Beaver Valley Power Station
Shippingport, Pennsylvania
West Virginia After Action Report/Improvement Plan

Exercise Date – June 7, 2022

Radiological Emergency Preparedness (REP) Program

FEMA

Published August 26, 2022

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Beaver Valley Power Station

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EXECUTIVE SUMMARY **5**

SECTION 1: EXERCISE OVERVIEW **7**
- **1.1 Exercise Details** **7**
- **1.2 Exercise Planning Team Leadership** **7**
- **1.3 Participating Organizations** **8**

SECTION 2: EXERCISE DESIGN SUMMARY **10**
- **2.1 Exercise Purpose and Design** **10**
- **2.2 Exercise Objectives, Capabilities and Activities** **12**
- **2.3 Scenario Summary** **12**

SECTION 3: ANALYSIS OF CAPABILITIES **14**
- **3.1 Exercise Evaluation and Results** **14**
- **3.2 Summary Results of Exercise Evaluation** **14**
- **3.3 Capability Target Evaluation Summaries** **14**

SECTION 4: DEMONSTRATED STRENGTHS **29**

SECTION 5: CONCLUSION **30**

APPENDIX A: EXERCISE TIMELINES **29**

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS **32**

APPENDIX C: ACRONYMS AND ABBREVIATIONS **34**

APPENDIX D: EXTENT-OF-PLAY AGREEMENT **38**

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EXECUTIVE SUMMARY

On June 7, 2022, a full participation Plume Exposure Pathway exercise was conducted and evaluated for the 10-Mile Emergency Planning Zone (EPZ) around the Beaver Valley Power Station (BVPS) by the U.S. Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), Region 3. The previous full-participation Plume Exercise at this site was evaluated on March 25, 2021. This report documents evaluation results for the State of West Virginia's participation only.

Out-of-Sequence demonstrations were conducted on April 20 and 21, 2022. The purpose of the Exercise and Out-of-Sequence demonstrations was to assess the capabilities of State, counties, and local jurisdictions to implement Radiological Emergency Response Plans (RERP) and Procedures to protect the property and lives of residents and transients in the event of an emergency at the Beaver Valley 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 3 Regional Assistance Committee (RAC) Chairperson, and approved by FEMA Headquarters. These reports are provided to the Nuclear Regulatory Commission (NRC) and participating States. State and local governments utilize the findings contained in these reports for the purposes of planning, training, and improving emergency preparedness.

The evaluation of this exercise determined there were no Level 1 Findings, one Level 2 Finding and three Plan Issues. The Level 2 Finding was redemonstrated successfully on August 11, 2022. The three Plan Issues were resolved on June 15 and June 22, 2022, after the State of West Virginia provided FEMA with the updated plans and procedures. FEMA's review of the plans and procedures determined that the plan changes were adequate.

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 State of West Virginia and the one risk county jurisdiction of Hancock County. Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during the exercise.

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

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

Section 3 of this report entitled "Analysis of Capabilities" presents detailed "Exercise Evaluation and Results" information on the demonstration for each jurisdiction or functional entity evaluated in a jurisdiction-based, issue-only format (Capability Target 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 Timelines. A table that depicts the times when an event or notifications were noted at participating agencies and locations.
- Appendix B – Exercise Evaluators and Team Leaders. A table listing the evaluator names, organizations, and responsibilities of the evaluators and management.
- Appendix C – Acronyms and Abbreviations. An alphabetized table defining the formal names used in this report.
- Appendix D – Extent-of-Play Agreement

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name
Beaver Valley Power Station Plume Exercise

Type of Exercise
Plume

Exercise Date
June 7, 2022

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Radiological Release

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Beaver Valley Power Station (BVPS) exercise:

State Jurisdiction

State of West Virginia

- Energy Harbor Nuclear Corporation
- Nuclear Regulatory Commission
- Pennsylvania Emergency Management Agency
- West Virginia Department of Environmental Protection
- West Virginia Department of Health and Human Resources
- West Virginia Emergency Management Division
- West Virginia Department of Environmental Protection (DEP)
- West Virginia Department of Environmental Protection HAZMAT
- West Virginia Department of Health and Human Resources (DHHR)
- West Virginia DHHR, Office of Environmental Health Resources (OEHS)
- West Virginia DHHR, Bureau for Public Health (BPH)

Risk Jurisdiction

Hancock County

- Braxton County Office of Emergency Services
- Brooke County Emergency Management Agency
- Hancock AuxComm Team
- Hancock County 911 Communications Center
- Hancock County Commission
- Hancock County Division of Homeland Security and Emergency Management
- Hancock County Health Department
- Hancock County Schools
- Ohio River Valley Chapter of the American Red Cross
- Radio Amateur Civil Emergency Service
- West Virginia Emergency Management Division

Joint Public Information Center (JPIC)

- Commonwealth Media Services
- Energy Harbor
- Nuclear Regulatory Commission (NRC)
- Ohio Emergency Management Agency (OEMA) (virtual)
- Pennsylvania Emergency Management Agency (PEMA)
- West Virginia Department of Emergency Management (WVDEM)

Risk School

- Hancock County School District
- Oak Glen High School
-

Host School

- Weir High School

Private/Volunteer Organizations

- Energy Harbor
- American Red Cross
- New Cumberland Volunteer Fire Department
- Colliers Volunteer Fire Department
- McKinleyville Volunteer Fire Department
- New Manchester Volunteer Fire Department
- Newell Volunteer Fire Department
- Oakland Volunteer Fire Department
- Weirton Fire Department

Federal Organizations

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

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

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

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

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

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

C. Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated December 7, 2015 (Federal Register, Vol. 81, No. 57, March 24, 2016); and

D. Coordinating the activities of the following Federal agencies with responsibilities in the radiological emergency planning process:
- U.S. Department of Commerce
- U.S. Nuclear Regulatory Commission
- U.S. Environmental Protection Agency
- U.S. Department of Energy
- U.S. Department of Health and Human Services
- U.S. Department of Transportation
- U.S. Department of Agriculture
- U.S. Department of the Interior
- U.S. Food and Drug Administration

Representatives of these agencies serve on the Region 3 Regional Assistance Committee (RAC), which is Chaired by FEMA. A REP Plume Exposure Pathway Exercise was conducted on June 7, 2022, to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Beaver Valley Power Station (BVPS). The purpose of this exercise report is to present the exercise results and findings on the performance of the off-site response organizations (OROs) during a simulated radiological emergency. The findings presented in this report are based on the evaluations of the Federal evaluation team, with final

determinations made by the FEMA Region 3 RAC Chairperson and approved by FEMA Headquarters.

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

The Radiological Emergency Preparedness Exercise Methodology utilized in the FEMA evaluation process are contained in the following:

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

Emergency Planning Zone Description

Beaver Valley Power Station (BVPS) is located in western Pennsylvania on the southern bank of the Ohio River in Beaver County, Pennsylvania. The site is located near Shippingport Borough, about 1.5 miles from Midland, Pennsylvania, on 501 acres of fairly level terrace owned by the Energy Harbor. The latitude for the site is 40º37'18" north; the longitude is 80º26'02" west. Two pressurized water reactors are located on the 17 acres of the parcel occupied by the power station. The operating licenses for the facility were granted in July 1976 (Unit 1) and August 1987 (Unit 2); commercial operations began at the site during October 1976 (Unit 1) and November 1987 (Unit 2). Unit 1 generates an output of 954 megawatts (MW); the Unit 2 output is 978 MW. Sixty-six sirens cover the plume emergency planning zone; there are 52 sirens in Beaver County, 6 sirens in Columbiana County and 8 sirens in Hancock County.

Steep slopes that contributed to the development of river mill towns, where most of the industry and residences are located, characterize the general topography of the region. The region is part of the large industrial complex centered around Pittsburgh, Pennsylvania. The terrain rises from the Ohio River to a maximum elevation of 1,160 feet above mean sea level (MSL). Drainage is predominantly toward the river. The soils in the area are made up of alluvial sands and gravel. The bedrock geology consists of sedimentary formations composed of shale and sandstone. No faults are located under or near the facility. The Ohio River is about 664 feet above MSL, and the plant grade is 735 feet above MSL.

The climate is a humid continental type. The average annual temperature for the area is about 50°F. Annual precipitation is approximately 36 inches. The area around the plant is mostly agricultural or undeveloped. The nearest community is Shippingport Borough, Pennsylvania, which is the parent borough for the site and has a population of 237. The nearest major population center of more than 25,000 people is Pittsburgh, which has an estimated population of 305,841 and lies 22 miles to the southeast. The maximum population distribution, including residents and transients, is 112,445 in the 10-mile emergency planning zone.

Four major industries employ a total of 8,000 persons within 10 miles of the plant. One small airfield (Herron Airport) is also in the 10-mile EPZ. The runway at the airport is oriented so that the extensions do not pass over the plant. No major

thoroughfares exist in the immediate vicinity. The main line of the Norfolk Southern Railroad runs parallel to the plant along the north bank of the Ohio River.

2.2 Exercise Objectives, Capabilities and Activities

The objectives of the 2022 Beaver Valley Power Station (BVPS) 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, FEMA Public Alert & Warning System (IPAWS) 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 REP Program is to evacuate, monitor and decontaminate, if necessary, and provide temporary care and shelter to displaced residents from the EPZ. The ability of the risk/support counties to mobilize personnel and resources to establish reception, monitoring and decontamination, and mass care centers was demonstrated.

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

2.3 Scenario Summary

The weather forecast for the exercise is daytime temperatures in the low 70's. Skies cloudy throughout the day. Wind is from the east at 10 mph. Chance of precipitation is 5%. Temperatures falling to the upper 50's overnight. Partly cloudy skies. Chance of precipitation 0%.

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

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

An Alert Emergency Classification Level (ECL) is declared by 1625. The Beaver Valley Power Station Emergency Response Organization is activated.

By 1800 a Site Area Emergency ECL will be declared based on Loss or Potential Loss of two barriers.

A General Emergency ECL will be declared by 1915. A plant based Protective Action Recommendation (PAR) is issued as evacuate 2 Mile 360° Radius and 5 Miles downwind Sectors L, M, N, P, and Q.

Field Monitoring Teams perform actions to locate the release plume and obtain dose readings. Decision makers consider the Licensee PAR and other factors and the offsite response organizations (OROs) make protective actions based on plans and procedures.

At 2030 the exercise is terminated.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluations of all jurisdictions and locations that participated in the June 7, 2022, Biennial Plume Exposure Pathway 10-mile EPZ REP Exercise.

Each jurisdiction and functional entity were evaluated based on its demonstration of the exercise objectives and capability targets contained in the REP Exercise Evaluation Methodology. Detailed information on the exercise evaluation objectives and capability targets 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 objectives and capability targets evaluation from the REP Program Manual that was scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise evaluation objectives and capability targets are listed by number and the demonstration status of the capability targets 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 objectives and capability targets indicating that the ORO, for a justifiable reason, did not demonstrate the capability target, 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 capability target to the level required in the Extent-of-Play Agreement, with no Level 1 or Level 2 Findings assessed under that criterion in the current exercise and no unresolved prior Level 2 Findings.

Tables 3.1 - Summary of Exercise Evaluation

Table 3.1a Exercise Evaluation Findings and Issues by Classification

Location	Target	Capability Target Description	Classification	Status
West Virginia Joint Public Information Center	3.3	Emergency Information and Instructions for the Public and News Media	24-22-3.3-L2-001	Closed on August 11, 2022
West Virginia Field Monitoring Team Management	2.2	Emergency Worker Exposure Control Management	24-22-2.2-P-001	Closed on June 22, 2022
West Virginia Accident Assessment Center	1.3	Protective Action Recommendations	24-22-1.3-P-002	Closed on June 22, 2022
West Virginia Field Monitoring Team A	4.2	Plume Phase Measurements and Sampling	24-22-4.2-P-003	Closed on June 15, 2022

Table 3.1b Exercise Evaluation Assessments Met

Location	Target	Capability Target Description	Status
Objective 1 : Emergency Operations Management			
West Virginia Emergency Management Division - Emergency Operations Center, State	1.1	Mobilization	M
Weir High School Complex/Reception Center Monitoring/Decontamination - Reception Center	1.1	Mobilization	M
Weir High School Complex/Mass Care - Mass Care Center	1.1	Mobilization	M
WV TCP/ACP Chester Police Department - Traffic and Access Control (TCP/ACP)	1.1	Mobilization	M
Hancock County EW Mon/Decon New Cumberland Fire Department - Monitoring and Decontamination Station,	1.1	Mobilization	M
West Virginia Joint Information Center (JIC) - Joint Information Center	1.1	Mobilization	M
WV State Field Monitoring Team A - State Field Monitoring Team	1.1	Mobilization	M
WV State Field Monitoring Team B - State Field Monitoring Team	1.1	Mobilization	M
Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	1.1	Mobilization	M
West Virginia Field Team Management - Field Team Management	1.1	Mobilization	M

West Virginia Accident Assessment Center - State Accident Assessment Center	1.1	Mobilization	M
West Virginia Emergency Management Division - Emergency Operations Center, State	1.2	Direction and Control	M
Weir High School Complex/Reception Center Monitoring/Decontamination - Reception Center	1.2	Direction and Control	M
Weir High School Complex/Mass Care - Mass Care Center	1.2	Direction and Control	M
WV TCP/ACP Chester Police Department - Traffic and Access Control (TCP/ACP)	1.2	Direction and Control	M
Hancock County EW Mon/Decon New Cumberland Fire Department - Monitoring and Decontamination Station,	1.2	Direction and Control	M
West Virginia Emergency Management Division - Emergency Operations Center, State	1.2	Direction and Control	M
West Virginia Joint Information Center (JIC) - Joint Information Center	1.2	Direction and Control	M
WV State Field Monitoring Team A - State Field Monitoring Team	1.2	Direction and Control	M
WV State Field Monitoring Team B - State Field Monitoring Team	1.2	Direction and Control	M
West Virginia Accident Assessment Center - State Accident Assessment Center	1.2	Direction and Control	M
Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	1.2	Direction and Control	M
West Virginia Field Team Management - Field Team Management	1.2	Direction and Control	M
West Virginia Accident Assessment Center - State Accident Assessment Center	1.3	Protective Action Recommendations	P
West Virginia Accident Assessment Center - State Accident Assessment Center	1.4	Protective Action Decisions for the Plume Phase	M
West Virginia Accident Assessment Center - State Accident Assessment Center	1.4	Protective Action Decisions for the Plume Phase	M
West Virginia Emergency Management Division - Emergency Operations Center, State	1.4	Protective Action Decisions for the Plume Phase	M

Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	1.4	Protective Action Decisions for the Plume Phase	M
West Virginia Emergency Management Division - Emergency Operations Center, State	1.5	Protective Action Decision Implementation for the Plume Phase	M
Hancock County School District - School Districts	1.5	Protective Action Decision Implementation for the Plume Phase	M
Oak Glen High School - School	1.5	Protective Action Decision Implementation for the Plume Phase	M
Objective 2 : Exposure Control			
West Virginia Accident Assessment Center - State Accident Assessment Center	2.1	Emergency Worker Exposure Control Decision-Making Process	M
Weir High School Complex/Reception Center Monitoring/Decontamination - Reception Center	2.2	Emergency Worker Exposure Control Management	M
West Virginia Emergency Management Division - Emergency Operations Center, State	2.2	Emergency Worker Exposure Control Management	M
Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	2.2	Emergency Worker Exposure Control Management	M
WV State Field Monitoring Team B - State Field Monitoring Team	2.2	Emergency Worker Exposure Control Management	M
WV State Field Monitoring Team A - State Field Monitoring Team	2.2	Emergency Worker Exposure Control Management	M
WV TCP/ACP Chester Police Department- Traffic and Access Control (TCP/ACP)	2.2	Emergency Worker Exposure Control Management	M
West Virginia Field Team Management - Field Team Management	2.2	Emergency Worker Exposure Control Management	P
Objective 3 : Alert and Notification			
West Virginia Emergency Management Division - Emergency Operations Center, State	3.1	Communications	M
Weir High School Complex/Reception Center Monitoring/Decontamination - Reception Center	3.1	Communications	M
Weir High School Complex/Mass Care - Mass Care Center	3.1	Communications	M
WV TCP/ACP Chester Police Department - Traffic and Access Control (TCP/ACP)	3.1	Communications	M

Hancock County EW Mon/Decon New Cumberland Fire Department - Monitoring and Decontamination Station,	3.1	Communications	M
West Virginia Joint Information Center (JIC) - Joint Information Center	3.1	Communications	M
WV State Field Monitoring Team A - State Field Monitoring Team	3.1	Communications	M
WV State Field Monitoring Team B - State Field Monitoring Team	3.1	Communications	M
Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	3.1	Communications	M
West Virginia Field Team Management - Field Team Management	3.1	Communications	M
West Virginia Accident Assessment Center - State Accident Assessment Center	3.1	Communications	M
Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	3.2	Alert and Notification of the Public	M
West Virginia Joint Information Center (JIC) - Joint Information Center	3.3	Emergency Information and Instructions for the Public and News Media	L2
Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	3.3	Emergency Information and Instructions for the Public and News Media	M
Objective 4 : Detect, Measure, Sample, Analyze, and Assess			
West Virginia Field Team Management - Field Team Management	4.1	Field Monitoring Teams Management	M
WV State Field Monitoring Team B - State Field Monitoring Team	4.2	Plume Phase Measurements and Sampling	M
WV State Field Monitoring Team A - State Field Monitoring Team	4.2	Plume Phase Measurements and Sampling	P
West Virginia Accident Assessment Center - State Accident Assessment Center	4.5	Plume Phase Analysis and Dose Assessment	M
Objective 5: Operate			
Weir High School Complex/Reception Center Monitoring/Decontamination - Reception Center	5.1	Monitoring, Decontamination, Sheltering, and Registration of Evacuees	M
West Virginia Emergency Management Division - Emergency Operations Center, State	5.4	Traffic and Access Control	M
Hancock County Emergency Operations Center - Emergency Operations Center, County, Risk	5.4	Traffic and Access Control	M

WV TCP/ACP Chester Police Department - Traffic and Access Control (TCP/ACP)	5.4	Traffic and Access Control	M

3.3 Capability Targets Summaries

3.3.1 State Jurisdictions

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

3.3.1.1 State of West Virginia

3.3.1.1.1 State of West Virginia Emergency Operations Center

a. Met: 1.2, 1.4, 1.5, 2.2, 3.1, 3.2, 5.4
b. Level 1 Findings: None
c. Level 2 Findings: None
d. Plan Issues: None
e. Prior Issues - Resolved: None
f. Prior Issues - Unresolved: None

3.3.1.1.2 Joint Information Center

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

3.3.1.1.3 West Virginia Accident Assessment Center

a. Met: 1.1, 1.2, 1.4, 2.1, 4.5
b. Level 1 Findings: None
c. Level 2 Findings: None
d. Plan Issues: One

LOCATION: West Virginia Accident Assessment Center

ISSUE NO: 24-22-1.3-P-002

CONDITION: Accident Assessment did not utilize the 1 - 5 rem Total Effective Dose Equivalent (TEDE) limit in developing Protective Action Recommendations (PARs) and based recommendations to evacuate on the Child Thyroid. Upon re-demonstration, they recognized by looking at their procedure on hand that the 1 - 5 rem TEDE limit was to be utilized for evacuation and that 1 rem TEDE was preferred. Child Thyroid consideration were only for ingestion of KI. Some PAR development procedures include 5 rem Child Thyroid as a point of evacuation, some do not.

The part of the West Virginia plan specifically designated for Accident Assessment is Annex 15. In this plan, it states that the 1 - 5 rem TEDE, 5 - 25 rem Thyroid CDE, or 50 – 250 rem Skin CDE are basis for evacuation. Though it goes on that evacuation should normally be initiated at 1 rem and that current Environmental Protection Agency (EPA) Protective Action Guides (PAGs) no longer use organ-based dose as a

trigger for evacuation. The PAG action level that Accident Assessment had as a reference during the exercise (WV Accident Assessment Protective Action Matrix 2022), referred only to the TEDE, and other PAR development plans (Annex F and H) also reference the updated TEDE language.

POSSIBLE CAUSE: Accident Assessment did not utilize their most updated PAR guidance while forming recommendations, and plans contain conflicting information.

REFERENCE:

1. NUREG-0654/FEMA-REP-1, Rev 2, planning standard D.4, J.6, and J.9.
2. WV REP Plan, Annex 15 Accident Assessment (Plume Phase), Issue 9 version 2021.
3. WV Accident Assessment Protective Action Matrix 2022
4. Hancock County Emergency Plan, Annex F Protective Action Guides and Assignment of Protective Actions, Issue 12 Rev 2019
5. Hancock County Emergency Plan, Annex H Evacuation of Residents in Affected Areas, Issue 12 Rev 2019

EFFECT: Unnecessary evacuations could be recommended when there is no danger of exceeding the already conservation whole body PAG. Sound recommendations independent of the Utility may not be identified. The recommending authorities and decision-making authorities may not make informed decisions due to versions of plans with conflicting evacuation PAGs.

RECOMMENDATION: The State of West Virginia needs to update all plans and procedures with their most current PAGs and PAR guidance.

CORRECTIVE ACTIONS: On June 22, 2022, the State of West Virginia provided FEMA the updated plans and procedures. FEMA reviewed the plans and determined the plan changes were adequate.

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

3.3.1.1.4 Field Monitoring Team Management

a. Met: 1.1, 1.2, 3.1, 4.1
b. Level 1 Findings: None
c. Level 2 Findings: None
d. Plan Issues: One

LOCATION: Field Monitoring Team Management

ISSUE NO: 24-22-2.2-P-001

CONDITION: As Low As Reasonably Achievable (ALARA) principles were not considered when the Field Monitoring Team (FMT) Leader deployed the FMTs, and as such, workers were automatically assigned a dose limit of 25 rem, which conflicts with plans and procedures in place. FMT members were briefed that their mission was to be “lifesaving” therefore they have Emergency Worker Dose limits of 25 rem with Turnback of 5 R. This appears to be done without the County Radiological

Officer having authorized additional exposure as provided in plans and procedures and without having to fill out Emergency Exposure Authorization Forms or having received additional radiological protection advisement.

POSSIBLE CAUSE: The FMT Leader authorized, without approval from either the Hancock County Radiological Officer or the Bureau of Public Health, FMTs to exceed the dose limits set forth in their plans and procedures. The FMT Leader gave a turnback value of 5 R with a dose limit of 25 rem, going against the already set forth turnback value of 1 R with a dose limit of 5 rem.

REFERENCE:

1. NUREG-0654/FEMA-REP-1, Rev. 2 (C.2.c, H.11, H.11.b, K.2.b, K.3, K.3.a, M.1.b, and O.1)
2. EPA-400/R-17/001, PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents, January 2017
3. EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, May 1992.
4. State of West Virginia Field Monitoring Team Standard Operating Procedure (SOP), General Operations, pg. 3, Issue 2022.
5. Hancock County Emergency Plan Attachment 14 Radiological Briefing
6. Hancock County Emergency Plan SOP 10 Radiological Exposure Control, Attachment 10, Emergency Exposure Authorization Form
7. Hancock County Emergency Plan, Annex “F”
8. Hancock County Emergency Plan, Annex “I”

EFFECT: The FMTs could have been exposed to five times the authorized dose limit without the knowledge and approval of the Hancock County Radiological Officer or the Bureau of Public Health, putting the FMT personnel at a risk of being exposed to higher dose limits without the proper authorities tracking this situation.

RECOMMENDATION: Follow Plans and Procedures that have set the allowed turnback value and dose limit, and if needed to follow the plans and procedures to get the approval to allow the FMTs to exceed them.

CORRECTIVE ACTIONS: On June 22, 2022, the State of West Virginia provided FEMA the updated plans and procedures. FEMA reviewed the plans and determined the plan changes were adequate.

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

3.3.1.1.5 Field Monitoring Team A

a. Met: 1.1, 1.2, 2.2, 3.1
b. Level 1 Findings: None
c. Level 2 Findings: None
d. Plan Issues: One

LOCATION: Field Monitoring Team A

ISSUE NO: 24-22-4.2-P-003

CONDITION: Evaluation Criterion K.3.a requires that each organization make provisions to ensure that DRDs are read at designated intervals and dose records are maintained for emergency workers, and the State of West Virginia (WV) Field Monitoring Team (FMT) Standard Operating Procedure (SOP) 2022, requires that only fully donned and protected FMT personnel should exit the vehicle. However, Attachment 10 of the WV FMT SOP for Donning Personal Protective Equipment (PPE) does not address leaving the permanent record dosimetry (PRD) inside of the protective clothing and the direct reading dosimetry (DRD) outside of the protective clothing. This could prevent FMT personnel from being able to read their DRD at the designated intervals.

POSSIBLE CAUSE: Although during radiological briefing emergency workers (EW) were asked to provide DRD readings at 30-minute intervals, the briefing fails to acknowledge that FMT members must be in full PPE to exit vehicle and perform sample analysis.

REFERENCE:

1. NUREG-0654/FEMA-REP-1, Rev. 2 (I.6, K.3, and K.3.a).
2. FEMA Radiological Emergency Preparedness (REP) Program Manual, December 2019 (Capability Target 2.2, 4.2).
3. EPA-400-R-92-001, Environmental Protection Agency, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (and revisions).
4. State of West Virginia Field Monitoring Team Standard Operating Procedure 2022, (Attachment 10).

EFFECT: Emergency Workers being unable to quickly access DRD readings prevents the Offsite Response Organizations (ORO) from the capability to determine the doses received by emergency workers involved in any commercial Nuclear Power Plant radiological incident. Although it is possible that the EW could remove DRD from inside of PPE this puts the health and safety of the EW at risk, if exterior surfaces of the PPE are already contaminated.

RECOMMENDATION: Revise the WV FMT SOP (2022) State of West Virginia Field Monitoring Team Standard Operating Procedure 2022, (Attachment 10) to include placement of the EW DRD/PRD in the PPE Donning/Doffing process. This may require adjustment in the sequencing for donning/doffing PPE.

CORRECTIVE ACTIONS: On June 15, 2022, the State of West Virginia provided FEMA the updated plans and procedures. FEMA's review of the plans and procedures determined that the plan changes were adequate.

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

3.3.1.1.6 Field Monitoring Team B

a. Met: 1.1, 1.2, 2.2, 3.1, 4.2
b. Level 1 Findings: None
c. Level 2 Findings: None

d. Plan Issues: None
e. Prior Issues - Resolved: None
f. Prior Issues - Unresolved: None

3.3.1.1.7 Joint Public Information Center (JPIC)

a. Met: 1.1, 1.2, 3.1
b. Level 1 Findings: None
c. Level 2 Findings: One

LOCATION: Joint Public Information Center (JPIC)

ISSUE NO: 24-22-3.3-L2-001

CONDITION:
1. The individual serving in the role of West Virginia Public Information Officer (PIO) at the-Joint Public Information Center (JPIC) was unfamiliar with the Joint Information Center process and procedures. When technical difficulties with the fax machine occurred, the PIO was not aware that there were faxes from the State Joint Information Center (JIC) and Hancock County that the PIO was not receiving.
2. Emergency messages that were posted to the Homeland Security Information Network (HSIN) and faxed to the JPIC were not able to be retrieved in a timely manner.
3. The PIO also provided inaccurate emergency information to the public during the second media briefing. Specifically, the PIO stated that persons residing in, vacationing, and/or visiting portions of Hancock County, West Virginia (WV) should stay indoors and monitor local media, whereas, Pennsylvania and Ohio spokespersons correctly briefed of evacuations in progress.

POSSIBLE CAUSE: 1. Inexperience of West Virginia Public Information Officer at the JPIC and inadequate poor communication/coordination with the WV State JIC and Hancock County. 2. Reliance on unpredictable fax machines to transmit emergency information.

REFERENCE: NUREG-0654/FEMA-REP-1, Rev. 2: (E.2; E.4; E.5; G.1, G.2, G.3, G.3.a, G.4. G.5, and O.1)

EFFECT: The absence of timely emergency information at the JPIC and inaccurate emergency information being briefed could cause confusion to the public and cause delays in taking protective actions.

RECOMMENDATIONS: The following recommendations should be considered:

- JPIC PIOs should be properly trained on JIC processes and procedures and comply with NUREG 0654 annual training requirements delineated in Planning Standard O.1.
- Consider eliminating faxing news releases, Emergency Alert System (EAS), and (Special News Bulletins (SNBs) to the JPIC. Include redundant methods of transmittal to ensure that emergency information has been successfully received.

- Update procedures to align Hancock County and the WV SEOC PIO in order to coordinate delivery and receipt of emergency messages to the JPIC.
- Assign additional staff to the JPIC to assist the spokesperson prepare for media briefings and coordinate messaging with the Licensee, State of Ohio, and Commonwealth of Pennsylvania.

CORRECTIVE ACTIONS: The Hancock County Emergency Operations Center (EOC) sim cell and West Virginia Emergency Management Division (WVEMD) EOC sim cell participated the Beaver Valley Power Station (BVPS) remedial exercise for the Joint Public Information Center (JPIC). JPIC staff successfully demonstrated emergency information and instructions for the public and news media during the Beaver Valley Power Station (BVPS) remedial exercise, which was conducted on August 11, 2022. The WV Spokesperson successfully completed three media briefings during which accurate emergency information was conveyed and questions from the mock media were answered; to include rumors that were called in to the WV SEOC and precautionary and protective actions. Additional staff were deployed to the JPIC to assist the spokesperson. All information developed from Hancock County and the WV SEOC were successfully received at the JPIC and posted for the media.

d. Plan Issues: None
e. Prior Issues - Resolved: None
f. Prior Issues - Unresolved: None

3.3.2 Risk Jurisdictions

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

3.3.2.1 Hancock County Emergency Operation Center

a. Met: 1.1, 1.2, 1.5, 2.2, 3.1, 3.2, 3.3, 5.4
b. Level 1 Findings: None
c. Level 2 Findings: None
d. Plan Issues: None
e. Prior Issues - Resolved: None
f. Prior Issues - Unresolved: None

3.3.2.2 West Virginia School, Oak Glen High School

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

3.3.2.3 West Virginia, Hancock County School District

a. Met: 1.5
b. Level 1 Findings: None
c. Level 2 Findings: None
d. Plan Issues: None

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

3.3.2.4 West Virginia Reception Center Monitoring/Decontamination Center-Weir High School Complex

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

3.3.2.5 West Virginia Mass Care Center-Weir High School Complex

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

3.3.2.6 West Virginia Access Traffic Control-Chester Police Department

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

3.3.2.7 West Virginia Emergency Worker Decontamination Center-New Cumberland Fire Department

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

SECTION 4: DEMONSTRATED STRENGTHS

4.1 Risk Jurisdictions

4.1.1 Accident Assessment Center

Accident Assessment Manager (AAM) questioned the data received by the Utility because the pathway and provided evidence did not correlate with the Utility's provided pathway. AAM reasoned that pathway J was the appropriate pathway, and so chose to provide an alternate dose assessment run. It wasn't until a few hours later that the Utility found their mistake and revised the pathway from G to J.

SECTION 5: CONCLUSION

The West Virginia and risk jurisdictions except where noted in this report demonstrated knowledge of their Radiological Emergency Response Plans (RERP) and procedures were adequately implemented during the Beaver Valley Power Station Plume Exercise evaluated on June 7, 2022, and the Out of Sequence demonstrations conducted April 20 and April 21, 2022.

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

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

FEMA evaluators assessed 65 Capability Targets in five objectives:

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

The evaluation of this exercise determined there were no Level 1 Findings, one Level 2 Finding and three Plan Issues. The Level 2 Finding was redemonstrated successfully on August 11, 2022. The three Plan Issues were resolved on June 15 and June 22, 2022, after the State of West Virginia provided FEMA with the updated plans and procedures. FEMA's review of the plans and procedures determined that the plan changes were adequate.

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

APPENDIX A: EXERCISE TIMELINES

Emergency Classification Level or Event	**Time Utility Declared**	***Time That Notification Was Received at the Listed Location***			
		WV State EOC	**State JIC**	**Accident Assessment**	**Hancock Co. WV EOC**
Unusual Event	N/A	N/A	N/A	N/A	N/A
Alert	1617	1628	1628	1624	1633
Site Area Emergency	1723	1738	1738	1727	1730
General Emergency	1902	1918	1918	1904	1915
Start of Simulated Radiation Airborne Release	1902	1918	1918	1902	1915
Termination of Simulated Radiation Release	Ongoing	Ongoing	Ongoing	2018	Ongoing
Facility Declared Operational		1633	1633	1718	1630
Governor's Declaration of State of Emergency		1755	1755	1753	1758
Exercise Terminated		2125	2125	2119	2055
Precautionary Actions: Air, rail, and water; livestock and poultry on stored feed and water		1735	1735	1740	1748
Schools relocated		1749	1749	-	1748
Siren Sounding		1756	1756	-	1756
EAS Message Broadcast		1759	1759	-	1759
First Protective Actions: Evacuate 10-mile Hancock County (Lawrenceville, Chester, Newell, New Manchester within 10-mile)		1952	1952	-	1954
Siren Sounding		1959	1959	-	1959
EAS Message Broadcast		2002	2002	-	2002
KI Decision Emergency Workers		1952	1952	2002	1954
KI Decision General Public/Special populations		1952	1952	2002	1954

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leaders for the Beaver Valley Power Station 2022 Radiological Emergency Preparedness Plume Pathway Exercise evaluated on June 7, 2022, and Out of Sequence Exercise on April 20 and 21, 2022. The following constitutes the managing staff for the Exercise Evaluation:

- Thomas Scardino, DHS/FEMA, Regional Assistance Committee (RAC) Chair
- Tina Thomas, DHS/FEMA, Project Officer and Site Specialist

Beaver Valley Power Station

PLUME EXERCISE DEMONSTRATION June 7, 2022		
LOCATION	**EVALUATOR**	**AGENCY**
West Virginia EOC 2403 Fairlawn Ave., Dunbar, WV 25064	Lee Torres (TL)	FEMA R3
	Dennis Wilford	ICF
	Ron Bonner	ICF
Joint Information Center (JIC) 2403 Fairlawn Ave., Dunbar, WV 25064	Lisa Rink	FEMA HQ
Joint Public Information Center (JPIC) 181 Spring Run Road, Ext. Coraopolis, PA 15010	Peter Judge	ICF
WV Accident Assessment Center 2403 Fairlawn Ave. Dunbar, WV 25064	Kevin T. Robinson	FEMA R2
	Janise Stoliarova (TTL) Rahuel Preciado-OJT	FEMA HQ FEMA R3

OUT OF SEQUENCE DEMONSTRATION June 7, 2022		
LOCATION	**EVALUATOR**	**AGENCY**
WV State Field Monitoring Team A 2403 Fairlawn Ave., Dunbar, WV 25064	Kevin T. Robinson	FEMA R2
WV State Field Monitoring Team B 2403 Fairlawn Ave., Dunbar, WV 25064	Janise Stoliarova	FEMA HQ
West Virginia Field Team Management 2403 Fairlawn Ave., Dunbar, WV 25064	Rahuel Preciado	FEMA R3

PLUME EXERCISE DEMONSTRATION June 7, 2022		
EVALUATION SITE	**EVALUATOR**	**AGENCY**
Hancock County Emergency Operation Center 82 Emergency Dr., New Cumberland, WV 26047	Dan Rose (TL)	FEMA R3
	Robert McWilliams	FEMA HQ
	Zach Corle	FEMA R3

	Bill Palmer	ICF

OUT OF SEQUENCE DEMONSTRATION April 20, 2022		
EVALUATION SITE	**EVALUATOR**	**AGENCY**
Oak Glen High School 195 Golden Bear Dr New Cumberland, WV 26047	Lee Torres	FEMA R3
Hancock County School District 130 Rockefeller Circle New Cumberland, WV 26047	Taylor Griffiths	FEMA R3
Reception Center Monitoring/Decontamination Center Weir High School Complex 100 Red Rider Road Weirton, WV 26062	Lee Torres-Mentor Taylor Griffiths Rahuel Preciado	FEMA R3 FEMA R3 FEMA R3
Mass Care Center Weir High School Complex 100 Red Rider Road Weirton, WV 26062	Kathy Duran Tina Thomas	FEMA R3 FEMA R3

OUT OF SEQUENCE DEMONSTRATION April 21, 2022		
EVALUATION SITE	**EVALUATOR**	**AGENCY**
West Virginia Access/Traffic Control Chester Police Department 600 Indiana Ave # 1, Chester, WV 26034	Joe Suders Zach Corle	FEMA R3 FEMA R3
Emergency Worker Decontamination Center New Cumberland Fire Department 301 N Chester Street New Cumberland, WV 26047	Dan Rose-Mentor Alex Hazard Rahuel Preciado	FEMA R3 FEMA R3 FEMA R3

APPENDIX C: ACRONYMS AND ABBREVIATIONS

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

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

VHF	Very High Frequency
WEA	Wireless Emergency Alerts
WVDEM	West Virginia Department of Emergency Management

APPENDIX D: EXTENT-OF-PLAY AGREEMENT

The 2022 Beaver Valley Power Station Plume Exercise Extent-of-Play (EOP) Agreement is a document created by the State of West Virginia Department of Emergency Management that sets the parameters for exercise demonstration. The EOP agreement was signed by the FEMA Region 3, State of West Virginia Emergency Management Division planning team members.

2022 Beaver Valley Plume Exercise

By signing this Extent of Play Agreement, the State of West Virginia 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 capability target as agreed upon for the June 7, 2022, Beaver Valley Plume Exercise.

TINA L THOMAS Digitally signed by TINA L THOMAS
Date: 2022.06.24 12:38:47 -04'00'

FEMA Site Specialist Date

Jason Lively 5-24-22

Lead State Planner Date

JOSEPH A SUDERS Digitally signed by JOSEPH A SUDERS
Date: 2022.06.02 12:12:17 -04'00'

FEMA Team Leader Date

Exercise Plan/Extent of Play

WEST VIRGINIA/ FEMA EVALUATED REP EXERCISE

EXERCISE DATE: JUNE 7, 2022

FEMA

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Table of Contents

PREFACE

HANDLING INSTRUCTIONS

CHAPTER 1: GENERAL INFORMATION
- **Introduction**
- **Confidentiality**
- **Purpose**
- **Capability Targets**
- **Exercise Objectives**
- **Outstanding Issues**

CHAPTER 2: EXERCISE LOGISTICS
- **Exercise Summary**
  - General
  - Assumptions
  - Constructs and Constraints
  - Exercise Participants
- **Exercise Tools**
  - Controller Handbook
  - Extent of Play Agreement
  - Master Scenario Events List
- **Exercise Implementation**
  - Exercise Play
  - Exercise Rules
- **Safety Requirements**
  - General
  - Exercise Setup
  - Accident Reporting and Real Emergencies
- **Site Access**
  - Observer Coordination
  - Directions
  - Exercise Identification
- **Communications Plan**
  - Exercise Start, Suspension, and Termination Instructions
  - Player Communication
  - Player Briefing
  - Public Affairs

CHAPTER 3: PLAYER GUIDELINES
- **Exercise Staff**
  - Exercise Director
  - Lead Controller

Controllers .....
Lead Evaluator .....
Evaluators .....
Player Instructions .....
Before the Exercise .....
During the Exercise .....
Following the Exercise .....
Simulation Guidelines .....

CHAPTER 4: EVALUATION AND POST-EXERCISE ACTIVITIES .....
Exercise Documentation .....
Exercise Evaluation Guides .....
Players Critique .....
Participants Briefing and Public Meeting .....
Controller and Evaluator Debriefing .....
After Action Report .....
After Action Conference .....
Improvement Plan .....

APPENDIX A: EXERCISE SCHEDULE .....

APPENDIX B: METHOD OF OPERATION AND EXTENT OF PLAY .....

APPENDIX C: PARTICIPATING AGENCIES AND SITE MAPS .....

APPENDIX D: ADDRESSES/DIRECTIONS .....

APPENDIX E: OPEN ISSUES .....

APPENDIX F: LIST OF ACRONYMS .....

Preface

The 2022 Hancock/WV Plume Evaluated Full Scale Exercise (FSE) is sponsored by the State of WV Emergency Management Division and the Hancock County, WV Homeland Security and Emergency Management. This Exercise Plan (ExPlan) was produced with input, advice, and assistance from the Exercise Planning Team (EPT), which followed the guidance set forth in the Federal Emergency Management Agency (FEMA), Homeland Security Exercise and Evaluation Program (HSEEP).

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

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

The 2022 Hancock/WV Plume Evaluated Exercise is an *unclassified exercise*. The control of information is based more on public sensitivity regarding the nature of the exercise than on the actual exercise content. Some exercise material is intended for the exclusive use of exercise planners, Controllers, and Evaluators, but Players may view other materials deemed necessary to their performance. The ExPlan may be viewed by all exercise participants, however if developing a Controller and Evaluator (C/E) Handbook it should be treated as a restricted document intended for Controllers and Evaluators only to prevent compromise to exercise activities.

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

Handling Instructions

1. The title of this document is 2022 Hancock/WV Plume Evaluated Exercise Plan (ExPlan).

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

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

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

Federal POC(s):

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One Independence Mall
Philadelphia, PA 19106
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State POC(s):

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Acting REP Program Manager
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jason.k.lively@wv.gov

ORO POC(s):

Patrick Arneault
WV REP County Coordinator
82 Emergency Dr., New Cumberland, WV 26047
(304)993-9707
patrick.j.arneault@wv.gov

Chapter 1: General Information

Introduction

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

This Exercise Plan (ExPlan) was produced at the direction of the State of WV with the input, advice, and assistance of the EPT. The 2022 Hancock/WV Plume Evaluated Exercise is evidence of the growing partnership between State and local jurisdictions for response to the threats our Nation and communities.

Confidentiality

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

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

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

Purpose

The purpose of this exercise is to evaluate player actions against current response plans and capabilities for a nuclear power plant-related incident, and to comply with the requirements of 44 CFR 350 and the planning standards of NUREG-0654/FEMA-REP-1, Rev. 2. Exercise planners

utilized the elements described in the Radiological Emergency Preparedness (REP) Program Manual (December 2019) to develop this exercise.

The objective of WV EMD, WV DHHR, WV DEP, and Hancock County HSEM is to demonstrate reasonable assurance that the public can be protected during a nuclear power plant emergency.

Capability Targets

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

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

- Capability Target 1.1: Mobilization
- Capability Target 1.2: Direction and Control
- Capability Target 1.3: Protective Action Recommendations
- Capability Target 1.4: Protective Action Decisions for the Plume Phase
- Capability Target 1.5: Protective Action Decision Implementation for the Plume Phase
- Capability Target 1.6: Protective Acton Decisions for the Post-Plume Phase
- Capability Target 1.7: Protective Action Decision Implementation for the Post-Plume Phase
- Capability Target 2.1: Emergency Worker Exposure Control Decision-Making Process
- Capability Target 2:2: Emergency Worker Exposure Control Management
- Capability Target 3.1: Communications
- Capability Target 3.2: Alert and Notification of the Public
- Capability Target 3.3: Emergency Information and Instructions for the Public and News Media
- Capability Target 4.1: Field Monitoring Teams Management
- Capability Target 4.2: Plume Phase Measurements and Sampling
- Capability Target 4.3: Post-Plume Phase Measurements and Sampling

- Capability Target 4.4: Laboratory Operations
- Capability Target 4.5: Plume Phase Analysis and Dose Assessment
- Capability Target 4.6: Post-Plume Phase Sampling Plan Development and Analysis
- Capability Target 5.1: Monitoring, Decontamination, Sheltering, and Registration of Evacuees
- Capability Target 5.2: Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles
- Capability Target 5.3: Transportation and Treatment of Contaminated, Injured Individuals

Exercise Objectives

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

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

Outstanding Issues

There are no Level 1, Level 2, or Planning Issues as a result of the FEMA-evaluated plume-phase exercise at Hancock County or WV SEOC in 2020/2021.

See Appendix E for additional details on these outstanding issues, if applicable.

Chapter 2: Exercise Logistics

Exercise Summary

General

The 2022 Hancock/WV Plume Evaluated Exercise is designed to establish a learning environment for players to exercise their plans and procedures for responding to an incident at a Nuclear Power Plant. The 2022 Hancock/WV Plume Evaluated Exercise will be conducted on June 7, 2022. Exercise play is scheduled for five hours or until the WV EMD determines that the exercise objectives have been met at each venue.

Assumptions

Assumptions constitute the implied factual foundation for the exercise and, hence, are assumed to be present before the start of the exercise. The following general assumptions apply to the 2022 Hancock/WV Plume Evaluated Exercise:

- The exercise will be graded against the REP Objectives and Capability Targets. Elements outside the scope of the REP criteria will not be graded.
- Exercise simulation will be realistic and plausible, containing sufficient detail from which to respond.
- Exercise players will react to the information and situations as they are presented, in the same manner as if this had been a real event.

Constructs and Constraints

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

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

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

Exercise Participants

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

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

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

Exercise Tools

Controller Handbook

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

Extent-of-Play Agreement (EOPA)

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

Master Scenario Events List

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

Exercise Implementation

Exercise Play

Exercise play will begin at approximately 1600 with a situation update going to each participating venue. Play will proceed according to the events outlined in the MSEL, in accordance with established plans and procedures. The exercise will conclude upon the completion of operations and attainment of the exercise objectives, as determined by the FEMA, BVPS, and WV EMD.

Exercise Rules

The following are the general rules that govern exercise play:

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

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

Safety Requirements

General

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

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

Exercise Setup

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

Accident Reporting and Real Emergencies

- Anyone observing a participant who is seriously ill or injured will first advise the nearest controller, then if possible, render aid, provided the aid does not exceed his or her training.

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

Site Access

Observer Coordination

Each organization with observers will coordinate with the Hancock County HSEM and WV EMD for access to the respective exercise site. Observers will be escorted to an observation area for orientation and conduct of the exercise. All observers will be asked to remain within the designated observation area during the exercise. Hancock County HSEM, WV EMD and/or the Observer Controller will be present to explain the exercise program and answer questions for the observers during the exercise.

Directions

Directions/addresses to each venue area are available in Appendix D.

Exercise Identification

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

Communications Plan

Exercise Start, Suspension, and Termination Instructions

The exercise is scheduled to run for 5 hours or until the Federal Emergency Management Agency determines that the exercise objectives have been met. The WV EMD Lead Controller will announce the exercise suspension or termination through the voice, phone, or email.

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

Player Communication

Players will use routine, in-place agency communication systems. Additional communication assets may be made available as the exercise progresses. The need to maintain capability for a real-world response may preclude the use of certain communication channels or systems that would usually be available for an actual emergency incident. In no instance will exercise communication interfere with real-world emergency communications. Each venue will coordinate its own internal communication networks and channels.

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

Player Briefing

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

Public Affairs

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

Any information released to the public prior to the exercise will be coordinated between BVPS, WV EMD, and Hancock County HSEM.

Chapter 3: Player Guidelines

Exercise Staff

Exercise Director

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

Lead Controller

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

Controllers

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

Lead Evaluator

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

Evaluators

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

Player Instructions

Before the Exercise

- Review the appropriate emergency plans, procedures, and exercise support documents.
- Be at the appropriate site at least 30 minutes before the start of the exercise if prestaging is approved. Wear appropriate uniform/identification badge.
- If you gain knowledge of the scenario before the exercise, notify a controller so that appropriate actions can be taken to ensure a valid evaluation.
- Read your Player Information Handout, which includes information on exercise safety.
- Please sign in.

During the Exercise

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

Following the Exercise

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

Simulation Guidelines

Because the 2022 Hancock/WV Plume Evaluated Exercise is of limited duration and scope, the physical description of what would fully occur at the incident sites and surrounding areas will be relayed to the Players by Simulators or Controllers.

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

Chapter 4: Evaluation and Post-Exercise Activities

Exercise Documentation

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

Exercise Evaluation Guides

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

Players Critique

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

Participants Briefing and Public Meeting

44 CFR 350.9 requires a post-exercise participant briefing and public meeting. A participant's briefing will be conducted after the biennial exercise as an opportunity to present OROs with initial exercise results. The public meeting is an opportunity to discuss the evaluation of the REP exercise with the public. The RAC Chair may combine the participant briefing with the public meeting at his or her discretion. The participant's briefing will be conducted on June 10, 2022, at 9:00am. The Public Meeting will be conducted on June 10, 2022, at 10:00am.

Controller and Evaluator Debriefing

Controllers, Evaluators, and selected exercise participants will attend a facilitated Controller and Evaluator Debriefing on June 7, 2022. During the debriefing these individuals will discuss their

observations of the exercise in an open environment to clarify actions taken during the exercise. Evaluators will only brief preliminary findings based on their observations.

After Action Report

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

After Action Conference

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

Improvement Plan

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

The 2022 Hancock/WV Plume Evaluated Exercise participating agency officials will discuss the Improvement Plan during the AAC scheduled for TBD.

Appendix A: Exercise Schedule

Table A.1 *2022 Hancock/WV Plume Evaluated Exercise Schedule*

Time (Tentative)	Personnel	Activity
June 7, 2022		
1600	County EOC Personnel	EOC Operations
1600	State EOC Personnel	EOC Operations

Table A.2 *2022 Hancock/WV Plume Evaluated Exercise Out of Sequence Schedule*

Time (Tentative)	Personnel	Activity
April 20, 2022		
0900	Oak Glen HS Staff, Hancock County Schools Transportation Staff	Schools and Transportation
0900	Hancock County School Administration Office	Schools
1800	Brooke County EMA, Weirton FD, Colliers VFD, McKinleyville VFD, Hancock County HSEM	Mass Care/ Receptions Center
April 21, 2022		
1500	Chester PD, Hancock County HSEM	Traffic Access and Control
1800	New Cumberland VFD, New Manchester VFD, Oakland VFD, Newell VFD	Emergency Worker Decon
June 7, 2022		
1300	WV DHHR, WV DEP	FMT Operations

APPENDIX D: Extent-of-Play

OBJECTIVE 1 – Emergency Operations Management

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

Demonstration and Evaluation Guidance:

- Alert, notify, and mobilize key personnel, to include a 24-hour staffing roster, and activate facilities in a timely manner.
- Receive and verify notifications.
- Identify and request additional resources, as needed.
- Determine a facility operational.

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

State Negotiated Extent of Play:
• Demonstrate the capability to receive and verify notification of an emergency situation from the licensee. Contact, alert, and simulate mobilization of key emergency personnel. (WV EOC will simulate notification/activation of the key state agencies deemed necessary, but not physically represented in the EOC during the exercise.) • Demonstrate the activation of facilities for immediate use by personnel in attendance for the exercise when they arrive. • Activation procedures (simulated or actual) will not start until an Alert is declared. • Simulation of activation of facilities will be completed in accordance with the plan and/or procedures. • Personnel will be pre-positioned. This pre-positioning will be for all locations, to include EOC, field locations and any out-of–sequence demonstrations. • The state EOC may be staffed both physically with key decision makers and staff as well as virtually with the remaining stakeholders to maintain continued COVID-19 protective actions. • EOC Twenty-four (24) Hour Staffing will be demonstrated by roster.
Risk Jurisdictions Negotiated Extent of Play:
• Demonstrate the capability to receive and verify notification of an emergency situation from the licensee. Contact, alert, and mobilize key emergency personnel in a timely manner (simulated).

• Demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations. • Activation of facilities should be completed in accordance with the plans and procedures. • Activation of facilities will not start until an Alert is declared. • Personnel will be pre-positioned. This pre-positioning will be for all locations, to include EOC, field locations and any out-of–sequence demonstrations. The Hancock County EOC may be staffed both physically with key decision makers and staff as well as virtually with the remaining stakeholders to maintain continued COVID-19 protective actions. • EOC Twenty-four (24) Hour Staffing will be demonstrated by roster.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

- Support protective action decision-making.
- Conduct briefings in a timely manner.
- Maintain situational awareness.
- Coordinate response activities with other organizations.
- Obtain resources to support emergency operations.
- Provide and maintain adequate facilities and equipment to support the emergency response.

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

State Negotiated Extent of Play:
Designated EOC personnel should demonstrate the ability to carry out essential functions of the response effort, for example: keeping the staff informed through periodic briefings and/or other means, coordinating with other appropriate response organizations, and ensuring completion of requirements and requests.
Risk Jurisdictions Negotiated Extent of Play:
Leadership personnel should demonstrate the ability to carry out essential functions of the response effort, for example: keeping the staff informed through periodic briefings and/or

other means, coordinating with other appropriate response organizations, and ensuring completion of requirements and requests.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

Plume

- Select and implement pre-planned precautionary protective actions.
- Utilize the methodology in plans/procedures to select among a range of protective actions most appropriate in a given emergency. This could also include the use of preplanned precautionary protective actions contained in plans/procedures.
- Develop PARs.
- Transmit PARs in a timely manner.

Post Plume

- Assess radiological consequences and provide appropriate PARs for the ingestion exposure pathway.

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

State Negotiated Extent of Play:
Protective Action Recommendations will be developed in accordance with Plans and/or Procedures. • If the scenario does not involve a release, this can be demonstrated by interview. • If adequate data becomes available, accident assessment will be performed, and PARs developed.
Risk Jurisdictions Negotiated Extent of Play:
N/A
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:

None

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

Demonstration and Evaluation Guidance:

- Coordinate and make PADs for members of the general public.
- Coordinate and make PADs for those with access and functional needs.
- Coordinate and make PADs for students at schools.
- Coordinate and make subsequent or alternate PADs.
- Coordinate and make decisions on the administration of KI (where applicable) for the public and institutionalized members of the population.

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

State Negotiated Extent of Play:
• The State will demonstrate capability to make both initial and subsequent PARs. However, based on the recommendation by the State, the final decision will be made by county administration
Risk Jurisdictions Negotiated Extent of Play:
• Demonstrate the ability to make initial PADs in a timely manner. • The dose assessment personnel may provide additional PARs based on the subsequent dose projections, field monitoring data, or information on plant conditions. The decision-makers should demonstrate the capability to change protective actions as appropriate based on these projections, if appropriate. • The PAD should be coordinated between the 3 States and risk counties. A coordinated PAD does not necessarily mean the same PAD. • The PAD will be coordinated between the State of West Virginia and Hancock County. • At least one PAD / PAR will be demonstrated. • In West Virginia, KI is pre-distributed to the General Public. • If the scenario does not involve a release this can be demonstrated through an interview. • Schools will be demonstrated out of sequence on April 20, 2022. • Access and functional needs populations will be demonstrated through interviews with appropriate EOC staff.
Support Jurisdictions Negotiated Extent of Play:
N/A

Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

- Implement PADs, ensuring communication and coordination with all appropriate jurisdictions.
- Assist those with access and functional needs during the implementation of PADs.
- Communicate, coordinate, and implement protective actions for schools.
- Communicate with transportation officials.
- Identify evacuation routes for the general public.
- Make KI available to both institutionalized persons and the general public, in accordance with plans and 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.

State Negotiated Extent of Play:
• The State should demonstrate the capability to formulate and disseminate appropriate instructions on the use of KI for those advised to take it. • A decision not to take KI is an acceptable decision.
Risk Jurisdictions Negotiated Extent of Play:
• KI and appropriate instructions are available if a recommendation to administer the use of KI is made. Appropriate record-keeping of the administration of KI for institutionalized individuals is maintained. • In West Virginia, KI is pre-distributed to the General Public. • Demonstrate the capability to alert and notify access and functional populations (hospitals, nursing homes, prisons, mobility-impaired individuals, transportation dependent, etc.). • Demonstrate the capability to provide for the needs of access and functional populations in accordance with plans and procedures. • Contact with access and functional populations and reception facilities will be simulated. • Telephone calls will not be made

• One transportation provider will be contacted; all other calls will be simulated.
• All simulated contacts should be logged.
• Backup Route Alerting will not be conducted or evaluated.
• Notification of access and functional needs people will be simulated by EOC staff.
• Notification of access and functional needs populations will be procedurally explained.
• The list identifying access and functional needs population will be available to evaluators but may not leave the EOC. Due to the nature of protected personnel information the list will be a scrubbed list.
• Demonstrate the capability to alert and notify the Hancock County School District of emergency conditions that are expected to or may necessitate protective actions for students.
• Contact with the public-school district will be demonstrated during the out-of-sequence school play.
• The Hancock County OEM and/or officials of the Hancock County School District will demonstrate the capability to make prompt decisions on protective actions for students.
• School Officials will demonstrate the decision-making process for protective actions.
• Oak Glen High School will participate out-of–Sequence on April 20, 2022, at 0900-1100 hours.
• Transportation of school children, if necessary, will be simulated.
• One Bus Driver will be available, at the participating school, for an interview.
• The bus will not run the route to the Host School but will explain the procedure.
• The implementation of canceling the school day, dismissing early, or sheltering will be simulated by describing to evaluators the procedures that would be followed. If evacuation is the implemented protective action, all activities to coordinate and complete the evacuation of students to the host school will be accomplished through an interview process.
• Communications will be verified by the Bus Driver by interview.
• Officials of the school will demonstrate the capability to develop and provide timely information to the HCEOC for use in messages to parents, the public, and the media on the status of protective actions for schools.

Support Jurisdictions Negotiated Extent of Play:

N/A

Outstanding Issues:

None

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

Demonstration and Evaluation Guidance:

- Make post-plume phase decisions in a timely manner.
- Make relocation decisions for the post-plume phase in a timely manner.
- Make reentry decisions for the post-plume phase in a timely manner.
- Make return decisions for the post-plume phase in a timely manner.
- Make re-occupancy decisions for the post-plume phase in a timely manner.
- Coordinate PADs as appropriate.

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

State Negotiated Extent of Play:
Risk Jurisdictions Negotiated Extent of Play:
Support Jurisdictions Negotiated Extent of Play:
Outstanding Issues:

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

Demonstration and Evaluation Guidance:

- Communicate and implement protective actions for agribusinesses, such as dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points.
- Formulate protective action information (e.g., brochures, email, text message, etc.) for the general public and food producers and processors.
- Control, restrict, or prevent distribution of contaminated food by commercial sectors, ensuring communication and coordination with agencies responsible for enforcing food controls.
- Communicate instructions to the public regarding relocation decisions and intermediate-term housing for relocated persons.
- Coordinate and implement decisions concerning relocation, including short- and/or long-term relocation of evacuees.

- Control reentry and exit of individuals who are authorized by the ORO to temporarily reenter the restricted area.
- Implement policies concerning return of members of the public to areas that were evacuated during the plume phase.

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

State Negotiated Extent of Play:
Risk Jurisdictions Negotiated Extent of Play:
Support Jurisdictions Negotiated Extent of Play:
Outstanding Issues:

OBJECTIVE 2 - Exposure Control

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

Demonstration and Evaluation Guidance:

- Control emergency workers' exposure and dose, including offsite workers performing duties onsite.
- Maintain record of dose as a result of exposure.
- Authorize exposures and dose in excess of identified limits.
- Process for considering occupational exposures and to authorize individuals to receive doses in excess of occupational dose limits.
- Determine a correction factor for DRD-based isotopic release mixture.
- Control exposure and dose for temporary reentry of emergency workers, or members of the public, to restricted areas.
- Determine the need to authorize radioprotective drugs using projected thyroid doses and field measurements. Projections are compared to previously established PAGs.
- Adequately protect members of the public from radiological exposure and control dose for those who are authorized to temporarily reenter a restricted area.

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

State Negotiated Extent of Play:
• As appropriate, demonstrate the capability to make decisions on the administration of KI as a protective measure for emergency workers. This may be demonstrated by interview. • The decision for KI can be "not to administer" KI. •The State EOC is outside of the 10-mile and 50-mile EPZ so issuing of personal dosimetry and a radiological briefing is not necessary.
Risk Jurisdictions Negotiated Extent of Play:
• Demonstrate the capability to make decisions concerning the authorization of exposure levels in excess of pre-authorized levels and to the number of emergency workers receiving radiation dose above pre-authorized levels. This will be done by interview. • The decision-making process for KI can be demonstrated through interviews.

•The County EOC is outside of the 10-mile EPZ so issuing of personal dosimetry and a radiological briefing is not necessary.
Support Jurisdictions Negotiated Extent of Play:
None
Outstanding Issues:
N/A

Capability Target 2.2: Emergency Worker Exposure Control Management *(VICE Sub-Element 3.a.1)*
Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: Biennially
Recommended Assessment Activities: Exercise; Drill
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (C.2.c, H.11, H.11.b, K.2.b, K.3, K.3.a, M.1.b, and O.1)
Intent: The capability of emergency workers to manage dose and exposure, use equipment (e.g., dosimetry, radio protective drugs), and identify procedures to monitor their exposure and dose, including following procedures to obtain authorization to receive emergency exposures in excess of the PAGs.

Demonstration and Evaluation Guidance:

- Maintain an appropriate inventory of DRDs that are leak-tested or current in calibration.
- Maintain an appropriate inventory of PRDs.
- Retain an adequate supply of radioprotective drugs.
- Adequately distribute appropriate DRDs and PRDs.
- Adequately distribute radioprotective drugs to emergency workers.
- Record and report exposures in the field.
- Implement decisions to administer radioprotective drugs.
- Report to individual responsible for managing exposure and dose when limits are reached.
- Implement exposure control decisions to members of the public from radiological exposure and control dose for those who are authorized to temporarily reenter a restricted area.

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

State Negotiated Extent of Play:
N/A
Risk Jurisdictions Negotiated Extent of Play:
• Emergency Workers who are assigned dosimetry will demonstrate the procedures to monitor and record dosimetry readings. The workers may be interviewed by the evaluator to determine their knowledge of radiological exposure control, radiation exposure limits, turnback values and whom to contact in the event authorization is needed to exceed their limits.

• OROs should demonstrate the actions described in the plan and/or procedures by determining whether to replace the worker, to authorize the worker to incur additional exposures or to take other actions. If scenario events do not require emergency workers to seek authorizations for additional exposure, evaluators should interview at least two emergency workers, to determine their knowledge of whom to contact in the event authorization is needed.
• Emergency workers may use any available resources (e.g., written procedures and/or co-workers) in providing responses.
• Dosimetry "Training Kits with simulated TLD's" will be available at the field locations to demonstrate the use of dosimetry. Area monitoring kits may be utilized.
• The supply of DRDs, TLD's and KI will be available in the Hancock County EOC and reviewed during the EOC evaluation on June 7, 2022.
• If the scenario does not involve a release, this can be done by interview.
• Demonstrate through interview with County Director (or designee) how KI would be distributed to EPZ Emergency Worker

Support Jurisdictions Negotiated Extent of Play:

N/A

Outstanding Issues:

None

OBJECTIVE 3 - Alert and Notification

Capability Target 3.1: Communications *(Vice Sub-Element: 1.d.1)*
Core Capabilities: Operational Communications; Operational Coordination; Situational Awareness; Planning
Recommended Evaluation Frequencies: At every assessment activity
Recommended Assessment Activities: Exercise; Communication Drill (N.4.e)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (E.1.a, E.3, F.1, F.1.a, F.1.b, F.1.c, F.3, and O.1)
Intent: The capability to provide and maintain reliable communications with emergency personnel.

Demonstration and Evaluation Guidance:

- Utilize communication systems that are fully functional, continuously available, and redundant.
- Maintain periodic test results and corrective actions on a real time basis.
- Access at least one communication system that is independent of the commercial telephone system.
- Manage the communication systems and ensure that all message traffic is handled without delays that might disrupt emergency operations.
- Identify and address any failures of the systems.
- Transmit, receive, and understand messages (i.e., "content check").

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

State Negotiated Extent of Play:
• Telephone communications will be available for demonstration. At least one other communication system utilized by the EOC staff will be explained. • If a communications system is not functional, and exercise performance is not affected, no exercise issue will be assessed. • Demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt the conduct of emergency operations.
Risk Jurisdictions Negotiated Extent of Play:
• Telephone and at least one additional communications system will be available for demonstration. • If a communications system is not functional, and exercise performance is not affected, no exercise issue will be assessed. • Demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt the conduct of emergency operations. • Out-of-sequence demonstrations will have communications available but not necessarily demonstrate them.

• Communications associated with medical support facilities were demonstrated during the March 2021 MS-1 Federal Evaluated Exercise.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

Alert and Notification System

- Sequentially provide an alert signal followed by an initial instructional message to populated areas.
- Alert and notify the general public.
- Identify and address any failures of the system(s) or portion of a system(s).
- Actual testing of the mobile public address system will be conducted at an agreed upon location.

EAS

- Identify the process to activate the EAS.
- Ensure that updated emergency information is disseminated in a timely manner.
- Ensure that current emergency information is repeated at pre-established intervals.
- Identify the process to activate the EAS, to include the process to receive and then broadcast updated information/ messages and verification of the message, if applicable.
- EAS/NWS Station.
- Broadcast the message on a 24-hour basis.

Route/Alternate Alerting

- Complete route alerting, whether because of failure for system/portion of a system or for exception areas, as needed to demonstrate all routes are capable of being run in allotted time. Emphasis on the most challenging routes and demonstration of these routes will be varied from assessment activity to assessment activity. Challenging routes are defined as those that may be difficult to accomplish, such as those that are lengthy or with conditions (physical or otherwise) that may affect the speed and accuracy with which the route can be completed (e.g., traffic patterns and/or capacity, road conditions, etc.).

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

State Negotiated Extent of Play:
N/A
Risk Jurisdictions Negotiated Extent of Play:
• The County will demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume pathway EPZ. Following the decision to activate the alert and notification system, in accordance with the County plan and/or procedures, completion of system activation should be accomplished in a timely manner (will not be subject to specific time requirements) for primary alerting/notification. The initial message should include the elements required by current FEMA REP guidance. • Siren activation will be explained. Sirens will not be sounded. • Procedures to broadcast the message should be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test messages will not be demonstrated. The alert signal activation will be simulated. The procedures will be demonstrated up to the point of actual activation. • In Hancock County, the EAS Station will not be activated. EAS activation will be explained according to plans and procedures. • The capability of the primary notification system to broadcast an instructional message on a 24-hour basis should be verified during an interview with the HCOEM Director or designee. Hancock County participates annually in late August/early September in a "live activation" of sirens and WEA notifications via IPAWS with confirmation through the PBS alerting page. • Route Alerting is a tertiary system and will not be demonstrated or evaluated. • Backup/alternate alerting will be demonstrated by using an electronic mass notification system to send an alert message to a predetermined list of FEMA evaluators and a test message to the IPAWS test lab.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

Plume Phase

- Deliver coordinated, prompt, reliable, and actionable information in a timely manner.

- Provide clear, concise, accessible messaging using plain language.
- Messaging addresses appropriate cultural and linguistic considerations.
- Ensure subsequent messaging is consistent with protective actions.
- Update information as the incident progresses, to include validating previously identified protective areas and clearly identifying any new protective action areas, any information that is no longer valid, and any changes to previously provided information (e.g., rerouting of evacuation routes due to impediments, etc.).
- Respond to media and public inquiries.

Post-Plume Phase

- Rapidly disseminate of ingestion exposure pathway information to predetermined individuals and businesses.
- Provide information to the public that addresses temporary reentry to a restricted area, permanent relocation from areas not evacuated, and return to formerly restricted areas will be communicated.

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

State Negotiated Extent of Play:
• The State will ensure that emergency information and instructions are consistent with protective action decisions made by appropriate officials. The State should be prepared to disclose and explain the Emergency Classification Level (ECL) of the incident. • Public inquiries will be demonstrated at the EOC. • Trends in rumors will be identified, if applicable. • Subsequent emergency information and instructions from the WV State EOC and/or Hancock County EOC will be provided to the public and the media through the Joint Public Information Center. • One News Briefing will be conducted at the EOC. It can happen any time after the Alert Declaration. Media will be simulated.
Risk Jurisdictions Negotiated Extent of Play:
• The County will ensure that emergency information and instructions are consistent with protective action decisions made by appropriate officials. The County should be prepared to disclose and explain the Emergency Classification Level (ECL) of the incident. • Public inquiries will be demonstrated at the EOC. • Trends in rumors will be identified, if applicable. • Subsequent emergency information and instructions will be provided to the public and the media through the Joint Public Information Center. • News briefs are conducted for the county by the State of WV at the BVPS JPIC.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

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

Demonstration and Evaluation Guidance:

- Brief FMTs on predicted plume location and direction, plume travel speed, equipment operational checks, background measurement, and exposure control procedures before deployment.
- Direct the FMTs to monitoring locations, predesignated points or otherwise, at times and locations sufficient to characterize the plume.
- Obtain peak plume measurements from FMTs.
- Direct FMTs to collect air samples at locations and times sufficient to characterize the plume.
- Keep Incident Command informed of FMTs activities and location(s) during a HAB incident or other instances when an ICP or other may be in use.
- Coordinate and share information amongst all FMTs (licensee, Federal, state, and local).
- Coordinate sample analysis from field to those responsible for assessing radiological data.
- Coordinate transfer of sample media to locations and organizations responsible for assessing radiological data.
- Assist with development and modification of sampling plans, as appropriate.

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

State Negotiated Extent of Play:
• Field teams should be equipped with instrumentation and supplies necessary to accomplish their mission as identified in the plan and/or procedures. • Two Field Teams will be utilized. • Field Team Equipment will be demonstrated at the first sample location. • Equipment use will be simulated at all other locations. • In-route readings will be taken. Field data will be provided to the field team through controller injects. • The Field Team will be demonstrated Out-of-Sequence at 1300 hours on June 7, 2022, at the State EOC in Dunbar, WV.

• The Field Team will demonstrate at the Dunbar location. The Field teams will discuss Hancock County location specific information such as where to find the FMT points and how they would get there during the demonstration at Dunbar. • Responsible Offsite Response Organizations (ORO) will demonstrate the capability to brief teams on predicted plume location and direction, travel speed, and exposure control procedures before deployment. • A controller will provide Field team readings.
Risk Jurisdictions Negotiated Extent of Play:
N/A
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

- Maintain emergency equipment including calibration and operational checks according to manufacturer's specifications or per national standards.
- Maintain inventory for emergency kits.
- Operate and monitor radiation survey instruments to detect changes in radiation exposure rate while moving and in stationary positions.
- Use appropriate contamination control and PPE.
- Be in location(s) at the appropriate time(s) to detect and characterize the active release (plume).
- Obtain peak plume measurements either directly or from licensee field teams.
- Correctly interpret survey instrument readings to determine submersion in the active plume.
- Collect representative air samples in the active plume on particulate media (e.g., glass or paper filter) and iodine selective media (e.g., silver zeolite cartridge).
- Handle sample media and equipment to avoid sample cross-contamination, contamination of equipment and personnel contamination.
- Determine an appropriate low background location to count sample media.
- Count iodine and particulate media using appropriate and effective instrumentation and counting geometries or have samples analyzed by a supporting laboratory within four hours.
- Report to field monitoring team manager all survey and counting results in format and units suitable for use by the organization's dose assessor.

- Procedures, qualified collection and counting efficiencies, and calculations are capable of detecting airborne radioactive iodine concentrations as low as 10-7 μCi/cc.

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

State Negotiated Extent of Play:
• Field teams should demonstrate the capability to report measurements and field data pertaining to the measurement of airborne radioiodine and particulates and ambient radiation to the field team coordinator. • Field data should be shared with Ohio and Pennsylvania in a timely manner - simulated. • The request for Federal resources will be simulated by the WVEOC. • A controller will provide Field Team readings.
Risk Jurisdictions Negotiated Extent of Play:
N/A
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

Capability Target 4.3: Post-Plume Phase Measurements and Sampling *(Vice Sub-Element: 4.b.1)*
Core Capabilities: Environmental Response/Health and Safety; Planning
Recommended Evaluation Frequencies: At least once every 8-years
Recommended Assessment Activities: Exercise; Environmental Monitoring Drill (N.4.d)
Planning Reference: NUREG-0654/FEMA-REP-1, Rev. 2 (H.11, H.11.a, H.11.b, H.12, H.13, I.2, I.5, I.6, I.8, M.7, and O.1)
Intent: The capability to report measurements of ambient radiation and collect environmental, food, and drinking water samples for laboratory analyses that support decision-making.

Demonstration and Evaluation Guidance:

- Maintain and prepare instruments, equipment, and supplies for use, including performing pre-operational checks of radiation survey instruments.
- Use appropriate contamination control and PPE.
- Execute the sampling plan.
- Collect each type of sample necessary to assess the ingestion exposure pathway and to support reentry, relocation, and return decisions. The types of samples necessary are based on the exercise scenario and may include drinking water, soil, vegetation, milk, crops, or other agriculture samples.
- Obtain and record ambient radiation measurements at each sample location and at other locations, as directed.
- Handle sample media to avoid sample cross-contamination and equipment/personnel contamination.

- Prepare and package samples appropriately (e.g., geometries specific to those used in the processing samples, including sample identification, and chain-of-custody forms) to ensure the integrity of samples throughout transportation and transfer.

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

State Negotiated Extent of Play:
Risk Jurisdictions Negotiated Extent of Play:
Support Jurisdictions Negotiated Extent of Play:
Outstanding Issues:

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

Demonstration and Evaluation Guidance:

- Prepare analytical equipment for use, including performing calibrations, quality control checks, and background counts, as appropriate.
- Receive and track samples, including completing chain-of-custody records.
- Prepare and process each type of sample necessary to assess the ingestion plume exposure pathway and to support reentry, relocation, and return decisions. The types of samples necessary are based on the exercise scenario and may include drinking water, soil, vegetation, milk, crops, or other agriculture samples.
- Analyze samples to determine the concentration of each radionuclide in each sample. Minimum detection limits (MDLs) for various radionuclides must be low enough to support ORO decisions.
- Provide analysis results to the appropriate organization.
- If the laboratory is used to count air samples during the early phase of an incident and prepare, process, and analyze air filters and cartridges, provide analysis results in a timely manner to support ORO decisions.

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

State Negotiated Extent of Play:
• The State of WV does not have a lab and utilizes an MOU with the State of Ohio.
Risk Jurisdictions Negotiated Extent of Play:
N/A
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

- Obtain adequate data to make dose projections.
- Use software and/or other methods (e.g., manual calculations) to make dose projections for members of the public (both TED and thyroid dose) based on plant data.
- Compare dose projections to members of the public to EPA PAGs.
- Compare dose projections to the public with those of the licensee and discuss differences greater than a factor of ten with the licensee and explain reasons for the difference.
- Make initial PARs based on recommendations of the licensee, release data, meteorological data, and other pertinent information.
- Promptly communicate PARs to decision-makers.
- Receive ambient exposure rates from FMTs and compare to model projections.
- Calculate iodine and particulate concentrations from FMT air samples.
- Calculate plume ratios of noble gas, iodine's, and particulates, and compare to model projections.
- Adjust PARs, as necessary, based on analysis of field data.
- Calculate an incident-specific correction factor for emergency workers inside the plume exposure pathway EPZ.

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

State Negotiated Extent of Play:
• Protective Action Recommendations will be developed in accordance with Plans and/or Procedures. • If the scenario does not involve a release, this can be demonstrated by interview.

• If adequate data becomes available, accident assessment will be performed, and PARs developed. • Field monitoring team data can be provided via controller inject or through electronic means such as plotted on a map or website (ex. RadResponder).
Risk Jurisdictions Negotiated Extent of Play:
N/A
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

- Periodically conduct radiological assessment of public exposure.
- Estimate projected doses in contaminated areas and identify areas where projected doses exceed relocation PAGs.
- Develop and modify sampling plan to assess the radiological consequences of a release on the food and drinking water supplies.
- Determine areas to be restricted based on factors such as mix of radionuclides in deposited materials, calculated exposure rates compared to PAGs, and analysis of vegetation and soil samples.
- Evaluate the radiological analyses of representative samples of drinking water, food, and other ingestible substances of local interest from potentially impacted areas.
- Compare radiological impacts of analysis on food and water and other representative samples to appropriate ingestion PAGs.

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

State Negotiated Extent of Play:
Risk Jurisdictions Negotiated Extent of Play:
Support Jurisdictions Negotiated Extent of Play:

Outstanding Issues:

OBJECTIVE 5 - Operate

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

Demonstration and Evaluation Guidance:

- Set-up operations.
- Operationally check instruments and equipment.

Monitoring

- Attain and sustain the overall monitoring productivity rate per hour needed to monitor 20 percent of the plume exposure pathway EPZ population, including transients, within a 12-hour period at each facility. The monitoring productivity rate per hour is the number of evacuees that can be monitored, per hour, per location, by the total complement of monitors using an appropriate procedure.
- Monitor evacuees, service animals, pets, vehicles, and possessions.
- Utilize trigger/action levels for determining the need for decontamination.

Decontamination

- Decontaminate evacuees, and personal belongings, while limiting the spread of contamination.
- Follow-up with any evacuee(s) who cannot be appropriately decontaminated for assessment; ensure the capability to provide evacuee-referrals.

Vehicles

- Monitor and decontaminate vehicles.
- Provide adequate, separate space for both contaminated and non-contaminated vehicles.
- Monitor emergency worker personnel and their equipment and vehicles for contamination.
- Decontaminate evacuee vehicles based on trigger/action levels.

Sheltering and Congregate Care

- Coordinate for incoming evacuees who have been monitored and, if necessary, decontaminated.
- Establish shelter operations.
- Congregate care centers and operations in host/support jurisdictions are sufficient to support the expected number of evacuees.

Registration

- Register evacuees.
- Ensure the registration area is clean and controlled.

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

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

State Negotiated Extent of Play:
N/A
Risk Jurisdictions Negotiated Extent of Play:
• Reception Center, Monitoring/Decontamination Center will be conducted from 1800 to 2100 hours, April 20, 2022, at the Weir High School Complex. • Mass Care Center will be conducted from 1800 to 2100 hours, April 20, 2022, at the Weir High School Complex. • Setup of facilities may be done prior to the exercise. • Decontamination of evacuees/emergency workers may be simulated and conducted by interview. • The availability of provisions for separately showering should be demonstrated or explained. • The staff should demonstrate provisions for limiting the spread of contamination. • Provisions should also exist to separate contaminated and uncontaminated individuals, provide changes of clothing (simulated) for individuals whose clothing is contaminated, and store contaminated clothing and personal belongings to prevent further contamination of evacuees or facilities. • Any individual found to be contaminated, procedures should be discussed concerning the handling of potential contamination of vehicles and personal belongings. • Monitoring personnel should explain the use of action levels for determining the need for decontamination. • Monitoring personnel should also explain the procedures for referring evacuees who cannot be adequately decontaminated for assessment and follow up. • Contamination of the individual may be determined by controller inject given by a controller or simulated with a low-level radiation source. • One monitoring station will be established. • One decontamination area will be established. • A total of six (6) people will be monitored at the Mass Care Center. At least one (1) will be contaminated. • Decontamination of personnel / equipment will be explained at all locations. Actual decontamination will be simulated. • Reception Center staff will demonstrate the capability to ensure that evacuees have been monitored for contamination and have been decontaminated as appropriate. This capability will be determined through an interview process. Three of the six that went through monitoring will be processed through registration.

• Material will not be physically available at the facility (facilities). However, availability of such items will be verified by providing the evaluator a list of sources with locations and estimates of quantities. • Paper placement will be discussed; paper will not be placed on the floor.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

- Set-up operations.
- Operationally check instruments and equipment.
- Monitor emergency worker personnel and their equipment and vehicles for contamination.
- Decontaminate emergency worker personnel and their equipment and vehicles based on trigger/action levels.
- Control the spread of contamination.
- Create and maintain a record of monitoring and decontaminating workers upon completion of monitoring and decontamination activities.
- Process for prioritizing emergency workers and equipment before the public in facilities where the public and emergency workers are both processed for contamination.

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

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

State Negotiated Extent of Play:
N/A
Risk Jurisdictions Negotiated Extent of Play:
• The Emergency Worker Decontamination Center will be conducted from 1800 to 2100 hours, April 21, 2022, at the New Cumberland Fire Department. • Setup of facilities may be done prior to the exercise.

• Two Emergency Workers will be monitored for contamination. Discussions on the need for decontamination will be made based on Controller injected radiation levels. • Contamination control and record-keeping procedures will be demonstrated. • Decontamination efforts will be procedurally explained, but actual decontamination will be simulated. • The sequence for monitoring/decontamination efforts and the decision to refer individuals who cannot be decontaminated to medical facilities will be demonstrated via inquiries. • One vehicle will be monitored and decisions regarding the need for decontamination will be made as radiation levels are presented via Controller injects by a controller. • Record-keeping procedures will be demonstrated. • No vehicles will be washed, but decontamination procedures will be explained. • Decontamination of personnel/equipment will be explained at all locations. Actual decontamination will be simulated. • Paper placement will be discussed; paper will not be placed on the floor.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

Transportation

- Transport contaminated, injured individuals to medical facilities.
- Maintain communications between the medical transportation provider and the receiving medical facility.

Medical Facility

- Operationally check instruments and equipment.
- Set-up, activate, and operate an REA.
- Monitor and decontaminate the individual, equipment, and other items.

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

State Negotiated Extent of Play:
N/A
Risk Jurisdictions Negotiated Extent of Play:
• Demonstrated during the Evaluated MS-1 Exercise conducted on March 31, 2021, at the Weirton Medical Center.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

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

Demonstration and Evaluation Guidance:

- Select, establish, and staff appropriate TCP/ACPs, consistent with current conditions and PADs (e.g., evacuating, sheltering, and relocation), in a timely manner.
- Provide instructions to TAC staff on actions to take, including when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled.
- Contact the state or Federal agencies that have the authority for the different transportation modes (e.g., rail, water, and air traffic).
- Identify and take appropriate actions concerning impediments that affect the evacuation and evacuation routes.
- Make the decision to re-route traffic and coordinate with key decision-makers and the JIC to ensure the alternate route information is appropriately communicated to evacuees.
- Establish procedures to control access to and monitor people and vehicles from the evacuated and restricted areas.
- Authorize reentry of individuals into the restricted areas.
- Establish exit 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.

State Negotiated Extent of Play:
N/A
Risk Jurisdictions Negotiated Extent of Play:

• During the June 7, 2021, exercise, HCEOC will demonstrate the capability to select, establish, and staff appropriate traffic and access control points, consistent with protective actions. • Staffing of Traffic and Access Control Points will be simulated. • The capability to provide instructions to traffic and access control staff will be demonstrated through an interview with the Law Enforcement Officer in the HCEOC during the exercise. • The HCEOC will demonstrate the ability to control access to rail, water, and air traffic, under its control by interview. • Traffic Control/Access Control Points will be demonstrated Out of Sequence by interview at the Chester City Building at 1500 hrs. on April 21, 2022. • The HCEOC will demonstrate the capability by interview, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. • Actual dispatch of resources to deal with impediments will be simulated and logged.
Support Jurisdictions Negotiated Extent of Play:
N/A
Outstanding Issues:
None

Appendix E: Participating Agencies and Site Maps

Federal Agencies
NRC
FEMA
State Jurisdictions
WV EMD
WV DHHR
WV DEP
Risk Jurisdictions
Hancock County HSEM
Hancock County Schools
Chester PD
Support Jurisdictions
Brooke County EMA
Private Sector Organizations
Energy Harbor
Volunteer Organizations/NGO
New Cumberland VFD
Colliers VFD
McKinleyville VFD
New Manchester VFD
Newell VFD
Oakland VFD

West Virginia Emergency Management Division

WV State EOC

Hancock County Emergency Services Building

Hancock County EOC

Chester PD

Traffic Access and Control

New Cumberland VFD

Emergency Worker Decon

Weir High School Complex

Reception Center/Mass Care

Oak Glen High School

Schools and Transportation

Hancock County School Administration

Appendix F: Directions/Addresses

List all Exercise Locations with Addresses

State Locations	
Venue	**Address**
WV State EOC	2403 Fairlawn Ave., Dunbar, WV 25064

Risk Locations	
Venue	**Address**
Hancock County EOC	82 Emergency Dr., New Cumberland, WV 26047

Out of Sequence Locations	
Venue	**Address**
Oak Glen High School	195 Golden Bear Dr., New Cumberland, WV 26047
Hancock County Schools Administration	130 Rockefeller Circle, New Cumberland, WV 26047
Weir High School Complex	100 Red Rider Dr., Weirton, WV 26062
Chester PD	600 Indiana Ave., Chester, WV
New Cumberland VFD	301 N. Chester St., New Cumberland, WV 26047
WV EMD	2403 Fairlawn Ave., Dunbar, WV 25064

Appendix G: Open Issues

No Open Issues

Or

Issue Number	Capability Target	Location	Assessment Date	Brief Description

Appendix H: Acronyms

Acronym	Description
AAC	Accident Assessment Center
AAM	After-Action Meeting
AAR	After-Action Report
ACP	Access Control Point
ALARA	As Low As Reasonably Achievable
ALC	Annual Letter of Certification
ANS	Alert and Notification System
ANSI	American National Standards Institute
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
A-Team	Advisory Team for Environment, Food, and Health
BRP	Bureau of Radiation Protection
BVPS	Beaver Valley Power Station
BZ	Buffer Zone
CAD	Computer Aided Display
C/E	Controller and Evaluator
CED	Committed Effective Dose
CC	Core Capabilities
CCC	Congregate Care Center
CDC	U.S. Center for Disease Control and Prevention
CCL	Core Capabilities List
CCNP	Cisco Certified Network Professional
CCNPP	Calvert Cliffs Nuclear Power Plant
C/E	Controller Evaluator
CDE	Committed Dose Equivalent
CDV	Civil Defense Victoreen
CERC	Corporate Emergency Response Center
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CNS	Commonwealth Notification System
C&O	Concepts and Objectives Meeting
CO	Communication Officer
COL	Combined Operating License
CPG	Comprehensive Preparedness Guide
CPM	Counts Per Minute
CRCC	Commonwealth Response Coordination Center
CST	Civil Support Team
DAC	Dose Assessment Coordinator
DAD	Digital Alarming Dosimetry
DAS	Director of Auxiliary Services
DCPM	Disintegrating Counts Per Minute
DDHS	U.S. Department of Health and Human Services
DEMA	Delaware Emergency Management Agency
DHS	U.S. Department of Homeland Security
DIL	Derived Intervention Level

DIR	Disaster Initiated Review
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DRD	Direct Reading Dosimeter
DRF	Dosimetry Record Form
DRL	Derived Response Level
DSP	Delaware State Police
EA	Exception Area
EA	Exclusion Area
EA	External Affairs
EAC	Evacuation Assembly Center
EAL	Emergency Action Level
EAS	Emergency Alert System
EC	Emergency Coordinator
EEG	Exercise Evaluation Guide
ECL	Emergency Classification Level
ECO	Exposure Control Officer
EDE	Effective Dose Equivalent
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMnet	Emergency Management Network
EMS	Emergency Medical Services
ENS	Emergency Notification System
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Extent of Play
EPA	U.S. Environmental Protection Agency
EPT	Exercise Planning Team
EPZ	Emergency Planning Zone
ER	Emergency Room
ERDS	Emergency Response Data System
ERM	Emergency Response Manager
ERO	Emergency Response Organization
ERV	Emergency Response Vehicle
ESC	Emergency Services Coordinator
ESF	Emergency Support Function
ESP	Early Site Permit
ETA	Estimated Time of Arrival
ETE	Evacuation Time Estimate
EW	Emergency Workers
EWMDS	Emergency Worker Monitoring and Decontamination Station
ExPlan	Exercise Plan
FBI	Federal Bureau of Investigation
FCC	U.S. Federal Communications Commission
FD	Fire Department
FDA	U.S. Food and Drug Administration
FE	Functional Exercise
FEMA	Federal Emergency Management Agency

FMT	Field Monitoring Team
FPE	Full Participation Exercise
FPM	Final Planning Meeting
FRMAC	Federal Radiological Monitoring Assessment Center
FRPCC	Federal Radiological Preparedness Coordinating Committee
FSE	Full Scale Exercise
FST	Field Sampling Team
FTC	Field Team Coordinator
GE	General Emergency
GIS	Geographic Information Systems
GM	Guidance Memorandum
G-M	Geiger-Mueller
GPS	Global Positioning System
Gy	Gray
HAB	Hostile Action Based
HAN	Health Alert Network
HHS	U.S. Health and Human Services
HazMat	Hazardous Materials
HF	High Frequency
HP	Health Physicist
HSEEP	Homeland Security Exercise and Evaluation Program
HSPD	Homeland Security Presidential Directive
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IP	Improvement Plan
IPAWS	Integrated Public Alert and Warning System
IPM	Initial Planning Meeting
IPZ	Ingestion Pathway Zone
IWP	Initial Warning Point
JIC	Joint Information Center
JIS	Joint Information System
KI	Potassium Iodide
LCD	Liquid Crystal Display
LEOF	Local Emergency Operations Facility
LGS	Limerick Generating Station
LHD	Local Health Department
LOA	Letter of Agreement
MCC	Mass Care Center
MDDT	Mobile Data Display Terminal
MDE	Maryland Department of Environment
MDEM	Maryland Department of Emergency Management
MDT	Mobile Data Terminals
MJOC	Media Joint Operations Center
MHz	Megahertz
MIDAS	Meteorological Information Dose Assessment System
MOU	Memorandum of Understanding

MS-1	Medical Services Hospital
MSEL	Master Scenario Events List
MSP	Maryland State Police
NAPS	North Anna Power Station
NAWAS	National Warning System
NEP	National Exercise Program
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NNSA	National Nuclear Security Administration
NOAA	National Oceanic and Atmospheric Administration
NPD	National Preparedness Directorate
NOUE	Notification of Unusual Event
NPP	Nuclear Power Plant
NPS	National Preparedness System
NRC	U.S. Nuclear Regulatory Commission
NRIA	Nuclear Radiological Incident Annex
NUREG	Nuclear Regulatory
NWS	National Weather Service
OCA	Owner Controlled Area
OJT	On-The-Job Training
OOS	Out of Sequence
ORH	Office of Radiological Health
ORO	Offsite Response Organization
OSC	Operations Support Center
OSD	Optically Stimulated Dosimeter
OSHA	U.S. Occupational Safety and Health Administration
OSLD	Optically Stimulated Luminescence Dosimeter
PA	Public Affairs
PAD	Protective Action Decision
PAG	Protective Action Guideline
PAR	Protective Action Recommendation
PAZ	Protective Action Zone
PCA	Preliminary Capabilities Assessment
PBAPS	Peach Bottom Atomic Powers Station
PD	Police Department
PDAFN	Persons with Disabilities/Access and Functional Needs
PED	Personal Electronic Dosimeter
PEMA	Pennsylvania Emergency Management Agency
PII	Personally Identifiable Information
PIO	Public Information Officer
PPD	Presidential Policy Directive
PPE	Personal Protective Equipment
PPP	Post-Plume Phase
PRD	Permanent Record Dosimeter
PS	Planning Standard
PSP	Pennsylvania State Police
R	Roentgen
RA	Regional Administrator
R/h	Roentgen per hour

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

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