreement are only applicable during the current Public Health Emergency (PHE).

NICHOLAS J BULS


Digitally signed by NICHOLAS J
BULS

Date: 2021.02.25 18:42:52 -05'00'

FEMA Site Specialist

Date


Lead State Planner


Date

JOSEPH A SUDERS

Digitally signed by JOSEPH A SUDERS
Date: 2021.02.25 16:09:44 -05'00'

FEMA Team Leader

Date

PEACH BOTTOM ATOMIC POWER STATION

EXTENT OF PLAY

REVISION #9

Delayed and Restructured Due to COVID-19 Pandemic

2020 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

March 2, 2021

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PEACH BOTTOM ATOMIC POWER STATION
2020 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

METHOD OF OPERATION

I. Peach Bottom Atomic Power Station (PBAPS)

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. PBAPS will notify the Commonwealth Response Coordination Center (CRCC), the Bureau of Radiation Protection (BRP) and Risk Counties of emergency classifications.

Due to the COVID-19 pandemic, the exercise has been modified from the normal exercise pattern. PEMA has submitted for exercise credit and was granted some credit for the Offsite Response Organizations (OROs). Exercise for the remaining criteria will be done in ways that will allow maximum safety of participants in mind.

II. Bureau of Radiation Protection (BRP)

BRP personnel will NOT be present at the CRCC, the nuclear facility Emergency Operations Facility (EOF), and branch field locations. BRP field teams will NOT be evaluated during this exercise. BRP field teams will NOT perform air sampling out-of-sequence. **BRP has submitted and received credit for all exercise criteria under the LGS Plume Exercise in 2019.**

III. PEMA Operations at the CRCC

This "Method of Operation" Document includes activities involving the limited plume exercise. Due to COVID-19 pandemic and exercise credit received, only the municipalities are required to demonstrate for this exercise. PEMA and the counties will support these municipal exercise locations.

A. Plume Exercise

PEMA has submitted and received credit for all exercise criteria and will only exercise as necessary to support those OROs who do have exercise criteria to demonstrate.

PEMA will take calls from the Utility on December 8, 2020 to support the utility portion of the exercise. PEMA will not stand up the CRCC nor will they be providing a Protective Action Decision (PAD), county coordination call, or other exercise operations or products.

B. Plume Exercise – "Out-of-Sequence" Activities – March 2, 2021

Pennsylvania State Police has submitted and received credit for all exercise criteria. No PEMA support will be needed.

PEMA personnel will serve as Observers or Controllers to those locations demonstrating in the out-of-sequence exercises. They may be observing virtually or in person as dictated by the venue. Every effort will be made to maintain safety for all exercise participants during the exercise(s).

IV. PEMA Area Office Operations

The PEMA Area Offices (Harrisburg-Central Area and Hamburg-Eastern Area) will not be activated nor evaluated during this exercise.

V. Counties Designated to Participate

The three risk counties (Chester, Lancaster and York) have submitted and received credit for the criteria affecting their operations. These counties will support their municipalities who have exercise criteria to demonstrate during the out-of-sequence exercises.

VI. Local Emergency Management – March 2, 2021

Each municipality which have not received full credit for exercise criteria will demonstrate during an out-of-sequence exercise. This exercise will be conducted virtually with the intent with minimal personal contact achievable.

VII. PEMA Liaison Officers

No liaison officers will be required for this exercise.

VIII. Controllers

A Controller will be assigned for each out-of-sequence exercise.

Controllers are not players. Controllers will provide pre-approved injects and information to the players, as appropriate, to provide guidance and direction for keeping the exercise on track.

For this exercise, controllers will be assigned to oversee the coordination of exercise information emanating from the counties to the municipalities.

IX. PEMA Observers

PEMA staff or other qualified personnel will be assigned, as required, to out-of-sequence exercise locations (virtually) for observing, noting response actions and conditions, and recording observations for future use. Observers will not take an active part in the exercise but will interact with staff members to the extent necessary to fulfill their observer

responsibilities. Coaching of players by Observers is not permitted except to provide training to participants awaiting a re-demonstration. (Refer to paragraph XIV)

X. FEMA Evaluators

Federal Evaluators will be present virtually during the out-of-sequence exercises. They will evaluate player response to the actual and simulated events in the exercise scenario. The exercise will follow REP Program Manual (January 2016).

XI. Demonstration Windows

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

The “demonstration windows” for this exercise are:

A. Plume Phase Exercise

The municipalities’ exercise will be conducted on March 2, 2021 from either 4:00 p.m. to 6:00 p.m. or 6:30 p.m. to 8:30 p.m. The Municipality Schedule has been submitted to and approved by FEMA (see Attachment A).

In order to limit the impact on the municipalities and to promote overall COVID-19 safety, municipalities will demonstrate exercise criteria virtually. The municipalities will each provide a municipal Emergency Management Coordinator (EMC) and a Radiological Officer (EMC can do both if they choose to do so) to follow the exercise scenario and to answer any evaluator inquiries. Some materials should be provided by the municipality in advance to support the exercise criteria.

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

B. Post Plume Exercise

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

XII. Stand-Down

At the completion of each out-of-sequence exercise, municipalities will request approval 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 counties on behalf of their municipalities may request approval to stand-down their portion of the exercise.

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

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. Furthermore, if, by following the plan there is a failure to protect the public health and safety, it should be noted so that the plan can be modified, and the appropriate negative assessment applied.

XIV. Re-demonstrations

During the exercise, any activity that is not satisfactorily demonstrated may be re-demonstrated by the participants during the exercise, provided it does not negatively interfere with the exercise. Refresher training may be provided by the players, observers, and/or controllers. Evaluators are not permitted to provide refresher training. Re-demonstrations will be negotiated between the players, observers, controllers, and evaluators. The exercise window may be extended to allow for re-demonstrations. The exercise After Action Report (AAR) will denote successfully re-demonstrated criteria.

XV. Exercise Credit Received

On January 28, 2021, PEMA received exercise credit from FEMA for the exercise. This letter is copied in Appendix C of this document. The letter's effect is the only area that could not receive exercise credit, and therefore needed to demonstrate, were the municipalities.

PEACH BOTTOM ATOMIC POWER STATION
2020 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 the Demonstration Criterion may be accomplished during a biennial exercise, an actual event, out-of-sequence evaluation or by means of drills, conducted at any time.

Responsible OROs must demonstrate the capability to receive notification of an incident from the licensee; verify the notification; and contact, alert, and mobilize key emergency personnel in a timely manner and demonstrate the ability to maintain and staff 24-hour operations. Twenty-four-hour operations can be demonstrated during the exercise via rosters or shift changes or otherwise in an actual activation. Local responders 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 System 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 identified through LOA/MOUs 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:

Mobilization will be evaluated by interview.

*In all instances, the demonstration of a shift change is **NOT** required. Twenty-four-hour staffing will be demonstrated by means of a roster, staffing chart, or interview.*

Sub-element 1.b – Facilities

INTENT

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

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

Assessment/Extent-of-Play

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

Responsible OROs must demonstrate, no less than once every 8 years, the availability of fixed facilities that support accomplishment of emergency operations (this includes all alternate and backup facilities). Evaluations are performed for EOCs and JICs, as well as, other fixed facilities such as reception/relocation centers. Some of the areas evaluated within the facilities are adequate space, furnishings, lighting, restrooms, ventilation, 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 have previously demonstrated this criterion within the eight-year cycle as required.

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 Field Monitoring Teams (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 exercises, or if their use would be required, during an actual event.

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

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

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

PEMA Negotiated Extent-of-Play:

Municipalities will discuss their forms of communications in use. Counties may provide injects to the exercising municipalities utilizing the existing communications methods or simulate communications.

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

INTENT

This sub-element derives 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, c; 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 location(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) (0-200mR), 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:

Evaluation of dosimetry and KI quantities will be verified using inventory sheets. Dosimetry and KI will not be removed from storage locations and boxes/packages will not be opened. KI questions will be addressed through interviews with the county.

Leak rate testing verification and KI extension letters (as appropriate) will be available to the evaluator.

All DRDs "read" in units of Roentgens. The commonwealth, counties and municipalities do not use direct reading dosimeters which "read" in units of milli-Roentgens.

- *Municipalities will provide photographs or a video tour of their facility to the best of their virtual abilities to document the equipment.*
- *Municipalities who maintain KI will provide photo/video showing expiration date(s).*
- *Municipalities who maintain Dosimetry will photograph/video the dosimetry and for Direct Reading Dosimeters provide the current leak rate test. Photos will show the dates on Permanent Record Dosimeters.*
- *Lists of all municipal EOC equipment/supplies, photos as stated above will be gathered by the respective county for PEMA to turn over to FEMA for exercise credit.*

EVALUATION AREA 3

Protective Action Implementation

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

INTENT

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

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

ORO 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.

ORO 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 and procedures to replace personnel 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. OROs should demonstrate the use of applicable dosimetry forms.

Municipalities may use the PEMA radiological video as part of their radiological briefing or conduct a briefing utilizing a hard copy briefing sheet depending on virtual capabilities available.

Municipalities will document issued KI, dosimetry, and other radiological equipment and supplies in their possession by photograph or video tour to the best of their virtual abilities. Attention shall be given to capture the expiration date of KI and the date on PRDs. If the municipality has been issued direct reading dosimetry, they will provide the current leak rate testing form(s).

Players may look up or ask for radiological information from other players or supervisors.

In Pennsylvania, emergency workers do not have turn-back values.

Standard issue of dosimetry and potassium iodide 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

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 and the general public 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.

ORO 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.

Municipalities will document issued KI, dosimetry, and other radiological equipment and supplies in their possession by photograph or video tour and submitted in accordance with criteria 1.e.1. Attention shall be given to capture the expiration date of KI and the date on PRDs. Due to the COVID-19 pandemic, PRDs were extended to June 30, 2021. Documentation was submitted to FEMA prior to the exercise.

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.

ORO 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. 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 would be provided to those assigned individuals and include issuance of dosimetry required for the mission.

The Pennsylvania State Police will NOT be evaluated during this exercise. PSP received credit for demonstration during the LGS Plume Exercise in 2019.

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

Assessment/Extent-of-Play

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

ORO's must demonstrate the capability, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. 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 contact, actual and 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 ORO's. (Risk county only)

Municipalities may become involved in local evacuation impediments, but counties will coordinate actions. Evaluation of evacuation impediment will be by interview.

ATTACHMENT A – DEMONSTRATION TABLES

PEACH BOTTOM ATOMIC POWER STATION 2020 EXTENT-OF-PLAY DEMONSTRATION TABLES

I. Plume Phase Exercise

A. Activities – March 2, 2021

1. Municipal EOCs

Time: Per Exercise Scenario

DEMONSTRATION FOR EOC MOBILIZATION FOR MUNICIPALITIES		
RISK COUNTY	MUNICIPALITY	DATE AND TIME
Chester	West Nottingham Township	March 2, 2021 – 4 p.m.
Lancaster	Drumore Township	March 2, 2021 – 6:30 p.m.
	*Solanco – East Drumore Township/Providence Township/Quarryville Borough	March 2, 2021 – 4 p.m.
	Fulton Township	March 2, 2021 – 4 p.m.
	Little Britain Township	March 2, 2021 – 6:30 p.m.
	Martic Township	March 2, 2021 – 6:30 p.m.
York	*Delta/Peach Bottom Townships	March 2, 2021 – 4 p.m.
	*Fawn Grove Township/Fawn Borough	March 2, 2021 – 6:30 p.m.
	Lower Chanceford Township	March 2, 2021 – 6:30 p.m.

* Joint EOC

Bold Indicates FEMA Evaluated

ATTACHMENT B – PREVIOUS ISSUES

PEACH BOTTOM ATOMIC POWER STATION 2018

The only unresolved item from the 2018 exercise is from Chester County.

ISSUE FOR CRITERION: 5.b.1- ORO's provide accurate emergency information and instructions to the public and news media in a timely manner.

CONDITION: Chester County's Special News Broadcast (SNB) #1 and News Release #3 were not consistent with the Alert Emergency Classification Level (ECL) and the Site Area Emergency ECL. The SNL #1 issued at 1709 during an Alert ECL and News Release #3 issued at 1807 during the Site Area Emergency ECL both referenced "The conditions at the Peach Bottom Atomic Power Station have upgraded the Event Classification to General Emergency".

POSSIBLE CAUSE: News Releases and Special News Broadcasts were not adequately reviewed prior to release to the public.

REFERENCE: NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c

EFFECT: The public would receive conflicting information.

RECOMMENDATION: Establish a process and/or procedure to ensure message content is reviewed for accuracy by a designated official prior to dissemination.

ATTACHMENT C – EXERCISE CREDIT LETTER

**FEMA's Exercise Credit Letter for PBAPS
January 28, 2021**

U.S Department of Homeland Security
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404



January 28, 2021

Mr. David (Randy) Padfield
Director
Pennsylvania Emergency Management Agency (PEMA)
1310 Elmerton Avenue
Harrisburg, PA 17110

Dear Mr. Padfield:

On January 5, 2021, pursuant to 44 C.F.R. Section 350.9(c), "Exercises," the request for relief from the frequency requirement to conduct the Peach Bottom Atomic Power Station (PBAPS) biennial radiological emergency preparedness (REP) exercise for the Commonwealth of Pennsylvania was *approved*, excluding the remaining criteria identified as requiring demonstration.

This letter is in response to your letter dated *December 22, 2020* seeking exercise credit for certain criteria, either demonstrated by other means, such as drills or through actual events. FEMA has reviewed the request and has *approved* exercise credit found on Attachment 1. FEMA acknowledges that the PBAPS biennial radiological emergency preparedness exercise will take place no later than March 17, 2021. The Region III Technological Hazards Branch will work with PEMA to negotiate an extent-of-play agreement for the outstanding criteria that require demonstration.

If you have any questions, please contact Thomas Scardino at (202) 374-2449.

Sincerely,

THOMAS A
SCARDINO

Digitally signed by
THOMAS A SCARDINO
Date: 2021.01.28 16:03:48
-05'00'

Thomas Scardino

Justification for Relief Request

- *List of documentation provided by requesting ORO*
 - Cover Letter from Pennsylvania Emergency Management Agency
 - Exercise Credit / Cancellation Request List of the affected site(s) and ORO(s)
 - TMI 2019 AAR, and LGS 2019 AAR
- *Description of how the response to the ongoing COVID-19 pandemic precludes the state and OROs from conducting and participating in the required REP exercise in calendar year 2020 (CY20).*
 - Pennsylvania Emergency Management Agency (PEMA) and associated Offsite Response Organizations (OROs) have been activated as early as Governor Wolf's Proclamation of March 6, 2020. Due to social distancing, travel restrictions, and continued monitoring of the COVID-19 pandemic, it is not feasible to conduct the biennial Radiological Emergency Preparedness (REP) Exercise in CY2020.
- *List of the affected site(s) and ORO(s).*
 - Pennsylvania Commonwealth Response Coordination Center (CRCC)
 - Pennsylvania Joint Information Center (JIC)/Rumor Control
 - Pennsylvania Department of Environment, Bureau of Radiation Protection (BRP) Accident Assessment Center
 - Pennsylvania BRP, Radiological Rapid Response Vehicle
 - Pennsylvania State Field Teams A and B South Central Region
 - PA State Traffic and Access Control Points, State Police Reading Barracks
 - Chester County Department of Emergency Services
 - West Nottingham Township Emergency Management (Chester County)
 - Lancaster County Emergency Management Agency
 - Drumore Township
 - Fulton Township
 - Little Britain Township
 - Martic Township
 - SOLANCO Regional Emergency Management Agency

- York County Office of Emergency Management
 - Delta/Peach Bottom Combined Emergency Management Agency
 - Fawn Borough/Fawn Township Combined Emergency Management Agency
 - Lower Chanceford Township
 - *Date of last evaluated biennial exercise: April 17, 2018*
 - *Date of currently scheduled biennial exercise: March 17, 2021*
 - *A statement that rescheduling will be conducted 35 months from the previously evaluated biennial exercise.*
 - Remaining criteria identified below must be demonstrated no later than March 17, 2021
 - *A list of activities or assessments conducted since the previously evaluated biennial exercise (e.g., drills, training, dress rehearsals, staff assistance visits [SAVs]).*
 - May 7, 2019 Three Mile Island Nuclear Generating Station Biennial Plume Exercise
 - Exelon Emergency Operation Facility (EOF) Consolidation Drill conducted on November 15, 2019
 - November 19, 2019 Limerick Generating Station Biennial Plume Exercise
 - *Documentation on response activities conducted since the previously evaluated biennial exercise.*
 - Not Applicable
 - *A statement indicating that rescheduling the biennial exercise was coordinated with applicable OROs and the utility.*
- Coordination for demonstration of remining requirements will made between PEMA and the FEMA

Attachment 1

Criteria Assessed, By Location:

<u>Location</u>	<u>Assessment Area</u>	<u>Date Last Demonstrated</u>	<u>Resolution</u>
Pennsylvania Commonwealth Response Coordination Center (PEMA)	1.a.1, 1. c.1, 1. d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 2.c.1, 3.a.1,3. b.1, 3.d.1,3. d.2, 5.a.1, 5.b.1	2019 TMI Plume AAR	Exercise Credit Granted
Pennsylvania Joint Information Center (JIC)/Rumor Control	1.a.1, 1.d.1, 5.b.1	2019 TMI Plume AAR	Exercise Credit Granted
Bureau of Radiation Protection (BRP) Accident Assessment Center	1.a.1, 1.c.1, 1. d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2	2019 TMI Plume AAR	Exercise Credit Granted
Pennsylvania BRP, Radiological Rapid Response Vehicle	1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.2	2019 LGS Plume AAR	Exercise Credit Granted
Pennsylvania State Field Teams A and B South Central Region	1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.3 (Both)	2019 LGS Plume AAR	Exercise Credit Granted
PA State Traffic and Access Control Points, State Police Reading Barracks	1.a.1, 1.d.1, 1.e.1, 3.a.1, 3.d.1	2019 LGS Plume AAR	Exercise Credit Granted
Chester County EOC	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.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1	2019 LGS Plume AAR	Exercise Credit Granted
West Nottingham Township EOC (Chester County)	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2018 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
Chester County Public Reception/Mon/Decon Octorara Middle School	1c.1, 1.d.1, 1.e.1, 3.a.1, 6.a.1	2016 PBAPS Plume AAR	Fully evaluated during the PBAPS Exercise which meets the exercise frequency requirements for the 8-year exercise cycle
Chester County EM Worker Reception/Mon/Decon Penn's Grove	1c.1, 1.d.1, 1.e.1, 3.a.1, 6.b.1	2016 PBAPS Plume AAR	Fully evaluated during the PBAPS Exercise which meets the exercise frequency requirements for the 8-year exercise cycle
Chester County Mass Care Octorara High School	1c.1, 1.d.1, 1.e.1, 6.c.1	2016 PBAPS Plume AAR	Fully evaluated during the PBAPS Exercise which meets the exercise frequency requirements for the 8-year exercise cycle

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Peach Bottom Atomic Power Station

Lancaster County EOC	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1 3. c.1, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1	2019 TMI Plume AAR	Exercise Credit Granted
Drumore Township EOC (Lancaster County)	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2018 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
Fulton Township EOC (Lancaster County)	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2, 5.a.3	2014 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
Little Britain Township EOC (Lancaster County)	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2014 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
Martic Township EOC (Lancaster County)	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2016 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
SOLANCO Regional EOC (Lancaster County)	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2016 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
Lancaster County Public and EM Worker Reception/Mon/Decon and Mass Care: Lampeter Strasburg School Complex	1c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 6.a.1, 6.b.1, 6.c.1	2016 PBAPS Plume AAR	Fully evaluated during the 2016 Peach Bottom Atomic Power Station Exercise which meets the exercise frequency requirements for the 8-year exercise cycle.

After Action Report/Improvement Plan

Peach Bottom Atomic Power Station

Mass Care: Franklin and Marshall College, Garden Spot School Complex, Manor Middle School	1.b.1, 1.e.1, 6.c.1	2014 PBAPS Plume AAR	Walk Down evaluations were conducted on Lancaster CO's three mass care centers not affiliated with a Reception/Mon/Decon center during the 2014 Peach Bottom Atomic Power Station Exercise which meets the exercise frequency requirements for the 8-year exercise cycle
York County EOC	1.a.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	2019 TMI Plume AAR	Exercise Credit Granted
Delta/Peach Bottom Combined EOC (York County)	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2014 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
Fawn Borough/Fawn Township Combined EOC	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2018 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
Lower Chanceford Township EOC	1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2	2018 PBAPS Plume AAR	Due for evaluation. Per PEMA Letter, PEMA requests postponement. the listed criteria will be demonstrated NLT March 17, 2021 within the 35-month window.
York County Public Reception/Mon/Decon and Mass Care: Red Lion High School Complex	1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.a.1, 6.c.1	2018 PBAPS Plume AAR	Fully evaluated during the 2018 Peach Bottom Atomic Power Station Exercise which meets the exercise frequency requirements for the 8-year exercise cycle.
EM Worker Mon/Decon – Brogue Ambulance	1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.b.1	2018 PBAPS Plume AAR	Fully evaluated during the 2018 Peach Bottom Atomic Power Station Exercise which meets the exercise frequency requirements for the 8-year exercise cycle