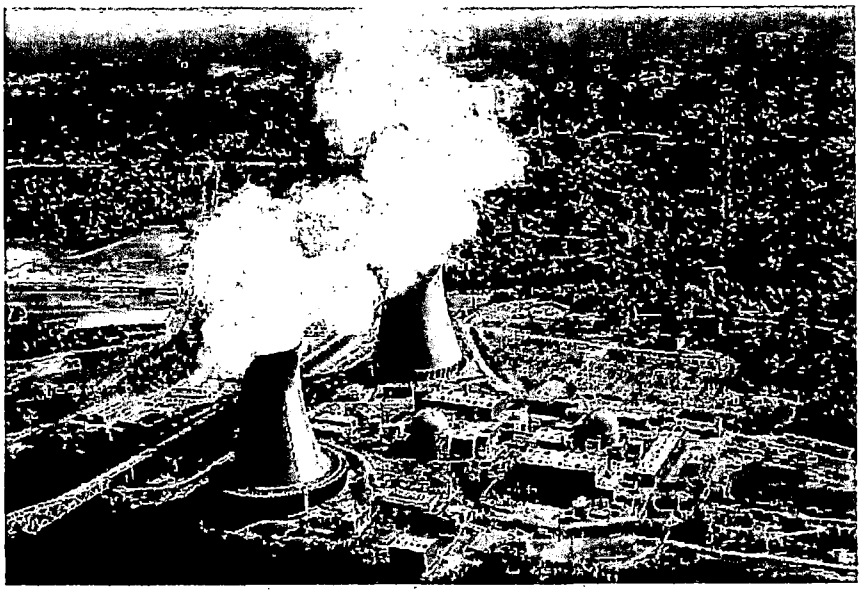

Beaver Valley Power Station Medical Services Drill

Weirton Hospital West Virginia

After Action Report

Drill Date – April 10, 2019

Radiological Emergency Preparedness (REP) Program

FEMA

Published June 17, 2019

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Beaver Valley Power Station Medical Services Drill

Weirton Hospital West Virginia

After Action Report

Published Date: June 17, 2019

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EXECUTIVE SUMMARY

On April 10, 2019 a Medical Services (MS-1) Drill was conducted for the 10-mile Plume Exposure Pathway, Emergency Planning Zone (EPZ) around the Beaver Valley Power Station (BVPS) by the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA) Region III. The most recent prior MS-1 Drill for this site was conducted on March 29, 2017.

The purpose of the Beaver Valley Power Station MS-1 Drill was to assess the State and local offsite response organizations preparedness in responding to a radiological medical emergency. The Drill was held in accordance with FEMA's policies and guidance concerning the evaluation of State and local Radiological Emergency Response Plans (RERP) and procedures.

FEMA wishes to acknowledge the efforts of the many individuals in the State of West Virginia, Hancock County Office of Emergency Management, Brooke County Emergency Management Agency, Weirton Medical Center, and Brooke County Emergency Medical Services who participated during this Drill.

Protecting the public health and safety is the full-time job of some of the Drill participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility as volunteers providing vital emergency services twenty-four (24) hours a day to the communities in which they live. Cooperation and teamwork of all the participants was observed during this Drill.

This report contains the final evaluation of the MS-1 Drill. The State of West Virginia and local organizations demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Level 1 or Level 2 Findings or Plan Issues as a result of this Drill.

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

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

Section 3 of this report entitled Analysis of Capabilities contains detailed Evaluation and Results; a Summary Results of Evaluation; and Criteria Evaluation Summary. Information on the demonstration for each jurisdiction or functional entity evaluated is presented in a jurisdiction-based, issue-only format.

Section 4 of this report entitled Conclusion, is a description of FEMA's overall assessment of the capabilities of the participating organizations.

SECTION 1: EXERCISE OVERVIEW

1.1 Drill Details

Drill Name
Weirton Medical Center 2019 Medical Services Drill

Type of Drill
Medical Services

Drill Date
April 10, 2019

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Radioactive Contaminated/Injured Person

1.2 Planning Team Leadership

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WV Division of Homeland Security and Emergency Management
82 Emergency Drive
New Cumberland, WV 26047
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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the BVPS 2019 Medical Services Drill:

County Jurisdictions
Brooke County Emergency Management Agency
Hancock County Office of Emergency Management

Private Sector Organizations
Brooke County Emergency Medical Service
Weirton Medical Center

SECTION 2: DESIGN SUMMARY

2.1 Purpose and Design

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

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

A. Taking the lead in offsite emergency planning and in the review and evaluation of radiological emergency response plans and procedures developed by State and local governments;

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

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

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

Representatives of these agencies serve on the Region III Regional Assistance Committee (RAC), which is chaired by FEMA. A Radiological Emergency Preparedness MS-1 Drill was conducted on April 10, 2019, to assess the capabilities of State and local emergency preparedness organizations in implementing their radiological emergency response plans and procedures to protect the public health and safety during a radiological emergency involving BVPS.

The purpose of this After Action Report is to present the Drill results, and findings on the performance of the Off-site Response Organizations (OROs) during a simulated radiological

emergency involving a contaminated injured individual.

The Drill was designed to demonstrate and evaluate the responders' knowledge of patient and responder personal protective measures, equipment preparation and employment, and decontamination procedures. All activities were demonstrated in accordance with the participants' plans and procedures as they would be performed in an actual emergency, except as agreed to in the Exercise Plan and Extent-of-Play Agreement.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region III Regional Assistance Committee (RAC) Chairperson and approved by FEMA Headquarters. These reports are provided to the NRC and participating States. State and local governments utilize the findings contained in these reports for the purposes of planning, training, and improving emergency response capabilities.

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

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;

Radiological Emergency Preparedness Program Manual, January 2016

2.2 Objectives, Capabilities and Activities

The Beaver Valley Power Station MS-1 Drill evaluated by FEMA, was designed to demonstrate that the ORO can transport, transfer, monitor, decontaminate and treat a contaminated/injured person while minimizing any cross contamination during a radiological emergency.

The demonstration included the ability to:

A. Respond to a radiation medical emergency following Hancock County Office of Emergency Management, Weirton Medical Center and Brooke County Emergency Medical Services procedures.

B. Monitor for radiation contamination and uptake, and to validate persons providing these services are adequately prepared to handle contaminated individuals.

C. Conduct timely and accurate communications between the hospital and offsite response agencies.

D. Exhibit correct priorities and appropriate techniques in Emergency Medical Services (EMS); transportation of patients; and pre-hospital and hospital emergency care of radioactively contaminated patients.

E. Demonstrate inter-agency cooperation between the Ambulance Service/EMS and the hospital.

2.3 Scenario Summary

The scenario for this Medical Services Drill consisted of simulated notifications of escalating emergency classification levels at the BVPS from Site Area Emergency to General Emergency. Subsequent to a release of radiological material the plant declared a General Emergency.

During the incident, a member of the public got out of their vehicle at the reception center, twisted their left ankle, and caught themselves with their forearms before falling on the potentially contaminated vehicle. The victim has an injured left ankle (not immediately known without X-rays) and is complaining of great pain in the area. The victim's left forearm area is also abraded and bruised. Brooke County Emergency Medical Services was dispatched to the scene to provide medical support and transport to the nearest MS-1 Hospital.

Upon arrival at Weirton Medical Center, the Radiation Emergency Medical Team met the Emergency Medical Services (EMS) team at the exterior entrance to the Radiation Emergency Area (REA) to receive and treat the patient. The hospital's medical team assessed the patient's condition and surveyed the patient for radiological contamination. There were contamination readings of 1800 cpm on upper left arm, removal of clothing eliminated contamination. On the right and left forearms there where readings of 1600 cpm. First decontamination attempt decreases readings to 800 cpm. Second decontamination attempt results in a reading of less than 100 cpm.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Evaluation and Results

This section contains the results and findings of the evaluations of all jurisdictions and locations that participated in the April 10, 2019 Beaver Valley Power Station MS-1 Drill. The Drill was conducted to demonstrate the ability of the OROs to respond to a potentially contaminated injured person associated with BVPS.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of the appropriate Demonstration Criteria contained in the REP Program Manual. Detailed information on the Demonstration Criteria and the Extent-of-Play Agreement are found in Appendix C.
The Drill was conducted and evaluated in accordance with the Radiological Emergency Preparedness Program Manual (January 2016) and NUREG-0654/FEMA-REP-1, Rev. 1. The Demonstration Criteria included:

1.e.1- Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations.

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

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

3.2 Summary Results of Evaluation

The matrix presented in Table 3.1, on the following pages, presents the status of the Demonstration Criteria from the REP Program Manual that were scheduled for demonstration during this Drill by all participating jurisdictions and functional entities. Drill Demonstration Criteria are listed by number and the demonstration status of the criteria is indicated by the use of the following letters:

- (L1) Level 1 Finding: 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 event of a radiological emergency to protect the health and safety of the public living in the vicinity of 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 off-site response organizations' emergency plan/implementing procedures, rather than that of the ORO's performance.
- (N) Not Demonstrated: The term applied to the status of a REP Evaluation Area Criterion indicating that the ORO, for a justifiable reason, did not demonstrate the

Evaluation Area Criterion, as required in the Extent-of-Play Agreement or at the two-year or eight-year interval required in the FEMA REP Program Manual.

- (M) Met: The status of a REP Evaluation Area Criterion indicating that the participating ORO demonstrated all demonstration criteria for the Evaluation Area Criterion to the level required in the Extent-of-Play Agreement with no findings assessed in the current exercise and no unresolved prior findings.

Table 3.1 – Summary of Drill Evaluation

Date: April 10, 2019 Site: Beaver Valley Power Station (M) Met, (1) Level 1 Finding, (2) Level 2 Finding, (P) Planning Issue		WMC	BCEMS
Emergency Operations Management			
Mobilization	1a1		
Facilities	1b1		
Direction and Control	1c1		
Communications	1d1		
Equipment and Supplies to Support Operations	1e1	M	M
Protective Action Decision Making			
Emergency Worker Exposure Control	2a1		
Accident Assessment and Pars for the Emergency Event	2b1		
PAD decision-making process and coordination for the General Public	2b2		
PADs for disabilities & access/functional needs people	2c1		
Radiological Assessment & Decision making for the Ingestion Pathway	2e1		
Radiological Assessment & Decision making for Relocation/Reentry/Return	2d1		
Protective Action Implementation			
Implementation of Emergency Worker Exposure Control	3a1	M	M
Implementation of KI PAD for Institutionalized Individuals/Public	3b2		
Implementation of PADs for disabilities & access/functional needs people	3c1		
Implementation of PADS for Schools	3c2		
Implementation of Traffic and Access Control	3d1		
Impediments to Evacuation	3d2		
Implementation of Relocation/Reentry/Return Decisions	3f1		
Field Measurements and Analysis			
RESERVED	4a1		
Field Team Management	4a2		
Plume Phase Field Measurement, Handling, & Analyses	4a3		
Post Plume Phase Field Measurements & Sampling	4b1		
Emergency Notification and Public Information			
Activation of the Prompt Alert & Notification System (ANS)	5a1		
RESERVED	5a2		
Activation of the Back-up ANS	5a3		
Activation of the Exception Area ANS	5a4		
Emergency Information & Instructions to the Public/Media	5b1		
Support Operations/Facilities			
Monitoring, Decontamination, & Registration of Evacuees	6a1		
Monitoring/Decontamination of Emergency Workers and Equipment	6b1		
Temporary Care of Evacuees	6c1		
Transportation/Treatment of Contaminated Injured Individuals	6d1	M	M

3.3 Criteria Evaluation Summaries

3.3.1 Private Organizations

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

3.3.1.1 Hancock County, Weirton Medical Center

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

3.3.1.2 Brooke County, Brooke County Emergency Medical Service

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

SECTION 4: CONCLUSION

The State of West Virginia and private sector organizations, except where noted in this report, demonstrated knowledge of their radiological emergency response plans and procedures and they were successfully implemented during the BVPS MS-1 Drill evaluated on April 10, 2019.

Three FEMA evaluators provided analyses of six evaluation criteria. These analyses resulted in a determination of no Findings, no new Plan Issues, and no unresolved Plan Issues.

The Brooke County Emergency Medical Service (BCEMS) successfully demonstrated that necessary equipment and supplies were available to support the treatment of an injured/contaminated patient. EMS personnel prioritized life-saving medical practices over contamination concerns, implemented protective measures through the use of Personal Protective Equipment, regular glove changes, and control of cross contamination. Appropriate patient assessments were demonstrated as well as regular and ongoing communications with Weirton Medical Center.

The Weirton Medical Center successfully demonstrated the mobilization of staff, staffing assignments, issue of dosimetry and monitoring equipment, and effective use of Personal Protective Equipment during the exercise. The hospital staff effectively responded to communications from the BCEMS, initiated the set-up and management of a Radiation Emergency Area, and accepted and successfully treated an injured/contaminated patient while administering life-saving medical attention over contamination concerns. In addition, the medical facility provided security control of the facility including the drop off bay for the patient and overall protective measures for contamination control and prevention of cross contamination.

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

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

APPENDIX A: EVALUATORS

The following is the list of Evaluators for the Beaver Valley Power Station 2019 MS-1 Drill evaluated on April 10, 2019. The following constitutes the managing staff for the Evaluation:

- Thomas Scardino, DHS/FEMA, Regional Assistance Committee Chairman
- Christopher Nemcheck, DHS/FEMA, Technological Hazards Program Specialist/Site Specialist

DATE: April 10, 2019
SITE: Beaver Valley Power Station

LOCATION	EVALUATOR	AGENCY
Weirton Medical Center	Lee Torres	FEMA RIII
Brooke County Emergency Medical Service	Christopher Nemcheck	FEMA RIII

APPENDIX B: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
BCEMS	Brooke County Emergency Medical Service
BVPS	Beaver Valley Power Station
DHS	Department of Homeland Security
DRD	Direct Reading Dosimeter
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EPZ	Emergency Planning Zone
FEMA	Federal Emergency Management Agency
FENOC	First Energy Nuclear Operating Company
IP	Improvement Plan
MS-1	Medical Services
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
ORO	Offsite Response Organization
PEMA	Pennsylvania Emergency Management Agency
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
RAC	Regional Assistance Committee
REA	Radioactive Emergency Area
REP	Radiological Emergency Preparedness
RO	Radiological Officer
SAE	Site Area Emergency
WMC	Weirton Medical Center

APPENDIX C: EXERCISE PLAN

The Exercise Plan (ExPlan) was created as an overall tool for facilitation and implementation of the Beaver Valley Power Station MS-1 Drill and to integrate the concepts and policies of the Homeland Security Exercise Evaluation Program with the Radiological Emergency Preparedness Program Exercise Methodology.

2019 WMC MS-1 Evaluated Exercise

Exercise Plan

2/4/2019

The Exercise Plan (ExPlan) gives elected and appointed officials, observers, media personnel, and players from participating organizations information they need to observe or participate in the exercise. Some exercise material is intended for the exclusive use of exercise planners, controllers, and evaluators, but players may view other materials that are necessary to their performance. All exercise participants may view the ExPlan.

Exercise Overview

Exercise Name	2019 WMC MS-1 Evaluated Exercise
Exercise Dates	April 10th, 2019
Scope	This exercise is a Functional Exercise, planned for five hours at Weirton Medical Center, Weirton, WV. Exercise play is limited to coordination and management of a potentially radiologically contaminated patient.
Mission Area(s)	Response
Core Capabilities	Public Health and Medical Services; Environmental Response/Health and Safety; Operational Coordination
Objectives	Demonstrate or Explain the ability to alert, mobilize and activate personnel. Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations. Demonstrate the ability to continuously monitor and control emergency worker exposure. Demonstrate the adequacy of medical facility's equipment, procedures and personnel for handling contaminated, injured or exposed individuals. Return the facility to pre-emergency conditions (will not be demonstrated, but explained).

	Demonstrate the ability to communicate with appropriate locations, organizations and field personnel. (Telephones, cell phones, and/or radios) Demonstrate the adequacy of vehicles, equipment, procedures and personnel for transporting contaminated and/or exposed individuals.
Threat or Hazard	Technological/radiological release
Scenario	The exercise scenario will involve a contaminated patient with a minor injury requiring to be surveyed and decontaminated prior to being medically evaluated at the emergency room.
Sponsor	Weirton Medical Center
Participating Organizations	Participants in this exercise will include one federal agency, two state agency, three county level agencies and two private agencies.
Point of Contact	Jason Lively, WV Division of Homeland Security and Emergency Management, 82 Emergency Dr., New Cumberland, WV 26047, 304-545-3058, jason.k.lively@wv.gov

General Information

Exercise Objectives and Core Capabilities

The following exercise objectives in Table 1 describe the expected outcomes for the exercise. The objectives are linked to core capabilities, which are distinct critical elements necessary to achieve the specific mission area(s). The objectives and aligned core capabilities are guided by elected and appointed officials and selected by the Exercise Planning Team.

3.3.1 Table 1. Exercise Objectives and Associated Core Capabilities

Exercise Objective	Core Capability
Demonstrate or Explain the ability to alert, mobilize and activate personnel.	Operational Coordination
Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations.	Public Health and Medical Services
Demonstrate the ability to continuously monitor and control emergency worker exposure.	Environmental Response/Health and Safety
Demonstrate the adequacy of medical facility's equipment, procedures and personnel for handling contaminated, injured or exposed individuals.	Public Health and Medical Services
Return the facility to pre-emergency conditions (will not be demonstrated, but explained).	Environmental Response/Health and Safety
Demonstrate the ability to communicate with appropriate locations, organizations and field personnel. (Telephones, cell phones, and/or radios)	Operational Coordination
Demonstrate the adequacy of vehicles, equipment, procedures and personnel for transporting contaminated and/or exposed individuals.	Public Health and Medical Services

3.3.2 Table 2. REP Manual Criterion and Demonstration Guidance

REP Manual Criterion	Demonstration Guidance
Criterion 1.a.1	OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/FEMA-REP-1, A.1.a, e; A.3,4; C.1,4, 6; D.4; E.1, 2; G.3.a; H.3, 4)
Criterion 1.e.1	Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e;J.11, 12; K.3.a; K.5.b)
Criterion 3.a.1	***The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, K.3.a, b; K.4)***
Criterion 6.d.1	The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654/FEMAREP-1, F.2; H.10; K.5.a, b; L.1, 4)

Participant Roles and Responsibilities

The term *participant* encompasses many groups of people, not just those playing in the exercise. Groups of participants involved in the exercise, and their respective roles and responsibilities, are as follows:

- **Players.** Players are personnel who have an active role in discussing or performing their regular roles and responsibilities during the exercise. Players discuss or initiate actions in response to the simulated emergency.
- **Controllers.** Controllers plan and manage exercise play, set up and operate the exercise site, and act in the roles of organizations or individuals that are not playing in the exercise. Controllers direct the pace of the exercise, provide key data to players, and may prompt or initiate certain player actions to ensure exercise continuity. In addition, they issue exercise material to players as required, monitor the exercise timeline, and supervise the safety of all exercise participants.
- **Simulators.** Simulators are control staff personnel who role play nonparticipating organizations or individuals. They most often operate out of the Simulation Cell (SimCell), but they may occasionally have face-to-face contact with players. Simulators function semi-independently under the supervision of SimCell controllers, enacting roles (e.g., 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 Senior Controller.
- **Evaluators.** Evaluators evaluate and provide feedback on a designated functional area of the exercise. Evaluators observe and document performance against established capability targets and critical tasks, in accordance with the Exercise Evaluation Guides (EEGs).
- **Actors.** Actors simulate specific roles during exercise play, typically victims or other bystanders.
- **Observers.** Observers visit or view selected segments of the exercise. Observers do not play in the exercise, nor do they perform any control or evaluation functions. Observers view the exercise from a designated observation area and must remain within the

observation area during the exercise. Very Important Persons (VIPs) are also observers, but they frequently are grouped separately.

- **Media Personnel.** Some media personnel may be present as observers, pending approval by the sponsor organization and the Exercise Planning Team.
- **Support Staff.** The exercise support staff includes individuals who perform administrative and logistical support tasks during the exercise (e.g., registration, catering).

Exercise Assumptions and Artificialities

In any exercise, assumptions and artificialities may be necessary to complete play in the time allotted and/or account for logistical limitations. Exercise participants should accept that assumptions and artificialities are inherent in any exercise, and should not allow these considerations to negatively impact their participation.

3.3.3 Assumptions

Assumptions constitute the implied factual foundation for the exercise and, as such, are assumed to be present before the exercise starts. The following assumptions apply to the exercise:

- The exercise is conducted in a no-fault learning environment wherein capabilities, plans, systems, and processes will be evaluated.
- The exercise scenario is plausible, and events occur as they are presented.
- [Exercise simulation contains sufficient detail to allow players to react to information and situations as they are presented as if the simulated incident were real.]
- Participating agencies may need to balance exercise play with real-world emergencies. Real-world emergencies take priority.
- The Weirton Medical Center Radiological Emergency Response Plan assigns radiological monitoring of the patient to the Hospital.
- Monitoring of ambulance personnel and vehicle is the responsibility of the Hospital, if available, and the monitoring decontamination center (Emergency Worker Decontamination Center) if the hospital is not available.

3.3.4 Artificialities

During this exercise, the following artificialities apply:

- Exercise communication and coordination is limited to participating exercise organizations, venues, and the SimCell.
- Players will be pre-staged for the start of the exercise.
- The scenario will be driven by the lead controller at the hospital. Controllers will also be in the field.
- Only communication methods listed in the Communications Directory are available for players to use during the exercise.

Exercise Logistics

Safety

Exercise participant safety takes priority over exercise events. The following general requirements apply to the exercise:

- A Safety Controller is responsible for participant safety; any safety concerns must be immediately reported to the Safety Controller. The Safety Controller and Exercise Director will determine if a real-world emergency warrants a pause in exercise play and when exercise play can be resumed.
- For an emergency that requires assistance, use the phrase **"real-world emergency."** The following procedures should be used in case of a real emergency during the exercise:

  Anyone who observes a participant who is seriously ill or injured will immediately notify emergency services and the closest controller, and, within reason and training, render aid.

  The controller aware of a real emergency will initiate the "real-world emergency" broadcast and provide the Safety Controller, Senior Controller, and Exercise Director with the location of the emergency and resources needed, if any. The Senior Controller will notify the appropriate participants as soon as possible if a real emergency occurs.

3.3.5 Fire Safety

Standard fire and safety regulations relevant to the Weirton Medical Center will be followed during the exercise.

3.3.6 Emergency Medical Services

The sponsor organization will coordinate with local emergency medical services in the event of a real-world emergency.

3.3.7 Electrical and Generating Device Hazards

All applicable electrical and generating device safety requirements should be documented prior to the start of the exercise.

3.3.8 Weapons Policy

All participants will follow the relevant weapons policy for the exercising organization or exercise venue.

Site Access

3.3.9 Security

If entry control is required for the exercise venue(s), the venue is responsible for arranging appropriate security measures. To prevent interruption of the exercise, access to exercise sites is limited to exercise participants. Players should advise their venue's controller or evaluator of any unauthorized persons.

3.3.10 Media/Observer Coordination

Organizations with media personnel and/or observers attending the event should coordinate with the sponsor organization for access to the exercise site. Media/Observers are escorted to designated areas and accompanied by an exercise controller at all times. Sponsor organization

representatives and/or the observer controller may be present to explain exercise conduct and answer questions. Exercise participants should be advised of media and/or observer presence.

Post-exercise and Evaluation Activities

Debriefings

Post-exercise debriefings aim to collect sufficient relevant data to support effective evaluation and improvement planning.

3.3.11 Hot Wash

At the conclusion of exercise play, controllers facilitate a Hot Wash to allow players to discuss strengths and areas for improvement, and evaluators to seek clarification regarding player actions and decision-making processes. All participants may attend; however, observers are not encouraged to attend the meeting. The Hot Wash should not exceed 30 minutes.

3.3.12 Controller and Evaluator Debriefing

Controllers and evaluators attend a facilitated C/E Debriefing immediately following the exercise. During this debriefing, controllers and evaluators provide an overview of their observed functional areas and discuss strengths and areas for improvement.

3.3.13 Participant Feedback Forms

Participant Feedback Forms provide players with the opportunity to comment candidly on exercise activities and exercise design. Participant Feedback Forms should be collected at the conclusion of the Hot Wash.

Evaluation

3.3.14 Exercise Evaluation Guides

EEGs assist evaluators in collecting relevant exercise observations. EEGs document exercise objectives and aligned core capabilities, capability targets, and critical tasks. Each EEG provides evaluators with information on what they should expect to see demonstrated in their functional area. The EEGs, coupled with Participant Feedback Forms and Hot Wash notes, are used to evaluate the exercise and compile the After-Action Report (AAR).

3.3.15 After-Action Report

The AAR summarizes key information related to evaluation. The AAR primarily focuses on the analysis of core capabilities, including capability performance, strengths, and areas for improvement. AARs also include basic exercise information, including the exercise name, type of exercise, dates, location, participating organizations, mission area(s), specific threat or hazard, a brief scenario description, and the name of the exercise sponsor and POC.

Improvement Planning

Improvement planning is the process by which the observations recorded in the AAR are resolved through development of concrete corrective actions, which are prioritized and tracked as a part of a continuous corrective action program.

3.3.16 After-Action Meeting

The After-Action Meeting (AAM) is a meeting held among decision- and policy-makers from the exercising organizations, as well as the Lead Evaluator and members of the Exercise Planning Team, to debrief the exercise and to review and refine the draft AAR and Improvement Plan (IP). The AAM should be an interactive session, providing attendees the opportunity to discuss and validate the observations and corrective actions in the draft AAR/IP.

3.3.17 Improvement Plan

The IP identifies specific corrective actions, assigns them to responsible parties, and establishes target dates for their completion. It is created by elected and appointed officials from the organizations participating in the exercise, and discussed and validated during the AAM.

Participant Information and Guidance

Exercise Rules

The following general rules govern exercise play:

- Real-world emergency actions take priority over exercise actions.
- Exercise players will comply with real-world emergency procedures, unless otherwise directed by the control staff.
- All communications (including written, radio, telephone, and e-mail) during the exercise will begin and end with the statement **"This is an exercise."**
- Exercise players who place telephone calls or initiate radio communication with the SimCell must identify the organization or individual with whom they wish to speak.

Players Instructions

Players should follow certain guidelines before, during, and after the exercise to ensure a safe and effective exercise.

3.3.18 Before the Exercise

- Review appropriate organizational plans, procedures, and exercise support documents.
- Be at the appropriate site at least 30 minutes before the exercise starts. Wear the appropriate uniform and/or identification item(s).
- Sign in when you arrive.
- 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.

3.3.19 During the Exercise

- Respond to exercise events and information as if the emergency were real, unless otherwise directed by an exercise controller.
- Controllers will give you only 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. If you are asked an exercise-related question, give a short, concise answer. If

you are busy and cannot immediately respond, indicate that, but report back with an answer as soon as possible.

- If you do not understand the scope of the exercise, or if you are uncertain about an organization'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 incorporation of unrealistic aspects. Every effort has been made by the exercise's trusted agents to balance realism with safety and to create an effective learning and evaluation environment.
- All exercise communications will begin and end with the statement **"This is an exercise."** This precaution is taken so that anyone who overhears the conversation will not mistake exercise play for a real-world emergency.
- When you communicate with the SimCell, identify the organization or individual with whom you wish to speak.
- Speak when you take an action. This procedure will ensure that evaluators are aware of critical actions as they occur.
- Maintain a log of your activities. Many times, this log may include documentation of activities that were missed by a controller or evaluator.

3.3.20 After the Exercise

- Participate in the Hot Wash at your venue with controllers and evaluators.
- Complete the Participant Feedback Form. This form allows you to comment candidly on emergency response activities and exercise effectiveness. 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 exercise is of limited duration and scope, certain details will be simulated. The physical description of what would fully occur at the incident sites and surrounding areas will be relayed to players by controllers.

Appendix A: Exercise Schedule

HANCOCK COUNTY EMS

8:00 AM	Exercise begins.
8:00 AM	Ambulance Company is notified that Beaver Valley Power Station has declared a Site Area Emergency.
8:10 AM	Ambulance Company is notified that Beaver Valley Power Station has escalated to a General Emergency.
8:25 AM	An ambulance is requested to report to the accident staging area to pick up an injured and potentially contaminated individual.
8:40 AM	Ambulance leaves for Weirton Medical Center. AMBULANCE WILL RESPOND WITHOUT SIRENS AND LIGHTS.
9:00 AM	Ambulance arrives at the hospital and the patient is removed from the ambulance. The ambulance is sent (simulated) to the Emergency Worker Decontamination Center.

WEIRTON MEDICAL CENTER

8:00 AM	Exercise begins.
8:00 AM	The hospital is notified that Beaver Valley Power Station has declared a Site Area Emergency.
8:10 AM	The hospital is notified that the emergency at the Beaver Valley Power Station has escalated to a General Emergency.
8:25 AM	The hospital is notified that a person has been injured who is potentially contaminated.
8:40 AM	The hospital is notified that the ambulance is enroute with an ETA of 20 minutes.
9:00 AM	The patient arrives at the hospital.
10:00 AM	Exercise Ends.
10:00 AM	Critique.

Times may vary. Starting time is subject to change.

Appendix B: Exercise Participants

Participating Organizations
Federal
Federal Emergency Management Agency
State
West Virginia Division of Homeland Security & Emergency Management
West Virginia Department of Health and Human Resources
Hancock County, WV
Hancock County Office of Emergency Management
Brooke County, WV
Brooke County Emergency Management Agency
Brooke County EMS
Private
Beaver Valley Power Station
Hancock County EMS
Weirton Medical Center

Appendix C: Contaminated Patient Info

Situation: A member of the Public getting out of their vehicle at the reception center, twisting their left ankle, but catching themselves before falling on the potentially contaminated vehicle with their forearms.

Injuries: The victim has an injured left ankle (not immediately known without X-rays) and is complaining of great pain in the area. The victim's left forearm area is also abraded and bruised.

Blood Pressure: 128/72
Pulse: 106
Breathing: 20

Temperature: Normal
Skin: Warm/Dry
No Nausea
Vision: Clear, eyes equal and reactive

Patient may give own answer on all other queries.

Contamination:

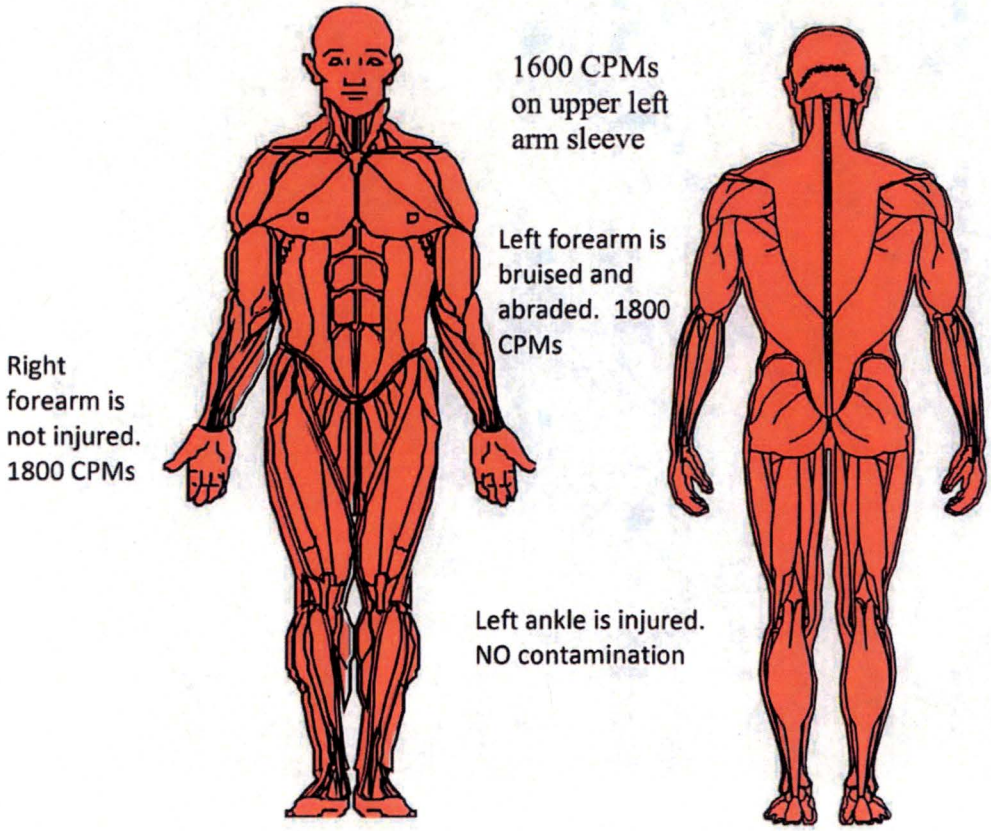
A. Contamination readings of 1600 cpm on left upper arm. Removal of shirt sleeve eliminates reading.

B. Injured left ankle.

C. Left forearm bruised and abraded. Contamination of 1800 cpm. First decon attempt decreases readings to 800 cpm. Second attempt results in less than 100 cpm.

D. Right forearm contaminated no injury. Contamination 1600 cpm. First decon attempt decreases readings to 800 cpm. Second attempt results in less than 100 cpm.

INDICATES AREAS OF CONTAMINATION/INJURY



Removal of outer garments eliminates contamination on left upper arm.

Right and left forearm is reading 1800 cpms on initial reading. First decon attempt decreases reading to 800 cpm. Second decon attempt results in reading of less than 100 cpm.

Left ankle is injured. No contamination identified.

Appendix D: Exercise Site Maps

Figure D.1: Weirton Medical Center

Appendix E: Acronyms

Acronym	Term
DHS	U.S. Department of Homeland Security
ExPlan	Exercise Plan
HSEEP	Homeland Security Exercise and Evaluation Program
SME	Subject Matter Expert
WMC	Weirton Medical Center
REP	Radiological Emergency Preparedness
MS-1	Medical Services One