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FEMA

NOV 2 1 2011

NRC / NSIR Office
NRC Headquarters' Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Enclosed is the final report for the Surry Power Station Radiological Emergency Preparedness Plume Exercise that was held on July 19, 2011. Included in the final report are the results of the June 12-17, 2011 Out of Sequence Exercise.

Eight Field Monitoring Teams (two State, one each Risk Jurisdiction) and more than forty State Agencies participated. Sixty Federal Emergency Management Agency (FEMA) and Other Government Agencies' (OGA) evaluators analyzed 350 evaluation criteria at eighty three locations. These analyses resulted in a determination of eight Areas Requiring Corrective Action (ARCA), five of which were successfully re-demonstrated during the exercise. The remaining three ARCAs were re-demonstrated on August 18, 2011. In addition, seventeen new Planning Issues were assessed and are under review by the respective agencies. There were two ARCAs from the 2010 North Anna Power Station (NAPS) Plume Exposure Pathway exercise which were also successfully re-demonstrated and resolved.

Based on the results of the exercise, the offsite radiological emergency response plans and procedures for the Commonwealth of Virginia, and the affected local jurisdictions, site-specific to the Surry Power Station 10-Mile Emergency Planning Zone, were adequately demonstrated and there is reasonable assurance that the plans are adequate and can be implemented, as demonstrated in the exercise.

If you have any questions, please contact Martin Vyenielo at (215) 931-5670.

Sincerely,

MaryAnn Tierney
Regional Administrator

Enclosure

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Surry Power Station

After Action Report/ Improvement Plan

Exercise Date - July 19, 2011

Radiological Emergency Preparedness (REP) Program

FEMA

Published October 19, 2011

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Surry Power Station
After Action Report/Improvement Plan

Published October 19, 2011

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EXECUTIVE SUMMARY

On July 19, 2011, a full-scale plume exercise was conducted in the 10-mile Plume Exposure Pathway, Emergency Planning Zone (EPZ) around the Surry Power Station (SPS) by the Federal Emergency Management Agency (FEMA), Region III. Out of sequence (OOS) demonstrations were conducted on June 13-16, 2011. A medical services (MS-1) drill was also conducted on June 14, 2011. The purpose of the exercise and the OOS demonstrations was to assess the level of State and local preparedness in responding to a radiological emergency. The exercise and OOS demonstrations were held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

The most recent prior full-scale exercise at this site was conducted on August 4, 2009. The qualifying emergency preparedness exercise was conducted on October 30, 1981.

FEMA wishes to acknowledge the efforts of the many individuals in the Commonwealth of Virginia; the risk jurisdictions of Isle of Wight County, James City County, the City of Newport News, Surry County, the City of Williamsburg, and York County; and the support jurisdictions of Charles City County, the City of Hampton, New Kent County, and the City of Poquoson who were evaluated at 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 by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this exercise.

This report contains the final evaluation of the biennial exercise and the evaluation of the following OOS activities:

• General Population Monitoring and Decontamination: Conducted at the Hampton Evacuation Assembly Center (EAC) on June 13, 2011 and June 15, 2011 at the Newport News Evacuation Assembly Center.

• Mass Care – Shelter: Conducted at the Hampton and Poquoson Evacuation Assembly Centers (EAC) on June 13, 2011 and June 15, 2011 at the Newport News Evacuation Assembly Center.

• Emergency Worker Decontamination: Conducted at the Hampton Evacuation Assembly Center (EAC) on June 13, 2011 and June 15, 2011 at the Newport News Evacuation Assembly Center.

• Medical Services Drill: Conducted on June 14, 2011 at the Riverside Health Systems Hospital using the Isle of Wight County Volunteer Rescue Squad.

• School Districts: York County District Office and the Williamsburg/James City County (combined) School System, conducted on June 14, 2011. Surry County School District and Newport News School District conducted on June 15, 2011. During the Out of Sequence exercise week, in addition to the school districts listed, thirty-seven schools were evaluated.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies and eight Areas Requiring Corrective Action (ARCA) identified as a result of this exercise, three of which were re-demonstrated as part of the exercise and two re-demonstrated as part of the Out of Sequence Exercise during the week of June 15, 2011. The remaining three ARCAs were re-demonstrated on August 18, 2011. Two ARCAs from a previous North Anna exercise were successfully demonstrated at this exercise. Seventeen new planning issues were identified (see Appendix 5: Planning Issues).

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name
Surry Power Station

Type of Exercise
Plume

Exercise Date
July 19, 2011

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 Surry Power Station exercise:

State Jurisdictions

- College of William and Mary
- Peninsula Health District
- United States Army Civil Support Team
- Virginia Cooperative Extension
- Virginia Department of Agriculture and Consumer Services
- Virginia Department of Emergency Management
- Virginia Department of Fire Programs
- Virginia Department of Game and Inland Fisheries
- Virginia Department of Health
- Virginia Department of Health/Bureau of Radiological Health
- Virginia Department of Military Affairs
- Virginia Department of Rail and Public Transportation
- Virginia Department of Social Services
- Virginia Department of Transportation
- Virginia State Police

Risk Jurisdictions

- --ISLE OF WIGHT COUNTY--
- City of Portsmouth Fire Department
- Isle of Wight County Administrator

Isle of Wight County Department of Emergency Services
Isle of Wight County Department of Social Services
Isle of Wight County Hazardous Materials Officer
Isle of Wight County Human Resources
Isle of Wight County Information Technology and Geographic Information Systems
Isle of Wight County Schools
Isle of Wight County Sheriff's Office
Isle of Wight Volunteer Rescue Squad
Portsmouth Fire Department
Radio Amateur Civil Emergency Service - Western Tidewater Radio Association
Rushmere Volunteer Fire Department
Western Tidewater Health District
--JAMES CITY COUNTY--
James City County Administrator
James City County Agricultural Extension
James City County Board of Supervisors
James City County Community Services
James City County Department of Transportation
James City County Dispatch/911
James City County Emergency Management
James City County Emergency Medical Services
James City County Fire Department
James City County Geographic Information Systems
James City County Health Department
James City County Magistrate
James City County Manager's Office
James City County Police Department
James City County Public Information Office
James City County Radio Amateur Civil Emergency Service
James City County Radiological Office
James City County School System
--CITY OF NEWPORT NEWS--
Achievable Dream Elementary School

Achievable Dream Middle/High School
City of Newport News Emergency Management Coordinator
City of Newport News Emergency Medical Services
City of Newport News Evacuee Assembly Center Shelter Manager and Staff
City of Newport News Fire Department
City of Newport News Office of Human Services
City of Newport News Police Department
City of Newport News Public Works
City of Newport News School District Office
Riverside Medical System
Crittenden Middle School
Deer Park Elementary School
Denbigh High School
Dutrow Elementary School
Enterprise Academy
Epes Elementary School
Gatewood PEEP
General Stanford Elementary School
Gildersleeve Middle School
Greenwood Elementary School
Heritage High School
Hilton Elementary School
Hines Middle School
Huntingdon Middle School
Jackson Learning Center
Kiln Creek Elementary School
Lee Hall Early Childhood Center
Lee Hall Elementary School
McIntosh Elementary School
Newsome Park Elementary School
Palmer Elementary School
Riverside Elementary School
Sanford Elementary School
Saunders Elementary School

Warwick High School
Washington Middle School
Yates Elementary School
--CITY OF WILLIAMSBURG--
City of Williamsburg Chapter of the American Red Cross
City of Williamsburg Emergency Management
City of Williamsburg Code Enforcement
City of Williamsburg Fire Department
City of Williamsburg Health Department
City of Williamsburg Police Department
City of Williamsburg Public Works
City of Williamsburg Schools, Transportation
--SURRY COUNTY--
Surry County Emergency Management
Surry County Cooperative Extension
Surry County Department of Agriculture
Surry County Emergency Medical Service
Surry County Fire Department
Surry County Health Department
Surry County Public Works
Surry County Radiological Officer
Surry County Rescue Squad
Surry County Schools
Surry County Sheriff's Office
--YORK COUNTY--
York County Emergency Management
County School Board of York County
Hanover Fire and Emergency Medical Services
York County Community Services Department
York County Department of Fire and Life Safety
York County Public Information Office
York County Radio Amateur Civil Emergency Service
York County School Division
York County Sheriff's Office

York-Poquoson Chapter of American Red Cross
York-Poquoson Department of Social Services
Support Jurisdictions
--CHARLES CITY COUNTY--
Charles City County Emergency Management
Charles City County Administrator
Charles City County Board
Charles City County School System
Charles City County Sheriff's Office
Charles City County Social Services
Charles City County Volunteer Fire and Emergency Medical Services
Charles City County/New Kent Mental Health Services
Henrico County Mental Health
--CITY OF HAMPTON--
City of Hampton City Manager
City of Hampton Disaster Assessment Officer
City of Hampton Emergency Management
City of Hampton Emergency Medical Services
City of Hampton Fire Department
City of Hampton Fire Department Hazardous Materials Team
City of Hampton Health Department
City of Hampton Health Services
City of Hampton Human Resources
City of Hampton Public Information Officer
City of Hampton Police Department
City of Hampton Public Works
City of Hampton Social Services
City of Hampton Radiological Officer
Hampton Coliseum Staff
--NEW KENT COUNTY--
New Kent County Department of Administration
New Kent County Department of Emergency Management
New Kent County Department of Human Resources
New Kent County Department of Social Services

New Kent County Fire-Rescue Department
New Kent County Sheriff's Department
--CITY OF POQUOSON--
City of Poquoson Department of Emergency Services
City of Poquoson Fire Department
City of Poquoson Municipal Office
City of Poquoson Police Department
City of Poquoson School District
City of Poquoson Streets Department
York County-City of Williamsburg-City of Poquoson 9-1-1 Center
York/Poquoson Department of Social Services

Private Organizations
American Red Cross
Dominion Generation
Riverside Medical System
Isle of Wight Volunteer Rescue Squad
Radio Amateur Civil Emergency Service

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 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 Radiological Assistance Committee (RAC), which is chaired by FEMA. A REP Plume Exposure Pathway Exercise was conducted during the week of July 18, 2011, 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 Surry Power Station (SPS). The purpose of this exercise report is to present the exercise results and findings on the performance of the off-site response organizations (OROs) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region III RAC Chairperson and approved by FEMA Headquarters.

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

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

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. FEMA Guidance Memoranda MS-1, "Medical Services," November 1986;

C. FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991;

D. 66 FR 47546, "FEMA Radiological Emergency Preparedness: Alert and Notification," September 12, 2001; and

E. 67 FR 20580, "FEMA Radiological Emergency Preparedness: Exercise Evaluation

Methodology," April 25, 2002.

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 "Exercise Purpose and Design", "Exercise Objectives, Capabilities, and Activities", and the "Scenario Summary".

Section 3 of this report, entitled "Analysis of Capabilities", presents detailed "Exercise Evaluation and Results" information on the demonstration for each jurisdiction or functional entity evaluated in a jurisdiction-based, issue-only format (Criteria Evaluation Summaries). This section also contains: (1) descriptions of all Deficiencies and Areas Requiring Corrective Action (ARCAs) assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue and (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.

Section 4, "Conclusion", is a description of the Region's overall assessment of the capabilities of the participating organizations.

The appendices, present supplementary information:

Appendix A – Improvement Plan. A description of Areas Requiring Corrective Action, parties responsible for implementing a corrective action plan, and time frame for completion.

Appendix B – Exercise Timeline. A table that depicts the times when an event or notifications were noted at participating agencies and locations.

Appendix C – Exercise Evaluators and Team leaders. A table listing the evaluator names, organizations, and responsibilityies of the evaluators and management.

Appendix D – Acronyms and Abbreviations. An alphabetized table defining the formal names used in this report.

Appendix E – Exercise Plan. A narrative description of information developed to implement the exercise including the Extent of Play which describes in detail the exercise criteria and participants expected response to the exercise scenario.

Emergency Planning Zone Description

The SPS, located on the James River in Surry County, Virginia, is owned and operated by Dominion Generation. Two pressurized water reactors generate an electrical output of 855.2 megawatts each. Unit 1 received its license in July 1972 and began commercial operation in December 1972. Unit 2 was licensed in March 1973 and began commercial operation in May 1973. An Independent Spent Fuel Storage Installation at SPS is used to store the spent fuel produced by the two units. The spent fuel is stored in sealed dry storage surface casks placed on concrete slabs within the fenced-in area onsite.

The site encompasses 840 acres south of, and adjacent to, the Hog Island Wildlife Management Area and is bordered by the James River on both sides of the peninsula. The site is at the end of State Route 650, eight miles from the town of Surry, seven miles south of Colonial Williamsburg, and four and one half miles west-northwest of Fort Eustis.

The topography within 10-miles of the site covers parts of Surry, Isle of Wight, York, and James City counties and parts of the cities of Newport News and Williamsburg. Surry and Isle of Wight counties are predominantly rural and characterized by farmland, wooded tracts, and marshy wetlands. York and James City counties and the cities of Newport News and Williamsburg are more urban.

The tip of the peninsula, north of the site, is very marshy and nearly divided from the remainder of the peninsula by numerous streams and creeks. The ground surface at the site is generally flat, with banks sloping down to the river and to a wildlife management area. Preconstruction elevation within the site boundaries ranges from river level to a maximum of 39 feet. Station ground level has been established at an elevation of 26.5 feet above the U.S. Coast Guard and U.S. Geological Survey mean sea-level datum at Hampton Roads, Virginia. Beyond the site boundaries, elevations within a five mile radius range from 40 to 60 feet. Farther away, the countryside is generally flat, with few elevations higher than 200 feet within 50-miles. Much of the region is characterized by marshes, extensive swamps, small streams, and pocosins. Water tables are very near the surface throughout the entire area, accounting for the large amount of

surface water. Drainage throughout the area is toward Hampton Roads and the mouth of Chesapeake Bay.

The regions to the north, south, and west of the site, except for the Williamsburg area, are principally rural and agricultural.

The 10-mile EPZ contains an estimated residential population of 137,475. According to 2000 census data, 4,011 people reside within a five mile radius of the site. Several large tourist-oriented sites lie within the 10-mile EPZ, such as historic Williamsburg and Jamestown, and Busch Gardens and Water Country USA. Busch Gardens and Water Country USA could have in excess of 50,000 visitors daily.

A total of 65 sirens are located throughout the 10-mile EPZ. Where there is no siren coverage, route alerting is conducted by dispatching teams using mobile sirens and a public address system. Exceptions for these areas must be granted by FEMA.

2.2 Exercise Objectives, Capabilities and Activities

The Surry Power Station 2011 Plume Exposure Pathway exercise was a "Full Scale Exercise" evaluated by the Federal Emergency Management Agency designed to demonstrate the capabilities of State and local emergency management agencies to technically assess the extent of the radiological impact from a release, develop Protective Action Recommendations (PAR), implement Protective Action Decisions (PADs), and protect the health, lives, and property of the citizens residing within the 10 mile Emergency Planning Zone.

To demonstrate the ability to communicate between multiple levels of government and provide timely, accurate, and sufficiently detailed information to the public, the emergency management agencies use a variety of resources including radios, telephones, the Internet, the media, the Emergency Alert System (EAS), and the utility Alert and Notification System sirens (ANS). All of these communication resources were employed and evaluated. The EAS and ANS were simulated and media information was prepared but not actually released. Exception - during this exercise the sirens were sounded, followed by a press release.

An essential capability of the Radiological Emergency Preparedness Program (REPP) is to evacuate, monitor and decontaminate if necessary, and provide temporary care and shelter to

displaced residents from the EPZ. The ability of the support counties to mobilize personnel and resources to establish reception, monitoring and decontamination, and mass care centers was demonstrated.

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

2.3 Scenario Summary

NOTE: All information below is scenario simulated. The times for the events are approximate as the NRC licensee's operations crew on the reactor training simulator will be provided opportunity for free play.

There are two nuclear units at the Surry Power Station (SPS), Virginia. Both are Pressurized Water Reactors. Since only SPS Unit 1 has the reactor training simulator it will be participating in the exercise.

At 0800 on July 19, 2011, the exercise starts in the SPS Unit 1 Training Simulator control room. SPS Unit 1 and Unit 2 are operating at 100 percent power. A tornado watch is in effect for Surry, Isle of Wight and James City Counties from 0700 till 1000. The Plant Computer System (PCS) was reported as locked up at 0700. One of the two outside Recirculation Spray Pumps is tagged out of service. This equipment is part of a system that helps to reduce the pressure in the reactor containment in the event of a loss of coolant accident.

The weather forecast is clear with light winds at 4 to 5 miles per hour (mph) from 24 degrees, North North East (NNE) into the South South West (SSW). The atmospheric stability class is F. These conditions are expected to remain unchanged for the next 6 hours.

At 0805, the Training Simulator Control Room receives a loss of all Main Control Room Annunciators alarms. These are the audible alarms heard by operators. It is likely that an Unusual Event may be declared while the control room waits for the results of the investigation. The investigation finds that there is an open fuse in the distribution panel and it will take an hour to fix.

On or before 0820 an ALERT should be declared in accordance with Emergency Action Level EAL-SA4.1, Unplanned loss of most (approximately 75%) or all of either Annunciators AND EITHER a significant transient is in progress OR PCS is unavailable. Unit 1 continues to operate at 100 percent power.

By 0840 the PCS is restored. This now allows for the use of the plant parameter display system and the NRC Emergency Response Data System. By 0905 the Annunciators are restored.

At 0920 a high vibration alarm is received on Reactor Coolant Pump A. At 0925 the Lower Reactor Vessel Loose Parts Monitor Alarms indicating that there is some loose material in the reactor vessel that could damage the reactor fuel or other components. Within seconds there is a major break (loss of coolant accident) on the "A" reactor coolant system loop. This results in an automatic reactor shut down and the initiation of injection of reactor coolant to make up for the loss, and the isolation of reactor containment to prevent a radioactive release.

At about the same time, two of the Containment Spray Pumps fail to operate so the ability to cool the steam atmosphere in the reactor containment and reduce the pressure in the containment is seriously limited. The containment high range radiation monitor increases to greater than 5 R/hour and the containment pressure is greater than 23 pounds per square inch absolute. These are the indications that reactor coolant is being released into the reactor containment building.

On or before 0941 a Site Area Emergency should be declared in accordance with Emergency Action Level FS1.1, Loss or potential loss of any two barriers (loss of reactor coolant system and potential loss of containment).

By 1002 two inside Recirculation Spray Pumps and the remaining outside Recirculation Spray pump fail to operate. This basically completely removes the capability to reduce the pressure in the reactor containment.

At 1025 a radioactive release commences. A leak develops in a joint in the Containment Hydrogen Analyzer sampling line, causing radioactive gas from the containment to enter the Auxiliary Building. The location of the leak is known by the radiation monitor that alarms in the Auxiliary Building. The radioactive gas is released to the environment through the Auxiliary Building Ventilation system. The release is treated by filters and is monitored. The wind speed

is 8 mph and the wind direction is from 24 degrees. Also, at 1025 the containment High Range Radiation Monitor reading increases to greater than 1000 R/hr, indicating that there is some damage to the reactor fuel clad.

On or before 1046, a General Emergency should be declared based on EAL FG1.1, Loss of two fission product barriers (fuel clad and reactor coolant) and the potential loss of the third barrier (containment). Protective Action Recommendation (PAR) C is issued by SPS, "Evacuate 0-5 miles 360° and 5 to 10 miles in downwind sectors SW, SSW and S". The bases for the PAR C will be a dose projection indicating that the EPA protective action guide will be exceeded at about 2 miles from the station. If the dose projection is delayed there will be an initial PAR B based on plant conditions and this will be followed by PAR C when the dose projection is completed. PAR B is "Evacuate 0-2 miles 360° and 2 to 5 miles in downwind sectors SW, SSW and S".

By 1200 radiation releases will begin to decrease as the pressure in the reactor containment decreases. However, the radioactive releases will continue until the end of the exercise. The wind direction remains at 24 degrees and the wind speed is 8 mph with stability class F.

On or after 1200 the SPS Evaluated Exercise will end if all objectives are met and, when announced by the VA State EOC.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluations of all jurisdictions and locations that participated in the July 19, 2011, biennial Plume Exposure Pathway EPZ Radiological Emergency Preparedness (REP) Exercise. The exercise was conducted to demonstrate the ability of the Offsite Response Organization of State and local government to protect the health and safety of the public in the 10 mile Emergency Planning Zone surrounding the Surry Power Station.

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

3.2 Summary Results of Exercise Evaluation

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

(D) Deficiency: an observed or identified inadequacy of organizational performance in an exercise 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 six-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-of-play agreement with no Deficiencies or ARCAs assessed in the current exercise and no unresolved prior ARCAs.

Table 3.1 - Summary of Exercise Evaluation (9 pages)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		VDHRHEOC	VA SEOC	VDH-RHP EOF	VDEM JIC	DITC JPIC	VA SFMT1	VA SFMT 2	IOWC EOC	IOWC FMT	IOWC EARA 5-10	IOWC TCP/ACP
Emergency Operations Management												
Mobilization	1a1	M	M						M			
Facilities	1b1								M			
Direction and Control	1c1	M	M	M					M			
Communications Equipment	1d1	M	M	M			M	M	M	M	M	M
Equip & Supplies to support operations	1e1		M	M			M	M	M	M	M	M
Protective Action Decision Making												
Emergency Worker Exposure Control	2a1	M		M					M			
Radiological Assessment and PARs	2b1	M		M								
Decisions for the Plume Phase -PADs	2b2		M									
PADs for protection of special populations	2c1		M						M			
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1											
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1											
Protective Action Implementation												
Implementation of emergency worker exposure control	3a1	M		M			P	P	M	M	M	M
Implementation of KI decision	3b1		M	M			M	M	P	M	M	M
Implementation of protective actions for special populations - EOCs	3c1								M			
Implementation of protective actions for Schools	3c2								M			
Implementation of traffic and access control	3d1		M						M			M
Impediments to evacuation are identified and resolved	3d2								M			M
Implementation of ingestion pathway decisions - availability/use of info	3e1											
Materials for Ingestion Pathway PADs are available	3e2											
Implementation of relocation, re-entry, and return decisions.	3f1											
Field Measurement and Analysis												
Adequate Equipment for Plume Phase Field Measurements	4a1						P	P		P		
Field Teams obtain sufficient information	4a2	M		M					M			
Field Teams Manage Sample Collection Appropriately	4a3						M	M		M		
Post plume phase field measurements and sampling	4b1											
Laboratory operations	4c1											
Emergency Notification and Public Info												
Activation of the prompt alert and notification system	5a1		M						M			
Activation of the prompt alert and notification system - Fast Breaker	5a2											
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3								M		M	
Emergency information and instructions for the public and the media	5b1				M	M			M			
Support Operations/Facilities												
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1											
Mon/decon of emergency worker equipment	6b1											
Temporary care of evacuees	6c1											
Transportation and treatment of contaminated injured individuals	6d1											

Table 3.1 - Summary of Exercise Evaluation (Continued. page 2/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		IOWC BuRA	JCC EOC	JCC FMT	JCC TCP/ACP	JCC BuRA	JCC EARA 0-5	JCC EARA 5-10	COW EOC	COW TCP/ACP	COW BuRA	COW FMT
Emergency Operations Management												
Mobilization	1a1		M						M			
Facilities	1b1											
Direction and Control	1c1		M						M			
Communications Equipment	1d1	M	M	M	M	M	M	M	M	M	M	M
Equip & Supplies to support operations	1e1	M	M	M	M	M	M	M	M	M	M	M
Protective Action Decision Making												
Emergency Worker Exposure Control	2a1		M						M			
Radiological Assessment and PARs	2b1											
Decisions for the Plume Phase -PADs	2b2											
PADs for protection of special populations	2c1		M						M			
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1											
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1											
Protective Action Implementation												
Implementation of emergency worker exposure control	3a1	M	M	M	M	M	M	M	M	M	M	M
Implementation of KI decision	3b1	M	P	M	M	M	M	M	P	M	M	M
Implementation of protective actions for special populations - EOCs	3c1		M						M			
Implementation of protective actions for Schools	3c2											
Implementation of traffic and access control	3d1		M		M				M	M		
Impediments to evacuation are identified and resolved	3d2		M		M				M	M		
Implementation of ingestion pathway decisions - availability/use of info	3e1											
Materials for Ingestion Pathway PADs are available	3e2											
Implementation of relocation, re-entry, and return decisions.	3f1											
Field Measurement and Analysis												
Adequate Equipment for Plume Phase Field Measurements	4a1			P								P
Field Teams obtain sufficient information	4a2		M						M			
Field Teams Manage Sample Collection Appropriately	4a3			M								M
Post plume phase field measurements and sampling	4b1											
Laboratory operations	4c1											
Emergency Notification and Public Info												
Activation of the prompt alert and notification system	5a1		M				M		M			
Activation of the prompt alert and notification system - Fast Breaker	5a2											
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3	M	M			M		M	M		M	
Emergency information and instructions for the public and the media	5b1		M						M			
Support Operations/Facilities												
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1											
Mon/decon of emergency worker equipment	6b1											
Temporary care of evacuees	6c1											
Transportation and treatment of contaminated injured individuals	6d1											

Table 3.1 - Summary of Exercise Evaluation (Continued. page 3/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		JCC WlmbrgJCCPS	JCC WlmbrgJCCPS BrklyMS	JCC WlmsbrgJCCPS CBBES	JCC WlmbrgJCCPS SmhsES	JCC WlmsbrgJCCPS JmstwnHS	JCC WlmbrgJCCPS JmsRvrES	JCC WJCCPS MatWhlytES	RBES WJCSS	CNN EOC	CNN FMT
Emergency Operations Management											
Mobilization	1a1									M	
Facilities	1b1										
Direction and Control	1c1									M	
Communications Equipment	1d1									M	M
Equip & Supplies to support operations	1e1									M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1									M	
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1									M	
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1									M	M
Implementation of KI decision	3b1									P	M
Implementation of protective actions for special populations - EOCs	3c1									M	
Implementation of protective actions for Schools	3c2	M	M	M	M	M	M	M	M		
Implementation of traffic and access control	3d1									M	
Impediments to evacuation are identified and resolved	3d2									M	
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1										P
Field Teams obtain sufficient information	4a2									M	
Field Teams Manage Sample Collection Appropriately	4a3										M
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1									M	
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3									M	
Emergency information and instructions for the public and the media	5b1									M	
Support Operations/Facilities											
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon/decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1										

Transportation and treatment of contaminated injured individuals	6d1										

Table 3.1 - Summary of Exercise Evaluation (Continued. page 4/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		CNN BuRA	CNN TCP/ACP	CNN RC (EAC) GMS	CNN MDC (EAC) GMS	CNN MCC (EAC) GMS	CNN EWMDS (EAC) GMS	CNN NNPS	CNN NNPS AchDrmAcES	CNN NNPS ADMS/HS	CNN NNPS BTWMS
Emergency Operations Management											
Mobilization	1a1										
Facilities	1b1										
Direction and Control	1c1										
Communications Equipment	1d1	M	M								
Equip & Supplies to support operations	1e1	M	M	M	M	M	M				
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1										
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1										
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1	M	M		M	M	M				
Implementation of KI decision	3b1	M	M		M	M	M				
Implementation of protective actions for special populations - EOCs	3c1										
Implementation of protective actions for Schools	3c2							M	M	M	M
Implementation of traffic and access control	3d1		M								
Impediments to evacuation are identified and resolved	3d2		M								
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2										
Field Teams Manage Sample Collection Appropriately	4a3										
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1										
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3	M									
Emergency information and instructions for the public and the media	5b1										
Support Operations/Facilities											
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1				M	M	M				
Mon/decon of emergency worker equipment	6b1						M				
Temporary care of evacuees	6c1					M					
Transportation and treatment of contaminated injured individuals	6d1										

Table 3.1 - Summary of Exercise Evaluation (Continued. page 5/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		CNN NNPS GtwdPEEP	CNN NNPS GenStfrdES	CNN NNPS CrtndnMS	CNN NNPS DrPkES	CNN NNPS DenbHS	CNN NNPS JksnLrngCtr	CNN NNPS DutroES	CNN NNPS EntprsAcdmy	CNN NNPS EES	CNN NNPS GldrslvMS
Emergency Operations Management											
Mobilization	1a1										
Facilities	1b1										
Direction and Control	1c1										
Communications Equipment	1d1										
Equip & Supplies to support operations	1e1										
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1										
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1										
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1										
Implementation of KI decision	3b1										
Implementation of protective actions for special populations - EOCs	3c1										
Implementation of protective actions for Schools	3c2	M	M	M	M	M	M	M	M	M	M
Implementation of traffic and access control	3d1										
Impediments to evacuation are identified and resolved	3d2										
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2										
Field Teams Manage Sample Collection Appropriately	4a3										
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1										
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3										
Emergency information and instructions for the public and the media	5b1										
Support Operations/Facilities											
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon/decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1										
Transportation and treatment of contaminated injured individuals	6d1										

Table 3.1 - Summary of Exercise Evaluation (Continued. page 6/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		CNN NNPS GmwdES	CNN NNPS HHS	CNN NNPS HltnES	CNN NNPS HMS	CNN NNPS HntngtnMS	CNN NNPS KCES	CNN NNPS LHECC	CNN NNPS LHES	CNN NNPS McIntshES	CNN NNPS NwsmPrkES
Emergency Operations Management											
Mobilization	1a1										
Facilities	1b1										
Direction and Control	1c1										
Communications Equipment	1d1										
Equip & Supplies to support operations	1e1										
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1										
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1										
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1										
Implementation of KI decision	3b1										
Implementation of protective actions for special populations - EOCs	3c1										
Implementation of protective actions for Schools	3c2	M	M	M	M	M	M	M	M	M	M
Implementation of traffic and access control	3d1										
Impediments to evacuation are identified and resolved	3d2										
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2										
Field Teams Manage Sample Collection Appropriately	4a3										
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1										
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3										
Emergency information and instructions for the public and the media	5b1										
Support Operations/Facilities											
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon/decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1										
Transportation and treatment of contaminated injured individuals	6d1										

Table 3.1 - Summary of Exercise Evaluation (Continued. page 7/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		CNN NNPS PlmrES	CNN NNPS RvrsdES	CNN NNPS SnfrdES	CNN NNPS SndrsES	CNN NNPS WrwkHS	CNN NNPS YES	SryCo EOC	SC TCP/ACP	SryCo BuRA	SryCo EARA 5-10
Emergency Operations Management											
Mobilization	1a1							M			
Facilities	1b1										
Direction and Control	1c1							M			
Communications Equipment	1d1							M	M	M	M
Equip & Supplies to support operations	1e1							M	M	M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1							M			
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1							M			
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1							M	M	M	M
Implementation of KI decision	3b1							P	M	M	M
Implementation of protective actions for special populations - EOCs	3c1							M			
Implementation of protective actions for Schools	3c2	M	M	M	M	M	M				
Implementation of traffic and access control	3d1							M	M		
Impediments to evacuation are identified and resolved	3d2							M	M		
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2							M			
Field Teams Manage Sample Collection Appropriately	4a3										
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1							M			
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3							M		M	M
Emergency information and instructions for the public and the media	5b1							M			
Support Operations/Facilities											
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon/decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1										
Transportation and treatment of contaminated injured individuals	6d1										

Table 3.1 - Summary of Exercise Evaluation (Continued. page 8/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		SryCo FMT	SryCoPS	SryCo, SryCoPS, SryCoES	YrkCo EOC	YrkCo BuRA	YrkCo TCP/ACP	YrkCo FMT	YrkCo RC (EAC) PHS	YrkCo MCC (EAC) PHS	Yrk Co YrkCoPS
Emergency Operations Management											
Mobilization	1a1				M						
Facilities	1b1										
Direction and Control	1c1				M						
Communications Equipment	1d1	M			M	M	M	M			
Equip & Supplies to support operations	1e1	M			M	M	M	M	M	M	
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1				M						
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1				M						
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1	M			M	M	M	M			
Implementation of KI decision	3b1	M			P	M		M			
Implementation of protective actions for special populations - EOCs	3c1				M						
Implementation of protective actions for Schools	3c2		M	M							M
Implementation of traffic and access control	3d1				M		M				
Impediments to evacuation are identified and resolved	3d2				M		M				
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1	P						P			
Field Teams obtain sufficient information	4a2				M						
Field Teams Manage Sample Collection Appropriately	4a3	M						M			
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1				M						
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3				M	P					
Emergency information and instructions for the public and the media	5b1				M						
Support Operations/Facilities											
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1									M	
Mon/decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1									M	
Transportation and treatment of contaminated injured individuals	6d1										

Table 3.1 - Summary of Exercise Evaluation (Continued. page 9/9)

DATE: 2011-07-19 SITE: Surry Power Station, VA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		CtyPqsn EOC (S)	CCC EOC (S)	CtyHmtn EOC (S)	CH MCC (EAC) HC	CH EWMDS (EAC) HC	CH MDC (EAC) HC	CH RC (EAC) HC	NKCo EOC (S)	RRMC	IOWC VRS
Emergency Operations Management											
Mobilization	1a1	M	M	M					M		
Facilities	1b1										
Direction and Control	1c1	M	M	M					M		
Communications Equipment	1d1	M	M	M					M		
Equip & Supplies to support operations	1e1	M	M	M	M	M	M	M	M	M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1										
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2										
PADs for protection of special populations	2c1										
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1				M	M	M			M	M
Implementation of KI decision	3b1				M	M	M				
Implementation of protective actions for special populations - EOCs	3c1										
Implementation of protective actions for Schools	3c2										
Implementation of traffic and access control	3d1										
Impediments to evacuation are identified and resolved	3d2										
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions.	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2										
Field Teams Manage Sample Collection Appropriately	4a3										
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1										
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of prompt alert and notification system-Excptn Areas/Bkup RA	5a3										
Emergency information and instructions for the public and the media	5b1	M	M	M					M		
Support Operations/Facilities											
Mon/decon of evacuees and emergency workers, and registration of evacuees	6a1				M	M	M				
Mon/decon of emergency worker equipment	6b1					M					
Temporary care of evacuees	6c1				M						
Transportation and treatment of contaminated injured individuals	6d1									M	M

3.3 Criteria Evaluation Summaries

3.3.1 Virginia Jurisdictions

3.3.1.1 Virginia Department of Health, Bureau of Rad Health at VA SEOC

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 2.a.1, 2.b.1, 3.a.1, 4.a.2.
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 Virginia State Emergency Operations Center

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

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

3.3.1.3 Virginia Department of Health - Radiological Health Program, Emergency Operations Facility

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

a. MET: 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 3.a.1, 3.b.1, 4.a.2.
b. AREAS REQUIRING CORRECTIVE ACTION: 4.a.2.

ISSUE NO.: 62-11-4a2-A-01

CRITERION: Field teams are managed to obtain sufficient information to help

characterize the release and to control radiation exposure. (NUREG-0654, I.8., 11., J.10.a)

CONDITION: The Field Team Coordinator at the Local Emergency Operations Facility (LEOF) did not provide a pre-designated monitoring location to the Isle of Wight Field Monitoring Team Coordinator in accordance with the State plan.

POSSIBLE CAUSE: Did not follow the plan.

REFERENCE: NUREG-0654, I.8, I.11, Interim REP Manual 4.a.2; Division of Radiological Health & Safety Regulation, Appendix 17.4, Attachment 3

EFFECT: Delays in directing the FMT to pre-designated locations for measurements to validate decision making could result in unnecessary exposure to the EWs and members of the public.

CORRECTIVE ACTION DEMONSTRATED: On August 17, 2011 at 1400 hours a Controller from the Commonwealth of Virginia briefed the Virginia Department of Health, Bureau of Radiation Health (VDH-BRH) Assistant Field Team Coordinator on re-demonstration requirements. The location used for the re-demonstration was the Virginia Emergency Operation Center (simulating the Surry Power Station (SPS) Local Emergency Operations Center). An inject was provided to the Assistant Field Team Coordinator identifying that SPS had declared a General Emergency and a moderate release (Protective Action Guides exceeded < 1 mile from plant boundary). The wind direction was from 19.4 degrees and wind speed was 5 miles per hour. The release started at 1345 hours. The inject included a request from the Isle of Wight and Surry County Field Monitoring Teams for a location to begin surveys. After reviewing the data, the Assistant Field Team Coordinator assigned fixed monitoring location J8.5 to the Isle of Wight Team and K9.8 to the Surry County Team. Both locations were within the expected plume pathway. This information was relayed to the State Radiological Officer that in turn relayed this information to the two risk jurisdiction teams. The decision on the use of KI is made after further analysis of the plume and if needed, the decision to take KI would be relayed from the State Radiological Officer to the field teams. The VDH-BRH and VDEM staff demonstrated the ability to provide monitoring locations for risk jurisdiction field

teams in accordance with plans and procedures.

c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.4 Virginia Department of Emergency Management Joint Information Center

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

a. MET: 5.b.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

3.3.1.5 Dominion Innsbrook Technical Center, Joint Public Information Center

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

a. MET: 5.b.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

3.3.1.6 Virginia State Field Monitoring Team 1

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

a. MET: 1.d.1, 1.e.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None

c. DEFICIENCY: None

d. PLAN ISSUES: 3.a.1, 4.a.1.

ISSUE NO.: 62-11-3a1-P-01

CRITERION: OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers IAW plans and procedures. Emergency workers periodically and at the end of each mission read and record dosimeter reading. (NUREG-0654, K.3)

CONDITION: Procedure inconsistencies exist between The Virginia Emergency Operations Plan, revised May, 2011 and the State Monitoring and Sampling Team Procedure, revision 1.

If emergency workers exceed an established administrative exposure limit of 1.5 R, Appendix 7, Tab G of the Operations Plan directs them to ask if they can exceed 5R. For the same situation, Appendix 17.1 of the Monitoring and Sampling Plan directs them to ask if they can exceed 2.5 R.

Similarly, for voluntary lifesaving activities, Appendix 7, Tab G of the Operations Plan states that exceeding 8R is voluntary. Appendix 17.1 of the Monitoring and Sampling Procedure states that, for the same situation, exceeding 12.5 R is voluntary.

POSSIBLE CAUSE: Failure to compare the values in each plan to ensure that they are consistent.

REFERENCE: NUREG-0654, K.3

EFFECT: Having two separate values could cause confusion on the part of State Field Monitoring Team members, and potentially expose them to a higher dose than necessary.

RECOMMENDATION: Ensure consistency between established administrative limits in the Virginia State Emergency Operations Plan and the Field Survey Monitoring and Sampling Team procedures.

ISSUE NO.: 62-11-4a1-P-02

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--James City County Radiological Emergency Response Plan, Appendix 7, Field

Monitoring Procedure
--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: 1.d.1.

ISSUE NO.: 41-10-1d1-A-09

ISSUE: Virginia State Field Monitoring Team (FMT) 1 members did not demonstrate that a primary and at least one back-up communication system was fully functional at the beginning of, or during, the exercise.

CORRECTIVE ACTION DEMONSTRATED: The trunk radio system in the Local Emergency Operations Facility (LEOF) was upgraded to the Motorola 3000 and in monitoring vehicles to the XTL 2500. This shift from an analog to a digital system increases reliability and reduces the failure rate in coverage throughout the service area. The use of cell phones was also successfully demonstrated. Both the primary and backup means of communications performed satisfactorily during the exercise.

There were no equipment failures experienced.

g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.7 Virginia State Field Monitoring Team 2

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

a. MET: 1.d.1, 1.e.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 3.a.1, 4.a.1.

ISSUE NO.: 62-11-3a1-P-03

CRITERION: OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers IAW plans and procedures. Emergency workers periodically and at the end of each mission read and record dosimeter reading. (NUREG-0654, K.3)

CONDITION: Procedure inconsistencies exist between The Virginia Emergency Operations Plan, revised May, 2011 and the State Monitoring and Sampling Team Procedure, revision 1.

If emergency workers exceed an established administrative exposure limit of 1.5 R, Appendix 7, Tab G of the Operations Plan directs them to ask if they can exceed 5R. For the same situation, Appendix 17.1 of the Monitoring and Sampling Plan directs them to ask if they can exceed 2.5 R.

Similarly, for voluntary lifesaving activities, Appendix 7, Tab G of the Operations Plan states that exceeding 8R is voluntary. Appendix 17.1 of the Monitoring and Sampling Procedure states that, for the same situation, exceeding 12.5 R is voluntary.

POSSIBLE CAUSE: Failure to compare the values in each plan to ensure that they are consistent.

REFERENCE: NUREG-0654, K.3

EFFECT: Having two separate values could cause confusion on the part of State Field Monitoring Team members, and potentially expose them to a higher dose than necessary.

RECOMMENDATION: Ensure consistency between established administrative limits in the Virginia State Emergency Operations Plan and the Field Survey Monitoring and Sampling Team procedures.

ISSUE NO.: 62-11-4a1-P-04

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or

address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--James City County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: 1.d.1.

ISSUE NO.: 41-10-1d1-A-10

ISSUE: Virginia State Field Monitoring Team (FMT) 2 members did not demonstrate that a primary and at least one back-up communication system was fully

functional at the beginning of, or during, the exercise.

CORRECTIVE ACTION DEMONSTRATED: The trunk radio system in the Local Emergency Operations Facility (LEOF) was upgraded to the Motorola 3000 and in monitoring vehicles to the XTL 2500. This shift from an analog to a digital system increases reliability and reduces the failure rate in coverage throughout the service area. The use of cell phones was also successfully demonstrated. Both the primary and backup means of communications performed satisfactorily during the exercise. There were no equipment failures experienced.

g. PRIOR ISSUES - UNRESOLVED: None

3.3.2 Risk Jurisdictions

3.3.2.1 Isle of Wight County Emergency Operations Center

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

a. MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.c.1, 3.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 4.a.2, 5.a.1, 5.a.3, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 3.b.1.

ISSUE NO.: 62-11-3b1-P-05

CRITERION: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the admin of KI for emergency workers and institutionalized individuals (not general public) is maintained. (NUREG-0654, E.7., J.10.e.f.)

CONDITION: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure

control cards issued to EWs was also inconsistent between risk jurisdictions.

POSSIBLE CAUSE: Risk jurisdiction KI plan content and information on exposure control cards issued to EWs was not reviewed to ensure that the information is consistent with the IOSAT package inserts.

REFERENCE: --NUREG-0654, E.7., J.10.e.f.
--Isle of Wight County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--James City County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Newport News Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Williamsburg Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--Surry County Radiological Emergency Response Plan, Appendix 6 and 7, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--York County Radiological Emergency Response Plan, Annex 3, 6 and 7 titled, "Worker Exposure Control - Use of Personal Dosimetry"

EFFECT: Some emergency workers may incur unnecessary thyroid radiation exposure if they do not take KI because they are provided inaccurate information.

RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.2 Isle of Wight County Field Monitoring Team

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: 4.a.3.

ISSUE NO.: 62-11-4a3-A-02

CRITERION: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams must move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.8., 9., 11)

CONDITION: During removal of protective clothing by a Field Monitoring Team (FMT) member, the FMT member incorrectly removed both sets of gloves first and then removed his head cover with his bare hands. In accordance with the procedure the head cover should be removed with gloves still on the hands.

POSSIBLE CAUSE: Procedure was not reviewed or used during the protective clothing removal process.

REFERENCE: NUREG-0654, I.8., 9., 11
Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure, Attachment 3, Donning and Removing Protective Clothing

EFFECT: Individual could have contaminated his hands from the head cover, which could have led to other parts of the body becoming contaminated as the remaining protective clothing was removed.

CORRECTIVE ACTION DEMONSTRATED: This was redemonstrated after the Controller provided additional instructions to the worker. The worker then completed the task in accordance with the procedure, with no further concerns.

c. DEFICIENCY: None

d. PLAN ISSUES: 4.a.1.

ISSUE NO.: 62-11-4a1-P-06

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure

--James City County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.3 Isle of Wight County Exception Area Route Alerting 5 - 10 Mi.

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
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

3.3.2.4 Isle of Wight County Staging Area Traffic & Access Control

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2.
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

3.3.2.5 Isle of Wight County Route Alerting - Backup

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: 5.a.3.

ISSUE NO.: 62-11-5a3-A-03

CRITERION: Activities associated with FEMA approved exception areas are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup A&N of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary A&N system. (NUREG-0654, E.6., Appendix 3.B.2.c)

CONDITION: Backup route alerting of the area covered by the failed siren # 33 (simulated) was not completed within 45 minutes following its detection by the Virginia Emergency Operations Center (EOC).

POSSIBLE CAUSE: Back-up route was too long for one vehicle to cover within the prescribed 45 minutes. In addition, the route map is outdated and does not show new developments.

REFERENCE: NUREG-0654, E.6, Appendix 3.B.2.c

EFFECT: There would be a delay in notification of the public about an emergency

situation at the Surry Power Station.

CORRECTIVE ACTION DEMONSTRATED: The two route alert teams received a radiological briefing prior to the notification of a General Emergency in accordance with plans and procedures. Both Isle of Wight (IOW) County Sheriff's had the correct dosimetry and were aware of the notification and turnback exposure limits.

The IOW route alert teams were notified by the Virginia Emergency Operations Center that they received notification of siren # 33 failure at 0952 hours

Route Alert Team A departed the staging area at 1002 hours and arrived at the start of the route alerting location at 1007 hours. The Sheriff's Officer followed the procedure and continuously announced (simulated) "There has been an emergency at the Surry Nuclear Power Station. Please tune your radio or television to an EAS station for further information and instruction." The back-up route alerting for the A Team was completed at 1035 hours within the allowed 45 minute time period.

At 1002 hours Route Alert Team B departed the staging area and arrived at the start of the route alerting location at 1009 hours. The Sheriff Deputy followed route alerting procedures and made necessary announcements (simulated) "There has been an emergency at the Surry Nuclear Power Station. Please tune your radio or television to an EAS station for further information and instruction." The backup route alerting for Team B was completed at 1024 hours and within the allowed 45 minute time period.

c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.6 James City County Emergency Operations Center

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.c.1, 3.a.1, 3.c.1, 3.d.1, 3.d.2, 4.a.2, 5.a.1, 5.a.3, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 3.b.1.

ISSUE NO.: 62-11-3b1-P-07

CRITERION: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the admin of KI for emergency workers and institutionalized individuals (not general public) is maintained. (NUREG-0654, E.7., J.10.e.f.)

CONDITION: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.

POSSIBLE CAUSE: Risk jurisdiction KI plan content and information on exposure control cards issued to EWs was not reviewed to ensure that the information is consistent with the IOSAT package inserts.

REFERENCE: --NUREG-0654, E.7., J.10.e.f.
--Isle of Wight County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--James City County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Newport News Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"

--City of Williamsburg Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--Surry County Radiological Emergency Response Plan, Appendix 6 and 7, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--York County Radiological Emergency Response Plan, Annex 3, 6 and 7 titled, "Worker Exposure Control - Use of Personal Dosimetry"

EFFECT: Some emergency workers may incur unnecessary thyroid radiation exposure if they do not take KI because they are provided inaccurate information.

RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.7 James City County Field Monitoring Team

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 4.a.1.

ISSUE NO.: 62-11-4a1-P-08

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--James City County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate

radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.8 James City County Staging Area Traffic and Access Control

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2.
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

3.3.2.9 James City County Route Alerting - Backup

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
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

3.3.2.10 James City County Route Alerting 0-5 Mi.

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.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

3.3.2.11 James City County Exception Area Route Alerting 5-10 Mi.

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
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

3.3.2.12 City of Williamsburg Emergency Operations Center

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.c.1, 3.a.1, 3.c.1, 3.d.1, 3.d.2, 4.a.2, 5.a.1, 5.a.3, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 3.b.1.

ISSUE NO.: 62-11-3b1-P-11

CRITERION: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the admin of KI for emergency workers and institutionalized individuals (not general public) is

maintained. (NUREG-0654, E.7., J.10.e.f.)

CONDITION: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.

POSSIBLE CAUSE: Risk jurisdiction KI plan content and information on exposure control cards issued to EWs was not reviewed to ensure that the information is consistent with the IOSAT package inserts.

REFERENCE: --NUREG-0654, E.7., J.10.e.f.
--Isle of Wight County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--James City County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Newport News Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Williamsburg Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--Surry County Radiological Emergency Response Plan, Appendix 6 and 7, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--York County Radiological Emergency Response Plan, Annex 3, 6 and 7 titled, "Worker Exposure Control - Use of Personal Dosimetry"

EFFECT: Some emergency workers may incur unnecessary thyroid radiation exposure if they do not take KI because they are provided inaccurate information.

RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.13 City of Williamsburg Staging Area Traffic & Access Control

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2.
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

3.3.2.14 City of Williamsburg Route Alerting - Back-up

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
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

3.3.2.15 City of Williamsburg Field Monitoring Team

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 4.a.1.

ISSUE NO.: 62-11-4a1-P-12

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--James City County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure

--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.16 James City County - Williamsburg Public Schools

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

a. MET: 3.c.2.
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

3.3.2.17 James City County - Williamsburg Public Schools, Berkeley Middle School

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

a. MET: 3.c.2.
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

3.3.2.18 James City County - Williamsburg Public Schools, Clara Byrd Baker Elementary School

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

a. MET: 3.c.2.
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

3.3.2.19 James City County - Williamsburg Public Schools, Stonehouse Elementary School

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

a. MET: 3.c.2.
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

3.3.2.20 James City County - Williamsburg Public Schools, Jamestown High School

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

a. MET: 3.c.2.
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

3.3.2.21 James City County - Williamsburg Public Schools, James River Elementary School

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

a. MET: 3.c.2.
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

3.3.2.22 James City County - Williamsburg Public Schools, Matthew Whaley Elementary School

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

a. MET: 3.c.2.
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

3.3.2.23 James City County - Williamsburg Public Schools, Rawls Byrd Elementary School

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

a. MET: 3.c.2.
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

3.3.2.24 City of Newport News Emergency Operations Center

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.c.1, 3.a.1, 3.c.1, 3.d.1, 3.d.2, 4.a.2, 5.a.1, 5.a.3, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 3.b.1.

ISSUE NO.: 62-11-3b1-P-09

CRITERION: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the admin of KI for emergency workers and institutionalized individuals (not general public) is maintained. (NUREG-0654, E.7., J.10.e.f.)

CONDITION: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.

POSSIBLE CAUSE: Risk jurisdiction KI plan content and information on exposure

control cards issued to EWs was not reviewed to ensure that the information is consistent with the IOSAT package inserts.

REFERENCE: --NUREG-0654, E.7., J.10.e.f
--Isle of Wight County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--James City County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Newport News Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Williamsburg Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--Surry County Radiological Emergency Response Plan, Appendix 6 and 7, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--York County Radiological Emergency Response Plan, Annex 3, 6 and 7 titled, "Worker Exposure Control - Use of Personal Dosimetry"

EFFECT: Some emergency workers may incur unnecessary thyroid radiation exposure if they do not take KI because they are provided inaccurate information.

RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.25 City of Newport News Field Monitoring Team

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 4.a.1.

ISSUE NO.: 62-11-4a1-P-10

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--James City County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure

--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.26 City of Newport News Route Alerting - Back-up

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
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

3.3.2.27 City of Newport News Staging Area Traffic & Access Control

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2.
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

3.3.2.28 City of Newport News Reception Center (EAC) Gildersleeve Middle School

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

a. MET: 1.e.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

3.3.2.29 City of Newport News Monitoring and Decontamination Center (EAC) Gildersleeve Middle School

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

a. MET: 1.e.1, 3.a.1, 3.b.1, 6.a.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

3.3.2.30 City of Newport News Mass Care Center (EAC), Gildersleeve Middle School

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

a. MET: 1.e.1, 3.a.1, 3.b.1, 6.a.1, 6.c.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

3.3.2.31 City of Newport News Emergency Worker Monitoring and Decontamination Station (EAC), Gildersleeve Middle School

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

a. MET: 1.e.1, 3.a.1, 3.b.1, 6.a.1, 6.b.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

3.3.2.32 City of Newport News Public Schools

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

a. MET: 3.c.2.
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

3.3.2.33 City of Newport News Public Schools, An Achievable Dream Academy Elementary School

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

a. MET: 3.c.2.
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

3.3.2.34 City of Newport News Public Schools, An Achievable Dream Middle School/High School

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

a. MET: 3.c.2.
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

3.3.2.35 City of Newport News Public Schools, BT Washington Middle School

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

a. MET: 3.c.2.
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

3.3.2.36 City of Newport News Public Schools, Gatewood PEEP

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

a. MET: 3.c.2.
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

3.3.2.37 City of Newport News Public Schools, General Stanford Elementary School

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

a. MET: 3.c.2.
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

3.3.2.38 City of Newport News Public Schools, Crittenden Middle School

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

a. MET: 3.c.2.
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

3.3.2.39 City of Newport News Public Schools, Deer Park Elementary School

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

a. MET: 3.c.2.
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

3.3.2.40 City of Newport News Public Schools, Denbigh High School

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

a. MET: 3.c.2.
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

3.3.2.41 City of Newport News Public Schools, Jackson Learning Center

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

a. MET: 3.c.2.
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

3.3.2.42 City of Newport News Public Schools, Dutrow Elementary School

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

a. MET: 3.c.2.
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

3.3.2.43 City of Newport News Public Schools, Enterprise Academy

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

a. MET: 3.c.2.
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

3.3.2.44 City of Newport News Public Schools, Epes Elementary School

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

a. MET: 3.c.2.
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

3.3.2.45 City of Newport News Public Schools, Gildersleeve Middle School

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

a. MET: 3.c.2.
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

3.3.2.46 City of Newport News Public Schools, Greenwood Elementary School

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

a. MET: 3.c.2.
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

3.3.2.47 City of Newport News Public Schools, Heritage High School

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

a. MET: 3.c.2.
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

3.3.2.48 City of Newport News Public Schools, Hilton Elementary School

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

a. MET: 3.c.2.
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

3.3.2.49 City of Newport News Public Schools, Hines Middle School

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

a. MET: 3.c.2.
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

3.3.2.50 City of Newport News Public Schools, Huntington Middle School

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

a. MET: 3.c.2.
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

3.3.2.51 City of Newport News Public Schools, Kiln Creek Elementary School

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

a. MET: 3.c.2.
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

3.3.2.52 City of Newport News Public Schools, Lee Hall Early Childhood Center

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

a. MET: 3.c.2.
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

3.3.2.53 City of Newport News Public Schools, Lee Hall Elementary School

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

a. MET: 3.c.2.
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

3.3.2.54 City of Newport News Public Schools, McIntosh Elementary School

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

a. MET: 3.c.2.
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

3.3.2.55 City of Newport News Public Schools, Newsome Park Elementary School

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

a. MET: 3.c.2.
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

3.3.2.56 City of Newport News Public Schools, Palmer Elementary School

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

a. MET: 3.c.2.
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

3.3.2.57 City of Newport News Public Schools, Riverside Elementary School

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

a. MET: 3.c.2.
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

3.3.2.58 City of Newport News Public Schools, Sanford Elementary School

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

a. MET: 3.c.2.
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

3.3.2.59 City of Newport News Public Schools, Saunders Elementary School

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

a. MET: 3.c.2.
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

3.3.2.60 City of Newport News Public Schools, Warwick High School

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

a. MET: 3.c.2.
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

3.3.2.61 City of Newport News Public Schools, Yates Elementary School

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

a. MET: 3.c.2.
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

3.3.2.62 Surry County Emergency Operations Center

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.c.1, 3.a.1, 3.c.1, 3.d.1, 3.d.2, 4.a.2, 5.a.1, 5.a.3, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 3.b.1.

ISSUE NO.: 62-11-3b1-P-13

CRITERION: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the admin of KI for emergency workers and institutionalized individuals (not general public) is

maintained. (NUREG-0654, E.7., J.10.e.f.)

CONDITION: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.

POSSIBLE CAUSE: Risk jurisdiction KI plan content and information on exposure control cards issued to EWs was not reviewed to ensure that the information is consistent with the IOSAT package inserts.

REFERENCE: --NUREG-0654, E.7., J.10.e.f.
--Isle of Wight County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--James City County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Newport News Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Williamsburg Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--Surry County Radiological Emergency Response Plan, Appendix 6 and 7, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--York County Radiological Emergency Response Plan, Annex 3, 6 and 7 titled, "Worker Exposure Control - Use of Personal Dosimetry"

EFFECT: Some emergency workers may incur unnecessary thyroid radiation exposure if they do not take KI because they are provided inaccurate information.

RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.63 Surry County Traffic & Access Control Points

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2.
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

3.3.2.64 Surry County Route Alerting - Back-up

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
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

3.3.2.65 Surry County Exception Route Alerting Areat 5 - 10 Mi.

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 5.a.3.
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

3.3.2.66 Surry County Field Monitoring Team

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 4.a.1.

ISSUE NO.: 62-11-4a1-P-14

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--James City County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.67 Surry County Public Schools

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

a. MET: 3.c.2.
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

3.3.2.68 Surry County Public Schools, Surry County Elementary School

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

a. MET: 3.c.2.
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

3.3.2.69 York County Emergency Operations Center

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.c.1, 3.a.1, 3.c.1, 3.d.1, 3.d.2, 4.a.2, 5.a.1, 5.a.3, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 3.b.1.

ISSUE NO.: 62-11-3b1-P-15

CRITERION: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the admin of KI for emergency workers and institutionalized individuals (not general public) is

maintained. (NUREG-0654, E.7., J.10.e.f.)

CONDITION: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.

POSSIBLE CAUSE: Risk jurisdiction KI plan content and information on exposure control cards issued to EWs was not reviewed to ensure that the information is consistent with the IOSAT package inserts.

REFERENCE: --NUREG-0654, E.7., J.10.e.f.
--Isle of Wight County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--James City County Radiological Emergency Response Plan, Appendix 6 and 7, attachments titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Newport News Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--City of Williamsburg Radiological Emergency Response Plan, Appendix 6, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--Surry County Radiological Emergency Response Plan, Appendix 6 and 7, attachment titled, "Worker Exposure Control - Use of Personal Dosimetry"
--York County Radiological Emergency Response Plan, Annex 3, 6 and 7 titled, "Worker Exposure Control - Use of Personal Dosimetry"

EFFECT: Some emergency workers may incur unnecessary thyroid radiation exposure if they do not take KI because they are provided inaccurate information on who should not take KI.

RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.70 York County Route Alerting - Back-up

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: 5.a.3.

ISSUE NO.: 62-11-5a3-A-04

CRITERION: Activities associated with FEMA approved exception areas are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup A&N of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary A&N system. (NUREG-0654, E.6., Appendix 3.B.2.c)

CONDITION: Backup route alerting for Siren #47 in York County was not completed within 45 minutes. The route alerting began at 1152 and was completed at 1258, taking 66 minutes.

POSSIBLE CAUSE: The route described on page RA4.12 of the 2011 Radiological Emergency Response Plan – York County, Virginia was too long to be driven by one vehicle in 45 minutes.

REFERENCE: NUREG-0654, E.6, Appendix 3.B.2.c

EFFECT: If Siren #47 failed during an emergency and backup route alerting was employed, some residents would not be alerted within the expected 45 minutes.

CORRECTIVE ACTION DEMONSTRATED: This criterion was successfully redemonstrated using two vehicles from 1419 to 1457, taking 38 minutes.

c. DEFICIENCY: None

d. PLAN ISSUES: 5.a.3.

ISSUE NO.: 62-11-5a3-P-17

CRITERION: Activities associated with FEMA approved exception areas are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup A&N of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary A&N system. (NUREG-0654, E.6., Appendix 3.B.2.c)

CONDITION: The 2011 Radiological Emergency Response Plan – York County, Virginia on page RA4.12 described a backup route for Siren 47 in York County. On July 19, 2011, the route alerting began at 1152 and was completed at 1258, which took 66 minutes, using one vehicle.

POSSIBLE CAUSE: The prescribed route for Siren 47 was not verified prior to the exercise.

REFERENCE: NUREG-0654, E.6, Appendix 3.B.2.c

EFFECT: If Siren 47 failed during an emergency and only one vehicle was employed for backup route alerting, some residents would not be alerted within the expected 45 minutes.

RECOMMENDATION: Revise The 2011 Radiological Emergency Response Plan – York County, Virginia to specify at least two vehicles be assigned for backup route alerting for Siren 47 in York County.

e. NOT DEMONSTRATED: None

f. PRIOR ISSUES - RESOLVED: None

g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.71 York County Staging Area Traffic & Access Control

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.d.1, 3.d.2.
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

3.3.2.72 York County Field Monitoring Team

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

a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: 4.a.1.

ISSUE NO.: 62-11-4a1-P-16

CRITERION: Field teams are equipped to perform field measurements of direct radiation exposure (cloud & ground shine) and to sample airborne radioiodine and particulates (NUREG-0654, H.10., I.8., 9., 11.)

CONDITION: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.

POSSIBLE CAUSE: Inconsistent information is provided in FMT procedures regarding the use of the Ludlum Model 2240I. Typically, FMTs would not be sent to obtain surveys in areas exceeding the range of the low range model 44-6 detector; however, some FMT procedures indicate that the team should switch to the high range detector that operates up to 100 R/hr for readings higher than 0.6 R/hr (James City County and City of Newport News).

The Commonwealth of Virginia FMT procedure includes a footnote stating, "If the Ludlum 2240-I is used as the low range instrument, a high range instrument is not necessary. The internal probe on the Ludlum 2240-I goes to 100 R/hr." This procedure does not provide information on the upper limit of the low range detector.

Isle of Wight County, City of Williamsburg, Surry County, and York County FMT procedures do not provide information on the upper limit of the low range detector or address switching to the high range internal detector.

REFERENCE: --NUREG-0654, H.10., I.8., 9., 11.
--Division of Radiological Health and Safety, Appendix 17.1, Monitoring and Sampling Team Procedure
--Isle of Wight County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--James City County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Newport News Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--City of Williamsburg Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--Surry County Radiological Emergency Response Plan, Appendix 7, Field Monitoring Procedure
--York County Radiological Emergency Response Plan, Annex 7, Field Monitoring Procedure

EFFECT: Field Monitoring Teams could take inaccurate radiation readings using a high range detector that does not respond correctly to a radiation field. Inaccurate radiation measurements could be considered in making protective action decisions affecting the public and emergency workers.

RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.

e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.73 York County Public Schools

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

a. MET: 3.c.2.
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

3.3.2.74 Riverside Regional Medical Center

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

3.3.2.75 Isle of Wight County Volunteer Rescue Squad

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

3.3.3 Support Jurisdictions

3.3.3.1 York County Reception Center (EAC), Poquoson High School

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

a. MET: 1.e.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

3.3.3.2 York County Mass Care Center (EAC), Poquoson High School

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

a. MET: 1.e.1, 6.a.1, 6.c.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

3.3.3.3 City of Poquoson Emergency Operations Center (S)

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: 5.b.1.

ISSUE NO.: 62-11-5b1-A-08

CRITERION: OROs provide accurate emergency information and instructions to the

public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a, G.4.a.b.c)

CONDITION: The Public Information Officer (PIO) was not aware of who to contact when a trend is identified from calls received over the Public Inquiry Line.

POSSIBLE CAUSE: The PIO did not review his procedures.

REFERENCE: NUREG-0654, E.5., 7., G.3.a, G.4.a.b.c.; CITY OF POQUOSON, RADIOLOGICAL EMERGENCY ESPONSE PLAN, Annex R to the City of Poquoson Emergency Operations Plan, Appendix 2, Public Information

EFFECT: The trends would not have been determined to be true or false, and therefore a news release would not have been issued to confirm or deny the information.

CORRECTIVE ACTION DEMONSTRATED: The State Controller in the EOC took the PIO aside and they went over the procedures. The PIO then demonstrated his knowledge by contacting the York County PIO with information on trends he identified.

c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.3.4 Charles City County Emergency Operations Center (S)

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: 5.b.1.

ISSUE NO.: 62-11-5b1-A-05

CRITERION: OROs provide accurate emergency information and instructions to the

public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a, G.4.a.b.c)

CONDITION: Several calls were received from the public asking if the Surry Power Station was on fire. The trend in rumors was missed by the Rumor Control personnel.

POSSIBLE CAUSE: The Rumor Control staff was in a separate building and not being monitored by the Public Information Officer.

REFERENCE: NUREG-0654, E.5., 7., G.3.a, G.4.a.b.c.; Charles City County Radiological Emergency Response Plan, Appendix 2, Public Information Officer Procedure II.G

EFFECT: Incorrect information could be perceived as true by the public.

CORRECTIVE ACTION DEMONSTRATED: On August 18 at 1400 hours a Controller from the Commonwealth of Virginia briefed the Charles City County Coordinator and acting Public Information Officer on re-demonstration requirements. At 1402 hours, a Controller read a pre-scripted message stating that the Surry Power Station is at a General Emergency and the Governor has declared a State of Emergency and ordered an evacuation in Surry County and Isle of Wight County Protective Action Zones (PAZ) 3, 5, 6, 7, 8, 9, 10, 11, 12, and 13. The early warning siren system has been activated and EAS messages have been broadcast. The Public Inquiry hotline for Charles City County has been activated and is receiving calls from the public.

At 1407 hours the first of (8) public inquiry calls began from a Commonwealth of Virginia exercise Controller. During this time a trend was identified by the Acting Charles City County Public Information Officer (PIO) that there was a major accident on Route 5 in Charles City County. The Acting Public Information Officer stated that the action taken would be to verify the accident through the local Sheriff's Department, return calls to callers, and prepare and send out a press release informing the public of the situation once verified. The Public Inquiry calls stopped at 1429 hours. The Charles city County PIO staff demonstrated the ability to identify trends through Public Inquiry calls and responded in accordance with plans and

procedures.

c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.3.5 City of Hampton Emergency Operations Center (S)

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 5.b.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

3.3.3.6 City of Hampton Mass Care Center (EAC), Hampton Coliseum

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

a. MET: 1.e.1, 3.a.1, 3.b.1, 6.a.1, 6.c.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

3.3.3.7 City of Hampton Emergency Worker Monitoring and Decontamination Station (EAC), Hampton Coliseum

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

a. MET: 1.e.1, 3.a.1, 3.b.1, 6.a.1, 6.b.1.

b. AREAS REQUIRING CORRECTIVE ACTION: 6.a.1, 6.b.1.

ISSUE NO.: 62-11-6a1-A-06

CRITERION: Reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h., K.5.b)

CONDITION: When directed by the Department of Health to ingest Potassium Iodide (KI) the monitoring and decontamination emergency workers surveying incoming evacuee vehicles did not remove personal protection gloves to take KI.

POSSIBLE CAUSE: When directed to ingest KI, the emergency workers did not follow the training protocol to remove Personal Protective Equipment prior to eating, drinking, smoking, or chewing.

REFERENCE: NUREG-0654, J.10.h., K.5.b

EFFECT: The emergency workers could have ingested radioactive material when ingesting KI which could have led to internal or cross contamination and unnecessary exposure.

CORRECTIVE ACTION DEMONSTRATED: The emergency workers were retrained to avoid eating, drinking, smoking or chewing while wearing Personal Protective Equipment. The Emergency Workers successfully demonstrated removing their gloves and surveying themselves to ensure they were not contaminated with radioactive material before ingesting KI.

ISSUE NO.: 62-11-6b1-A-07

CRITERION: Facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles. (NUREG_0654, K.5.b)

CONDITION: Initial interview of the tool and equipment survey team revealed they did not fully understand at what level above background tools and equipment would be considered contaminated.

POSSIBLE CAUSE: The Emergency Workers were not certain of the level at which an item is considered contaminated which may be due to a training issue.

REFERENCE: NUREG-0654, J.10.h; K5.b)

EFFECT: The emergency workers could have released potentially contaminated personal or commercial equipment back into the clean stockpile for future use.

CORRECTIVE ACTION DEMONSTRATED: Exercise play was suspended and the controller provided on the spot training explaining that equipment is considered contaminated if the value on the survey meter reads greater than two time background. The team was interviewed and successfully re-demonstrated determining when tools and equipment are considered contaminated.

c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.3.8 City of Hampton Monitoring and Decontamination Center (EAC), Hampton Coliseum

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

a. MET: 1.e.1, 3.a.1, 3.b.1, 6.a.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

3.3.3.9 City of Hampton Reception Center (EAC), Hampton Coliseum

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

a. MET: 1.e.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

3.3.3.10 New Kent County Emergency Operations Center (S)

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

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 5.b.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 Virginia and local jurisdictions except where noted in this report, demonstrated knowledge of their Radiological Emergency Response Plans (RERP) and procedures during the Surry Power Station Plume Exposure Pathway Exercise and adequately implemented them.

The Surry Power Station's 2011 Plume Exposure Pathway exercise evaluation included Six (6) Counties, and four (4) cities.

Risk jurisdictions
- Isle of Wight County,
- James City County,
- City of Newport News,
- Surry County,
- City of Williamsburg,
- York County;

Support jurisdictions
- Charles City County,
- City of Hampton,
- New Kent County,
- City of Poquoson

Eight (8) Field Monitoring Teams (2 State, 1 each Risk Jurisdiction) and more than forty (40) State Agencies participated. Sixty (60) Federal Emergency Management Agency (FEMA) and Other Government Agencies (OGA) evaluators analyzed 350 evaluation criteria at eighty three (83) locations. These analyses resulted in a determination of eight (8) Areas Requiring Corrective Action (ARCA), five (5) of which were successfully re-demonstrated during the exercise. The remaining three (3) ARCAs were re-demonstrated on August 18, 2011. In addition, seventeen (17) new Planning Issues were assessed and are under review by the respective agencies. There were 2 ARCAs from the 2010 North Anna Power Station (NAPS) Plume Exposure Pathway exercise which were also successfully re-demonstrated and resolved.

Based on the review of the offsite radiological emergency response plans and procedures

submitted, FEMA Region III has determined they are adequate and there is a reasonable assurance they can be implemented, as demonstrated during the Surry Power Station Plume exercise.

APPENDIX A: IMPROVEMENT PLAN

Issue Number: 62-11-3b1-P-09	Criterion: 3b1
ISSUE: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.	
RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.	
CORRECTIVE ACTION DESCRIPTION: All local radiological emergency response plans and Emergency Worker Exposure Control Cards will be revised with the correct information regarding potassium iodide (KI) administration that is consistent with the IOSAT manufacturer's package insert.	
CAPABILITY: Emergency Operations Center Management	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Susan Binkley 804-897-9783	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-10	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-897-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-3b1-P-11	Criterion: 3b1
ISSUE: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.	
RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.	
CORRECTIVE ACTION DESCRIPTION: All local radiological emergency response plans and Emergency Worker Exposure Control Cards will be revised with the correct information regarding potassium iodide (KI) administration that is consistent with the IOSAT manufacturer's package insert.	
CAPABILITY: Emergency Operations Center Management	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Susan Binkley 804-897-9783	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-12	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-897-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-3b1-P-05	Criterion: 3b1
ISSUE: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.	
RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.	
CORRECTIVE ACTION DESCRIPTION: All local radiological emergency response plans and Emergency Worker Exposure Control Cards will be revised with the correct information regarding potassium iodide (KI) administration that is consistent with the IOSAT manufacturer's package insert.	
CAPABILITY: Emergency Operations Center Management	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Susan Binkley 804-897-9783	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-06	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-897-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-3b1-P-07	Criterion: 3b1
ISSUE: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.	
RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.	
CORRECTIVE ACTION DESCRIPTION: All local radiological emergency response plans and Emergency Worker Exposure Control Cards will be revised with the correct information regarding potassium iodide (KI) administration that is consistent with the IOSAT manufacturer's package insert.	
CAPABILITY: Emergency Operations Center Management	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Susan Binkley 804-897-9783	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-08	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-897-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-3b1-P-13	Criterion: 3b1
ISSUE: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.	
RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information is provided to EWs.	
CORRECTIVE ACTION DESCRIPTION: All local radiological emergency response plans and Emergency Worker Exposure Control Cards will be revised with the correct information regarding potassium iodide (KI) administration that is consistent with the IOSAT manufacturer's package insert.	
CAPABILITY: Emergency Operations Center Management	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Susan Binkley 804-897-9783	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-14	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-807-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-3a1-P-01	Criterion: 3a1
ISSUE: Procedure inconsistencies exist between The Virginia Emergency Operations Plan, revised May, 2011 and the State Monitoring and Sampling Team Procedure, revision 1. If emergency workers exceed an established administrative exposure limit of 1.5 R, Appendix 7, Tab G of the Operations Plan directs them to ask if they can exceed 5R. For the same situation, Appendix 17.1 of the Monitoring and Sampling Plan directs them to ask if they can exceed 2.5 R. Similarly, for voluntary lifesaving activities, Appendix 7, Tab G of the Operations Plan states that exceeding 8R is voluntary. Appendix 17.1 of the Monitoring and Sampling Procedure states that, for the same situation, exceeding 12.5 R is voluntary.	
RECOMMENDATION: Ensure consistency between established administrative limits in the Virginia State Emergency Operations Plan and the Field Survey Monitoring and Sampling Team procedures.	
CORRECTIVE ACTION DESCRIPTION: The Commonwealth of Virginia Radiological Emergency Response Plan, revised May 2011 and the State Monitoring and Sampling Team Procedure, revision 1 will be reviewed and revised to ensure consistency between established administrative limits.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Barbara Moore-Scruggs 804-897-9784	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-02	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-897-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-3a1-P-03	Criterion: 3a1
ISSUE: Procedure inconsistencies exist between The Virginia Emergency Operations Plan, revised May, 2011 and the State Monitoring and Sampling Team Procedure, revision 1. If emergency workers exceed an established administrative exposure limit of 1.5 R, Appendix 7, Tab G of the Operations Plan directs them to ask if they can exceed 5R. For the same situation, Appendix 17.1 of the Monitoring and Sampling Plan directs them to ask if they can exceed 2.5 R. Similarly, for voluntary lifesaving activities, Appendix 7, Tab G of the Operations Plan states that exceeding 8R is voluntary. Appendix 17.1 of the Monitoring and Sampling Procedure states that, for the same situation, exceeding 12.5 R is voluntary.	
RECOMMENDATION: Ensure consistency between established administrative limits in the Virginia State Emergency Operations Plan and the Field Survey Monitoring and Sampling Team procedures.	
CORRECTIVE ACTION DESCRIPTION: The Commonwealth of Virginia Radiological Emergency Response Plan, revised May 2011 and the State Monitoring and Sampling Team Procedure, revision 1 will be reviewed and revised to ensure consistency between established administrative limits.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Barbara Moore-Scruggs 804-897-9784	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-04	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-897-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-3b1-P-15	Criterion: 3b1
ISSUE: Emergency worker (EW) radiation exposure control cards contain information regarding potassium iodide (KI) administration that is inconsistent with the IOSAT manufacturer's package insert. Emergency worker exposure control information cards provided to risk jurisdiction EWs stated if the worker is pregnant, nursing or allergic to seafood, they should not take KI; this information is inconsistent with the manufacturer's instruction. The KI information on the exposure control cards issued to EWs was also inconsistent between risk jurisdictions.	
RECOMMENDATION: Correct applicable plan(s) and KI information provided on the Worker Exposure Control cards to ensure that consistent KI administration information.	
CORRECTIVE ACTION DESCRIPTION: All local radiological emergency response plans and Emergency Worker Exposure Control Cards will be revised with the correct information regarding potassium iodide (KI) administration that is consistent with the IOSAT manufacturer's package insert.	
CAPABILITY: Emergency Operations Center Management	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Susan Binkley 804-897-9783	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-4a1-P-16	Criterion: 4a1
ISSUE: Procedures do not exist for Commonwealth and Risk Jurisdiction Field Monitoring Teams (FMT) to operationally test the Ludlum Model 2240I radiation survey instrument's high range internal detector before entering an area where only the high range detector can make useful readings.	
RECOMMENDATION: Develop a procedure to operationally test the high range detector prior to entering an area where only that detector may be used to take useful readings; specify the maximum radiation exposure rate that field teams can monitor using the low range detector.	
CORRECTIVE ACTION DESCRIPTION: The State Radiological Protection Officer (RPO) will develop a procedure for the Commonwealth and risk jurisdiction field monitoring teams to operationally test the Ludlum Model 22401 radiation survey instrument's high range internal detector.	
CAPABILITY: Responder Safety and Health	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Brian Iverson 804-897-9953	ESTIMATED COMPLETION DATE: 2012-06-01

Issue Number: 62-11-5a3-P-17	Criterion: 5a3
ISSUE: The 2011 Radiological Emergency Response Plan – York County, Virginia on page RA4.12 described a backup route for Siren 47 in York County. On July 19, 2011, the route alerting began at 1152 and was completed at 1258, which took 66 minutes, using one vehicle.	
RECOMMENDATION: Revise The 2011 Radiological Emergency Response Plan – York County, Virginia to specify at least two vehicles be assigned for backup route alerting for Siren 47 in York County.	
CORRECTIVE ACTION DESCRIPTION: The 2011 Radiological Emergency Response Plan for York County will be revised to specify at least two vehicles be assigned for backup route alerting for Siren 47.	
CAPABILITY: Emergency Public Information and Warning	PRIMARY RESPONSIBLE AGENCY: VA Department of Emergency Management
CAPABILITY ELEMENT: Planning	START DATE: 2011-09-01
AGENCY POC: Susan Binkley 804-897-9783	ESTIMATED COMPLETION DATE: 2012-06-01

APPENDIX B: EXERCISE TIMELINE

The tables on the following pages present the times at which key events and activities occurred during the SPS exercise on July 19, 2011. Also included are times notifications were made to the participating jurisdictions and functional entities. A chronology of events and activities are part of the scenario which contained the Injects and Master Scenario Events List (MSEL).

Table 1 - Exercise Timeline
DATE: 2011-07-19, SITE: Surry Power Station, VA

Emergency Classification Level or Event	Time Utility Declared	VDHRHEOC	VA SEOC	VDH-RHP EOF	DITC JPIC	IOWC EOC	JCC EOC
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0811	0819	0819	0811	0833	0819	0819
Site Area Emergency	0931	0939	0939	0937	0935	0940	0937
General Emergency	1025	1035	1035	1026	1029	1036	1033
Simulated Rad. Release Started	1031	1031	1031	1041	1031	1049	1046
Simulated Rad. Release Terminated							
Facility Declared Operational		0906	0906	0843	0848	0819	0848
Declaration of State of Emergency		0933	0933	0952	0943	1019	0933
Exercise Terminated		1310	1312	1150	1155	1310	1236
Early Precautionary Actions:		1006	1006	N/A	1008	1008	1018
1st Protective Action Decision:		1107	1107	1107	1108	1102	1108
1st Siren Activation		1113	1113	1113	N/A	N/A	1116
1st EAS or EBS Message		1118	1118	1128	N/A	N/A	1119
2nd Protective Action Decision:							
2nd Siren Activation							
2nd EAS or EBS Message							
3rd Protective Action Decision:							
3rd Siren Activation							
3rd EAS or EBS Message							
4th Protective Action Decision:							
4th Siren Activation							
4th EAS or EBS Message							
5th Protective Action Decision:							
5th Siren Activation							
5th EAS or EBS Message							
6th Protective Action Decision:							
6th Siren Activation							
6th EAS or EBS Message							
KI Administration Decision:		1035	1035	1150	N/A	N/A	N/A

Table 1 - Exercise Timeline
DATE: 2011-07-19, SITE: Surry Power Station, VA

Emergency Classification Level or Event	Time Utility Declared	COW EOC	CNN EOC	SryCo EOC	YrkCo EOC	CtyPqsn EOC (S)	CCC EOC (S)
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0811	0819	0819	0819	0818	0832	0819
Site Area Emergency	0931	0937	0951	0937	0933	0945	0937
General Emergency	1025	1032	1032	1032	1035	1038	1025
Simulated Rad. Release Started	1031	1047	1031	1050	1050	1053	1047
Simulated Rad. Release Terminated							
Facility Declared Operational		0823	0937	0853	0858	0830	0908
Declaration of State of Emergency		0940	0933	0937	0941	1033	1108
Exercise Terminated		1230	1300	1304	1227	1154	1202
Early Precautionary Actions:		1014	1013	1010	1015	1100	1052
1st Protective Action Decision:		1107	1108	1101	1100	N/A	N/A
1st Siren Activation		1110	1113	1110	1113	N/A	N/A
1st EAS or EBS Message		1113	1119	1115	1119	N/A	N/A
2nd Protective Action Decision:							
2nd Siren Activation							
2nd EAS or EBS Message							
3rd Protective Action Decision:							
3rd Siren Activation							
3rd EAS or EBS Message							
4th Protective Action Decision:							
4th Siren Activation							
4th EAS or EBS Message							
5th Protective Action Decision:							
5th Siren Activation							
5th EAS or EBS Message							
6th Protective Action Decision:							
6th Siren Activation							
6th EAS or EBS Message							
KI Administration Decision:		N/A	N/A	N/A	N/A	N/A	N/A

Table 1 - Exercise Timeline
DATE: 2011-07-19, SITE: Surry Power Station, VA

Emergency Classification Level or Event	Time Utility Declared	CtyHmtn EOC (S)	NKCo EOC (S)
Unusual Event	N/A	N/A	N/A
Alert	0811	0819	0820
Site Area Emergency	0931	0937	0940
General Emergency	1025	1032	1050
Simulated Rad. Release Started	1031	1047	1050
Simulated Rad. Release Terminated			
Facility Declared Operational		0833	0835
Declaration of State of Emergency		0933	1023
Exercise Terminated		1200	1220
Early Precautionary Actions:		1023	1023
1st Protective Action Decision:		N/A	N/A
1st Siren Activation		N/A	N/A
1st EAS or EBS Message		N/A	N/A
2nd Protective Action Decision:			
2nd Siren Activation			
2nd EAS or EBS Message			
3rd Protective Action Decision:			
3rd Siren Activation			
3rd EAS or EBS Message			
4th Protective Action Decision:			
4th Siren Activation			
4th EAS or EBS Message			
5th Protective Action Decision:			
5th Siren Activation			
5th EAS or EBS Message			
6th Protective Action Decision:			
6th Siren Activation			
6th EAS or EBS Message			
KI Administration Decision:		N/A	N/A

APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leaders for the Surry Power Station 2011 Plume Exposure Pathway exercise evaluated on July 19, 2011. The following constitutes the managing staff for the Exercise Evaluation:

- Darrell Hammons, DHS, Radiological Assistance Committee Chairman
- Martin Vyenielo, DHS, Technological Hazards Program Specialist, Site Specialist
- Richard Kinard, DHS, Senior Technological Hazards Program Specialist

Also, the following personnel evaluated locations as representatives of the Radiological Assistance Committee:

- Chris Thompson, US Department of Transportation, Federal Aviation Administration
- Robert Trojanowski, Nuclear Regulatory Commission

Additional evaluation assistance was provided by the following DHS/FEMA Radiological Emergency Preparedness Program:

Region I
John Rice
Taneeka Hollins
Barbara Thomas
Brian Kennedy

Region II
Miriam Weston
Mabel Santiago
Korkean Dulgerian

Region V
James King
Chris Bellone

Region VI
Linda Gee
Tim Pflieger
Brad Dekorte

Region VIII
Bonnie Sheffield

Region IX
Paul Anderson
Alberto Sifuentes
Elena Joyner

Region X
Bill Webb

Headquarters
John Arszulowicz
Rick Collins
Kaori Flores
Rebecca Fontenot
Harry Nash
Lashawn Halsey
Michelle Ralston
Patti Gardner
Lisa Hamilton
Ken Wierman
Bridget Ahlgrim
Joshua Barnes

DATE: 2011-07-19, SITE: Surry Power Station, VA

LOCATION	EVALUATOR	AGENCY
Virginia Department of Health, Bureau of Rad Health at VA SEOC	Reggie Rodgers	ICFI
Virginia State Emergency Operations Center	John Arszulowicz *Richard Kinard John Rice Matthew Wiedemer	FEMA HQ FEMA RIII FEMA - RI FEMA RIII REP
Virginia Department of Health - Radiological Health Program, Emergency Operations Facility	*Michael Shuler Robert Trojanowski	Department of Homeland Security NRC
Virginia Department of Emergency Management Joint Information Center	John Arszulowicz	FEMA HQ
Dominion Innsbrook Technical Center, Joint Public Information Center	Gary Bolender	ICFI
Virginia State Field Monitoring Team 1	Timothy Pflieger	FEMA - R6
Virginia State Field Monitoring Team 2	Korkean Dulgerian	FEMA RII
Isle of Wight County Emergency Operations Center	Linda Gee Lisa Hamilton *John Price Barbara Thomas	FEMA RVI FEMA HQ FEMA Region III DHS/FEMA - RI
Isle of Wight County Field Monitoring Team	Alan Bevan	ICFI
Isle of Wight County Exception Area Route Alerting 5 - 10 Mi.	James McClanahan	ICFI
Isle of Wight County Staging Area Traffic & Access Control	Lashawn Halsey	FEMA HQ
Isle of Wight County Route Alerting - Backup	Roger Kowieski	NTHMC
James City County Emergency Operations Center	Brad DeKorte James King Bonnie Sheffield	FEMA RVI FEMA RV FEMA - HQ
James City County Field Monitoring Team	Marcy Campbell	ICFI
James City County Staging Area Traffic and Access Control	Gary Goldberg	ICFI
James City County Route Alerting - Backup	Henry Christiansen	ICFI
James City County Route Alerting 0-5 Mi.	John Flynn	ICF
James City County Exception Area Route Alerting 5-10 Mi.	Gregg Dawkins	ICF
City of Williamsburg Emergency Operations Center	Christopher Bellone *Robert Neff Kent Tosch Miriam Weston	FEMA RV FEMA RIII ICFI FEMA - R2
City of Williamsburg Staging Area Traffic & Access Control	Harry Nash	FEMA REP HQ
City of Williamsburg Route Alerting - Back-up	David Petta	ICFI
City of Williamsburg Field Monitoring Team	James Hickey	ICFI
James City County - Williamsburg Public Schools	*Joseph Suders	FEMA RIII
James City County - Williamsburg Public Schools, Berkeley Middle School	*Robert Neff	FEMA RIII
James City County - Williamsburg Public Schools, Clara Byrd Baker Elementary School	*Michael Shuler	Department of Homeland Security
James City County - Williamsburg Public Schools, Stonehouse Elementary School	*Matthew Wiedemer	FEMA RIII REP

James City County - Williamsburg Public Schools, Jamestown High School	*Barton Freeman	FEMA RIII
James City County - Williamsburg Public Schools, James River Elementary School	*Tina Lai-Thomas	FEMA RIII
James City County - Williamsburg Public Schools, Matthew Whaley Elementary School	*Richard Kinard	FEMA RIII
James City County - Williamsburg Public Schools, Rawls Byrd Elementary School	*Daniel Lerch	FEMA RIII
City of Newport News Emergency Operations Center	Paul Anderson Kaori Flores Elena Joyner *Daniel Lerch	FEMA RIX FEMA HQ FEMA RIX FEMA RIII
City of Newport News Field Monitoring Team	Keith Earnshaw	ICF
City of Newport News Route Alerting - Back-up	Thomas Hegele	ICFI
City of Newport News Staging Area Traffic & Access Control	Roger Jobe	ICFI
City of Newport News Reception Center (EAC) Gildersleeve Middle School	*Barton Freeman	FEMA RIII
City of Newport News Monitoring and Decontamination Center (EAC) Gildersleeve Middle School	Bridget Ahlgrim *Robert Neff	FEMA HQ FEMA RIII
City of Newport News Mass Care Center (EAC), Gildersleeve Middle School	*Barton Freeman	FEMA RIII
City of Newport News Emergency Worker Monitoring and Decontamination Station (EAC), Gildersleeve Middle School	*Joseph Suders Martin Vyenielo	FEMA RIII FEMA - R3
City of Newport News Public Schools	*Barton Freeman	FEMA RIII
City of Newport News Public Schools, An Achievable Dream Academy Elementary School	*Michael Shuler	Department of Homeland Security
City of Newport News Public Schools, An Achievable Dream Middle School/High School	Bridget Ahlgrim	FEMA HQ
City of Newport News Public Schools, BT Washington Middle School	*Daniel Lerch	FEMA RIII
City of Newport News Public Schools, Gatewood PEEP	*Daniel Lerch	FEMA RIII
City of Newport News Public Schools, General Stanford Elementary School	*Joseph Suders	FEMA RIII
City of Newport News Public Schools, Crittenden Middle School	*Matthew Wiedemer	FEMA RIII REP
City of Newport News Public Schools, Deer Park Elementary School	*Robert Neff	FEMA RIII
City of Newport News Public Schools, Denbigh High School	*Martin Vyenielo	FEMA - R3
City of Newport News Public Schools, Jackson Learning Center	*Matthew Wiedemer	FEMA RIII REP
City of Newport News Public Schools, Dutrow Elementary School	*Michael Shuler	Department of Homeland Security
City of Newport News Public Schools, Enterprise Academy	*Richard Kinard	FEMA RIII
City of Newport News Public Schools, Epes Elementary School	*Barton Freeman	FEMA RIII
City of Newport News Public Schools, Gildersleeve Middle School	*Martin Vyenielo	FEMA - R3
City of Newport News Public Schools, Greenwood Elementary School	*Robert Neff	FEMA RIII
City of Newport News Public Schools, Heritage High School	*Robert Neff	FEMA RIII
City of Newport News Public Schools, Hilton Elementary School	*Tina Lai-Thomas	FEMA RIII
City of Newport News Public Schools, Hines Middle School	*Joseph Suders	FEMA RIII
City of Newport News Public Schools, Huntington Middle School	*Barton Freeman	FEMA RIII
City of Newport News Public Schools, Kiln Creek Elementary School	*Matthew Wiedemer	FEMA RIII REP

City of Newport News Public Schools, Lee Hall Early Childhood Center	*Martin Vyenielo	FEMA - R3
City of Newport News Public Schools, Lee Hall Elementary School	*Robert Neff	FEMA RIII
City of Newport News Public Schools, McIntosh Elementary School	*Michael Shuler	Department of Homeland Security
City of Newport News Public Schools, Newsome Park Elementary School	*Richard Kinard	FEMA RIII
City of Newport News Public Schools, Palmer Elementary School	*Tina Lai-Thomas	FEMA RIII
City of Newport News Public Schools, Riverside Elementary School	*Richard Kinard	FEMA RIII
City of Newport News Public Schools, Sanford Elementary School	*Barton Freeman	FEMA RIII
City of Newport News Public Schools, Saunders Elementary School	*Michael Shuler	Department of Homeland Security
City of Newport News Public Schools, Warwick High School	*Tina Lai-Thomas	FEMA RIII
City of Newport News Public Schools, Yates Elementary School	*Daniel Lerch	FEMA RIII
Surry County Emergency Operations Center	Rebecca Fontenot Robert Gantt Mabel Santiago *Joseph Suders	FEMA HQ ICFI FEMA FEMA RIII
Surry County Traffic & Access Control Points	Bart Ray	ICFI
Surry County Route Alerting - Back-up	Alberto Sifuentes	FEMA RIX
Surry County Exception Route Alerting Areat 5 - 10 Mi.	Joe Inman	ICF
Surry County Field Monitoring Team	Kenneth Wierman	FEMA - HQ
Surry County Public Schools	*Martin Vyenielo	FEMA - R3
Surry County Public Schools, Surry County Elementary School	*Joseph Suders	FEMA RIII
York County Emergency Operations Center	*Taneeka Hollins Tina Lai-Thomas Roy Smith Chris Thompson	FEMA RI FEMA RIII ICFI FAA
York County Route Alerting - Back-up	Steve Denson	ICF
York County Staging Area Traffic & Access Control	Alejandro Fernandez	ICFI
York County Field Monitoring Team	Deborah Blunt	ICFI
York County Public Schools	*Martin Vyenielo	FEMA - R3
Riverside Regional Medical Center	Bridget Ahlgrim *Joseph Suders Matthew Wiedemer	FEMA HQ FEMA RIII FEMA RIII REP
Isle of Wight County Volunteer Rescue Squad	*Richard Kinard Tina Lai-Thomas	FEMA RIII FEMA RIII
York County Reception Center (EAC), Poquoson High School	*Joseph Suders	FEMA RIII
York County Mass Care Center (EAC), Poquoson High School	*Joseph Suders	FEMA RIII
City of Poquoson Emergency Operations Center (S)	Rosemary Samsel	ICFI
Charles City County Emergency Operations Center (S)	*Bridget Ahlgrim	FEMA HQ
City of Hampton Emergency Operations Center (S)	Patricia Gardner	FEMA - HQ
City of Hampton Mass Care Center (EAC), Hampton Coliseum	*Robert Neff	FEMA RIII
City of Hampton Emergency Worker Monitoring and Decontamination Station (EAC), Hampton Coliseum	Michael Shuler *Joseph Suders	Department of Homeland Security FEMA RIII
City of Hampton Monitoring and Decontamination Center (EAC), Hampton Coliseum	*Barton Freeman	FEMA RIII

City of Hampton Reception Center (EAC), Hampton Coliseum	*Robert Neff	FEMA RIII
New Kent County Emergency Operations Center (S)	Patrick Taylor	ICF
* Team Leader		

APPENDIX D: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
AMS	Aerial Measurements System
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency System
CCC	Charles City County
CDE	Committed Dose Equivalent
CEO	Chief Executive Officer
CERC	Corporate Emergency Response Center
DAD	Digital Alarming Dosimeter
DAT	Dose Assessment Team
DDE	Deep Dose Equivalent
DRD	Direct Reading Dosimeter
EAC	Evacuation Assembly Center
EAS	Emergency Alert System
ECC	Early Childhood Center
ECL	Emergency Classification Level
ECO	Exposure Control Officer
EMC	Emergency Management Coordinator
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPAC	Emergency Personnel Assembly Center
EPD	Electronic Personal Dosimeters
EPZ	Emergency Planning Zone
ESC	Emergency Services Coordinator
ESEC	Eastern State Evacuation Center
ESF	Emergency Support Functions
ESIS	Electronic Student Information System
ESMH	Eastern State Mental Hospital
EW	Emergency Worker
EWIC	Emergency Worker Informational Card
EWRER	Emergency Worker Radiation Exposure Records
FAA	Federal Aviation Administration
FD	Fire Department
FEMA	Federal Emergency Management Agency
FML	Field Monitoring Leader

FMT	Field Monitoring Team
FRMAC	Federal Radiological Monitoring Assessment Center
FTC	Field Team Coordinator
FTSRF	Field Team Survey Record Form
GE	General Emergency
GIS	Geospatial Information Systems
GMS	Gildersleeve Middle School
HF	High Frequency
HMO	Hazardous Materials Officer
HP	Health Physics
IT	Information Technology
JCC	James City County
JIC	Joint Information Center
JPIC	Joint Public Information Center
LEOF	Local Emergency Operations Facility
MCC	Mass Care Center
MICL	Mobile Incident Command Laboratory
MSEL	Master Scenario Events List
NNFD	Newport News Fire Department
NNPD	Newport News Police Department
NNPS	Newport News Public Schools
NRC	Nuclear Regulatory Commission
NRT	Neighborhood Response Team
OSD	Optically Stimulated Dosimeters
OSL	Optically Stimulated Luminescent
PA	Public Address
PAD	Protective Action Decisions
PAG	Protective Action Guideline
PAR	Protective Action Recommendation
PAZ	Protective Action Zones
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
PSAP	Public Safety Answering Point
RACES	Radio Amateur Civil Emergency Services
RAO	Radiation Assessment Officer
RAP	Radiological Assistance Program
REA	Radiation Emergency Area
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan

RHP	Radiological Health Program
RMC	Riverside Medical Center
RO	Radiological Officer
ROO	Radiological Operations Officer
RSO	Radiation Safety Officer
SAC	Staging Area Coordinator
SAE	Site Area Emergency
SCEOC	Surry County Emergency Operations Center
SCESC	Surry County Emergency Services Coordinator
SEOC	State Emergency Operations Center
SIRS	State Interdepartmental Radio System
SMRAP	Southern Mutual Radiological Assistance Program
SO	Security Officer
SOP	Standard Operating Procedures
SPS	Surry Power Station
SS	School Superintendent
SWAN	State Wide Alert Notification
TEDE	Total Effective Dose Equivalent
TLD	Thermo Luminescent Dosimeters
TSA	Transportation Security Administration
VEOC	Virginia Emergency Operations Center
VERT	Virginia Emergency Response Team
WHS	Woodside High School
WPD	Williamsburg Police Department
YCEOC	York County Emergency Operations Center
YCFD	York County Fire Department
YCS	York County Sheriff

APPENDIX E: EXERCISE PLAN

The enclosed Exercise Plan was created as an overall tool for facilitation and implementation of the Surry Power Station 2011 Plume Exposure Pathway exercise 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 and published by the Virginia Department of Emergency Management (VDEM) as an independent document and is annexed here. The Surry Power Station Extent of Play (VOPEX 11) was negotiated and agreed upon by FEMA Region III, Virginia Department of Emergency Management, and the offices of emergency management of the Risk and Support Jurisdictions. It is included as an Appendix of the Exercise Plan.

NATIONAL EXERCISE PROGRAM

Exercise Plan

2011 Surry Power Station
FEMA Evaluated REP Exercise

U.S. DEPARTMENT OF HOMELAND SECURITY

Exercise Date: 7/19/11

FEMA

Publishing Date:

Radiological Emergency Preparedness (REP)/ Homeland Security Exercise and Evaluation Program (HSEEP)

2011 SURRY POWER STATION PLUME EXERCISE PLAN

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Radiological Emergency Preparedness (REP)/
Homeland Security Exercise and Evaluation Program (HSEEP)

2011 SURRY POWER STATION PLUME EXERCISE PLAN

PREFACE

The 2011 Surry Power Station Plume Evaluated Full Scale Exercise (FSE) is sponsored by the Federal Emergency Management Agency (FEMA) and the Virginia Department of Emergency Management (VDEM). This Exercise Plan (ExPlan) was produced with input, advice, and assistance from the Exercise Planning Team (EPT), which followed the guidance set forth in the Federal Emergency Management Agency, Homeland Security Exercise and Evaluation Program (HSEEP).

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

The 2011 Surry Power Station Plume Exercise is an *unclassified exercise*. The control of information is based more on public sensitivity regarding the nature of the exercise than on the actual exercise content. Some exercise material is intended for the exclusive use of exercise planners, Controllers, and Evaluators, but Players may view other materials deemed necessary to their performance. The ExPlan may be viewed by all exercise participants, *but the Controller and Evaluator (C/E) Handbook is a restricted document intended for Controllers and Evaluators only.*

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

Radiological Emergency Preparedness (REP)/ Homeland Security Exercise and Evaluation Program (HSEEP)

2011 SURRY POWER STATION PLUME EXERCISE PLAN

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HANDLING INSTRUCTIONS

1. The title of this document is the *2011 Surry Power Station Plume Exercise Plan (ExPlan).*
2. The information gathered in this ExPlan is *For Official Use Only (FOUO)* and should be handled as sensitive information not to be disclosed. This document should be safeguarded, handled, transmitted, and stored in accordance with appropriate security directives. Reproduction of this document, in whole or in part, without prior approval from the Exercise Planning Director is prohibited.
3. At a minimum, the attached materials will be disseminated only on a need-to-know basis and when unattended, will be stored in a locked container or area offering sufficient protection against theft, compromise, inadvertent access, and unauthorized disclosure.
4. For more information, please consult the following points of contact (POCs):

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CHAPTER 1: GENERAL INFORMATION

Introduction

The 2011 Surry Power Station Plume Exercise is a full-scale exercise (FSE) designed to establish a learning environment for players to exercise emergency response plans, policies, and procedures as they pertain to Nuclear Power Plant accidents. An FSE is a complex event that requires detailed planning. To conduct an effective exercise, subject matter experts (SMEs) and local representatives from numerous agencies have taken part in the planning process and will take part in exercise conduct and evaluation.

This Exercise Plan (ExPlan) was produced at the direction of the Federal Emergency Management Agency and the Virginia Department of Emergency Management with the input, advice, and assistance of the Exercise Planning Team. The 2011 Surry Power Station Plume Exercise is evidence of the growing partnership between State and local jurisdictions for response to the threats our Nation and communities face.

Confidentiality

The 2011 Surry Power Station Plume Exercise is an *unclassified exercise*. The control of information is based more on public sensitivity regarding the nature of the exercise than on the actual exercise content. Some exercise material is intended for the exclusive use of exercise planners, controllers, and evaluators, but players may view other materials deemed necessary to their performance. This ExPlan may be viewed by all exercise participants, *but the Controller and Evaluator (C/E) Handbooks are restricted documents intended for controllers and evaluators only.*

All exercise participants should use appropriate guidelines to ensure the proper control of information within their areas of expertise and protect this material in accordance with current Federal Emergency Management Agency and the Virginia Department of Emergency Management directives.

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

Purpose

The purpose of this exercise is to evaluate player actions against current response plans and capabilities for a nuclear power plant-related incident, and to comply with the requirements of 44 CFR 350 and the guidelines of NUREG 0654/FEMA-REP-1. Exercise planners utilized the elements described in the 67 FR 20580 (April 25, 2002) and Interim Radiological Emergency Preparedness (REP) Program Manual (August 2002) to develop this exercise.

The objective of the Federal Emergency Management Agency, the Virginia Department of Emergency Management and offsite response organizations is to demonstrate reasonable assurance that the public can be protected during a nuclear power plant emergency.

Target Capabilities

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

The capabilities listed below have been selected by the Exercise Planning Team (EPT) from the priority capabilities identified in Virginia Multi-Year TEP and the FEMA Interim Radiological Emergency Preparedness Program Manual (August 2002), Exercise Evaluation Criteria. These capabilities provide the foundation for development of the exercise objectives and scenario, as the purpose of this exercise is to measure and validate performance of these capabilities and their associated critical tasks.

- Communications
- Emergency Operations Center Management
- Responder Safety and Health
- Public Safety and Security Response
- WMD/HazMat Response and Decontamination
- Citizen Evacuation and Shelter-In-Place
- Emergency Public Information and Warning
- Mass Care (Sheltering, Feeding, and Related Services)

Exercise Objectives

The Emergency Preparedness Evaluation Areas – the elements and sub-elements – for this exercise are those that are required to be demonstrated in every exercise, as required by 67 FR 20580 (April 25, 2002) and the *Interim REP Program Manual (August 2002)*. Appendix B Extent of Play shows the emergency preparedness elements that are required to be demonstrated in the 2011 Surry Power Station Plume Exercise, along with the level of demonstration that will be displayed in the exercise (i.e., fully demonstrated, limited demonstration, simulated, out-of-sequence interviews, not demonstrated).

The objective of this exercise is to demonstrate reasonable assurance that the health and safety of the public can be protected, through successful demonstration of tasks identified in Appendix B.

Outstanding Issues

There are 2 Areas Requiring Corrective Action (ARCAs) as a result of the FEMA-evaluated plume-phase exercise at North Anna Power Station Plume Exercise on July 20, 2010:

ARCA issue numbers:

41-10-1d1-A-09 (VEOC)	Virginia State Field Monitoring Team (FMT) 1 members did not demonstrate that a primary and at least one backup communication system was fully functional at the beginning of or during the exercise.
41-10-1d1-A-10 (VEOC)	Virginia State Field Monitoring Team (FMT) 2 members did not demonstrate that a primary and at least one backup communication system was fully functional at the beginning of or during the exercise.

CHAPTER 2: EXERCISE LOGISTICS

Exercise Summary

General

The 2011 Surry Power Station Plume Exercise is designed to establish a learning environment for players to exercise their plans and procedures for responding to an incident at a nuclear power plant. The 2011 Surry Power Station Plume Exercise will be conducted on July 19, 2011. Out of sequence evaluations will be conducted as follows:

Schools – June 13-17

Evacuation Assembly Centers (EACs) – June 13 and June 15

Medical Services (MS-1) – June 14

Exercise play during the week of June 13-17 is scheduled to end no later than 2000 hours each day. The exercise may conclude when the Lead Controller in consultation with FEMA and the Utility determine that the exercise objectives have been met at each venue.

Assumptions

Assumptions constitute the implied factual foundation for the exercise and, hence, are assumed to be present before the start of the exercise. The following general assumptions apply to the 2011 Surry Power Station Plume Exercise:

- The exercise will be graded against the REPP criteria. Elements outside the scope of the REP criteria will not be graded.
- This exercise will be conducted in a no-fault learning environment wherein systems and processes, not individuals, will be evaluated.
- Exercise simulation will be realistic and plausible, containing sufficient detail from which to respond.
- Exercise players will react to the information and situations as they are presented, in the same manner as if this had been a real event.

Constructs and Constraints

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

- Players will utilize normal, everyday communications methods, channels, and equipment.
- Out-of-Sequence play is allowed.
- Certain simulations are allowed.

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

Exercise Participants

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

- *Players.* Players are agency personnel who have an active role in responding to the simulated emergency and perform their regular roles and responsibilities during the exercise. Players initiate actions that will respond to and mitigate the simulated emergency.
- *Controllers.* Controllers set up and operate the exercise site; plan and manage exercise play; act in the roles of response individuals and agencies not playing in the exercise. Controllers direct the pace of exercise play and routinely include members from the exercise planning team. They provide key data to players and may prompt or initiate certain player actions to ensure exercise continuity.
- *Simulators.* Simulators are control staff personnel who role-play as nonparticipating organizations or individuals. They most often operate out of the Simulation Cell (SimCell), but may occasionally have face-to-face contact with players. Simulators function semi-independently under the supervision of the Lead Controller, enacting roles (e.g., as media reporters or next of kin) in accordance with instructions provided in the Master Scenario Events List (MSEL). All simulators are ultimately accountable to the Lead Controller. For this exercise, the SimCell will be restricted to the Rumor Control Function.

- *Evaluators.* Evaluators are chosen to evaluate and provide feedback on a designated functional area of the exercise. They are chosen based on their expertise in the functional area(s) they have been assigned to review during the exercise and their familiarity with local emergency response procedures. Evaluators assess and document players' performance against established emergency plans and exercise evaluation criteria, in accordance with HSEEP standards and within the bounds of REP Program guidance and regulations. They are typically chosen from amongst planning committee members or the agencies/organizations that are participating in the exercise. FEMA evaluators are members of the Region III REP Program staff, representatives of the Radiological Assistance Committee, and contractors. FEMA Evaluators will not serve as Controllers.
- *Actors.* Actors are exercise participants who act or simulate specific roles during exercise play. They are typically volunteers who have been recruited to play the role of victims, evacuees or other bystanders.
- *Observers.* Observers visit or view selected segments of the exercise. Observers do not play in the exercise, and do not perform any control or evaluation functions. Observers will view the exercise from a designated observation area and will be asked to remain within the observation area during the exercise. VDEM observers will be present at selected locations as assigned by the Lead Controller. VDEM observers will receive an observer briefing prior to the day of the exercise. Any V.I.P.s or other visitors will be handled by each agency or location (State EOC, Local EOC, etc.) according to that agencies policies and procedures.
- *Media Personnel.* Some media personnel may be present as observers pending approval by the Exercise Director in coordination with the VDEM Public Affairs Office. Media interaction may also be simulated by Actors at the Joint Information Center during the simulated press briefing to enhance realism and meet related exercise objectives.
- *Support Staff.* Exercise support staff includes individuals who are assigned administrative and logistical support tasks during the exercise (i.e. registration, catering, etc.)

Exercise Tools

Controller and Evaluator Handbooks

The 2011 Surry Power Station Plume Exercise Controller and Evaluator Handbooks are designed to help exercise Controllers and Evaluators conduct and evaluate an effective exercise. These Handbooks also enable Controllers and Evaluators to understand their roles and responsibilities in exercise execution and evaluation. Should a Player, Observer, or media representative find an unattended Handbook, it should be provided to the nearest Controller or Evaluator.

Master Scenario Events List

The MSEL outlines benchmarks, as well as injects that drive exercise play. It also details realistic input to the exercise players as well as information expected to emanate from simulated organizations (i.e., those nonparticipating organizations, agencies, and individuals who would usually respond to the situation). An inject will include several items of information, such as inject time, intended recipient, responsible controller, inject type, a short description of the event, and the expected player action.

For the 2011 Surry Power Station Plume Exercise the MSEL will be used primarily for out of sequence exercise play and plume phase field monitoring demonstrations. For the 2011 Surry Out of Sequence exercise the week of 6/13/2011, injects were provided in an older format for controller use , not using the MSEL format. These injects contained the information as needed for the events to occur and exercise objectives to be met.

During the plume exercise the exercise will be driven by the simulator at the utility. Notifications will go out from the utility in the same manner as they would in a real event with all communications being preceded and terminated by the phrase "This is a Drill".

Exercise Implementation

Exercise Play

Exercise play will begin at approximately 0800 hours with a situation update going to each participating venue. Play will proceed according to the events outlined in the MSEL, in accordance with established plans and procedures. The exercise will conclude upon the completion of operations and attainment of the exercise objectives, as determined by the Lead Controller after consultation with FEMA and the Utility.

Exercise Rules

The following are the general rules that govern exercise play:

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

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

Safety Requirements

General

Exercise participant safety takes priority over exercise events. Although the organizations involved in the 2011 Surry Power Station Plume Exercise come from various response agencies, they share the basic responsibility for ensuring a safe environment for all personnel involved in the exercise. In addition, aspects of an emergency response are dangerous. Professional health and safety ethics should guide all participants to operate in their assigned roles in the safest manner possible. The following general requirements apply to the exercise:

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

Exercise Setup

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

Accident Reporting and Real Emergencies

- Anyone observing a participant who is seriously ill or injured will provide aid within their training, call the local 911 Center for additional aid or enlist the aid of another person to call, and advise the nearest controller. Anyone calling local 911 will use the phrase "this is not a drill" prior to explaining the injury or illness.
- The controller who is made aware of a real emergency will contact the local 911 center (if this call has not already been made) and request the appropriate aid. The controller will use the phrase "this is not a drill" prior to explaining the injury or illness.

- The controller will then contact the Lead Controller and Exercise Director with the following information:
    - Venue/function
    - Location within the venue/function
    - Condition of injured parties
    - Requirements for medical aid, fire suppression, rescue, or security resources.
- If the nature of the emergency requires a suspension of the exercise at the venue/function, all exercise activities at that facility will immediately cease. Exercise play may resume at that venue/function once the emergency situation has been addressed.
- Exercise play at other venue/functions should not cease if one venue/function has declared a "Real-World Emergency" unless they are reliant on the affected venue.
- If a real emergency occurs that affects the entire exercise, the exercise may be suspended or terminated at the discretion of the Exercise Director and Lead Controller. The notification will be made from the State Emergency Operations Center. The Lead Controller will notify the SimCell by phone.

Site Access

Security

Exercise play for the 2011 Surry Power Station Plume Exercise will be conducted at numerous sites with varying degrees of security requirements. The Surry Power Station will control entry to the Utility and the Local Emergency Operations Facility. Security at the State and Local Emergency Operations Centers will be conducted according to their individual security procedures. Individual Site Controllers will be in charge of entry into their respective exercise sites. To prevent confusion and interruption of the exercise, access to the exercise sites and the SimCell will be limited to exercise participants and approved Observers only. Players should advise their venue's controller or evaluator if an unauthorized person is present. Each organization should follow its internal security procedures, augmented as necessary to comply with exercise requirements.

VDEM Observers and Liaison Officers

VDEM will assign Liaison Officers to each local Emergency Operations Center that is being evaluated in the 2011 Surry Power Station Plume Exercise. The Lead Controller will provide a list of Observers and Liaison Officers to the appropriate Off-Site Response Organizations prior to the day of the exercise. All Observers and Liaison Officers will receive a pre-exercise briefing.

VDEM Observers are not intended to be players and should excuse themselves from any active participation in the exercise. If an Observer is engaged in any way by one of the exercise players he/she should refer the player to the VDEM Liaison Officer.

VDEM Liaison Officers are players and are assigned specific responsibilities for the exercise. Liaison Officers are instructed to call into the Virginia Emergency Operations Center (VEOC) upon arrival at the exercise venue. They are required to confirm their arrival and provide to the VEOC Watch Officer phone numbers at which they can be reached during the exercise. Liaison Officers are allowed to interact in the exercise as a VDEM representative and are sometimes required to provide injects to facilitate exercise play.

Parking and Directions

Directions to each venue area are available from the Lead Controller. Parking will be controlled according to existing policy at each individual location.

Restroom Facilities

Restroom facilities will be available at each venue.

Exercise Identification

Exercise participants will display their existing organizational identification badges.

Communications Plan

Exercise Start, Suspension, and Termination Instructions

The exercise on July 19, 2011 is scheduled to run for approximately 8 hours or until the Lead Controller after consultation with FEMA and the Utility determine that the exercise objectives have been met. The Lead Controller will announce the exercise suspension or termination through the Virginia Emergency Operations Center.

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

Player Communication

Players will use routine, in-place agency communication systems. Additional communication assets may be made available as the exercise progresses. All exercise communication over primary dispatch channels will cease immediately if a real world emergency is announced. Communications concerning a real world emergency will be preceded by the phrase "This is not drill". In no instance will exercise communication interfere with real-world emergency communications. Exercise communication over these channels will recommence when authorized by the Exercise Director after he is advised by local 911 that it is safe to do so. Each venue will coordinate its own internal communication networks and channels.

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

Player Briefing

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

Public Affairs

Joint Information Centers will be established at both the Utility Corporate Emergency Response Center and the Virginia Emergency Operations Center. Actors may play the role of reporters and (simulated **not publicly broadcast)** "media briefings" will be given as they would for a real incident. The briefings will be available for viewing at the local EOCs.

Any participation by the actual media will be coordinated through the Exercise Director in conjunction with the VDEM Public Affairs Office.

CHAPTER 3: PLAYER GUIDELINES

Exercise Staff

Exercise Director

The Exercise Director has the overall responsibility for planning, coordinating, and overseeing all exercise functions. The Exercise Director for the 2011 Surry Power Station Plume Exercise is the Radiological Emergency Preparedness Regional Assistance Committee Chair. The Exercise Director has delegated the following responsibilities to other team members:

The FEMA Region III Site Specialist for the Surry Power Station has authority to make determinations concerning evaluation issues and re-demonstrations, and,

The VDEM Radiological Planner has responsibility to organize and lead the Exercise Planning Team.

Trusted Agents

Trusted agents are exercise planners and participants who are responsible for developing the Scenario and the Master Scenario Events List (MSEL). These documents are restricted and are not available to the rest of the Exercise Planning Team, Players, or other Participants. The trusted agents for the 2011 Surry Power Station Plume Exercise include the Exercise Director, Lead Controller, Virginia Department of Health, Radiological Health Representative, Virginia Department of Emergency Management Operations Representative, Dominion Virginia Power Representatives, FEMA Emergency Management Program Specialist, and the Radiological Emergency Preparedness Regional Assistance Committee (RAC) Chair.

Lead Controller

The Lead Controller also functions as a Trusted Agent. As such he/she is involved in developing the Master Scenario Events List and is privy to the scenario used at the Utility to generate exercise play. The Lead Controller is responsible for scheduling controllers at the "Out of Sequence" components of the exercise and the 2011 Surry Power Station Plume Exercise. The Lead Controller monitors exercise progress and coordinates decisions regarding deviations or significant changes to the scenario caused by unexpected developments during play. The Lead Controller monitors actions by individual Controllers and ensures they implement all designated and modified actions at the appropriate time. The Lead Controller is stationed in the Virginia EOC during the Plume Exercise.

Controllers

At least one controller will be assigned to each field team participating in the exercise, and at each out-of-sequence demonstration or interview. The Controller at each location will coordinate any changes that impact the scenario or affect other areas of play through the Lead Controller The individual controllers issue exercise materials to players as required and monitor the exercise timeline. Controllers also provide injects to the players as described in the MSEL. The Trusted Agent from the Utility will act as the Controller at the Utility Site during the Plume exercise and the VDH Radiological Health Trusted Agent will act as Controller for the State Field Teams.

Lead Evaluator

The Lead Evaluator is responsible for the overall evaluation of the 2011 Surry Power Station Plume Exercise. The Lead Evaluator monitors exercise progress and stays in contact with the Lead Controller regarding changes to the exercise during play. The Lead Evaluator monitors actions of individual Evaluators and ensures they are tracking progress of the players in accordance with the Extent of Play. The Lead Evaluator debriefs the evaluators after the exercise and oversees the entire evaluation and After Action process. The Lead Evaluator will be the FEMA Region III REP Site Specialist.

Evaluators

Evaluators work under the direction of the Lead Evaluator, and as a team with Controllers. Evaluators are Subject Matter Experts who record events that take place during the exercise and assess/submit documentation for review and inclusion in the After Action Report (AAR). Evaluators should refrain from any direct interaction with the players during exercise play except with the facilitation of a Controller for clarification of issues or during scheduled interviews.

Player Instructions

Before the Exercise

- Review the appropriate emergency plans, procedures, and exercise support documents.
- Arrive at the exercise location as instructed. Wear appropriate uniform/identification badge.
- If you gain knowledge of the scenario before the exercise, notify a controller so that appropriate actions can be taken to ensure a valid evaluation.
- Please sign in.
- State Field Monitoring Teams will be briefed by the VDH Radiological Health Trusted Agent.

During the Exercise

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

Following the Exercise

- At the end of the exercise at your facility, participate in a debriefing with the controllers and evaluators.
- Provide all rosters, sign in sheets, logs, messages, notes or materials generated from the exercise to your controller or evaluator for review and inclusion in the AAR.
- State and Local Field Monitoring Teams will be debriefed immediately following the exercise by the assigned controller.

Simulation Guidelines

Because the 2011 Surry Power Station Plume Exercise is of limited duration and scope, the physical description of what would fully occur at the incident sites and surrounding areas will be relayed to the Players by Simulators or Controllers.

If a real emergency occurs during the exercise, the exercise at your respective venue may be suspended or terminated at the discretion of the controller(s) at each venue. If a real emergency occurs, provide assistance up to the level of your training, call 911 and use the phrase "This is not drill" and ask for the appropriate assistance, and notify the nearest Controller and Evaluator.

CHAPTER 4: EVALUATION AND POST-EXERCISE ACTIVITIES

Exercise Documentation

The goal of the 2011 Surry Power Station Plume Exercise is to comprehensively exercise and evaluate the OROs' plans and capabilities as they pertain to a potential nuclear power plant incident. After the exercise, data collected by Controllers, Evaluators, and Players will be used to identify strengths and areas for improvement in the context of the exercise design objectives.

Exercise Evaluation Guides

DHS has developed Exercise Evaluation Guides (EEGs) that identify expected activities for evaluation, provide consistency across exercises, and link individual tasks to disciplines and expected outcomes.

The EEGs are not planned to be used for this exercise.

DEBRIEFING

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

Exercise Evaluation Hotwash

Controllers, Evaluators, and selected exercise participants will attend a facilitated Controller and Evaluator Hotwash on July 21 at 1500 hours at the Omni Hotel in Newport News. During the Hotwash these individuals will discuss their observations of the exercise in an open environment to clarify actions taken during the exercise.

Participants and Public/Media Briefings

The Participants Briefing will be conducted on July 22 at 1000 hours followed immediately by the Public/Media Briefing at 1100hours. Both briefings will be held at the Omni Hotel in Newport News.

After Action Report

The AAR is the culmination of the exercise. It is a written report outlining the strengths and areas for improvement identified during the exercise. The AAR will include the timeline, executive summary, scenario description, mission outcomes, and capability analysis. The AAR will be drafted by a core group of individuals from the exercise planning team.

After Action Conference and Improvement Plan

The improvement process represents the comprehensive, continuing preparedness effort of which the 2011 Surry Power Station Plume Exercise is a part. The lessons learned and recommendations from the AAR will be incorporated into the Improvement Plan (IP).

After Action Conference

The After Action Conference (AAC) is a forum for jurisdiction officials to hear the results of the evaluation analysis, validate the findings and recommendations in the draft AAR, and begin development of the IP. The After Action Conference will be coordinated and conducted by the VDEM Radiological Planner at a time and date to be determined.

Improvement Plan

The IP identifies how recommendations will be addressed, including what actions will be taken, who is responsible, and the timeline for completion. It is created by key stakeholders from the 2011 Surry Power Station Plume Exercise Planning Team.

APPENDIX A: EXERCISE SCHEDULE

Table A.1 *Surry Power Station Out of Sequence Schedule*

Date/Location	Participants	Activity
[June 13, 2011]		
City of Hampton Evacuation Assembly Center (EAC)	City of Hampton Hazmat Team James City County Fire Department American Red Cross	General Public & Emergency Worker Monitoring & Decontamination; Mass Care
Newport News School District	School Principal	School Principal
Poquoson Evacuation Assembly Center		Reception and Mass Care only; no decontamination demonstrated
[June 14, 2011]		
Riverside Hospital	Isle of Wight Rescue Riverside Health Systems	Medical Services Drill (MS-1)
York County School District office		Interview Risk County Schools
Williamsburg/ James City County Combined School district	School Principal	Interview Risk County Schools
[June 15, 2011]		
Surry County School District	School Principal	Interview Risk County Schools
Newport News School District	School Principal	Interview Risk County Schools
Newport News Evacuation Assembly Center	Newport News Fire Department	General Public & Emergency Worker Monitoring & Decontamination; Mass Care
[June 16, 2011]		
Newport News County School District	School Principal	Interview Risk Schools

Table A.2 *Surry Power Station Plume Exercise Schedule*

Date/Location	Participants	Activity
[July 18, 2011]		
		Evaluator Pre-Exercise Briefing
[July 19, 2011]		
		Full Scale Plume Exercise
[July 21, 2011]		
		Participant Hotwash
[July 22, 2011]		
		Participant's Critique Public Briefing

APPENDIX B: EXTENT OF PLAY INFORMATION

The Extent of Play for each participating agency are included here as an Annex to the ExPlan.

METHOD OF OPERATION

This "Method of Operation" Document includes activities for the Full-Scale Plume Exercise (July 19, 2011), and the "Out of Sequence" Activities (week of June 13-17, 2011).

Surry Power Station (SPS)

The plant's simulated events, radiation readings, and emergency classifications will trigger offsite exercise actions. A pre-approved exercise scenario will be used. The SPS will notify the Virginia EOC and the risk counties of emergency classifications.

A. Plume Exercise – July 19, 2011

1. Virginia Emergency Response Team (VERT) Operations at Virginia EOC

   The Virginia Department of Emergency Management (VDEM) augmented by designated Virginia Emergency Response Team (VERT) personnel from various Emergency Support Functional (ESF) areas will comprise initial operations at the Virginia Emergency Operations Center (VEOC).

   A VDEM Public Information Officer (PIO) will also be assigned to the Joint Public Information Center (JPIC) located at Dominion's Corporate Emergency Response Center (CERC), Innsbrook and will coordinate information between the Virginia EOC and Dominion CERC and participate in a joint State/Dominion media briefing. The Public Inquiry Center will also participate at the JPIC.

   A VDEM State On-Scene Coordinator will be deployed to the Local Emergency Operations Facility (LEOF) at Surry Power Station to provide technical information and guidance to the VEOC decision makers.

2. VA Dept. of Health – Division of Radiological Health (VDH/DRH)

   Personnel from the VDH/DRH will be present and participate in the following aspects of the exercise as follows:

   Plume Exercise – Virginia EOC (ESF 8).
   Plume Exercise – Surry Power Station LEOF.
   Plume Exercise – Two State Field Monitoring Teams (staged at Surry VDOT maintenance headquarters).

B. Plume Exercise – "Out of Sequence" Activities – June 13-17, 2011. See OOS schedule – Attachment B.

- Medical Services Drill (MS-1) – Isle of Wight County Rescue Squad and Riverside Health System Hospital.
- Evacuation Assembly Center (EAC) Demonstrations – City of Hampton (Hampton Coliseum), City of Newport News (Gildersleeve Middle School), and City of Poquoson (Poquoson High School).
- Risk area school and school district interviews – Surry County, York County, James City County, City of Newport News and City of Williamsburg.

The Virginia Emergency Operations Center (VEOC), risk area locality EOCs will NOT be evaluated during the "Out of Sequence" component. VDEM and Dominion personnel will serve as "controllers".

C. Localities Designated to Participate

1. Plume Phase Exercise (July 19, 2011):

The six risk localities (Surry County, Isle of Wight County, York County, James City County and Cities of Newport News and Williamsburg) and the four host localities (New Kent County, Charles City County, and the Cities of Hampton and Poquoson), in coordination with VDEM, will demonstrate the capability to mobilize appropriate staff, activate their respective Emergency Operations Centers and implement emergency response operations to include sheltering and/or evacuation. The Virginia EOC will provide direction and coordination to risk and host localities. Actual sheltering or evacuation of the general public will be simulated.

Surry and Isle of Wight Counties will demonstrate primary route alerting. All risk localities (Surry County, Isle of Wight County, James City County, York County, Newport News City and Williamsburg City) will demonstrate backup route alerting, traffic/access control (via interview) and field team monitoring.

D. Controllers

A controller will be present in the VEOC and in each of the risk locality EOCs on July 19, 2011 and at the Evacuation Assembly Centers (EACs), designated school district offices and schools on June 13-17, 2011. Controllers are not players. Controllers will provide pre-approved injects and information to the players, as appropriate. Controllers will provide information regarding radiological readings during the monitoring of personnel during the EAC demonstrations. Live radioactive sources will not be used. Controllers will also be assigned to the two State field monitoring teams and to the local field monitoring teams and will provide radiological data to teams as appropriate.

E. Observers

VDEM staff, local emergency management personnel, and/or nuclear power plant personnel will be assigned, if required, 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 by observers is not permitted except to provide training to participants awaiting a re-demonstration. (Refer to paragraph 9)

F. Department of Homeland Security (DHS) Evaluators

1. Plume Exercise:

Out of Sequence Period (June 13-17, 2011): Federal evaluators will be present at the identified "out-of-sequence" demonstration sites listed above. See OOS Schedule – Attachment B.

Plume Phase Exercise (July 19, 2011): Evaluators representing the federal government will be present at the identified risk locality EOC's to evaluate player response to the actual and simulated events in the exercise scenario. Additionally, state and local field monitoring teams will be federally evaluated.

G. Exercise Termination

The risk locality EOCs will remain Operational until the exercise is officially terminated by the State. **The Virginia EOC will issue an Exercise Termination Message via controller inject.**

General Concepts

An emergency plan is drafted to address the generally expected conditions of an emergency. Not everything in the emergency plan may be applicable for a given scenario. The main purpose of an emergency plan is to assemble sufficient expertise and officials so as to properly react to the events as they occur. The responders should not be so tied to a plan that they cannot take actions that are more protective of the public. 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 applied.

Re-demonstrations

During the out of sequence demonstrations (June 13-17, 2011), or the plume phase demonstrations on July 19, 2011, any activity that is not satisfactorily demonstrated may be re-demonstrated by the participants during the exercise, provided it does not negatively interfere with the exercise. Refresher training may be provided by the players, observers, and/or controllers. Evaluators are not permitted to provide refresher training. Re-demonstrations will be negotiated between the players, observers, controllers, and evaluators. VDEM may advise the RAC Chair prior to initiating any re-demonstrations. 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.

EXTENT OF PLAY

1. EMERGENCY OPERATIONS MANAGEMENT

1.a Mobilization

Criterion 1.a.1: Offsite Response Organization's use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.
(NUREG-0654, A.4; D.3, 4; E.1, 2; H.4)

Extent of Play

Responsible Offsite Response Organization's should demonstrate the capability to receive notification of an emergency situation from the licensee, verify the notification, and contact, alert, and mobilize key emergency personnel in a timely manner. Responsible Offsite Response Organization's should demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations. Activation of facilities should be completed in accordance with the plan and/or procedures. Pre-positioning of emergency personnel is appropriate, in accordance with the extent of play agreement, at those facilities located beyond a normal commuting distance from the individual's duty location or residence. Further, pre-positioning of staff for out-of-sequence demonstrations is appropriate in accordance with the extent of play agreement. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

State Negotiated Extent of Play:

The State will notify and mobilize appropriate response agencies which have responsibilities in the Virginia EOC, at the appropriate emergency classification level and in accordance with established plans and procedures in a timely manner. VDEM and DRH will provide staffing as per procedures. Pre-positioning of personnel for VOPEX 11 is allowed for all locations.

The State will demonstrate the capability to receive notification of an emergency situation from the licensee and verify notification. The State will demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations.

Risk and Host Jurisdictions Negotiated Extent of Play:

Local jurisdictions will notify and mobilize appropriate response agencies and key personnel assigned to the local EOCs and media centers, field workers and Evacuation Assembly Centers, (out of sequence) if activated, at the appropriate Emergency Classification Level (ECL) and as per procedures in a timely manner. Pre-positioning of personnel for VOPEX 11 is allowed for all locations.

The risk jurisdictions will demonstrate the capability to receive notification of an emergency situation from the licensee and verify notification. The risk jurisdictions will demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations.

Outstanding Issues:
None

1.b Facilities
Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H.3)

Extent of Play
Facilities will only be specifically evaluated for this criterion if they are new or have substantial changes in structure or mission. Responsible Offsite Response Organization's should demonstrate the availability of facilities that support the accomplishment of emergency operations. Some of the areas to be considered are: adequate space, furnishings, lighting, restrooms, ventilation, backup power and/or alternate facility (if required to support operations). Facilities must be set up based on the Offsite Response Organization's plans and procedures and be demonstrated as they would be used in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Risk Area Jurisdiction Negotiated Extent of Play:

Isle of Wight County backup EOC will be in use and evaluated for VOPEX 11.

1.c Direction and Control
Criterion 1.c.1: Key personnel with leadership roles for the Offsite Response Organization's provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654, A.1.d; A.2.a, b)

Extent of Play
Leadership personnel should demonstrate the ability to carry out essential functions of the response effort, for example: keeping the staff informed through periodic briefings and/or other means, coordinating with other appropriate Offsite Response Organization's and ensuring completion of requirements and requests. All activities associated with direction and control must be performed based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless otherwise noted above or indicated in the extent of play agreement.

State Negotiated Extent of Play:
Overall direction and control of state activities will be demonstrated in the VEOC, Local Emergency Operations Facility (LEOF) and Joint Public Information Center (JPIC). The Governor's representative or a simulated designee will be present and will simulate coordinating decisions with the Governor's Office. The State Coordinator or designee will demonstrate the ability to keep staff informed, hold briefings and coordinate activities with other offsite response organizations. Both the State, risk and host jurisdictions should ensure the completion of requirements and requests. Demonstration will be in accordance with plans and procedures.

Risk and Host Jurisdictions Negotiated Extent of Play:
The emergency services coordinator or designee will demonstrate his ability to keep staff informed, hold briefings, and coordinate activities with other offsite response organizations. Both the risk and host jurisdictions should ensure the completion of requirements and requests. Demonstration will be in accordance with plans and procedures.

Outstanding Issues:
None

1.d Communications Equipment
Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations.
(NUREG-0654, F.1, 2)

Extent of Play
Responsible Offsite Response Organization's will demonstrate that a primary and at least one backup system are fully functional at the beginning of an exercise. If a communications system or systems are not functional, but exercise performance is not affected, no exercise issue will be assessed. Communications equipment and procedures for facilities and field units should be used as needed for the transmission and receipt of exercise messages. All facilities and field teams should have the capability to access at least one communication system that is independent of the commercial telephone system. Responsible Offsite Response Organization's should demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt the conduct of emergency operations. Offsite Response Organization's should ensure that a coordinated communication link for fixed and mobile medical support facilities exists. The specific communications capabilities of Offsite Response Organization's should be commensurate with that specified in the response plan and/or procedures. Exercise scenarios could require the failure of a communications system and the use of an alternate system, as negotiated in the extent of play agreement. All activities associated with the management of communications capabilities must be demonstrated based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless otherwise noted above or in the extent of play agreement.

State, Risk and Host Jurisdictions Negotiated Extent of Play:
This evaluation area will be demonstrated in all participating locations, in accordance with plans and procedures. OROs will demonstrate that a primary and at least one backup system are fully functional at the beginning of the exercise. Facility and field workers will have access to at least one communications system that is independent of commercial landline telephone.

Outstanding Issues:

41-10-1d1-A-09 (VEOC)	Virginia State Field Monitoring Team (FMT) 1 members did not demonstrate that a primary and at least one backup communication system was fully functional at the beginning of or during the exercise.
41-10-1d1-A-10 (VEOC)	Virginia State Field Monitoring Team (FMT) 2 members did not demonstrate that a primary and at least one backup communication system was fully functional at the beginning of or during the exercise.

1.e Equipment and Supplies to Support Operation
Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations.
(NUREG-0654, H.7, 10; J.10.a, b, e, J.11; K.3.a)

Extent of Play
Equipment within the facility (facilities) should be sufficient and consistent with the role assigned to that facility in the Offsite Response Organization's plans and/or procedures in support of emergency operations. Use of maps and displays is encouraged. All instruments, should be inspected, inventoried, and operationally checked before each use. Instruments should be calibrated in accordance with the manufacturer's recommendations. Unmodified CDV–700 series instruments and other instruments without a manufacturer's recommendation should be calibrated annually. Modified CDV-700 instruments should be calibrated in accordance with the recommendation of the modification manufacturer. A label indicating such calibration should be on each instrument or calibrated frequency can be verified by other means. Additionally, instruments being used to measure activity should have a range of readings sticker affixed to the side of the instrument. The above considerations should be included in the following criteria: 4.a.1 for field team equipment, 4.c.1 for radiological laboratory equipment (does not apply to analytical equipment), 6.a.1 for reception center and emergency worker facilities' equipment and 6.d.1 for ambulance and medical facility equipment. Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers should be available for issuance to all categories of emergency workers that could be deployed from that facility. Appropriate direct-reading dosimetry should allow individual(s) to read the administrative reporting limits and maximum exposure limits contained in the Offsite Response Organization's plans and procedures. Dosimetry should be inspected for electrical leakage at least annually and replaced, if necessary. CDV–138s, due to their documented history of electrical leakage problems, should be inspected for electrical leakage at least quarterly and replaced if necessary. This leakage testing will be verified during the exercise, through documentation submitted in the Annual Letter of Certification, and/or through a staff assistance visit. Responsible Offsite Response Organization's should demonstrate the capability to maintain inventories of KI sufficient for use by emergency workers, as indicated on rosters; institutionalized individuals, as indicated in capacity lists for facilities; and, where stipulated by the plan and/or procedures, members of the general public (including transients) within the plume pathway Emergency Planning Zone. Available quantities of dosimetry and KI and their storage locations(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 Annual Letter of Certification submission, and/or verified during a staff assistance visit. Available supplies of KI should be within the expiration date indicated on KI bottles or blister packs. As an alternative, the Offsite Response Organization's 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. At locations where traffic and access control personnel are deployed, appropriate equipment (e.g., vehicles, barriers, traffic cones and signs, etc.) should be available or have their availability described. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

State, Risk and Host Jurisdictions Negotiated Extent of Play:
Equipment within the facility should be sufficient and consistent with the role assigned to that facility in the ORO's plans and/or procedures in support of emergency operations. Use of maps and displays will be demonstrated.

Sufficient quantities of appropriate dosimetry should be available for issuance to all emergency workers.

Responsible ORO's should demonstrate the capability to maintain inventories of KI sufficient for use by emergency workers, as indicated on rosters.

Risk jurisdictions: *At locations where traffic and access control personnel are deployed (simulated at the staging area), appropriate equipment (e.g., vehicles, barriers, traffic cones and signs, etc.) should be available or their availability described.*

- *TCP/ACP maps (pages from the plans may be used)*
- *Population by protective action zone (pages from the plans may be used)*

Demonstration of the KI inventory rosters for the general public will occur in the local EOC's by Health Representatives.

Out-of-Sequence Demonstrations (Week of June 13-17, 2011:

Evacuation Assembly Centers (EACs):

- *City of Hampton (Hampton Coliseum), June 13, 9 a.m.*
- *City of Newport News (Gildersleeve Middle School), June 15, 4 p.m.*
- *City of Poquoson (Poquoson High School), June 13, 3 p.m.*

Health department personnel will provide their respective KI inventories (through written documentation) for the general public at the EAC as well as the list of previously distributed KI.

Sufficient quantities of appropriate dosimetry should be available for issuance to designated emergency workers.

Outstanding Issues:
None

2. PROTECTIVE ACTION DECISION MAKING

2.a Emergency Worker Exposure Control

Criterion 2.a.1: Offsite Response Organizations use a decision making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.
(NUREG-0654, K.4, J.10.e, f)

Extent of Play

Responsible Offsite Response Organization's authorized to send emergency workers into the plume exposure pathway Emergency Planning Zone should demonstrate a capability to meet the criterion based on their emergency plans and procedures. Responsible Offsite Response Organization's should demonstrate the capability to make decisions concerning the authorization of exposure levels in excess of preauthorized levels and to the number of emergency workers receiving radiation dose above pre-authorized levels. As appropriate, Offsite Response Organization's should demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure, based on the Offsite Response Organization's plan and/or procedures or projected thyroid dose compared with the established Protective Action Guides (Protective Action Guides) for KI administration. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

State Negotiated Extent of Play:

VDEM and DRH working in the LEOF will rely on the facility's area monitor system and will not perform 30-minute dosimeter readings. If the area monitoring system fails or facility dose rates are shown to increase, dosimetry will be issued to facility personnel in accordance with Dominion Generation procedures, and Dominion Generation facility monitoring personnel will monitor exposure. State field monitoring teams and mobile lab workers will demonstrate emergency worker exposure control, as per procedures.

As appropriate, DRH will demonstrate the capability to make decisions on the distribution and administration of KI, as a protective measure, based on plan and/or procedures or projected thyroid dose compared with established protective action guides (PAGs) for KI administration.

Risk Jurisdictions Negotiated Extent of Play:

Risk Jurisdictions authorized to send emergency workers into the plume exposure pathway EPZ will demonstrate a capability to meet the criterion based on their emergency plans and procedures. As appropriate, risk jurisdictions will demonstrate the capability for the distribution and administration of KI, as a protective measure, based on the ORO's plan and/or procedures or projected thyroid dose compared with the established protective action guides (PAGs) for KI administration.

Outstanding Issues:
None

2.b Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency
Criterion 2.b.1: Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and Offsite Response Organization dose projections, as well as knowledge of onsite and offsite environmental conditions.
(NUREG-0654, I.8, 10 and Supplement 3)

Extent of Play
During the initial stage of the emergency response, following notification of plant conditions that may warrant offsite protective actions, the Offsite Response Organization's should demonstrate the capability to use appropriate means, described in the plan and/or procedures, to develop protective action recommendations for decision-makers based on available information and recommendations from the licensee and field monitoring data, if available. When the licensee provides release and meteorological data, the Offsite Response Organization's also considers this data. The Offsite Response Organization's should demonstrate a reliable capability to independently validate dose projections. The types of calculations to be demonstrated depend on the data available and the need for assessments to support the Protective Action Recommendations appropriate to the scenario. In all cases, calculation of projected dose should be demonstrated. Projected doses should be related to quantities and units of the Protective Action Guide to which they will be compared. Protective Action Recommendations should be promptly transmitted to decision-makers in a prearranged format. Differences greater than a factor of 10 between projected doses by the licensee and the Offsite Response Organization's should be discussed with the licensee with respect to the input data and assumptions used, the use of different models, or other possible reasons. Resolution of these differences should be incorporated into the Protective Action Recommendation if timely and appropriate. The Offsite Response Organization's should demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated Protective Action Recommendations. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

State Negotiated Extent of Play:
The initial Protective Action Recommendation (PAR) is based on plant conditions. Scenario driven doses may or may not exceed EPA PAGs, as the plant condition-based PAR will dictate the appropriate evacuation/sheltering recommendation.

Dose projections will be developed by the Division of Radiological Health at the LEOF to confirm or modify, as necessary, the PAR in effect. The protective action recommendation will be forwarded from the LEOF to the VEOC with any information necessary to support the recommendation.

Outstanding Issues:
None

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions for the general public (including the recommendation for the use of KI, if Offsite Response Organization policy).
(NUREG-0654, J.9, 10.f, m)

Extent of Play
Offsite Response Organizations should have the capability to make both initial and subsequent Protective Action Decisions. They should demonstrate the capability to make initial Protective Action Decisions in a timely manner appropriate to the situation, based on notification from the licensee, assessment of plant status and releases, and Protective Action Recommendations from the utility and Offsite Response Organization staff. The dose assessment personnel may provide additional Protective Action Recommendations based on the subsequent dose projections, field monitoring data, or information on plant conditions. The decision makers should demonstrate the capability to change protective actions as appropriate based on these projections. If the Offsite Response Organization's has determined that KI will be used as a protective measure for the general public under offsite plans, then the Offsite Response Organization's should demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for the general public to supplement sheltering and evacuation. This decision should be based on the Offsite Response Organization's plan and/or procedures or projected thyroid dose compared with the established Protective Action Guide for KI administration. The KI decision making process should involve close coordination with appropriate assessment and decision-making staff. If more than one Offsite Response Organization's is involved in decision-making, Offsite Response Organizations should communicate and coordinate Protective Action Decisions with affected Offsite Response Organization's. Offsite Response Organization's should demonstrate the capability to communicate the contents of decisions to the affected jurisdictions. All decision-making activities by Offsite Response Organization's personnel must be performed based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

State Negotiated Extent of Play:
Decisions to evacuate and shelter any portion of the affected population will be demonstrated by the VDEM State Coordinator or his representative in the VEOC. These decisions will be coordinated with risk jurisdictions.

VDH decision makers will demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for the general public to supplement sheltering and/or evacuation.

Outstanding Issues:
None

2.c Protective Action Decisions for Protection of Special Populations:
Criterion 2.c.1: Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9, J.10.d, e)

Extent of Play
Usually, it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of Protective Action Guides, except for situations where there is a high-risk environment or where high-risk groups (e.g., the immobile or infirm) are involved. In these cases, examples of factors that should be considered are: weather conditions, shelter availability, availability of transportation assets, risk of evacuation vs. risk from the avoided dose, and precautionary school evacuations. In situations where an institutionalized population cannot be evacuated, the administration of KI should be considered by the Offsite Response Organization's. Applicable Offsite Response Organization's should demonstrate the capability to alert and notify all public school systems/districts of emergency conditions that are expected to or may necessitate protective actions for students. Contacts with public school systems/districts must be actual. In accordance with plans and/or procedures, Offsite Response Organization's and/or officials of public school systems/districts should demonstrate the capability to make prompt decisions on protective actions for students. Officials should demonstrate that the decision making process for protective actions considers (that is, either accepts automatically or gives heavy weight to) protective action recommendations made by Offsite Response Organization personnel, the EAL at which these recommendations are received, preplanned strategies for protective actions for that EAL, and the location of students at the time (for example, whether the students are still at home, en route to the school, or at the school). All decision-making activities associated with protective actions, including consideration of available resources, for special population groups must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Risk Jurisdictions Negotiated Extent of Play:

Isle of Wight County Only
On July 19, 2011, risk jurisdictions will have a school representative and social services representative available at their EOC. When dictated by events and according to procedures, officials will demonstrate what protective action decision they would make for schools located within the 10 mile EPZ, schools located outside of the 10 mile emergency planning zone (EPZ), yet have students residing within the 10 mile EPZ and other special needs populations. EOC representatives will consider relevant factors, such as weather, shelter availability and time evacuation estimates when determining what protective actions to recommend for special populations. EOC representatives will also consider relevant factors such as the availability of transportation assets, risk of evacuation vs. risk from the avoided dose, precautionary school evacuation, and the administration of KI in situations where an institutionalized population cannot be evacuated.

Remaining Risk Jursidictions
On July 19, 2011, risk jurisdictions will have a social services representative available at their EOC. Special needs populations. EOC representatives will consider relevant factors, such as weather, shelter availability and time evacuation estimates when determining what protective actions to recommend for special populations. EOC representatives will also consider relevant factors such as the availability of transportation assets, risk of evacuation vs. risk from the avoided dose, precautionary school evacuation, and the administration of KI in situations where an institutionalized population cannot be evacuated. (Schools and school districts were evaluated Out of Sequence the week of June 13, 2011)

Outstanding Issues:
None

3. PROTECTIVE ACTION IMPLEMENTATION

3.a Implementation of Emergency Worker Exposure Control:

Criterion 3.a.1: The Offsite Response Organizations issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and 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.
(NUREG-0654, K.3.a, b)

Extent of Play

Offsite Response Organizations should demonstrate the capability to provide appropriate direct-reading and permanent record dosimetry, dosimeter chargers, and instructions on the use of dosimetry to emergency workers. For evaluation purposes, appropriate direct-reading dosimetry is defined as dosimetry that allows individual(s) to read the administrative reporting limits (pre-established at a level low enough to consider subsequent calculation of Total Effective Dose Equivalent) and maximum exposure limits (pre-established for those emergency workers involved in life saving activities) contained in the Offsite Response Organization's plans and procedures. Each emergency worker should have the basic knowledge of radiation exposure limits as specified in the Offsite Response Organization's plan and/or procedures. Procedures to monitor and record dosimeter readings and to manage radiological exposure control should be demonstrated. During a plume phase exercise, emergency workers should demonstrate the procedures to be followed when administrative exposure limits and turn back values are reached. The emergency worker should report accumulated exposures during the exercise as indicated in the plans and procedures. Offsite Response Organizations should demonstrate the actions described in the plan and/or procedures by determining whether to replace the worker, to authorize the worker to incur additional exposures or to take other actions. If scenario events do not require emergency workers to seek authorizations for additional exposure, evaluators should interview at least two emergency workers, to determine their knowledge of whom to contact in the event authorization is needed and at what exposure levels. Emergency 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 and adequate control of exposure can be maintained for all members of the team by one dosimeter worn by the team leader. Emergency workers who are assigned to low exposure rate areas, e.g., at reception centers, counting laboratories, emergency operations centers, and communications centers, may have individual direct-reading dosimeters or they may be monitored by dosimeters strategically placed in the work area. It should be noted that, even in these situations, each team member must still have their own permanent record dosimetry. Individuals without specific radiological response missions, such as farmers for animal care, essential utility service personnel, or other members of the public who must re-enter an evacuated area following or during the plume passage, should be limited to the lowest radiological exposure commensurate with completing their missions. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

State Negotiated Extent of Play:

VDEM and DRH working in the LEOF will rely on the facility's area monitor system and will not perform 30-minute dosimeter readings. If the area monitoring system fails or facility dose rates are shown to increase, dosimetry will be issued to facility personnel in accordance with Dominion Generation procedures, and exposure will be monitored by Dominion Generation facility monitoring personnel. State field monitoring teams and mobile lab workers will demonstrate emergency worker exposure control, as per procedures.

Risk Jurisdictions Negotiated Extent of Play:

Appropriate emergency workers in the risk jurisdictions will demonstrate emergency worker exposure control, as per procedures. Radiological Officers will be evaluated on their management (equipping and briefing) of field workers at the staging area location where field workers are equipped and briefed.

Outstanding Issues:
None

Out-of-Sequence Demonstrations (Week of June 13-17, 2011):

Evacuation Assembly Centers (EACs):

- *City of Hampton (Hampton Coliseum), June 13, 9 a.m.*
- *City of Newport News (Gildersleeve Middle School), June 15, 4 p.m.*

The EAC radiological officer will provide a briefing to demonstrate this evaluation area. Designated emergency worker personnel (non-shelter personnel) who are assigned to the EAC will be provided with a radiological briefing, dosimetry, and appropriate forms. They will demonstrate the reading and recording of their dosimeter according to their plans and procedures and demonstrate their knowledge of emergency worker exposure control.

Outstanding Issues:
None

3.b Implementation of KI Decisions

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not the general public) is maintained. (NUREG-0654, E.7, J.10.e & f)

Extent of Play

Offsite Response Organizations should demonstrate the capability to make KI available to emergency workers, institutionalized individuals, and, where provided for in the Offsite Response Organization plan and/or procedures, to members of the general public. Offsite Response Organizations should demonstrate the capability to accomplish distribution of KI consistent with decisions made. Organizations should have the capability to develop and maintain lists of emergency workers and institutionalized individuals who have ingested KI, including documentation of the date(s) and time(s) they were instructed to ingest KI. The ingestion of KI recommended by the designated Offsite Response Organization health official is voluntary. For evaluation purposes, the actual ingestion of KI is not necessary. Offsite Response Organizations should demonstrate the capability to formulate and disseminate appropriate instructions on the use of KI for those advised to take it. If a recommendation is made for the general public to take KI, appropriate information should be provided to the public by the means of notification specified in the Offsite Response Organization's plan and/or procedures. Emergency workers should demonstrate the basic knowledge of procedures for the use of KI whether or not the scenario drives the use of KI. This can be accomplished by an interview with the evaluator. All activities must be based on the Offsite Response Organization's plans and procedures and be completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Virginia Department of Radiological Health Negotiated Extent of Play:

The State Commissioner of Health (or designee) will determine whether and/or when to authorize the administration of KI. Offsite Response Organizations should demonstrate the capability to accomplish distribution of KI consistent with decisions made.

Risk Jurisdictions Negotiated Extent of Play:

Risk jurisdictions will have a sufficient quantity of KI on hand in their EOC or at some other storage location or be capable of demonstrating its availability through written documentation (inventory sheets or letter). The KI intended for use will not exceed the expiration date. Emergency workers, as appropriate, will receive KI according to their procedures and will be briefed or given information on its use. Included organizations will demonstrate the ability to develop and maintain lists of emergency workers who have ingested KI, including documentations of the date(s) and time(s) they were instructed to ingest KI. Simulated KI can be used. Emergency workers will demonstrate through interview the basic knowledge of procedures for the use of KI whether or not the scenario drives the use of KI. ***Implementation of KI use by the general public will be demonstrated out-of-sequence on June 13-17, 2011 (see below).***

Out-of-Sequence Demonstration (Week of June 13-17, 2011):

Evacuation Assembly Centers (EACs):

- *City of Hampton (Hampton Coliseum), June 13, 9 a.m.*
- *City of Newport News (Gildersleeve Middle School), June 15, 4 p.m.*

Local personnel will demonstrate the activation and operation of their EAC. As part of this demonstration, the health department representatives at the EAC will demonstrate the implementation of the KI decision for the general public and the implementation of the KI distribution plan and health annex. Participating jurisdictions will provide their respective KI inventories for the general public at the EACs as well as the list of previously distributed KI. Health department representatives at the EAC will demonstrate the administration and distribution of the tablets (simulated). The process for distribution will be in accordance with ORO plans and procedures.

Outstanding Issues:

None.

3.c Implementation of Protective Actions for Special Populations:
Criterion 3.c.1: Protective action decisions are implemented for special populations other than schools within areas subject to protective actions.
(NUREG-0654, J.10.c, d, g)

Extent of Play
Applicable Offsite Response Organizations should demonstrate the capability to alert and notify (for example, provide protective action recommendations and emergency information and instructions) special populations (hospitals, nursing homes, correctional facilities, mobility impaired individuals, transportation dependent, etc.). Offsite Response Organizations should demonstrate the capability to provide for the needs of special populations in accordance with the Offsite Response Organization's plans and procedures. Contact with special populations and reception facilities may be actual or simulated, as agreed to in the Extent of Play. Some contacts with transportation providers should be actual, as negotiated in the extent of play. All actual and simulated contacts should be logged. All implementing activities associated with protective actions for special populations must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Risk Jurisdictions Negotiated Extent of Play:
Jurisdictions will demonstrate that a list of any special needs individuals within their portion of the 10-mile EPZ is maintained by Social Services. If resources are needed to assist these individuals for areas included in the Protective Action Decision, the availability of these resources will be verified (e.g., through discussion and presentation of transportation methods or providers, available vehicles, etc.). Contact with any special needs individuals will be simulated. Contact with the transportation providers will occur in the EOC with transportation providers (e.g., rescue squad). All actual or simulated communications will be logged.

Outstanding Issues:
None.

Criterion 3.c.2: Offsite Response Organizations/School Officials implement protective actions for schools. (NUREG-0654, J.10.c, d, g)

Extent of Play

Public school systems/districts shall demonstrate the ability to implement protective action decisions for students. The demonstration shall be made as follows: At least one school in each affected school system or district, as appropriate, needs to demonstrate the implementation of protective actions. Implementation procedures for canceling the school day, dismissing early or sheltering should be simulated by describing those procedures to evaluators. If evacuation is the implemented protective action, all activities to coordinate and complete the evacuation of students to reception centers, congregate care centers, or host schools may actually be demonstrated or accomplished through an interview process. If accomplished through an interview process, appropriate school personnel including decision making officials (e.g., superintendent/principal, transportation director/bus dispatcher), and at least one bus driver (and the bus driver's escort, if applicable) should be available to demonstrate knowledge of their role(s) in the school evacuation process. Communications capabilities between school officials and the buses, if required by the plan and/or procedures, should be verified. Officials of the school system(s) should demonstrate the capability to develop and provide timely information to Offsite Response Organizations for use in messages to parents, the general public, and the media on the status of protective actions for schools. The provisions of this criterion also apply to any private schools, private kindergartens and day care centers that participate in Radiological Emergency Preparedness exercises pursuant to the Offsite Response Organization's plans and procedures as negotiated in the extent of play agreement. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Risk Jurisdictions Negotiated Extent of Play:

Isle of Wight County Only

On July 19, 2011, Isle of Wight County will have a school representative available in the EOC. When dictated by events and according to procedures, the school official will demonstrate the ability to implement protective action decisions for students. Implementation procedures for canceling the school day, dismissing early or sheltering should be simulated by describing those procedures to the evaluator.

Surry County, York County, James City County, Williamsburg City and Newport News City:

****See OOS Schedule – Attachment B.***

This evaluation area will be demonstrated out-of-sequence the week of June 13-17, 2011. Public school systems/districts will demonstrate the ability to make protective action decisions for students. Implementation procedures for closing schools, dismissing early or sheltering will be simulated by describing procedures to evaluators. The above designated schools will demonstrate, by discussion, the implementation of protective actions.

School demonstration activities will be initiated at the school administration/superintendents office following notification (controller inject) that a simulated Alert was declared by the utility and the local Emergency Management Coordinator upon advice from the school representative at the local EOC has decided to close schools.

A FEMA evaluator will be located in the Superintendent's office or other school command location and will review the actions taken by the Superintendent/designee and school transportation officer in response to the notification. He/she will, in turn, notify appropriate school representatives, i.e., the school principal or assistant principal at the designated school(s) in each jurisdiction of school protective action decision.

The actions taken by the Principal/designee (pre-staged at designated schools) will be evaluated. No students will be moved from the simulated schools. Actions will be taken according to school emergency response plans and procedures. Ability of participating schools to implement the school protective action decisions will be by interview.

Designated schools will demonstrate, via interview, the capability to perform the following:

- *Discuss the ability to implement the school protective action decision.*
- *Discuss procedure for students residing within the 10 mile EPZ who attend schools located outside 10 mile EPZ.*

Radiological Officers will be available at the school district/superintendents office to discuss their procedures regarding dosimetry and emergency worker exposure control.

Outstanding Issues:
None

3.d Implementation of Traffic and Access Control.
Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel.
(NUREG-0654, J.10.g, j)

Extent of Play
Offsite Response Organizations should demonstrate the capability to select, establish, and staff appropriate traffic and access control points, consistent with protective action decisions (for example, evacuating, sheltering, and relocation), in a timely manner. Offsite Response Organizations should demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled. Traffic and access control staff should demonstrate accurate knowledge of their roles and responsibilities. This capability may be demonstrated by actual deployment or by interview, in accordance with the extent of play agreement. In instances where Offsite Response Organizations lack authority necessary to control access by certain types of traffic (rail, water, and air traffic), they should demonstrate the capability to contact the State or Federal agencies with authority to control access. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

State Negotiated Extent of Play:
The VEOC, driven by Protective Action Decisions will need to demonstrate the requesting of control of air, rail and waterways to the appropriate organizations. All communication will be simulated and logged.

Risk Jurisdictions Negotiated Extent of Play:
Risk Jurisdictions, driven by the Protective Action Decision (PAD) to activate traffic control points and access control points will activate one traffic control point (TCP) and one access control point (ACP) simulated at the staging area. Both the TCP and the ACP will be established and held until evaluated. One unit (officer) will be provided to demonstrate this evaluation area. The personnel used to activate the TCP can also be the one to activate the ACP.

Risk jurisdictions will demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications to protective action strategies necessitate change in evacuation patterns or in the area(s) where access is controlled.

The TCP/ACP officers will be knowledgeable of the following:
- *Traffic Control*
- *Access Control*
- *Location of the EAC*
- *Dosimetry and exposure limits (reporting and turnback levels)*
- *Required Protective Actions*

Outstanding Issues:
None.

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

Extent of Play

Offsite Response Organizations should demonstrate the capability, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. Actual dispatch of resources to deal with impediments, such as wreckers, need not be demonstrated; however, all contacts, actual or simulated should be logged. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Risk Jurisdictions Negotiated Extent of Play:

Risk jurisdictions will demonstrate the capability and knowledge of procedures to identify and take appropriate actions concerning impediments to evacuation, as required by the scenario or controller inject messages. Actual dispatch of resources to deal with impediments, such as wreckers, will not be demonstrated; however, all contacts, actual or simulated will be logged.

Outstanding Issues:

None.

4. FIELD MEUREMENT AND ANALYSIS

4.a Plume Phase Field Measurements and Analysis

Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10; I.7, 8, 9)

Extent of Play

Field teams should be equipped with all instrumentation and supplies necessary to accomplish their mission. This should include instruments capable of measuring gamma exposure rates and detecting the presence of beta radiation. These instruments should be capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on the air sample collection media, consistent with the intended use of the instrument and the Offsite Response Organization's plans and procedures. An appropriate radioactive check source should be used to verify proper Operations response for each low range radiation measurement instrument (less than 1 R/hr) and for high range instruments when available. If a source is not available for a high range instrument, a procedure should exist to operationally test the instrument before entering an area where only a high range instrument can make useful readings. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

***State Negotiated Extent of Play**: Two State Field Monitoring Team (FMT), consisting of at least two individuals, will be staged at the Surry VDOT maintenance shop. The teams will be briefed and equipped with the appropriate field monitoring instruments and the teams will check the equipment for operability before deployment into the field.*

***Risk Jurisdictions Negotiated Extent of Play**: Each jurisdiction will deploy one FMT, consisting of at least two individuals per team, from the staging area within their jurisdiction.*

The Radiological Officer will provide a briefing, survey meters and appropriate forms to field monitors.

The field monitors will perform an Operations check on the meters before being deployed into the field.

If an instrument is found to be broken or working incorrectly, the radiological officer will take appropriate actions according to plans and procedures.

Outstanding Issues:

None.

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure.
(NUREG-0654, H.12; I.8, 11; J.10.a)

Extent of Play
Responsible Offsite Response Organizations should demonstrate the capability to brief teams on predicted plume location and direction, travel speed, and exposure control procedures before deployment. Field measurements are needed to help characterize the release and to support the adequacy of implemented protective actions or to be a factor in modifying protective actions. Teams should be directed to take measurements in such locations, at such times to provide information sufficient to characterize the plume and impacts. If the responsibility to obtain peak measurements in the plume has been accepted by licensee field monitoring teams, with concurrence from Offsite Response Organizations, there is no requirement for these measurements to be repeated by State and local monitoring teams. If the licensee teams do not obtain peak measurements in the plume, it is the Offsite Response Organization's decision as to whether peak measurements are necessary to sufficiently characterize the plume. The sharing and coordination of plume measurement information among all field teams (licensee, Federal, and Offsite Response Organization) is essential. Coordination concerning transfer of samples, including a chain-of-custody form, to a radiological laboratory should be demonstrated. Offsite Response Organizations should use Federal resources as identified in the Federal Radiological Emergency Response Plan, and other resources (for example, compacts, utility, etc.), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise. All activities must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play-agreement.

Virginia Department of Health, Division of Radiological Health
Two State Field Monitoring Teams (FMT), consisting of at least two individuals per team, will be staged at the Surry VDOT maintenance shop. The teams will communicate results, as necessary, to the DRH representative at the LEOF. It should be noted that the overall monitoring effort is coordinated by DRH from the LEOF.

Risk Jurisdictions Negotiated Extent of Play:
Each jurisdiction will deploy one FMT (at least two individuals per team) from the staging area within their jurisdiction. The Radiological Officer will provide a briefing, survey meters and appropriate forms to field monitors. The field monitoring team will be in contact with the Radiological Officer (RO). The field teams will report field readings to the R.O. who will then forward the appropriate information to DRH at the LEOF. In addition, the R.O. will be responsible to inform the field teams, in a timely manner, all relevant information, including weather conditions, changes in wind direction, and all protective action decisions.

Outstanding Issues:
None.

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media.
(NUREG-0654,I. 9)

Extent of Play
Field teams should demonstrate the capability to report measurements and field data pertaining to the measurement of airborne radioiodine and particulates and ambient radiation to the field team coordinator, dose assessment, or other appropriate authority. If samples have radioactivity significantly above background, the appropriate authority should consider the need for expedited laboratory analyses of these samples. Offsite Response Organizations should share data in a timely manner with all appropriate Offsite Response Organizations. All methodology, including contamination control, instrumentation, preparation of samples, and a chain of custody form for transfer to a laboratory, will be in accordance with the Offsite Response Organization's plan and/or procedures. Offsite Response Organizations should use Federal resources as identified in the Federal Radiological Emergency Response Plan, and other resources (for example, compacts, utility, etc.), if available. Evaluation of this criterion will take into consideration the level of both Federal and other resources participating in the exercise. All activities must be must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Virginia Department of Health, Division of Radiological Health Negotiated Extent of Play:
Two State Field Monitoring Teams (FMT), consisting of at least two individuals per team, will be staged at the Surry VDOT maintenance shop. The teams will take measurements at a minimum six (6) locations and/or while enroute and will operate according to procedures.

The field team will demonstrate the capability to determine the location of the plume. The team will communicate results, as necessary, to the DRH representative at the LEOF. It should be noted that the overall monitoring effort is coordinated by DRH from the LEOF. Controllers will provide data to the field teams. Laboratory operations will not be demonstrated for the sample at the mobile laboratory. Appropriate sample analysis information will be forwarded to DRH at the LEOF.

The State field monitoring team will demonstrate the collection of at least one air sample in the field. A second air sample may be taken if needed.

Risk Jurisdictions Negotiated Extent of Play:
Each jurisdiction will deploy one FMT, consisting of at least two individuals per team, to a minimum of two monitoring points located within their jurisdiction. Teams will take measurements and operate according to their procedures. The monitoring results will be reported to DRH at the LEOF. The controllers will have the necessary data to provide radiation levels to these teams. Note: Local field monitoring teams will not demonstrate the collection of air samples.

Outstanding Issues:
None.

5. EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

5.a Activation of the Prompt Alert and Notification System

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current Federal Emergency Management Agency Radiological Emergency Preparedness guidance. (10 CFR Part 50, Appendix E.IV.D and NUREG-0654, E.5, 6, 7)

Extent of Play

Responsible Offsite Response Organizations should demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume pathway Emergency Planning Zone. Following the decision to activate the alert and notification system, in accordance with the Offsite Response Organization's plan and/or procedures, completion of system activation should be accomplished in a timely manner (will not be subject to specific time requirements) for primary alerting/notification. The initial message should include the elements required by current Federal Emergency Management Agency Radiological Emergency Preparedness guidance. Offsite Response Organizations with route alerting as the primary method of alerting and notifying the public should demonstrate the capability to accomplish the primary route alerting, following the decision to activate the alert and notification system, in a timely manner (will not be subject to specific time requirements) in accordance with the Offsite Response Organization's plan and/or procedures. At least one route needs to be demonstrated and evaluated. The selected route(s) should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed upon location. The initial message should include the elements required by current Federal Emergency Management Agency Radiological Emergency Preparedness guidance. For exercise purposes, timely is defined as "the responsible Offsite Response Organization personnel or representatives demonstrate actions to disseminate the appropriate information or instructions with a sense of urgency and without undue delay." If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely. Procedures to broadcast the message should be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test messages *is not* required. The alert signal activation may be simulated. However, the procedures should be demonstrated up to the point of actual activation. The capability of the primary notification system to broadcast an instructional message on a 24-hour basis should be verified during an interview with appropriate personnel from the primary notification system. All activities for this criterion must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, except as noted above or otherwise indicated in the extent of play agreement.

Virginia Department of Emergency Management and Surry County and James City County

Coordination will occur between the VEOC and the affected counties with respect to the Alert and Notification System (ANS) process. Surry County and James City County have the control equipment for activation of sirens. Sirens will be coordinated and the sounding simulated at the appropriate time with the simulated activation of EAS taking place following the simulated activation of the sirens. The VEOC is the initiating point for the activation of the EAS. Regular Broadcasting will not be interrupted on the EAS Stations. Broadcast of the message(s) or test message(s) is ***NOT*** *required and* ***NOT*** *requested. Following the decision to activate the alert and notification system, in accordance with the ORO's plan and/or procedures, ANS activation should be accomplished in a timely manner for primary alerting/notification. This action will* ***NOT*** *be subject to specific time requirements. All actions to broadcast stations will be simulated. Systems that use automatic sending technology may be demonstrated by explanation during an interview. Each risk county will demonstrate, by interview, route alerting of the hearing impaired residents within their jurisdiction. Hearing impaired notification teams will not be deployed.*

James City County Negotiated Extent of Play:
James City County will demonstrate primary route alerting (one route) for areas not covered by sirens within the 0-5 mile radius. This action is not subject to specific time requirements but must be completed within a timely manner.

Outstanding Issues: None.

Criterion 5.a.3: Activities associated with Federal Emergency Management Agency approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the Offsite Response Organization of a failure of the primary alert and notification system.
(NUREG-0654, E. 6, Appendix 3.B.2.c)

Extent of Play
Offsite Response Organizations with Federal Emergency Management Agency approved exception areas (identified in the approved Alert and Notification System Design Report) 5–10 miles from the nuclear power plant should demonstrate the capability to accomplish primary alerting and notification of the exception area(s) within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The 45 minute clock will begin when the Offsite Response Organizations make the decision to activate the alert and notification system for the first time for a specific emergency situation. The initial message should, at a minimum, include: a statement that an emergency exists at the plant and where to obtain additional information. For exception area alerting, at least one route needs to be demonstrated and evaluated. The selected route(s) should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed upon location.

Backup alert and notification of the public should be completed within 45 minutes following the detection by the Offsite Response Organization of a failure of the primary alert and notification system. Backup route alerting only needs to be demonstrated and evaluated, in accordance with the Offsite Response Organization's plan and/or procedures and the extent of play agreement, if the exercise scenario calls for failure of any portion of the primary system(s), or if any portion of the primary system(s) actually fails to function. If demonstrated, only one route needs to be selected and demonstrated. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed upon location. All activities for this criterion must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, except as noted above or otherwise indicated in the extent of play agreement.

Risk Jurisdictions Negotiated Extent of Play:

Surry County, Isle of Wight County and James City County *will demonstrate exception area route alerting (1 route each) for areas not covered by sirens within the 5-10 mile radius. Route alerting for exception areas should be completed within 45 minutes following the initial decision by offsite emergency officials to notify the public of an emergency situation.*

All risk jurisdictions (Surry County, Isle of Wight County, York County, James City County, Williamsburg City and Newport News City) *will conduct backup route alerting for a failed siren (1 route each). Backup route alerting should be completed within 45 minutes following the detection by the offsite response organization of a siren failure. In accordance with plans and procedures, those agencies that perform route alerting may be required to report to the staging area for a radiological briefing and dosimetry at a declaration of a Site Area Emergency. These individuals could then be released for normal duties, and when notified of a siren failure, initiate back-up route alerting.*

All alert and notification activities along the route should be simulated. The message that would actually be used should be read for the evaluator, but not actually broadcast.

Outstanding Issues:
None.

5.b Emergency Information and Instructions for the Public and the Media
Criterion 5.b.1: Offsite Response Organizations provide accurate emergency information and instructions to the public and the news media in a timely manner.
(NUREG-0654, E. 5, 7; G.3.a, G.4.c)

Extent of Play
Subsequent emergency information and instructions should be provided to the public and the media in a timely manner and will not be subject to specific time requirements. For exercise purposes, timely is defined as "the responsible Offsite Response Organization personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay." If message dissemination is identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely. The Offsite Response Organization should ensure that emergency information and instructions are consistent with protective action decisions made by appropriate officials. The emergency information should contain all necessary and applicable instructions (for example, evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concerning pets, shelter-in-place instructions, information concerning protective actions for schools and special populations, public inquiry telephone number, etc.) to assist the public in carrying out protective action decisions provided to them. The Offsite Response Organization should also be prepared to disclose and explain the Emergency Classification Level of the incident. At a minimum, this information must be included in media briefings and/or media releases. Offsite Response Organizations should demonstrate the capability to use language that is clear and understandable to the public within both the plume and ingestion pathway Emergency Planning Zones. This includes demonstration of the capability to use familiar landmarks and boundaries to describe protective action areas. The emergency information should be all-inclusive by including previously identified protective action areas that are still valid, as well as new areas. The Offsite Response Organizations should demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. In addition, the Offsite Response Organizations should demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals in accordance with the plan and/or procedures. Offsite Response Organizations should demonstrate the capability to develop emergency information in languages other than English when required by the plan and/or procedures. If ingestion pathway measures are exercised, Offsite Response Organizations should demonstrate that a system exists for rapid dissemination of ingestion pathway information to pre-determined individuals and businesses in accordance with the Offsite Response Organization's plan and/or procedures. Offsite Response Organizations should demonstrate the capability to provide timely, accurate, concise and coordinated information to the news media for subsequent dissemination to the public. This would include demonstration of the capability to conduct timely and pertinent media briefings and distribute media releases as the situation warrants. The Offsite Response Organizations should demonstrate the capability to respond appropriately to inquiries from the news media. All information presented in media briefings and media releases should be consistent with protective action decisions and other emergency information provided to the public. Copies of pertinent emergency information (for example, Emergency Alert System messages and media releases) and media information kits should be available for dissemination to the media. Offsite Response Organizations should demonstrate that an effective system is in place for dealing with calls to the public inquiry hotline. Hotline staff should demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate information source. Information from the hotline staff, including information that corrects false or inaccurate information when trends are noted, should be included, as appropriate, in emergency information provided to the public, media briefings, and/or media releases. All activities for this criterion must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Virginia Department of Emergency Management Negotiated Extent of Play:
This evaluation area will be demonstrated at the VEOC and JPIC. A VDEM Public Affairs Officer at the VEOC will prepare news releases. The news releases will be coordinated and exchanged with local jurisdictions. Dissemination of news releases may be accomplished by the use of fax or other means. One simulated media briefing will be demonstrated at the JPIC.

VDEM will establish a public inquiry function at the JPIC with a minimum of two individuals. Some calls will be designed so as to allow public inquiry staff to demonstrate the capability to identify trends in rumors (e.g., frequently expressed false or misleading information). The hotline staff will demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate source. Information from the hotline staff, including information that correct false, or inaccurate information when trends are noted will be included as appropriate in emergency information provided to the public, media briefings and/or media releases. Public inquiry telephone number(s) will be designated and published at the appropriate time. Public information staff will simulate monitoring EAS broadcasts to determine whether false or misleading information is being disseminated to the public. Media monitoring equipment will be available. Since no actual exercise related broadcasts will be made, the media monitoring equipment will be tested for operability and the staff will be demonstrate their capability to monitor area EAS stations. All subsequent emergency information and instruction will be provided to the public and the media in a timely manner. All emergency information and instructions are consistent with protective action decisions made by appropriate officials. The emergency information will contain all necessary and applicable instructions (e.g. evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concern pets, shelter in place, information concerning protective action for schools and special populations, public inquiry telephone numbers, etc. The State will demonstrate the capability to use familiar landmarks and boundaries to describe protective action areas. The emergency information will be all-inclusive by including previously identified protective actions areas that are still valid as well as new areas. The State will demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. The State will demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals.

Risk and Host Jurisdictions Negotiated Extent of Play::
One simulated media briefing will be demonstrated. Each jurisdiction will establish a public inquiry phone line and will respond to calls. Some calls will be designed so as to allow public inquiry staff to demonstrate the capability to identify trends in rumors (e.g., frequently expressed false or misleading information). The public inquiry staff will demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate source. Information from the hotline staff, including information that correct false, or inaccurate information when trends are noted will be included as appropriate in emergency information provided to the public, media briefings and/or media releases. Public inquiry number(s) will be designated and published according to each jurisdiction's procedures. Since no actual exercise related broadcasts will be made, the media monitoring equipment will be tested for operability and demonstration of reception on local EAS stations, however, continued monitoring will not be demonstrated.

All subsequent emergency information and instruction will be provided to the public and the media in a timely manner. All emergency information and instructions are consistent with protective action decisions made by appropriate officials. The emergency information will contain all necessary and applicable instructions (e.g. evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concern pets, shelter in place, information concerning protective action for schools and special populations, public inquiry telephone numbers, etc. The jurisdictions will demonstrate the capability to use familiar landmarks and boundaries to describe protective action areas. The emergency information will be all-inclusive by including previously identified protective actions areas that are still valid as well as new areas. The risk jurisdictions will demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. The jurisdictions will demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals.

EVALUATION AREA 6 – SUPPORT OPERATION/FACILITIES
Sub-element 6.a. – Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees

Criterion 6.a.1 – The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers.

EXTENT OF PLAY
Radiological monitoring, decontamination, and registration facilities for evacuees/ emergency workers should be set up and demonstrated as they would be in an actual emergency or as indicated in the extent of play agreement. This would include adequate space for evacuees' vehicles. Expected demonstration should include 1/3 of the monitoring teams/portal monitors required to monitor 20% of the population allocated to the facility within 12 hours. Before using monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation.

Staff responsible for the radiological monitoring of evacuees should demonstrate the capability to attain and sustain a monitoring productivity rate per hour needed to monitor the 20% emergency planning zone (EPZ) population planning base within about 12 hours. This monitoring productivity rate per hour is the number of evacuees that can be monitored per hour by the total complement of monitors using an appropriate monitoring procedure. A minimum of six individuals per monitoring station should be monitored, using equipment and procedures specified in the plan and/or procedures, to allow demonstration of monitoring, decontamination, and registration capabilities. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators in order to determine whether the twelve-hour requirement can be met. Monitoring of emergency workers does not have to meet the twelve-hour requirement. However, appropriate monitoring procedures should be demonstrated for a minimum of two emergency workers.

Decontamination of evacuees/emergency workers may be simulated and conducted by interview. The availability of provisions for separately showering should be demonstrated or explained. The staff should demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs and appropriate means (for example, partitions, roped-off areas) to separate clean from potentially contaminated areas. Provisions should also exist to separate contaminated and uncontaminated individuals, provide changes of clothing for individuals whose clothing is contaminated, and store contaminated clothing and personal belongings to prevent further contamination of evacuees or facilities. In addition, for any individual found to be contaminated, procedures should be discussed concerning the handling of potential contamination of vehicles and personal belongings.

Monitoring personnel should explain the use of action levels for determining the need for decontamination. They should also explain the procedures for referring evacuees who cannot be adequately decontaminated for assessment and follow up in accordance with the ORO's plans and procedures. Contamination of the individual will be determined by controller inject and not simulated with any low-level radiation source.

The capability to register individuals upon completion of the monitoring and decontamination activities should be demonstrated. The registration activities demonstrated should include the establishment of a registration record for each individual, consisting of the individual's name, address, results of monitoring, and time of decontamination, if any, or as otherwise designated in the plan. Audio recorders, camcorders, or written records are all acceptable means for registration.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Out-of-Sequence Demonstration (Week of June 13-17, 2011):

- *City of Hampton (Hampton Coliseum), June 13, 9 a.m.*
- *City of Newport News (Gildersleeve Middle School), June 15, 4 p.m.*
- *City of Poquoson (Poquoson High School), June 13, 3 p.m.**
  **No monitoring or decon activities will occur at Poquoson High School according to procedures.*

The activated EAC will be set up according to established plans and procedures in a partial set-up to allow for exercise evaluation. However, the EAC will be staffed with adequate monitoring and decontamination personnel to allow exercise demonstration. ***All EAC personnel may be prepositioned and actual facility setup (signs, equipment, etc.) may be begun prior to the start of the evaluated demonstration.*** *The EAC will monitor and register six persons consecutively. For demonstration purposes, these six persons can be emergency workers or EAC personnel acting as evacuees. The use of walk-through portal monitors will be demonstrated in all activated EACs. Evacuee decontamination procedures and the referral of individuals to a medical facility will be simulated through interview. The decontamination of one person will be demonstrated through controller inject. Once the evacuees are monitored and found to be clean from contamination, sheltering staff will demonstrate the registration process.*

Outstanding Issues:

None

Sub-element 6.b – Monitoring and Decontamination of Emergency Worker Equipment

Criterion 6.b.1 – The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles.

EXTENT OF PLAY
The monitoring staff should demonstrate the capability to monitor equipment, including vehicles, for contamination in accordance with the Offsite Response Organizations (ORO) plans and procedures. Specific attention should be given to equipment, including vehicles, that was in contact with individuals found to be contaminated. The monitoring staff should demonstrate the capability to make decisions on the need for decontamination of equipment, including vehicles, based on guidance levels and procedures stated in the plan and/or procedures.

The area to be used for monitoring and decontamination should be set up as it would be in an actual emergency, with all route markings, instrumentation, record keeping and contamination control measures in place. Monitoring procedures should be demonstrated for a minimum of one vehicle. It is generally not necessary to monitor the entire surface of vehicles. However, the capability to monitor areas such as radiator grills, bumpers, wheel wells, tires, and door handles should be demonstrated. Interior surfaces of vehicles that were in contact with individuals found to be contaminated should also be checked.

Decontamination capabilities, and provisions for vehicles and equipment that cannot be decontaminated, may be simulated and conducted by interview.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Out-of-Sequence Demonstration (Week of June 13-17, 2011):

- *City of Hampton (Hampton Coliseum), June 13, 9 a.m.*
- *City of Newport News (Gildersleeve Middle School), June 15, 4 p.m.*
- *City of Poquoson (Poquoson High School), June 13, 3 p.m.**
  **No monitoring or decon activities will occur at Poquoson High School according to procedures.*

The activated EAC will be set up according to established plans and procedures in a partial set-up to allow for exercise evaluation. However, the EACs will be staffed with adequate monitoring and decontamination personnel to allow exercise demonstration. ***All EAC personnel may be prepositioned and actual facility setup (signs, equipment, etc.) may be begun prior to the start of the evaluated demonstration.*** *The emergency workers and monitoring staff will demonstrate according to their plans and procedures the equipment tool drop and monitoring of used appropriate field survey meters being returned from the field. A minimum of* ***one*** *vehicle will be monitored.* ***The decontamination of one vehicle will be demonstrated through interview.***

Outstanding Issues:

None

Sub-element 6.c – Temporary Care of Evacuees

Criterion 6.c.1 – Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with the American Red Cross planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities.

EXTENT OF PLAY

Under this criterion, demonstration of congregate care centers may be conducted out of sequence with the exercise scenario. The evaluator should conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with ARC 3031. In this simulation, it is not necessary to set up operations as they would be in an actual emergency. Alternatively, capabilities may be demonstrated by setting up stations for various services and providing those services to simulated evacuees. Given the substantial differences between demonstration and simulation of this objective, exercise demonstration expectations should be clearly specified in extent-of-play agreements.

Congregate care staff should also demonstrate the capability to ensure that evacuees have been monitored for contamination, have been decontaminated as appropriate, and have been registered before entering the facility. This capability may be determined through an interview process.

If operations at the center are demonstrated, material that would be difficult or expensive to transport (for example, cots, blankets, sundries, and large-scale food supplies) need not be physically available at the facility (facilities). However, availability of such items should be verified by providing the evaluator a list of sources with locations and estimates of quantities.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Out-of-Sequence Demonstration (Week of June 13-17, 2011):

- *City of Hampton (Hampton Coliseum), June 13, 9 a.m.*
- *City of Newport News (Gildersleeve Middle School), June 15, 4 p.m.*
- *City of Poquoson (Poquoson High School), June 13, 3 p.m.*

This objective will be demonstrated by interview. For demonstration purposes of congregate care, bedding, cots, food, etc. normally associated with mass care need not be moved to the site. However, the source of these items will be explained to evaluators by an item and source list.

Outstanding Issues:

None

Sub-element 6.d – Transportation and Treatment of Contaminated Injured Individuals
Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2; H.10; K.5.a, b; L.1, 4)

Extent of Play
Monitoring, decontamination, and contamination control efforts will not delay urgent medical care for the victim. Offsite Response Organizations should demonstrate the capability to transport contaminated injured individuals to medical facilities. An ambulance should be used for the response to the victim. However, to avoid taking an ambulance out of service for an extended time, any vehicle (e.g., car, truck, or van) may be utilized to transport the victim to the medical facility. Normal communications between the ambulance/dispatcher and the receiving medical facility should 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. Additionally, the ambulance crew should demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information. Monitoring of the victim may be performed before transport, while enroute or deferred to the medical facility. Before using a monitoring instrument, the monitor(s) should demonstrate the process of checking the instrument for proper operation. All monitoring activities should be completed as they would be in an actual emergency. Appropriate contamination control measures should be demonstrated before and during transport and at the receiving medical facility. The medical facility should demonstrate the capability to set up and activate a radiological emergency area for treatment. Equipment and supplies should be available for the treatment of contaminated injured individuals. The medical facility should demonstrate the capability to make decisions on the need for decontamination of the individual, to follow appropriate decontamination procedures, and to maintain records of all survey measurements and samples taken. All procedures for the collection and analysis of samples and the decontamination of the individual should be demonstrated or described to the evaluator. All activities associated with this criterion must be based on the Offsite Response Organization's plans and procedures and be completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

- *Out-of-Sequence Demonstration (June 14, 2011; 8 a.m.):*
  - *Medical Services Drill (MS-1) – Isle of Wight County Rescue Squad and Riverside Health System Hospital.*

Isle of Wight County Rescue Squad personnel will be pre-positioned at the Surry Power Station Training Center – Mock Up Area and will be notified (controller inject) of a simulated injured/contaminated individual requiring transport to the hospital. Contamination levels will be provided to rescue squad personnel by controller inject. Rescue squad personnel will demonstrate appropriate contamination control measures before and during transport of the victim. Monitoring of the victim will be deferred to the medical facility. Communications between the ambulance/dispatcher and the receiving medical facility should 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. Additionally, the ambulance crew should demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information.

Riverside Health System Hospital should demonstrate the capability to set up and activate a radiological area for treatment of the victim. Equipment and supplies will be available for the treatment of the contaminated/injured patient. The medical center should demonstrate the capability to make decisions on the need for decontamination of the patient. Monitoring and decontamination of the patient will be in accordance with plans and procedures.

Outstanding Issues:
None.

ATTACHMENT A

Surry Power Station Exercise 2011

I. SURRY PLUME PHASE EXERCISE

A. Demonstration Date – July 19, 2011 (Daytime)

1) COMMONWEALTH OF VIRGINIA LOCATIONS

EVALUATED FACILITY	LOCATION
Virginia Department of Emergency Management (VDEM)	Virginia Emergency Operations Center Richmond
Joint Information Center (JIC)	VEOC - Richmond
Joint Public Information Center (JPIC)	Dominion Corporate Emergency Response Center (CERC), Innsbrook Technical Center
Public Inquiry Center	Dominion Corporate Emergency Response Center (CERC), Innsbrook Technical Center
Local Emergency Operations Facility (LEOF)	VDEM State On-Scene Coordinator VDH – Radiological Health Division Surry Power Station
State Field Monitoring Team 1	Surry VDOT Maintenance Shop, Surry County
State Field Monitoring Team 2	Surry VDOT Maintenance Shop, Surry County

RISK JURISDICTIONS

EVALUATION SITE
Isle of Wight County
County EOC
Exception Area Route Alerting (5-10 miles)
Back Up Route Alerting
Staging Area & TCP/ACP (interview)
Field Monitoring Team
James City County
County EOC
Back Up Route Alerting
Primary Route Alerting (0-5 miles)
Staging Area & TCP/ACP (interview)
Exception Area Route Alerting
Field Monitoring Team
City of Newport News
City EOC
Back Up Route Alerting
Staging Area & TCP/ACP (interview)
Field Monitoring Team

RISK JURISDICTIONS – Cont.

EVALUATION SITE
City of Williamsburg
City EOC
Back Up Route Alerting
Staging Area & TCP/ACP (interview)
Field Monitoring Team
Surry County
County EOC
Exception Area Route Alerting (5-10 miles)
Back Up Route Alerting
Staging Area & TCP/ACP (interview)
Field Monitoring Team
York County
County EOC
Back Up Route Alerting
Staging Area & TCP/ACP (interview)
Field Monitoring Team

SUPPORT JURISDICTIONS

EVALUATION SITE
Charles City County
County EOC
City of Hampton
City EOC
New Kent County
County EOC
City of Poquoson
City EOC

Attachment B
VOPEX 11 Out-of-Sequence Demonstrations -- June 13-16, 2011
(Total of 9 FEMA Evaluators available for the week)

Monday, June 13	Tuesday, June 14	Wednesday, June 15	Thursday, June 16
TIME: 9 a.m. – 12 p.m. **Hampton EAC Drill** Location: Hampton Coliseum --- ***TIME: 1:30 p.m. – 2:30 p.m.*** **Newport News School Interview** Locations: 1. Lee Hall ECC 2. Dutrow ES 3. Epes ES 4. General Stafford ES (Ft Eustis) 5. Greenwood ES --- ***TIME: 3 p.m. – 4 p.m.*** **Newport News School Interview** 1. Lee Hall ES 2. McIntosh ES 3. Sanford ES 4. Denbigh HS --- ***TIME: 3 p.m. – 4 p.m.*** **Poquoson EAC Drill** Location: Poquoson High School	***TIME: 8 a.m. – 12 p.m.*** **Medical Services Drill** -Isle of Wight Rescue -Riverside Health System --- ***TIME: 2 p.m. – 3 p.m.*** **York Co. School District Office Interview** Location: 1. York Co. School District Office --- ***TIME: 2 p.m. – 3 p.m.*** **Williamsburg/James City Co. School Interviews (combined school system)** Locations: 1. Williamsburg/James City Co. School District Office 2. Jamestown HS 3. Berkeley MS 4. Clara Byrd Baker ES 5. James River ES 6. Matthew Whaley ES 7. Rawls Byrd ES 8. Stonehouse ES	***TIME: 8 a.m. – 12 p.m.*** No demonstrations scheduled. --- ***TIME: 2 p.m. – 3 p.m.*** **Surry Co. School Interview** Locations: 1. Surry Co. School District Office 2. Surry Co. ES --- ***TIME: 2 p.m. – 3 p.m.*** **Newport News School Interviews** Locations: 1. Newport News School Dist Office 2. Gatewood PEEP 3. Achievable Dream ES 4. Deer Park ES 5. Hilton ES 6. Kiln Creek ES 7. Newsome Park ES --- ***TIME: 3:30 p.m. – 4:30 p.m.*** **Newport News School Interviews** Locations: 1. Palmer ES 2. Riverside ES 3. Saunders ES 4. Yates ES 5. Crittenden MS --- ***TIME: 4 p.m. – 7 p.m.*** **Newport News EAC Drill** Location: Gildersleeve MS	***TIME: 8 a.m. – 12 p.m.*** No demonstrations scheduled. --- ***TIME: 2 p.m. – 3:00 p.m.*** **Newport News School Interviews** Locations: 1. Gildersleeve MS 2. Hines MS 3. Huntington MS 4. Washington MS 5. Achievable Dream MS/HS 6. Heritage HS 7. Warwick HS 8. Enterprise Academy 9. Jackson Learning Center

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