



**FEMA**

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Nuclear Regulatory Commission Headquarters  
Office of Nuclear Security and Incident Response  
Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

To Whom It May Concern:

Enclosed is the final After Action Report/Improvement Plan for the Peach Bottom Atomic Power Station (PBAPS) Medical Services Drill held on May 28, 2015.

There were no Deficiencies, Areas Requiring Corrective Action (ARCAs), or Planning Issues identified as a result of this exercise. Also, there were no outstanding ARCAs or Planning Issues from previous exercises.

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

If you have any further questions, please contact me or the Peach Bottom Atomic Power Station Project Officer, Michael E. Shuler, Sr. at (215) 931-5526.

Sincerely,

  
MaryAnn Tierney  
Regional Administrator

Enclosure

LX49



Peach Bottom Atomic Power Station

# After Action Report/ Improvement Plan

Drill Date - May 28, 2015

Radiological Emergency Preparedness (REP) Program



**FEMA**

*Published July 17, 2015*

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# Peach Bottom Atomic Power Station After Action Report/Improvement Plan

*Published July 17, 2015*

## Contents

Executive Summary	3
Section 1: Exercise Overview	4
1.1 Exercise Details	4
1.2 Exercise Planning Team Leadership	4
1.3 Participating Organizations	6
Section 2: Exercise Design Summary	7
2.1 Exercise Purpose and Design	7
2.2 Exercise Objectives, Capabilities and Activities	11
2.3 Scenario Summary	12
Section 3: Analysis of Capabilities	13
3.1 Drill Evaluation and Results	13
3.2 Summary Results of Drill Evaluation	13
3.3 Criteria Evaluation Summaries	16
3.3.1 Risk Jurisdictions	16
3.3.1.1 York County, WellSpan York Hospital	16
3.3.1.2 York County, Delta-Cardiff Emergency Medical Services Ambulance	16
Section 4: Conclusion	17
Appendix A: Drill Evaluators and Team Leaders	18
Appendix B: Acronyms and Abbreviations	19
Appendix C: Exercise Plan	20

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## EXECUTIVE SUMMARY

On June 28, 2015, a Medical Services (MS-1) Drill was evaluated for the 10-mile plume exposure pathway, Emergency Planning Zone (EPZ) around the Peach Bottom Atomic Power Station (PBAPS) 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 April 23, 2015 (Commonwealth of Pennsylvania).

The purpose of the Peach Bottom MS-1 drill was to assess the State and local offsite response organization preparedness in responding to a radiological medical emergency. The drill was held in accordance with FEMA's policies and guidance concerning the exercise of State and local Radiological Emergency Response Plans (RERP) and procedures.

FEMA wishes to acknowledge the efforts of the many individuals in the Commonwealth of Pennsylvania, York County Office of Emergency Operations, Wellspan York Hospital and the Delta Cardiff Volunteer Fire Company who were evaluated during this exercise.

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 as volunteers providing vital emergency services twenty four (24) hours a day to the communities of 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 Commonwealth of Pennsylvania and local organizations demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies, Areas Requiring Corrective Action (ARCA), or Planning issues.

## **SECTION 1: EXERCISE OVERVIEW**

### **1.1 Exercise Details**

**Exercise Name**

Peach Bottom Atomic Power Station

**Type of Exercise**

Drill

**Exercise Date**

May 28, 2015

**Program**

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

**Scenario Type**

Radiological Emergency

### **1.2 Exercise Planning Team Leadership**

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## 1.3 Participating Organizations

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

State Jurisdictions

Pennsylvania Emergency Management Agency (PEMA)

Risk Jurisdictions

York County Office of Emergency Management

Private Organizations

Wellspan York Hospital

Delta-Cardiff Volunteer Fire Company

Exelon Nuclear

Federal Jurisdictions

Federal Emergency Management Agency (FEMA)

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## 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 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 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 June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); 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, and
- U.S. Food and Drug Administration.

Representatives of these agencies serve on the Region III Regional Assistance Committee (RAC), which is chaired by FEMA. A REP Medical Services drill was conducted May 28, 2015, 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 Peach Bottom Atomic Power Station. The purpose of this exercise 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 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:

A. 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;

B. Radiological Emergency Preparedness Program Manual, January 2015

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

Section 2 is titled "Exercise Design Summary", and includes the "Purpose and Design", "Exercise Objectives, Capabilities, and Activities", and the "Scenario Summary".

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

Section 4, "Conclusion", is a description of the Region's overall assessment of the capabilities of the participating organizations. It also presents information on planning issues if any were identified.

This section also contains:

(1) Descriptions of all Deficiencies and Areas Requiring Corrective Action (ARCA) assessed during this exercise, recommended corrective actions, and the Tribal, State, and local governments' schedule of corrective actions for each identified exercise issue.

(2) Descriptions of ARCAs assessed during previous exercises and resolved at this exercise, including the corrective action demonstrated, as well as ARCAs assessed during previous exercises and scheduled for demonstration at this exercise which remain unresolved.

The final section of the report is comprised of the appendices, which present the following supplementary information, Drill Evaluators and Team Leaders, Acronyms and Abbreviations, and Exercise Plan as required.

The following is a basic description of the plume exposure Emergency Planning Zone (EPZ): Exelon Nuclear owns and operates the Peach Bottom Atomic Power Station (PBAPS). The station consists of one 40-megawatt (MW), high-temperature, gas-cooled reactor (Unit 1), decommissioned in October 1974, and two operating boiling water reactors (Units 2 and 3) rated at 1,065 MW per unit. The operating licenses for the facility were granted in October 1973 (Unit 2) and July 1974 (Unit 3); commercial operation began at the site in July 1974 (Unit 2) and December 1974 (Unit 3).

The coordinates of the plant site are 39°45'32" north (latitude) by 76°16'9" west (longitude). The site consists of 620 acres located on the west shore of Conowingo Pond, a reservoir formed by the backwater of the Conowingo Dam on the Susquehanna River. The site is primarily in Peach Bottom Township, York County, Pennsylvania; a small portion of the property lies in Lancaster County in southeastern Pennsylvania near the mouth of Rock Run Creek. The

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minimum exclusion distance (distance from the center point of the reactor vessel to the site area boundary) specified for the PBAPS is 2,700 feet. Exelon Nuclear owns all the land within the exclusion area; there are no private residences on site.

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

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

The 10-mile EPZ for PBAPS, with a total risk population of approximately 59,595, covers the following jurisdictions:

Commonwealth of Pennsylvania

Chester County

West Nottingham Township

Lancaster County

Drumore Township  
East Drumore Township  
Fulton Township  
Little Britain Township  
Martic Township  
Providence Township  
Quarryville Borough

York County  
Delta Borough  
Peach Bottom Township  
Fawn Township  
Fawn Grove Borough  
Lower Chanceford Township

State of Maryland  
Cecil County  
Harford County

## **2.2 Exercise Objectives, Capabilities and Activities**

The Peach Bottom Atomic Power Station 2015 Medical Services drill evaluated by the Federal Emergency Management Agency was designed to demonstrate the capabilities of State and local emergency management agencies to technically assess the extent of the radiological impact from a contaminated injured individual, including transport and receipt at a hospital.

The demonstration included the ability to:

A. Respond to a radiation medical emergency following the procedures of York County Office of Emergency Management (YCOEM), Delta Cardiff Volunteer Fire Company Medical Services (EMS), and Wellspan York Hospital.

B. Implement timely and accurate communications between the hospital and offsite response

agencies. (Telephones will be used in lieu of radios whenever possible to limit the potential misinterpretation of the drill as an actual event.)

C. Establish correct priorities and appropriate techniques in EMS, transportation of patients and pre-hospital and hospital emergency care of radioactively contaminated patients.

D. Initiate inter-agency cooperation between Ephrata Community Ambulance Association and Ephrata Community Hospital.

## **2.3 Scenario Summary**

The exercise scenario for this Medical Services Drill consisted of simulated notifications of escalating emergency classification levels at the Peach Bottom Atomic Power Station (PBAPS) from Site Area Emergency (SAE) to General Emergency (GE). Subsequent to an airborne release of radiological material the plant declared a General Emergency.

During the incident an emergency worker tripped over a fire hose landing hard on his hands and knees. The victim was conscious and complaining of pain in his right wrist. The victim had a small laceration on both knees and hands. Delta Cardiff Volunteer Fire Company was dispatched to the scene to provide medical support and transport to the nearest MS-1 Hospital.

Upon arrival at Wellspan York Hospital, the medical treatment team and a radiation safety representative met the Emergency Medical Services (EMS) team at the exterior entrance to the Radiological Emergency Area (REA). The hospital's medical team assessed the patient's condition and surveyed the victim for radiological contamination. Initial contamination levels included: 1000 counts per minute (cpm); on both right and left palms and 1200 cpm on both pant legs.

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## **SECTION 3: ANALYSIS OF CAPABILITIES**

### **3.1 Drill Evaluation and Results**

Contained in this section are the results and findings of the evaluations of all jurisdictions and locations that participated in the May 28, 2015, Medical Services Radiological Emergency Preparedness (REP) Drill. The drill was conducted to demonstrate the ability of the Offsite Response Organizations to respond to a potentially contaminated injured person associated with the Peach Bottom Atomic Power Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of the appropriate Exercise Evaluation Area Criteria contained in the REP Program Manual. Detailed information on the exercise evaluation area criteria and the Extent-of-Play agreement are found in Appendix B.

The drill was conducted and evaluated in accordance with the Radiological Emergency Preparedness Program Manual and NUREG 0654. The Evaluation Criteria included:

- 1.e.1 Equipment and supplies to support operations
- 3.a.1 Implementation of emergency worker exposure control
- 6.d.1 Transportation and treatment of contaminated injured individuals

The drill successfully demonstrated the response capabilities of the participants (except as may be noted in Section 3.2, Summary Results of Drill Evaluation, and Section 3.3, Criteria Evaluation Summaries).

### **3.2 Summary Results of Drill Evaluation**

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

(D) Deficiency: an observed or identified inadequacy of organizational performance in a drill that could cause a finding 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.

(A) Area Requiring Corrective Action (ARCA): 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 ORO's emergency plan or implementing procedures, rather than in the ORO's performance. Plan Issues are not exercise issues and are required to be corrected through the revision of the appropriate plans or procedures during the next annual plan review and update, submitted for FEMA review, and reported in the State Annual Letter of Certification.

(N) Not Demonstrated: term applied to the status of a REP exercise Evaluation Area Criterion indicating that the ORO, for a justifiable reason, did not demonstrate the Evaluation Area Criterion, as required in the extent-of-play agreement or at the two-year or eight-year interval required in the FEMA REP Program Manual.

(M) Met: status of a REP exercise 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 Deficiencies or ARCAs assessed in the current exercise and no unresolved prior ARCAs.

Table 3.1 - Summary of Drill Evaluation

DATE: 2015-05-28 SITE: Peach Bottom Atomic Power Station, PA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		Y C Y H M S - 1	Y C D C E M S
Emergency Operations Management			
Mobilization	1a1		
Facilities	1b1		
Direction and Control	1c1		
Communications Equipment	1d1		
Equipment and Supplies to Support Operations	1e1	M	M
Protective Action Decision Making			
Emergency Worker Exposure Control Decisions	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 Ingestion Pathway	2d1		
Radiological Assessment & Decision-making for Relocation/Reentry/Return	2e1		
Protective Action Implementation			
Implementation of Emergency Worker Exposure Control	3a1	M	M
Implementation of KI PAD for Institutionalized Individuals/Public	3b1		
Implementation of PADs for disabilities & access/functional needs people	3c1		
Implementation of PADs for Schools	3c2		
Implementation of Traffic & Access Control	3d1		
Impediments to Evacuation	3d2		
Availability & use of Commodity & Resource Information	3e1		
Preprinted Materials for Implementing PADs for Commodities & Resources	3e2		
Implementation of Relocation/Reentry/Return Decisions	3f1		
Field Measurement and Analysis			
RESERVED	4a1		
Field Team Management	4a2		
Plume Phase Field Measurement, Handling, & Analyses	4a3		
Post Plume Phase Field Measurements & Sampling	4b1		
Laboratory Operations	4c1		
Emergency Notification and Public Info			
Activation of the Prompt Alert & Notification System	5a1		
RESERVED	5a2		
Activation of the Back-up ANS	5a3		
Activation of the Exception Area ANS	5a4		
Emergency Information & Instructions for the Public/Media	5b1		
Support Operations/Facilities			
Monitoring, Decontamination, & Registration of Evacuees	6a1		
Monitoring/Decontamination of Emergency Workers/Equipment/Vehicles	6b1		
Temporary Care of Evacuees	6c1		
Transportation/Treatment of Contaminated Injured Individuals	6d1	M	M

### **3.3 Criteria Evaluation Summaries**

#### **3.3.1 Risk Jurisdictions**

##### **3.3.1.1 York County, WellSpan York Hospital**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.e.1, 3.a.1, 6.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

##### **3.3.1.2 York County, Delta-Cardiff Emergency Medical Services Ambulance**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.e.1, 3.a.1, 6.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

## SECTION 4: CONCLUSION

The Commonwealth of Pennsylvania and local jurisdictions, except where noted in this report demonstrated knowledge of their Radiological Emergency Response Plans (RERP) and procedures were adequately implemented during the Peach Bottom Atomic Power Station, Medical Services Drill evaluated on May 28, 2015.

Two (2) Federal Emergency Management Agency (FEMA) evaluators provided analyses of six evaluation criteria. These analyses resulted in a determination of no Deficiencies, Areas Requiring Corrective Action (ARCA), new Planning Issues, or unresolved issues.

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

An After Action Implementation Plan (IP) will not be developed as part of this report.

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## APPENDIX A: DRILL EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leader for the Peach Bottom Atomic Power Station 2015 Medical Services Drill evaluated on May 28, 2015. The following constitutes the managing staff for the drill evaluation:

- Thomas Scardino, DHS/ FEMA, Radiological Assistance Committee (RAC) Chairperson
- Michael E. Shuler, Sr., DHS/ FEMA, Project Officer and Site Specialist
- Robert Neff, DHS/ FEMA, Technological Hazards Program Specialist, Evaluator

DATE: 2015-05-28, SITE: Peach Bottom Atomic Power Station, PA

LOCATION	EVALUATOR	AGENCY
York County, WellSpan York Hospital	*Michael Shuler	FEMA RIII
York County, Delta-Cardiff Emergency Medical Services Ambulance	Robert Neff	FEMA RIII
* Team Leader		

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## APPENDIX B: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ARCA	Area Requiring Corrective Action
EPZ	Emergency Planning Zone
FEMA	Federal Emergency Management Agency
PBAPS	Peach Bottom Atomic Power Stations
PRD	Permanent Record Dosimeter
REA	Radiological Exposure Area
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plans

## **APPENDIX C: EXERCISE PLAN**

The enclosed Exercise Plan was created as an overall tool for facilitation and implementation of the Peach Bottom Atomic Power Station 2015 Medical Services drill and to integrate the concepts and policies of the Homeland Security Exercise Evaluation Program with the Radiological Emergency Preparedness Program Exercise Methodology.

The Exercise Plan was originally drafted by the Pennsylvania Emergency Management Agency (PEMA) and published by the Federal Emergency Management Agency as an independent document and is annexed here. The Peach Bottom Atomic Power Station Extent of Play was negotiated and agreed upon by FEMA Region III, and PEMA. The Extent of Play (EoP) is included as an Appendix of the Exercise Plan.



# **2015 Peach Bottom Atomic Power Station Medical Services Exercise Wellspan York Hospital**

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Exercise Plan

**May 28, 2015**

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 Plan  
(ExPlan)**

**WellSpan York Hospital**

## EXERCISE OVERVIEW

<b>Exercise Name</b>	Peach Bottom Atomic Power Station (PBAPS) Medical Services Exercise – Wellspan York Hospital
<b>Exercise Dates</b>	May 28, 2015
<b>Scope</b>	This exercise is a Functional Exercise (FE), planned for 0830 to 1200 at Wellspan York Hospital. Exercise play is limited to the exercise scenario.
<b>Mission Area(s)</b>	Response
<b>Core Capabilities</b>	Planning, Communications, Community Preparedness and Participation, WMD HazMat Response and Decontamination, Emergency Triage and Pre-Hospital Treatment, and Medical Supplies Management and Distribution.
<b>Objectives</b>	See Appendix F for the required demonstration elements and extent of play;
<b>Threat or Hazard</b>	Radiological Release
<b>Scenario</b>	The scenario simulates the response, treatment, and transport of a potentially radiologically contaminated patient by pre-hospital providers and the receipt, medical care, and decontamination of the patient by the hospital.
<b>Sponsor</b>	Pennsylvania Emergency Management Agency
<b>Participating Organizations</b>	Wellspan York Hospital Delta Cardiff Volunteer Fire Company (VFC) York County Office of Emergency Management Pennsylvania Emergency Management Agency Exelon Nuclear

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

## 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.

Exercise Objective	Core Capability
See Appendix F	
A. Demonstrate the ability to respond to a radiation medical emergency following the procedures of York County Office of Emergency Management, Delta Cardiff Volunteer Fire Company (VFC) and Wellspan York Hospital.	<ul style="list-style-type: none"> <li>• Public Health and Medical Services</li> <li>• Public and Private Services and Resources</li> </ul>
B. Demonstrate timely and accurate communications between the hospital and offsite response agencies. (Telephones will be used in lieu of radios whenever possible to limit the potential misinterpretation of the exercise as an actual event.)	<ul style="list-style-type: none"> <li>• Operational Communications</li> <li>• Environmental Response/Health and Safety</li> </ul>
C. Demonstrate correct priorities and appropriate techniques in EMS, transportation of patients and pre-hospital and hospital emergency care of radioactively contaminated patients	<ul style="list-style-type: none"> <li>• Critical Transportation</li> </ul>
D. Demonstrate inter-agency cooperation between the Ambulance Company/EMS and the Hospital.	<ul style="list-style-type: none"> <li>• Operational Coordination</li> <li>• On-scene Security and Protection</li> </ul>

**Table 1. Exercise Objectives and Associated Core Capabilities**

### 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:

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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- **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.
- **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.

## **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.

### **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 will be graded against the REP criteria. Elements outside the scope of the REP criteria will not be graded.
- 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.

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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- Participating agencies may need to balance exercise play with real-world emergencies. Real-world emergencies take priority.

### **Artificialities**

During this exercise, the following artificialities apply:

- Exercise communication and coordination is limited to participating exercise organizations, venues, and the SimCell.

## **EXERCISE LOGISTICS**

### **Safety**

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

- A Controller(s) is responsible for participant safety; any safety concerns must be immediately reported to the Controller(s). The Controller(s) and Lead Evaluator 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 other Controller(s) and Lead Evaluator with the location of the emergency and resources needed, if any.

### **Site Access**

#### **Security**

If entry control is required for the exercise venue(s), the sponsor organization 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.

## POST-EXERCISE AND EVALUATION ACTIVITIES

### Debriefings

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

### 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.

### Evaluation

#### 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).

#### 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.

#### 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.

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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## **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.

### **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.

### **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.

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**Exercise Plan  
(ExPlan)**

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- 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.

### **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 simulators or controllers. York County will simulate the roles and interactions of nonparticipating organizations or individuals.

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(ExPlan)**

**WellSpan York Hospital**

## APPENDIX A: EXERCISE SCHEDULE

Time	Personnel	Activity	Location
<b>May 28, 2015</b>			
09:15	Controllers, evaluators, and exercise staff	Controller and Evaluator Assemble/Briefing	WellSpan York Hospital & Delta-Cardiff VFC
09:30	All	Exercise Start	WellSpan York Hospital & Delta-Cardiff VFC
11:00 Approx	All	Patient arrival at Wellspan York Hospital	WellSpan York Hospital
12:00 Approx	All	End Ex	WellSpan York Hospital
12:15 Approx	All	Hotwash	WellSpan York Hospital

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(ExPlan)

WellSpan York Hospital

## APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
<b>Federal</b>	
	Federal Emergency Management Agency (FEMA)
<b>State</b>	
	Pennsylvania Emergency Management Agency (PEMA)
<b>County</b>	
	York County Office of Emergency Management
<b>Hospital</b>	
	WellSpan York Hospital
<b>EMS Service</b>	
	Delta Cardiff Volunteer Fire Company (VFC)
<b>Industry</b>	
	Exelon Nuclear

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(ExPlan)**

**WellSpan York Hospital**

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## **APPENDIX C: COMMUNICATIONS PLAN**

None

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## APPENDIX D: EXERCISE SITE MAPS

None



## APPENDIX F: EXTENT OF PLAY

### PEACH BOTTOM ATOMIC POWER STATION WELLSPAN YORK HOSPITAL May 28, 2015

#### Method of Operation

1. The power station and its personnel will not play as active role in the facilitation of this exercise. The plant's simulated events, radiation releases, and emergency classifications will be injected by off-site controllers. A pre-approved scenario will be used.
2. The Pennsylvania Emergency Management Agency (PEMA), PEMA Central Area Office and the Bureau of Radiation Protection will not be activated as part of this exercise. The Exercise Coordinator will provide pre-exercise coordination and observe exercise activities.
3. Exelon will participate as a Controller in this exercise.
4. York County Office of Emergency Management will provide pre-exercise coordination, participate in this exercise as the county communications coordinator and observe exercise activities.
5. Controllers will be supplied by PEMA. Controllers are not players and will provide injects and information to initiate and stimulate exercise play by providing radiological readings during the monitoring of personnel. Live radioactive sources will only be used to perform operational checks of radiological monitoring instruments.
6. PEMA staff and qualified county emergency management personnel will be assigned to key locations for the purpose of observing, noting response actions and conditions, and recording observations for future use. Observers will not take an active part in the proceedings, but will interact with staff members to the extent necessary to fulfill their observer responsibilities. Coaching of players is not permitted, except as appropriate to provide training to participants awaiting a re-demonstration.

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

7. Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), Radiological Emergency Preparedness Program (REPP) Evaluators: FEMA Evaluators will be present at designated demonstration locations.
8. Exercise activities are scheduled to commence on or about 0830, May 28, 2015 and continue until the participants have completed the exercise objectives and demonstrated the Exercise Evaluation Criteria.
9. Participants and agencies will Stand Down when the Controllers have confirmed with the evaluators that all evaluation criteria have been demonstrated and when the State and County Observers are satisfied that the Objectives have been met.
10. An emergency plan is drafted to address the generally expected conditions of an emergency. Not everything in the emergency plan may be applicable for a given scenario. The main purpose of an emergency plan is to assemble sufficient expertise and officials so as to properly react to the events as they occur. The responders should not be so tied to a plan that they cannot take actions that are more protective of the public. Therefore, if, by not following the plan, the responders protect the public equally as well as provided in the plan, it should be noted for possible modification of the plan, but not classified as a negative incident. Furthermore, if, by following the plan there is a failure to protect the public health and safety, it should be noted so that the plan can be modified and the appropriate negative assessment corrected.
11. During the exercise any activity that is not satisfactorily demonstrated may be redemonstrated by the participants during the exercise, provided it does not negatively interfere with the exercise. Refresher training may be provided by the players, observers, and/or controllers. Redemonstrations will be negotiated between the players, observers, controllers, and evaluators. It is permissible to extend the demonstration window, within reason, to accommodate the re-demonstration. Activities corrected from a re-demonstration will be so noted.

**Objectives**

- E. Demonstrate the ability to respond to a radiation medical emergency following the procedures of York County Office of Emergency Management, Delta Cardiff VFC and Wellspan York Hospital.
- F. Demonstrate timely and accurate communications between the hospital and offsite response agencies. (Telephones will be used in lieu of radios whenever possible to limit the potential misinterpretation of the exercise as an actual event.)

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(ExPlan)**

**WellSpan York Hospital**

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- G. Demonstrate correct priorities and appropriate techniques in EMS, transportation of patients and pre-hospital and hospital emergency care of radioactively contaminated patients.
- H. Demonstrate inter-agency cooperation between the Ambulance Company/EMS and the Hospital.

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(ExPlan)

WellSpan York Hospital

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**PEACH BOTTOM ATOMIC POWER STATION**  
**WELLSPAN YORK HOSPITAL MEDICAL SERVICES EXERCISE**

**Extent of Play Agreement**

**Evaluation Area 1—Emergency Operations Management**

***Sub-Element 1.e—Equipment and Supplies to Support Operations***

**Intent**

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

**Criterion 1.e.1: Equipment, maps, displays, 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; K.3.a, K.5.b).**

**ASSESSMENT/EXTENT OF PLAY**

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

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

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

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

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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identifying emergency workers that have declined KI in advance. Consider carefully the placement of emergency workers that have declined KI in advance.

ORO quantities of dosimetry and KI available and storage location(s) will be confirmed by physical inspection at the storage location(s) or through documentation of current inventory submitted during the exercise, provided in the ALC submission, and/or verified during an SAV. Available supplies of KI must be within the expiration date indicated on KI bottles or blister packs. As an alternative, the ORO may produce a letter from a certified private or State laboratory indicating that the KI supply remains potent, in accordance with U.S. Pharmacopoeia standards.<sup>94</sup>

**Dosimetry:** Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers must be available for issuance to all emergency workers who will be dispatched to perform an ORO mission. In addition, OROs must demonstrate provisions to make dosimetry available to specialized response teams (e.g., civil support team, Special Weapons and Tactics Teams, urban search and rescue, bomb squads, HAZMAT, or other ancillary groups) as identified in plans/procedures).

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

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

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

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

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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

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

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:**

In accordance with PEMA standard operating procedures ambulance crews operating outside the 10 mile Emergency Planning Zone are considered "Category C" emergency workers; therefore, they are only required to implement protective measures consistent with protection against blood-borne pathogens; i.e., long sleeved garments, trousers, impermeable gloves, and surgical masks. Ambulance "Category C" emergency workers are not issued dosimetry or KI unless they are tasked to enter the 10 mile EPZ. At that time, the county will issue what is needed.

Hospital personnel are also considered "Category C" emergency workers and will conform to PEMA SOP protective measures at minimum. Direct Reading Dosimeters may be issued individually; however, an Area Kit will be established in the Radiation Emergency Area (REA). Individual PRDs will be issued by the hospital. Radiological Survey Instruments are calibrated per manufactures recommendations.

**Outstanding Issues:**

None

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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**Evaluation Area 3—Protective Action Implementation**

***Sub-Element 3.a—Implementation of Emergency Worker Exposure Control***

**INTENT**

This Sub-element is derived from NUREG0654/FEMA-REP-1, which requires that OROs have the capability to provide for the following: distribution, use, collection, and processing of direct-reading dosimetry and permanent record dosimetry; reading of direct-reading dosimetry by emergency workers at appropriate frequencies; maintaining a radiation dose record for each emergency worker; establishing a decision chain or authorization procedure for emergency workers to incur radiation exposures in excess of the PAGs, and the capability to provide KI for emergency workers, always applying the “as low as is reasonably achievable” principle as appropriate.

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

**ASSESSMENT/EXTENT OF PLAY**

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

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

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

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

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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

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

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

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

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

**State Negotiated Extent of Play:**

Radiological briefings will be provided to address exposure limits and procedures to replace personnel approaching limits and how permission to exceed limits is obtained. At any time, players may ask other players or supervisors to clarify radiological information. In

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**WellSpan York Hospital**

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Pennsylvania, emergency workers outside the EPZ do not have turn-back values. Standard issue of dosimetry and potassium iodide for each category of emergency worker is as follows:

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

Category B: 1 PRD and 1 unit of KI

Category C: 1 PRD

All locations that have dosimetry equipment indicated within their Radiological Emergency Response Plan (RERP) will make the dosimetry equipment (and KI, as appropriate) available for inspection by the Federal Evaluator. In order to demonstrate an understanding of the use of the dosimetry equipment, KI and associated forms; the location need only remove and distribute/issue a maximum of six (6) units of dosimetry from their inventory. Simulation PRDs with mock serial numbers may be used.

**Outstanding Issues:**

None

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**Evaluation Area 6—Support Operation/Facilities**

***Sub-Element 6.d—Transportation and Treatment of Contaminated Injured Individuals***

INTENT

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

***Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG0654/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4)***

ASSESSMENT/EXTENT OF PLAY

Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, or drills. FEMA has determined that these capabilities have been enhanced and consistently demonstrated as adequate; therefore, offsite medical services drills need only be evaluated biennially. FEMA will, at the request of the involved ORO, continue to evaluate the drills on an annual basis. If more than two medical facilities and transportation providers are designated as primary or backup, they are also evaluated biennially.

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

ORO must demonstrate the capability to transport contaminated injured individuals to medical facilities.

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

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

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**Exercise Plan  
(ExPlan)**

**WellSpan York Hospital**

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

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

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

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

**State Negotiated Extent of Play:**

Demonstrate that the facility has the appropriate space, adequate resources and trained personnel to provide monitoring, decontamination and medical services to contaminated/injured individuals.

Demonstrate the ability to transport contaminated/injured individuals while using ALARA principles.

The Ambulance Service will pick-up a pre-staged simulated contaminated/injured victim.

**Outstanding Issues:**

None

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