



Salem and Hope Creek
Nuclear Generating Station
Medical Services Drill
After Action Report/Improvement Plan

Drill Date – May 12, 2017

Radiological Emergency Preparedness (REP) Program



FEMA

Published June 27, 2017

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EXECUTIVE SUMMARY

On May 12, 2017 a Medical Services (MS-1) Drill was conducted for the 10-mile Plume Exposure Pathway, Emergency Planning Zone (EPZ) around the Salem and Hope Creek Nuclear Generating Station 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 May 6, 2016.

The purpose of the Salem and Hope Creek Nuclear Generating Station (SHCNGS) 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 Delaware Emergency Management Agency, Kent and New Castle County Emergency Management Agencies, Wilmington Hospital and the Smyrna-Clayton American Legion Station 64 Ambulance, who were evaluated during this Drill.

Protecting the public's health and safety is a 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 Delaware 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: EXERCISE OVERVIEW

1.1 Drill Details

Drill Name

Wilmington Hospital 2017 Medical Services Drill

Type of Drill

Medical Services

Drill Date

May 12, 2017

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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1.3 Participating Organizations

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

State Jurisdictions

- Delaware Emergency Management Agency

Risk Jurisdictions

- Kent County Emergency Management Agency
- New Castle County Emergency Management Agency

Private Sector Organizations

- Wilmington Hospital
- Smyrna-Clayton American Legion Station 64 Ambulance

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 May 12, 2017, 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 Salem and Hope Creek Nuclear Generating Station (SHCNGS).

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 responder's 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.

- 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.

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 SHCNGS 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 Kent and New Castle County Emergency Management Agency, Wilmington Hospital, and Smyrna-Clayton American Legion Station 64 Ambulance 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

A General Emergency has occurred at the Salem 1 Nuclear Generating Station with a release of radioactive materials. A field monitoring team member has been taking samples at another location and has brought them to Delaware Emergency Management Agency (DEMA) Headquarters; 165 Brick Store Landing Rd. Smyrna, DE 19977. While exiting the vehicle, carrying a soil sample, he trips and falls, causing a laceration to the lower right anterior leg, with significant bleeding. He is contaminated from the soil sample. He calls for assistance, describes what happened, requests an ambulance.

The Kent County 911 Communications Center dispatches Smyrna-Clayton American Legion No. 64 Ambulance and Kent County Paramedics to the scene. As part of their normal procedures, the 911 Communications Center also notifies Wilmington Medical Center to alert them about the arrival of an injured person with possible radiological contamination.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 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 12, 2017 SHCNGS MS-1 Drill. The Drill was conducted to demonstrate the ability of the OROs to respond to a potentially contaminated injured person associated with SHCNGS.

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: 2017-May-12 Site: Salem and Hope Creek Nuclear Generating Station			WH	SCALS64A
(M) Met, (1) Level 1 Finding, (2) Level 2 Finding, (P) Planning Issue				
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 Plans 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 New Castle County, Wilmington Hospital

- a. MET: 1.e.1; 3.a.1; 6.d.1
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES – RESOLVED: NONE
- f. PRIOR ISSUES – UNRESOLVED: NONE

3.3.1.2 Kent County, Smyrna-Clayton American Legion Station 64 Ambulance

- 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 Delaware 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 Salem and Hope Creek Nuclear Generating Station MS-1 Drill evaluated on May 12, 2017.

Two 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 Smyrna-Clayton American Legion Station 64 Ambulance (SCALS64A) 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 Wilmington Hospital.

The Wilmington Hospital 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 SCALS64A, 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 AND TEAM LEADERS

The following is the list of Evaluators and Team Leader for the Salem and Hope Creek Nuclear Generating Station 2017 MS-1 Drill evaluated on May 12, 2017. The following constitutes the managing staff for the Evaluation:

- Thomas Scardino, DHS/FEMA, Regional Assistance Committee Chairman, Acting Federal Preparedness Coordinator
- Nicholas Buls, DHS/FEMA, Technological Hazards Program Specialist/Site Specialist
- John Price, DHS/FEMA, Acting Technological Hazards Branch Chief/RAC Chair, Lead Evaluator

DATE: May 12, 2017

SITE: Salem and Hope Creek Nuclear Generating Station

LOCATION	EVALUATOR	AGENCY
Wilmington Hospital	John Price	FEMA RIII
Smyrna-Clayton American Legion Station 64 Ambulance	Nicholas Buls	FEMA RIII

APPENDIX B: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
DEMA	Delaware Emergency Management Agency
DHS	Department of Homeland Security
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EPZ	Emergency Planning Zone
FEMA	Federal Emergency Management Agency
IP	Improvement Plan
KCEMA	Kent County Emergency Management Agency
MS-1	Medical Services
NCCEMA	New Castle County Emergency Management Agency
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
ORO	Offsite Response Organization
RAC	Regional Assistance Committee
REP	Radiological Emergency Preparedness
SCALS64	Smyrna-Clayton American Legion Station 64 Ambulance
SHCNGS	Salem and Hope Creek Nuclear Generating Station
WH	Wilmington Hospital

APPENDIX C: EXERCISE SCENARIO

The Exercise Scenario was drafted by the Delaware Emergency Management Agency and is included in this Report as an Appendix.

The Exercise Scenario was created as an overall tool for facilitation and implementation of the SHCNGS 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.

RADIOLOGICAL EMERGENCY MS-1 EXERCISE SCENARIO

- I. Date: May 12, 2017
- Time: 0900 Start time
- Responder Location DEMA Headquarters
 165 Brick Store Landing Rd.
 Smyrna, DE 19977
- Hospital Location: Wilmington Medical Center, Christiana Health Care Services
- Injury /Illness: Laceration Anterior Right Lower Leg
- II. Purpose
- A. To exercise the emergency medical response of Kent County Division of
 Emergency Medical Services Paramedics, Smyrna American Legion No. 64
 Ambulance, and the Christiana Health Care Services, Wilmington Medical
 Center Emergency Services.
- B. To comply with FEMA Guidance Memorandum MS-1.
- III. Objectives
- A. Demonstrate the ability to respond to a radiation medical emergency
 following the procedures of Kent County Division of Emergency Medical
 Services Paramedics, Smyrna American Legion No. 64 Ambulance, and the
 Christiana Health Care Services, Wilmington Medical Center Emergency
 Services.
- B. Demonstrate timely and accurate communications between the hospital and
 off-site 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. Demonstrate the assessment and documentation of radiological conditions
 during the simulated accident.
- D. Demonstrate correct priorities and appropriate techniques in EMS,
 transportation of patients and pre-hospital and hospital Emergency care of
 radioactively contaminated patients
- E. Demonstrate inter-agency cooperation between Kent County, EMS, and the
 Hospital.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

IV. Scenario

- A General Emergency has occurred at the Salem 1 Nuclear Generating Station with a release of radioactive materials. A field monitoring team member has been, taking samples at another location and has brought them to DEMA Headquarters 165 Brick Store Landing Rd. Smyrna, DE 19977. While exiting the vehicle, carrying a soil sample, he/she trips and falls, causing a laceration to the lower right anterior leg, with significant bleeding. He/She is contaminated from the soil sample. He/She calls for assistance, **(INSERT MESSAGE 1)** describes what happened, requests an ambulance.

The KC 911 Communications Center dispatches Smyrna American Legion No. 64 Ambulance and Kent County Paramedics to the scene. As part of their normal procedures, the 911 Communications Center also notifies Wilmington Medical Center to alert them about the arrival of an injured person with possible radiological contamination **(INSERT MESSAGE 2)**.

Immediately after the EMS arrives at the meeting point, the victim tells the EMS team what has happened. The EMS team performs medical assessment **(INSERT MESSAGE 3)**. The EMS team **may** perform radiation surveillance **(INSERT MESSAGE 4)**. During the trip to the Christiana Hospital, the EMS team checks the patient's vital signs **(INSERT MESSAGE 5)**.

Upon arrival at the Wilmington Medical Center, the medical team will meet the EMS team at the exterior entrance to the decontamination unit. The hospital medical team will assess the patient's condition **(INSERT MESSAGE 6)**. The patient is transferred from the EMS stretcher to one of the hospital stretchers using contamination controls.

The medical team surveys the victim for radiological contamination **(INSERT MESSAGE 7)**.

The hospital medical team re-surveys the victim after the first decontamination procedure on the patient **(INSERT MESSAGE 8)**.

The hospital medical team re-surveys the victim after second decontamination procedure on the patient **(INSERT MESSAGE 9)**.

After third decontamination procedure on the patient, the medical team will have successfully removed surface contamination **(INSERT MESSAGE 10)**.

Post-medical treatment vital signs **(INSERT MESSAGE 11)**.
EMS crews, equipment, and ambulance are surveyed by Hospital RSO **(Insert Message 12)**

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

V. Participants

- A. Victim: A volunteer will act as the injured accident victim, and will make the calls for assistance.
- B. Transport: Smyrna American Legion No. 64 Ambulance and KC Paramedics
- C. Hospital: Christiana Health Care Services, Wilmington Medical Center.

VI. Controllers

- A. Initiation Scene: Tony Serratore, RN, Haz/Med, PSEG & DEMA
- B. Kent County 911 Communications Center: To Be Determined
- C. Hospital: Tony Serratore, RN, Haz/Med, PSEG & DEMA

CONTROLLER MESSAGES

#	Initiating Event or Time	Location	Issued By	Issued To
1	Victim calls NCC 911	DEMA Headquarters	Controller	Victim
2	After dispatching ambulance	Kent County 911/ EOC	Controller	911 Dispatcher
3	Initial patient medical assessment by ambulance team	DEMA Headquarters	Haz/Med	EMS
4	Radiation surveillance of patient by ambulance team	DEMA Headquarters	Haz/Med	EMS
5	Transportation in ambulance	Ambulance	Haz/Med	EMS
6	Patient's initial medical assessment by hospital	Hospital REA	Haz/Med	Hospital Team
7	Patient's initial radiation survey by hospital team	Hospital REA	Haz/Med	Hospital Team
8	After first decontamination effort	Hospital REA	Haz/Med	Hospital Team
9	After second decontamination effort	Hospital REA	Haz/Med	Hospital Team
10	After third decontamination effort	Hospital REA	Haz/Med	Hospital Team
11	Post-Medical treatment	Hospital REA	Haz/Med	Hospital Team
12	EMS Post Surveys	Hospital REA	Haz/Med	Hospital RSO

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 1

DATE: May 12, 2017

EVENT: The Victim calls KC 911

LOCATION: DEMA Headquarters Accident Scene

ISSUED BY: Scene Controller

ISSUED TO: Victim

Call ____ - ____ - ____ instead of 911. This is the administrative line to the KC 911 Section.

READ:

"This message is part of the medical services drill. I repeat, this is a drill. Message as follows: " I have been injured and may be radioactively contaminated. My right leg is lacerated and I am bleeding. Could you please send an ambulance immediately to the DEMA Headquarters 165 Brick Store Landing R, Smyrna, DE 19977 "This is a drill."

Note: If asked the victim will say that they do not know what the contaminant is, but it may be radioactive.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 2

DATE: May 12, 2017

EVENT: Immediately after dispatching ambulances from the Smyrna American Legion No 64 Ambulance, and KC Paramedics

LOCATION: Kent County 911 Center

ISSUED BY: Kent County Communications Center Controller

ISSUED TO: 911 Dispatcher
(Telephone call from KC 911 Communications Center to the Wilmington Medical Center Emergency Department.)

For the Wilmington Medical Center Emergency Department "PASC will follow their standard operating procedures for notifying the hospital."

READ:

"This message is part of the medical services drill. Repeat, this is a drill. Message follows: A victim has been injured and may be radioactively contaminated. He/she has a laceration to the lower right leg with significant bleeding. Smyrna American Legion no 64 Ambulance and Kent County Paramedics will be transporting this patient to you once his/her condition is assessed and stabilized. This is a drill."

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 3

DATE: May 12, 2017

EVENT: Upon medical assessment of patient.

LOCATION: Accident Scene

ISSUED BY: Scene Controller, Tony Serratore, RN, Haz/Med

ISSUED TO: EMS Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM.
INSTEAD, GIVE THEM THE VITAL SIGNS AS THEY
ARE TAKEN.

VITAL SIGNS	PATIENT
Awake, Alert, & Oriented X3, CO 8/10 Pain Right lower leg,	
Pulse	100 and regular
Respirations	20, Clear Bilaterally
Blood Pressure	100/70
Skin	Pale, cool, diaphoretic
Injuries	Patient has a 4 inch laceration to the anterior lower right leg with significant bleeding.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 4

DATE: May 12, 2017

EVENT: Upon performance of radiation surveillance of the patient and area.

LOCATION: Victim is moved out of the Hot Zone accident area and surveyed

ISSUED BY: Scene Controller Tony Serratore, RN, Haz/Med

ISSUED TO: EMS Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM.
INSTEAD, GIVE THEM THE SURVEY RESULTS AS
THEY ARE TAKEN.

RADIATION SURVEY RESULTS:

Right Anterior lower leg	7,000 cpm
Remainder of Clothes	Background

- NOTES:
- All surveys should be performed with a Count Rate Meter with a GM Pancake probe. (Ludlum # 26, model # 3, or equivalent)
 - If asked the victim will say they do not know the isotope involved.
 - The only contamination is 7,000 cpm where the victim was laying at the accident scene.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 5

DATE: May 12, 2017
EVENT: During transportation in ambulance
LOCATION: Ambulance
ISSUED BY: Controller, Tony Serratore, RN, Haz/Med
ISSUED TO: EMS Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM.
INSTEAD. GIVE THEM THE VITAL SIGNS AS THEY
ARE TAKEN.

VITAL SIGNS:	PATIENT
AA&O x3 C/O 8/10	Pain Anterior lower Right leg
Pulse	110
Respirations	20
Blood Pressure	110/70
Skin	Unchanged
Other	4 inch Laceration with significant bleeding.

NOTE: If not properly wrapped, the victim will spread contamination to the ambulance. (Max 4,000 cpm where cross-contamination is observed by controller. Retain this information and communicate the location(s) to the surveyor at the appropriate time.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 6

DATE: May 12, 2017

EVENT: Patient's initial medical assessment by hospital medical team

LOCATION: Hospital designated Radiation Emergency Area (REA)

ISSUED BY: Hospital Controller, Tony Serratore, RN, Haz/Med

ISSUED TO: Hospital Medical Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM. INSTEAD, GIVE THEM THE VITAL SIGNS AS THEY ARE TAKEN.

VITAL SIGNS:	PATIENT
Awake, Alert, & Oriented x3 Patient C/O 8/10 pain Anterior Right lower leg	
Pulse	112
Respirations	20
Blood Pressure	110/70
Skin	Pale, cool, diaphoretic
Other	Anxious, worried about radiation contamination. Pain Right lower leg, with significant bleeding.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 7

DATE: May 12, 2017

EVENT: Monitoring patient for radiation contamination - upon arrival at the hospital Radiation Emergency Area (REA).

LOCATION: Hospital REA Reception Area

ISSUED BY: Hospital Controller, Tony Serratore, RN, Haz/Med

ISSUED TO: Hospital Medical Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM.
INSTEAD, GIVE THEM THE SURVEY RESULTS AS
THEY ARE TAKEN.

RADIATION SURVEY RESULTS:

Left Ankle	7,000 cpm
Clothing	Removed
Ambulance	Background*
Stretcher/Feet	Background*

*See notes below

- NOTES:
- All surveys should be performed with a Count Rate Meter with a GM Pancake probe. (Ludlum # 26, # 3 or equivalent)
 - If asked the victim will say they do not know the isotope involved.
 - Contamination limited to the anterior of both thighs if proper contamination controls employed by the ambulance crew. If proper contamination controls were not maintained the ambulance, stretcher and other parts of the patient can be reported as 4,000 cpm.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 8

DATE: May 12, 2017

EVENT: Monitoring patient for radiation contamination - after first decontamination effort.

LOCATION: Hospital REA

ISSUED BY: Hospital Controller, Tony Serratore, RN, Haz/Med

ISSUED TO: Hospital Medical Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM. INSTEAD, GIVE THEM THE SURVEY RESULTS AS THEY ARE TAKEN.

RADIATION SURVEY RESULTS:

Clothing	Removed
Right anterior lower leg	1000 cpm
Remainder of Body	Background*

* See note below

- NOTES:
- All surveys should be performed with a Count Rate Meter with a GM Pancake probe. (Ludlum # 26, # 3 or equivalent)
 - If proper contamination controls were not maintained report cross-contaminated areas as 2,000 cpm.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 9

DATE: May 12, 2017

EVENT: Monitoring patient for radiation contamination - after second decontamination effort

LOCATION: Hospital REA

ISSUED BY: Hospital Controller, Tony Serratore, RN, Haz/Med

ISSUED TO: Hospital Medical Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM. INSTEAD, GIVE THEM SURVEY RESULTS SIGNS AS THEY ARE TAKEN.

RADIATION SURVEY RESULTS:

Anterior lower left leg	500 cpm
All Other Areas	Background*

*See note below

- NOTES:
- All surveys should be performed with a Count Rate Meter with a GM Pancake probe. (Ludlum # 26, # 3 or equivalent)
 - If proper contamination controls were not maintained report cross-contaminated areas as 500 cpm.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 10

DATE: May 12, 2017

EVENT: Monitoring patient for radiation contamination - after third decontamination effort.

LOCATION: Hospital REA

ISSUED BY: Hospital Controller, Tony Serratore, RN, Haz/Med

ISSUED TO: Hospital Medical Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM. INSTEAD, GIVE THEM THE SURVEY RESULTS AS THEY ARE TAKEN.

RADIATION SURVEY RESULTS:

All Areas

Background

NOTES: • All surveys should be performed with a Count Rate Meter with a GM Pancake probe. (Ludlum # 26, # 3 or equivalent)

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 11

DATE: May 12, 2017
EVENT: Post-Medical Treatment
LOCATION: Hospital REA
ISSUED BY: Hospital Controller, Tony Serratore, RN, Haz/Med Consultants
ISSUED TO: Hospital Medical Team

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM. INSTEAD, GIVE THEM THE VITAL SIGNS AS THEY ARE TAKEN.

VITAL SIGNS:	PATIENT
AA&O x3	Pain is controlled
Pulse	80, and regular
Respirations	16, CTA
Blood Pressure	118/76
Skin	Warm, dry, normal color
Other	X-rays are negative for fracture. Wound closure is provided in a clean environment.

RADIATION EMERGENCY MS-1 EXERCISE SCENARIO

MESSAGE 12 EMS POST SURVEYS

DATE: May 12, 2017

EVENT: Upon performance of radiation surveillance of the EMS crews, equipment and ambulance.

LOCATION: Hospital Ambulance Arrival Area

ISSUED BY: Scene Controller Tony Serratore, RN, Haz/Med

ISSUED TO: EMS Team/ Hospital RSO

CONTROLLER NOTE: DO NOT GIVE THIS SHEET TO THE MEDICAL TEAM.
INSTEAD, GIVE THEM THE SURVEY RESULTS AS
THEY ARE TAKEN.

RADIATION SURVEY RESULTS:

Surveys of all EMS crews, equipment and ambulance: Background

Remainder of Clothes Background

- NOTES:
- All surveys should be performed with a Count Rate Meter with a GM Pancake probe. (Ludlum # 26, model # 3, or equivalent)
 - **If proper contamination controls were not maintained report cross-contaminated areas may be reported as 4,000 cpm**
 - If all areas are background, the EMS crews may be released for service. **IF CONTAMINATION IS FOUND ON EMS CREWS, THEIR EQUIPMENT, OR AMBULANCES, THEY WILL BE SENT TO THE MIDDLETOWN FIRE SUBSTATION # 1 FOR DECONTAMINATION.**