U.S. Department of Homeland Security
1800 S. Bell Street, 8th Floor
Washington, DC 20528-8610

FEMA

SEP 26 2007

Mr. William Travers
Region Administrator
U.S. Nuclear Regulatory Commission
61 Forsyth Street SW
Suite 23T85
Atlanta, GA 30303

Dear Mr. Travers:

Enclosed is a copy of the Final Exercise Report for the Surry Power Station (SPS), plume phase exercise conducted June 26, 2007 Commonwealth of Virginia and the risk jurisdictions of Surry, Isle of Wight, York, and James City Counties and the cities of Newport News and Williamsburg participated in the exercise. The Federal Emergency Management Agency (FEMA) Region III Office prepared the Final Exercise Report.

No deficiencies were identified during this exercise. However, nine Areas Requiring Corrective Action (ARCAs) were identified; four of the ARCAs were successfully re-demonstrated. Two ARCAs from a previous exercise were successfully demonstrated; one prior ARCA remains unresolved. No new planning issues were assessed at this exercise. Six planning issues from a previous exercise were resolved, as well as a planning issue from North Anna Power Station (see Appendices 5 and 6 for all planning issues).

Based on the results of this exercise, the offsite radiological emergency response plans and preparedness for the Commonwealth of Virginia and the affected local jurisdictions can be implemented and are adequate. The plans provide reasonable assurance that appropriate measures can be taken in the event of a radiological emergency at the site.

If you have any questions, please contact Darrell Hammons at (215) 931-5546.

Sincerely,

Vanessa E. Quinn
Acting Director
Technological Hazards Division
National Preparedness Directorate

Enclosure

CC :(w/enclosure)

Mr. Anthony C. McMurtray
Chief, Licensing and Regulatory Improvements Section
Emergency Preparedness Directorate
Division of Preparedness and Response
Office of Nuclear Security and Incident Response
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Federal Emergency Management Agency (FEMA) Region III

Surry Power Station Exercise June 26, 2007

Final Report – Radiological Emergency Preparedness Program

September 18, 2007

FEMA

FEMA Region III

FEMA

Final Exercise Report

Surry Power Station

Licensee:	**Dominion Generation**
Exercise Date:	**June 26, 2007**
Report Date:	**September 18, 2007**

U.S. DEPARTMENT OF HOMELAND SECURITY
RADIOLOGICAL EMERGENCY PREPAREDNESS PROGRAM

FEMA REGION III
ONE INDEPENDENCE MALL, 6TH FLOOR
615 CHESTNUT STREET
PHILADELPHIA, PENNSYLVANIA 19106-4404

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

I. EXECUTIVE SUMMARY

On June 26, 2007, 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. A medical services drill was also held on June 26, 2007. Out-of-sequence demonstrations were conducted on June 6, 7, and 27, 2007. The purpose of the exercise and the out-of-sequence demonstrations was to assess the level of State and local preparedness in responding to a radiological emergency. The exercise and out-of-sequence 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 February 7, 2006. 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 out-of-sequence activities:

- *General Population Monitoring and Decontamination:* Conducted on June 6, 2007 at 1500 hours in the City of Newport News; June 7, 2007 at 1500 hours in New Kent County; and June 27, 2007 at 0900 hours in York County.

- *Mass Care – Shelter:* Conducted on June 6, 2007 at 1500 hours in the City of Newport News; June 7, 2007 at 1500 hours in New Kent County; and June 27, 2007 at 0900 hours in York County.

- *Emergency Workers, Equipment, and Vehicles – Monitoring and Decontamination:* Conducted on June 6, 2007 at 1500 hours in the City of Newport News; June 7, 2007 at 1500 hours in New Kent County; and June 27, 2007 at 0900 hours in York County.

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 9 Areas Requiring Corrective Action (ARCAs) identified as a result of this exercise; 4 of the ARCAs were successfully re-demonstrated during the exercise. Two ARCAs

from a previous exercise were successfully demonstrated at this exercise; one prior ARCA remains unresolved. No new planning issues were assessed at this exercise. Six planning issues from a previous exercise were successfully demonstrated; a planning issue from North Anna Power Station was also resolved (see Appendices 5 and 6 for all planning issues).

II. Introduction

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 Tribal, 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:

- 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;

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

- 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, Number 176, September 14, 1993; and

- 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 FEMA Region III Radiological Assistance Committee (RAC), which is chaired by FEMA.

A REP exercise was conducted on June 26, 2007, 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:

- 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;
- FEMA Guidance Memoranda MS-1, "Medical Services," November 1986;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991;
- 66 FR 47546, "FEMA Radiological Emergency Preparedness: Alert and Notification," September 12, 2001; and
- 67 FR 20580, "FEMA Radiological Emergency Preparedness: Exercise Evaluation Methodology," April 25, 2002.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway emergency planning zone (EPZ), a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise evaluation areas at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and Areas Requiring Corrective Action (ARCAs) assessed during this exercise, recommended corrective actions, and the Tribal, 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.

The final section of the report is comprised of the appendices, which present the following supplementary information: acronyms and abbreviations, exercise evaluators and team leaders, exercise evaluation area criteria and extent-of-play agreement, and the exercise scenario. It also presents information on planning issues (both new planning issues identified during this exercise and resolved planning issues identified during previous exercises).

III. Exercise Overview

Contained in this section are data and basic information relevant to the June 26, 2007 exercise to test the off-site emergency response capabilities in the area surrounding Surry Power Station (SPS). This section of the exercise report includes a description of the plume pathway emergency planning zone (EPZ), a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

A. Plume 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, 8 miles from the town of Surry, 7 miles south of Colonial Williamsburg, and 4.5 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 5-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 5-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 dispatch teams using mobile sirens and a public address system. Exceptions for these areas must be granted by FEMA

B. Exercise Participants

The following agencies, organizations, and units of government participated in the SPS out-of-sequence activities on June 6, 7, and 27, 2007, or the exercise on June 26, 2007.

COMMONWEALTH/FEDERAL AGENCIES

Federal Emergency Management Agency
Virginia Department of Emergency Management
Virginia Department of Health
Virginia Department of Health, Division of Radiological Health and Safety Regulation
Virginia Department of Rail and Public Transportation
Virginia Department of Transportation
Virginia National Guard; 34th Civil Support Team

RISK JURISDICTIONS

Isle of Wight County

Hardy Elementary School
Isle of Wight County School District
Isle of Wight County, Emergency Communications Division
Isle of Wight Health Department
Isle of Wight Information Technology/ Geographic Information System
Isle of Wight Public Information Officer
Isle of Wight Sheriff's Office
Portsmouth Fire & Rescue
Smithfield High School
Smithfield Middle School
Smithfield Volunteer Fire Department
Suffolk Health Department
Virginia Department of Emergency Management
Virginia Department of Emergency Management, Hazmat Division
Virginia Department of Health
Virginia Department of Transportation
Virginia Department of Transportation, Transportation and Maintenance Division

James City County

James City County Department of Community Services
James City County Department of Transportation
James City County Emergency Communications Division
James City County Emergency Management

James City County Fire Department
James City County Information Technology Division
James City County Police Department
James City County Real Estate Department / GIS
Virginia Cooperative Extension
Virginia Department of Health

City of Newport News

City of Newport News Department of Codes and Compliance
City of Newport News Department of Engineering (Evacuation)
City of Newport News Department of Engineering (Geographic Information Systems)
City of Newport News Department of Public Health
City of Newport News Department of Public Safety
City of Newport News Department of Social Services
City of Newport News Fire Department
City of Newport News Office of Emergency Management
City of Newport News Police Department
City of Newport News Public Schools
City of Newport News Public Utilities
City of Newport News Public Works Department
City of Newport News Transportation Engineering Department
Denbigh Early Childhood Center
Jenkins Elementary School
Menchville High School
Nelson Elementary School
Richneck Elementary School

City of Williamsburg

City of Williamsburg 911 Center
City of Williamsburg City Administration
City of Williamsburg Department of Health
City of Williamsburg Department of Human Services
City of Williamsburg Fire Department
City of Williamsburg Police Department
City of Williamsburg Public Works
City of Williamsburg School District

Surry County

City of Norfolk Hazardous Material Regional Response Team
Surry County Administrator
Surry County Board of Supervisors
Surry County Department of Emergency Services
Surry County Department of Health

Surry County Department of Social Services
Surry County Public School System
Surry County Sheriff's Department
Surry County Volunteer Fire Company
Virginia Department of Emergency Management
Virginia Department of Transportation
Virginia State Police

York County

Magruder Elementary School
National Park Service – Colonial Historic Park
Peninsula Health district Health Department
Poquoson Sheriff's Department
Virginia Cooperative Extension Services
Virginia Department of Emergency Management
York County Administration
York County Animal Control
York County Community Services
York County Computer Support
York County Department of Fire & Life Safety
York County Emergency Medical Services
York County Fire HAZMAT
York County Public Information
York County School Division
York County Sheriff's Office
York County Social Services
York High School
Yorktown Middle School

SUPPORT JURISDICTIONS

Charles City County

Charles City Co./New Kent Co./Henrico Co. Mental Health
Charles City County Administrator
Charles City County Board of Supervisors
Charles City County Department of Health
Charles City County Department of Public Works
Charles City County Department of Social Services
Charles City County Public Schools
Charles City County Sheriff's Office
Charles City County Volunteer Fire Department
Virginia Department of Transportation
Virginia Extension Service

City of Hampton

City of Hampton 3-1-1 Center
City of Hampton Emergency Management Division
City of Hampton Fire Department
City of Hampton Fire Department, HAZMAT
City of Hampton Police Department
City of Hampton, City Manager's Office
Hampton Public Communication Office
Virginia State Department of Health, Hampton District

New Kent County

Henrico HazMat Team
New Kent County Emergency Services
New Kent County Emergency Services
New Kent County Fire and Rescue
New Kent County Fire Department
New Kent County Health Department
New Kent County Public Works
New Kent County School District
New Kent County Sheriff
New Kent County Sheriff's Department
New Kent County Social Services
Virginia Bureau of Radiological Health
Virginia Department of Health

City of Poquoson

City of Poquoson Emergency Management
City of Poquoson Fire Department
City of Poquoson Police Department
City of Poquoson School Department

MEDICAL SERVICES DRILL MS-1

Isle of Wight Volunteer Rescue Squad
Riverside Medical Center

PRIVATE/VOLUNTEER ORGANIZATIONS

The following private and volunteer organizations participated in the SPS exercise at many different locations throughout the area. We thank them and all those who volunteer their services to State, county, and municipal governments during emergencies.

American Red Cross, including the following local chapters:
- Colonial Virginia Chapter
- Richmond, VA Chapter
- York-Poquoson Chapter

College of William and Mary
Colonial Williamsburg Foundation
Dominion Generation
Environment Support Systems
Virginia Emergency Response Team
Williamsburg Community Hospital
Radio Amateur Civil Emergency Services (RACES), including the following clubs:
- James City County RACES
- Suffolk RACES
- York County RACES

C. Exercise Timeline

Table 1, on the following page, presents the times at which key events and activities occurred during the SPS exercise on June 26, 2007. Also included are times notifications were made to the participating jurisdictions/functional entities.

TABLE 1: EXERCISE TIMELINE

DATE and SITE: *June 26, 2007; Surry Power Station*

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken													
		Virginia EOC	LEOF	Accident Assessment	JPIC	Isle of Wight Co. EOC	James City Co. EOC	City of Newport News EOC	Surry Co. EOC	City of Williams-burg EOC	York Co. EOC	Charles City Co. EOC	City of Hampton EOC	New Kent Co. EOC	City of Poquoson EOC
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0823	0835	0847	0847	0843	0831	831	0835	0835	0831	0831	0828	0829	0901	0840
Site Area Emergency	1000	1002	1000	1000	1015	1008	1006	1011	1011	1008	1008	1011	1012	1021	1014
General Emergency	1119	1121	1119	1119	1137	1129	1128	1132	1132	1128	1131	1132	1132	1141	1133
Simulated Radioactivity Release Began	1119	1128	1119	1119	1122	1129	1128	1132	1132	1128	1131	1132	1132	1141	1133
Simulated Radioactivity Release Terminated	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational	0927	0930	0927	0927	0840	0907	915	0923	0908	0905	0937	0930	0929	1021	0847
Declaration of Local Emergency	N/A	N/A	N/A	N/A	N/A	1035	N/A	1007	1032	1030	1020	1019	1011	1017	1025
Declaration of State Emergency	N/A	0938	1015	1015	0938	1028	1028	1025	1028	1017	1020	1255	1258	1222	1028
Exercise Terminated	1320	1430	1320	1320	1340	1414	1345	1123	1430	1337	1407	1344	1430	1334	1344
Precautionary Actions: Livestock		1006	N/A	N/A	1102	1047	1102	N/A	1044	1052	1120	N/A	N/A	N/A	N/A
1st A&N Decision (State [made]; local [received]) Evacuation 6, 8, 9 – 2 mile 22A, 22B, 18B - 5mile		1219	1224	1224	1224	1224	1222	1224	1224	1222	1224	1224	1224	1251	1232
1st Siren Activation		1234							1234						
1st EAS		1235													
KI Decision: Not take KI		1236													
Advisory received at location		N/A	1250	1250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Action taken at location		N/A	1250	1250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

IV. Evaluation and Results

Contained in this section are the results and findings of the evaluation of all jurisdictions and locations that participated in the June 26, 2007, biennial Radiological Emergency Preparedness (REP) exercise. The exercise was held to test the offsite emergency response capabilities of local governments in the 10-mile Emergency Planning Zone (EPZ) surrounding the Surry Power Station (SPS).

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 used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation

The matrix presented in Table 2, on the following pages, presents the status of the exercise evaluation area criteria from the REP Exercise Evaluation Methodology that were 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:

M	Met (No Deficiency or Area Requiring Corrective Action (ARCA) assessed and no unresolved ARCAs from prior exercises)
A	ARCA(s) assessed
A[1]	ARCA(s) assessed, but successfully re-demonstrated
R	Resolved ARCA(s) from prior exercises
U	Unresolved ARCA(s) from prior exercises
N	Not Demonstrated (Reason explained in Section IV.B)

TABLE 2. SUMMARY RESULTS OF EXERCISE EVALUATION

DATE AND SITE: June 26, 2007, Surry Power Station

JURISDICTION/LOCATION	1. a. 1	1. b. 1	1. c. 1	1. d. 1	1. e. 1	2. a. 1	2. b. 1	2. b. 2	2. c. 1	2. d. 1	2. e. 1	3. a. 1	3. b. 1	3. c. 1	3. c. 2	3. d. 1	3. d. 2	3. e. 1	3. e. 2	3. f. 1	4. a. 1	4. a. 2	4. a. 3	4. b. 1	4. c. 1	5. a. 1	5. a. 2	5. a. 3	5. b. 1	6. a. 1	6. b. 1	6. c. 1	6. d. 1
STATE/COMMONWEALTH																																	
Virginia Emergency Operations Center	M		M	M	U	M	M	M		M			M			M										M/R			M				
Emergency News Center				M																						M							
Joint Public Information Center																													M				
EOF (VDEM)			M	M	M																												
EOF (VDH & BRH)			M	M	M	M	M					M	M									M											
State Field Monitoring Team 1				M	M							M	M								M	M/R	M										
State Field Monitoring Team 2				M	M							M	M								A[1]	M	A										
RISK JURISDICTIONS																																	
ISLE OF WIGHT COUNTY																																	
County EOC	M		M/R	M	M	M			M				M	M		M	M					A				M		M	M				
Isle of Wight County School District (EOC interviews)															M																		
Hardy Elementary School (EOC)															M																		
Smithfield Middle School (EOC)															M																		
Smithfield High School (EOC)															M																		
Staging Area & TCP/ACP				M	M							M	M			M																	
Field Monitoring Team				M	M							M	M								M		M										
Exception Areas Route Alerting				M	M							M	M															M					
Back-up Route Alerting				M	M							M	M															M					
JAMES CITY COUNTY																																	
County EOC	M	M	M	M	M	M			M				M	M		M	M					M				M		M	M				
City of Williamsburg/James City School District (EOC interviews)															M																		
Lafayette High School (EOC)															M																		
Toano Middle School (EOC)															M																		
DJ Montague Elementary School (EOC)															M																		
Staging Area and TCP/ACP				M	M							M	M			M	M					M											
Field Monitoring Team				M	M							A[1]	M								M		M										
Back-up Route Alerting				M	M							M	M															M					
CITY OF NEWPORT NEWS																																	
City EOC	M		M	M	M	M			M				M	M		M	M					M				M		M	M				
City of Newport News School District (EOC interviews)															M																		
Menchville High School (EOC)															M																		
Denbigh E.C.C. (EOC)															M																		
Jenkins Elementary School (EOC)															M																		
Nelson Elementary School (EOC)															M																		
Richneck Elementary School (EOC)															M																		
Staging Area and TCP/ACP				M	M							M	M			M	M																

LEGEND: M = Met (no Deficiency or ARCA(s) assessed) A = ARCA(s) assessed A[1] = ARCA(s) assessed but successfully re-demonstrated
R = Resolved ARCA(s) from prior exercises U = Unresolved ARCA(s) from prior exercise Blank = Not scheduled for demonstration

TABLE 2. SUMMARY RESULTS OF EXERCISE EVALUATION

DATE AND SITE: June 26, 2007, Surry Power Station

JURISDICTION/LOCATION	1. a. 1	1. b. 1	1. c. 1	1. d. 1	1. e. 1	2. a. 1	2. b. 1	2. b. 2	2. c. 1	2. d. 1	2. e. 1	3. a. 1	3. b. 1	3. c. 1	3. c. 2	3. d. 1	3. d. 2	3. e. 1	3. e. 2	3. f. 1	4. a. 1	4. a. 2	4. a. 3	4. b. 1	4. c. 1	5. a. 1	5. a. 2	5. a. 3	5. b. 1	6. a. 1	6. b. 1	6. c. 1	6. d. 1
Field Monitoring Team				M	M							M	M								M		M										
Back-up Route Alerting				M	M							M	M															A[1]					
Emergency Worker Decontamination Station					M							M	M																	M	M		
General Population Monitoring/Decontamination					M							M	M																	M			
Mass Care – Shelter																																M	
CITY OF WILLIAMSBURG																																	
City EOC	M		M	M	M	M			M				M	M		M	M					M				M		M	M				
Staging Area & TCP/ACP				M	M							M	M			M	M																
Field Monitoring Team				M	M							M	M								M		A/A[1]										
Back-up Route Alerting				M	M							M	M															M					
SURRY COUNTY																																	
County EOC	M		M	M	M	M			M				M	M		M	M					M				M		M	M				
Surry County School District (EOC interviews)															M																		
L.P. Jackson Middle School (EOC)															M																		
Staging Area & TCP/ACP				M	M							M	M			M	M																
Field Monitoring Team				M	M							M	M								M		M										
Exception Areas Route Alerting				M	M							M	M															M					
Back-up Route Alerting				M	M							M	M															M					
YORK COUNTY																																	
County EOC	M		M	M	M	M			M				M	M		M	M					M				M		M	M				
York County School District (EOC interviews)															M																		
Magruder Elementary School (EOC)															M																		
Yorktown Middle School (EOC)															M																		
York High School (EOC)															M																		
Staging Area & TCP/ACP)				M	M							M	M			M	M																
Field Monitoring Team				M	M							M	M								M		M										
Back-up Route Alerting				M	M							M	M															M					
Emergency Worker Decontamination Station					M							M	M																	M	M		
General Population Mon/Decon					M							M	M																	M			
Mass Care – Shelter					M																											M	
SUPPORT JURISDICTIONS																																	
CHARLES CITY COUNTY																																	
EOC	M		M	M	A																								M				
CITY OF HAMPTON																																	
EOC	M		M	M	M																								M				
NEW KENT COUNTY																																	
EOC	A		M	M	M																								M				

LEGEND: M = Met (no Deficiency or ARCA(s) assessed)
A = ARCA(s) assessed
A[1] = ARCA(s) assessed but successfully re-demonstrated
R = Resolved ARCA(s) from prior exercises
U = Unresolved ARCA(s) from prior exercise
Blank = Not scheduled for demonstration

TABLE 2. SUMMARY RESULTS OF EXERCISE EVALUATION

DATE AND SITE: June 26, 2007, Surry Power Station

JURISDICTION/LOCATION	1.a.1	1.b.1	1.c.1	1.d.1	1.e.1	2.a.1	2.b.1	2.b.2	2.c.1	2.d.1	2.e.1	3.a.1	3.b.1	3.c.1	3.c.2	3.d.1	3.d.2	3.e.1	3.e.2	3.f.1	4.a.1	4.a.2	4.a.3	4.b.1	4.c.1	5.a.1	5.a.2	5.a.3	5.b.1	6.a.1	6.b.1	6.c.1	6.d.1
Emergency Worker Decontamination Station					M							M	M																	M	M		
General Population Monitoring/Decontamination					M							M	M																	M			
Mass Care – Shelter					M																											M	
CITY OF POQUOSON																																	
EOC	M	M	M	M	M																								M				
MEDICAL SERVICES DRILL																																	
Riverside Medical Center					M							M																					M
Isle of Wight Volunteer Rescue Squad					M	M						M																					M

LEGEND: M = Met (no Deficiency or ARCA(s) assessed)
R = Resolved ARCA(s) from prior exercises

A = ARCA(s) assessed
U = Unresolved ARCA(s) from prior exercise

A^1 = ARCA(s) assessed but successfully re-demonstrated
Blank = Not scheduled for demonstration

B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating and functional entity in a jurisdiction-based, issues-only format. Presented below are definitions of the terms used in this subsection relative to criteria demonstration status.

- **Met** – Listing of the demonstrated exercise evaluation area criteria under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.

- **Deficiency** – Listing of the demonstrated exercise evaluation area criteria under which one or more Deficiencies were assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.

- **Area Requiring Corrective Action** – Listing of the demonstrated exercise evaluation area criteria under which one or more ARCAs were assessed during the current exercise. Included is a description of the ARCAs assessed during this exercise and the recommended corrective actions to be demonstrated before or during the next biennial exercise.

- **Not Demonstrated** – Listing of the exercise evaluation area criteria that were scheduled to be demonstrated during this exercise, but were not demonstrated and the reason they were not demonstrated.

- **Prior ARCAs – Resolved** – Descriptions of ARCAs assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.

- **Prior ARCAs – Unresolved** – Descriptions of ARCAs assessed during prior exercises that were not resolved in this exercise. Included are the reasons the ARCAs remain unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues that are discussed in this report.

- A **Deficiency** is defined in the FEMA-REP-14 as "...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."

- An **ARCA** is defined in the FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

The Federal Emergency Management Agency (FEMA) has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier** – A two-digit number corresponding to the Utility Billable Plant Site Codes.

- **Exercise Year** – The last two digits of the year the exercise was conducted.

- **Evaluation Area Criterion** – A letter and number corresponding to the criteria in the FEMA REP Exercise Evaluation Methodology.

- **Issue Classification Identifier** – (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.

- **Exercise Issue Identification Number** – A separate two digit indexing number assigned to each issue identified in the exercise.

1.0 STATE/COMMONWEALTH

1.1 State Emergency Operations Center

a. **MET:** 1.a.1 2.a.1 3.b.1 5.a.1
1.c.1 2.b.1 3.d.1 5.b.1
1.d.1 2.b.2
2.d.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** 1

Issue Number: 62-06-5.a.1-A-03

Condition: The Commonwealth plan indicates the primary responsibility for sounding the sirens is assigned to Surry County with James City County as the first alternate followed by the Commonwealth EOC. However, the Commonwealth EOC did not follow the procedure or the extent-of-play agreement for the initial alert and notification sequence.

Corrective Action Demonstrated: During the exercise, the alert and notification sequence was accomplished according to the Plan and the extent-of-play agreement. Surry County sounded the sirens with the James City County EOC and the Commonwealth EOC on standby, if there was a problem with Surry County completing it. Therefore, this issue has been resolved.

f. **PRIOR ARCAs – UNRESOLVED:** 1

Issue Number: 62-06-1.e.1-A-02

Condition: The modified administrative exposure limit (0.3 R reporting level) could not be read using the issued dosimetry.

Reason ARCA Unresolved: Members of the Virginia State Field Team #1 were issued 0-20 R Self Reading Dosimeters (SRD). During the pre-deployment briefing, the Staging Area Coordinator notified the team members that the Administrative Reporting Level had been changed from 1.5 R to 150 mR and the Turnback Exposure Level had been changed from 2.5 R to 250 mR. Using

the SRDs issued to them, the team members could not distinguish the new levels with accuracy. The members of all the other field teams participating in the exercise were issued electronic dosimeters which can distinguish the required levels.

Recommendation: Supply all field team members and other emergency workers with dosimetry capable of clearly displaying the exposure levels upon which they are expected to make decisions about their personal exposures.

State Response: The Commonwealth of Virginia has procured digital alarming dosimeters and has distributed them to local field monitoring teams. In addition, State Field Monitoring Team #1 has received digital alarming dosimeters as well. Furthermore, the Emergency Worker Radiation Exposure Record form (REC-1) has been revised to indicate the equipment upgrade. This issue will be re-evaluated at the next North Anna Power Station exercise.

1.2 Emergency Alert Station (WRVA)

a. **MET:** 1.d.1 5.a.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

1.3 Joint Public Information Center

a. **MET:** 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

1.4 Emergency Operations Facility (Virginia Department of Emergency Management)

a. **MET:** 1.c.1
1.d.1
1.e.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

1.5 Emergency Operations Facility (Virginia Department of Health and Bureau of Radiation Protection)

a. **MET:** 1.c.1 2.a.1 3.a.1 4.a.2
1.d.1 2.b.1 3.b.1
1.e.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

1.6 State Field Air Monitoring Team A

a. **MET:** 1.d.1 3.a.1 4.a.1
1.e.1 3.b.1 4.a.2
4.a.3

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** 1

Issue Number: 62-06-4.a.2-A-05

Condition: The Virginia State Field Monitoring Team did not demonstrate chain-of-custody procedures with regard to transfer of air samples.

Corrective Action Demonstrated: During the North Anna exercise on 12/05/2006 the State Field Team 1 demonstrated the use of the chain of custody procedures for an air sample using procedure Appendix 17, (Revision 9/12/2006), step 2.5 and the chain of custody form Attachment 26. The sample was received in the Staging area by the mobile laboratory staff.

f. **PRIOR ARCAs – UNRESOLVED:** None

1.7 State Field Air Monitoring Team B

a. **MET:** 1.d.1 3.a.1 4.a.2
1.e.1 3.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 2 (4.a.1 [Re-demonstrated], 4.a.3)

Issue Number: 62-07-4.a.1-A-01 (Re-demonstrated)

Condition: State Field Monitoring Team (FMT) B did not complete all pre-operational checks for the Radeco air sampler by turning the sampler on and confirming flow through the sample filters.

Possible Cause: FMT B did not reference their monitoring and sampling procedure when they initially conducted instrument pre-deployment checks. When they were told that they had not satisfactorily completed all air sampler pre-deployment checks, they referenced the procedure notebook and determined that Attachment 7 was missing.

Reference: Appendix 17.1, Monitoring and Sampling Team Procedure, Attachment 7, Equipment Operational and Pre-Deployment Checks.

Effect: An air sampler that is not verified to operate properly could be taken into the field before an equipment failure is identified. Equipment failures in the field could delay collection of air samples needed to validate calculated dose projections and protective action recommendations.

Recommendation: Provide the field teams with all sections of the Monitoring and Sampling Team procedure; also provide additional training on equipment preoperational checks.

Corrective Action Demonstrated: Upon completion of pre-operational checks, a time out was called and the team was advised that they did not complete all checks as required by procedure. They were given an opportunity to review procedures and re-demonstrate. At that time the team determined that they did not have a copy of Attachment 7, Equipment Operational Pre-Deployment Checks in their Field Team procedure notebook. The Staging Area Coordinator was consulted; he also did not have a copy of Attachment 7.

Once the team identified that they were missing a procedure section, they used Attachment 12, Air Sampling Procedure and collected an actual air sample to verify that the air sampling equipment was working correctly.

Issue Number: 62-07-4.a.3-A-02

Condition: State Field Monitoring Team (FMT) B did not demonstrate appropriate radiological monitoring techniques:

The team did not monitor their survey instruments while in transit; the instruments were stored in the back of the truck and were not accessible.

They also did not relocate to a low background area to count their air sample. The air sample head was disassembled and counted while still in the plume centerline.

Possible Cause: The Monitoring and Sampling Procedure appeared to be written for use by individuals who are skilled in the processes associated with radiological monitoring and air sampling. FMT B was unfamiliar with the procedure and indicated that they had minimal training. Consequently, they relied on the procedure to provide step by step instructions for performing the tasks associated with radiological monitoring and sampling.

Reference: Appendix 17.1, Monitoring and Sampling Team Procedure

Effect: Inaccurate survey and/or sample results could lead to a protective action recommendation based on faulty data.

Recommendation: Provide additional detail in the procedure for individuals who are not highly skilled in radiological environmental monitoring. Also, provide additional training to those individuals.

State Response: The Division of Radiation Health Emergency Plan Implementing Procedure (DRH EPIP), Appendix 17.1, Monitoring and Sampling Procedure has been revised to more clearly define appropriate monitoring techniques. This issue will be re-evaluated at the next North Anna Power Station exercise.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.0 RISK JURISDICTIONS

2.1 Isle of Wight County

2.1.1 Isle of Wight County Emergency Operations Center

a. **MET:**

1.a.1	2.a.1	3.b.1	5.a.1
1.c.1	2.c.1	3.c.1	5.a.3
1.d.1		3.d.1	5.b.1
1.e.1		3.d.2	

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 1 (4.a.2)

Issue Number: 62-07-4.a.2-A-03

Condition: The Isle of Wight (IOW) Radiological Officer (RO) did not provide field data to the Department of Radiological Health (DRH) per the procedure which states that these readings are to be provided to the DRH Field Team Coordinator via fax or telephone.

Possible Cause: The identified procedural steps were not followed.

References: NUREG-0654 I.8, 11; J.10.a; H.12. Isle of Wight Radiological Emergency Response Plan (RERP), Appendix 6, Radiological Officers Procedure, Section C., Site Area Emergency, item F, and Section D. General Emergency, item F.

Effect: The State did not receive all relevant radiological field data that could potentially impact subsequent protective action decisions pertaining to 10-mile Emergency Planning Zone sectors within IOW County.

Recommendation: Provide ambient field data to the DRH Field Team Coordinator, per the RO procedure.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** 1

Issue Number: 62-06-1.c.1-A-06

Condition: The Emergency Services Coordinator (ESC), located in the County Emergency Operation Center, did not inform the Radiological Officer (RO), located at the Staging Area, that a General Emergency had been declared or that a radiological release was occurring. The RO relies on the information relayed to him from the ESC to appropriately direct the actions of emergency workers in the field.

Corrective Action Demonstrated: The ESC maintained frequent communications with the RO located at the Staging Area. After the receipt of each Emergency Classification Level (ECL) notification or update from the Surry Power Station, the ESC notified the RO of the plant, meteorological, and radiological conditions.

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.2 Isle of Wight County School District (EOC Interviews)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.2.1 Hardy Elementary School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.2.2 Smithfield Middle School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.2.3 Smithfield High School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.3 Staging Area and Traffic Control Point/Access Control Point

a. **MET:** 1.d.1 3.a.1
1.e.1 3.b.1
3.d.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.4 Field Monitoring Team

a. **MET:** 1.d.1 3.a.1 4.a.1
1.e.1 3.b.1 4.a.3

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.5 Exception Area Route Alerting (Route B)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.1.6 Back-up Route Alerting (Siren #31 Area)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2 James City County

2.2.1 James City County Emergency Operations Center

a. **MET:**

1.a.1	2.a.1	3.b.1	4.a.2	5.a.1
1.b.1	2.c.1	3.c.1		5.a.3
1.c.1		3.d.1		5.b.1
1.d.1		3.d.2		
1.e.1				

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2.2 City of Williamsburg/James City School District (EOC Interviews)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2.2.1 Lafayette High School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2.2.2 Toano Middle School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2.2.3 DJ Montague Elementary School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2.3 Staging Area and Traffic Control Point/Access Control Point

a. **MET:** 1.d.1 3.a.1 4.a.2
1.e.1 3.b.1
3.d.1
3.d.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2.4 Field Monitoring Team

a. **MET:** 1.d.1 3.b.1 4.a.1
1.e.1 4.a.3

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 1 (3.a.1 Re-demonstrated)

Issue Number: 62-07-3.a.1-A-04 (Re-demonstrated)

Condition: The Emergency Workers (EW) incorrectly reported the readings on their digital alarming dosimeters (DAD) in units of milliR rather than in units of microR as displayed on the DAD.

Possible Cause: The DADs have been in use only for a short time. The EWs indicated that their training on the use of the DADs took place within the last few weeks.

Reference: NUREG-0654 K.3.a, b

Effect: Inaccurate exposure data would be transmitted to the EOC.

Recommendation: Retrain the emergency workers on the use of the DAD.

Corrective Action Demonstrated: On-the-spot training was conducted and re-demonstration was successfully performed.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.2.5 Back-up Route Alerting (Siren #9 Area)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3 City of Newport News

2.3.1 City Emergency Operations Center

a. **MET:** 1.a.1 2.a.1 3.b.1 4.a.2 5.a.1
1.c.1 2.c.1 3.c.1 5.a.3
1.d.1 3.d.1 5.b.1
1.e.1 3.d.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.2 City of Newport News School District (EOC Interviews)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.2.1 Menchville High School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.2.2 Denbigh Early Childhood Center (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.2.3 Jenkins Elementary School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.2.4 Nelson Elementary School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.2.5 Richneck Elementary School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.3 Staging Area and Traffic Control Point/Access Control Point

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.4 Field Monitoring Team

a. **MET:** 1.d.1 3.a.1 4.a.1
1.e.1 3.b.1 4.a.3

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 1 (2.c.1)

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.5 Back-up Route Alerting (Siren #42 Area)

a. **MET:** 1.d.1 3.a.1
1.e.1 3.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 1 (5.a.3, Re-demonstrated)

Issue Number: 62-07-5.a.3-A-05 (Re-demonstrated)

Condition: The Newport News Police Department failed to complete back-up route alerting and notification within 45 minutes of the time they were notified of the failure of the primary notification system. The demonstration took 53 minutes.

Possible Cause: The back-up route alert was performed by a uniformed member of the Newport News Police Department while driving a marked patrol unit. The officer was distracted on at least one occasion by a citizen that approached him about matters unrelated to the exercise. Policy dictates that the route be driven at no more than twenty miles per hour while broadcasting the emergency message. This route contains numerous housing developments with multiple cul-de-sacs and dead end streets. It also contains a large city park with camping area in which every street must be driven.

The length of the route and the density of the residences makes it very difficult to achieve positive results in the time allotted.

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

Effect: The public could fail to be notified within the specified 45 minute time period of the need to take protective actions during an emergency.

Recommendation: The department should review all backup alerting routes for realistic completion in 45 minutes.

Corrective Action Demonstrated: The route was re-demonstrated by the police officer and was completed in 40 minutes.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.6 Emergency Worker Decontamination Station (Huntington Middle School)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.7 General Population Monitoring/Decontamination Station (Huntington Middle School)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.3.8 Mass Care – Shelter (Huntingdon Middle School)

a. **MET:** 6.c.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.4 City of Williamsburg

2.4.1 City of Williamsburg Emergency Operations Center

a. **MET:**

1.a.1	2.a.1	3.b.1	4.a.2	5.a.1
1.c.1	2.c.1	3.c.1		5.a.3
1.d.1		3.d.1		5.b.1
1.e.1		3.d.2		

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.4.2 Staging Area and Traffic Control Point/Access Control Point

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.4.3 Field Monitoring Team

a. **MET:** 1.d.1 3.a.1 4.a.1
1.e.1 3.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 2 (4.a.3, One Re-demonstrated)

Issue Number: 62-07-4.a.3-A-06

Condition: The field team incorrectly used a pancake probe to measure ambient radiation.

Possible Cause: Team members did not understand the roles of the two different probes (pancake and hotdog) and they did not follow their procedure.

References: NUREG 0654 I.8; O,1.; O.2.
The City of Williamsburg Radiological Emergency Response Plan Annex 7. Field Monitoring Team Procedure (04/2007).

Effect: The reporting of counts per minute rather than mR/hr could have resulted in incorrect feedback to the dose assessment group for the comparison of actual to projected doses in the field.

Recommendation: Further training of the field teams and the Field Monitoring Leader.

Issue Number: 62-07-4.a.3-A-07 (Re-demonstrated)

Condition: Field Measurements were not performed in accordance with procedure.

Possible Cause: Lack of familiarity with procedures.

References: NUREG 0654; I.8.; O.1.; O.2;

The City of Williamsburg Radiological Emergency Response Plan Annex 7, Field Monitoring Team Procedure (04/2007).

Effect: Not performing in accordance with procedures can result in incorrect correlations with the dose assessment program.

Recommendation: Training for the emergency organization should include practical demonstration of meter use.

Corrective Action Demonstrated: The proper techniques were demonstrated by the field team member after remedial training.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.4.4 Back-up Route Alerting (Siren #57 Area)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.5 Surry County

2.5.1 Surry County Emergency Operations Center

a. **MET:** 1.a.1 2.a.1 3.b.1 4.a.2 5.a.1
1.c.1 2.c.1 3.c.1 5.a.3
1.d.1 3.d.1 5.b.1
1.e.1 3.d.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.5.2 Surry County School District (EOC Interviews)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.5.2.1 L.P. Jackson Middle School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.5.3 Staging Area and Traffic Control Point/Access Control Point

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.5.4 Field Monitoring Team

a. **MET:** 1.d.1 3.a.1 4.a.1
1.e.1 3.b.1 4.a.3

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.5.5 Exception Area Route Alerting (Route G)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.5.6 Back-up Route Alerting (Siren #23 Area)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6 York County

2.6.1 York County Emergency Operations Center

a. **MET:** 1.a.1 2.a.1 3.b.1 4.a.2 5.a.1
1.c.1 2.c.1 3.c.1 5.a.3
1.d.1 3.d.1 5.b.1
1.e.1 3.d.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.2 York County School District (EOC Interviews)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.2.1 Magruder Elementary School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.2.2 Yorktown Middle School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.2.3 York High School (EOC)

a. **MET:** 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.3 Staging Area and Traffic Control Point/Access Control Point

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.4 Field Monitoring Team

a. **MET:** 1.d.1 3.a.1 4.a.1
1.e.1 3.b.1 4.a.3

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.5 Back-up Route Alerting (Siren #11 Area)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.6 Emergency Worker Decontamination Station (Grafton Middle School/High School Complex)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.7 General Population Monitoring/Decontamination Station (Grafton Middle School/High School Complex)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

2.6.8 Mass Care – Shelter (Grafton Middle School/High School Complex)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

3.0 SUPPORT JURISDICTIONS

3.1 Charles City County

3.1.1 Charles City County Emergency Operations Center

a. **MET:** 1.a.1 5.b.1
1.c.1
1.d.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 1 (1.e.1)

Issue Number: 62-07-1.e.1-A-08

Condition: The two Ludlum Model 2240I hand-held radiation monitoring instruments with Ludlum 44-9 pancake probes were beyond the expiration date for their calibration. Both instruments were calibrated on November 22, 2005, with a calibration expiration date of November 22, 2006.

Possible Cause: Charles City County did not schedule the instruments for calibration before the calibration expiration date.

References: NUREG-0654, H.7, 10; J.10.a, b, e; J.11; K.3.a.

Effect: Emergency workers at the Charles City County Evacuation Assembly Center (EAC) would not have properly calibrated hand-held instruments to use while monitoring evacuees or their vehicles.

Recommendation: Calibrate the instruments and schedule the next recalibration in sufficient time to ensure the calibration does not lapse.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

3.2 City of Hampton

3.2.1 City of Hampton Emergency Operations Center

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

3.3 New Kent County

3.3.1 New Kent County Emergency Operations Center

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 1 (1.a.1)

Issue Number: 62-07-1.a.1-A-09

Condition: A County School System representative did not respond to the EOC mobilization emails and page sent to New Kent County responders at 0930. A follow-up phone call to the School Board office, made at 1127, was unsuccessful. (A School Board representative was finally contacted at 1204 regarding the (simulated) opening of an Evacuation Assembly Center at the New Kent County High School).

Possible Cause: Designated School System representatives were unavailable and the School Board office was using an answering machine. A backup scheme was not in place.

The Emergency Services Coordinator did not act promptly to fill this position in the EOC.

Reference: NUREG-0654, Section E.2.

Effect: School system resources would not be prepared to receive evacuees.

Recommendation: Improve the notification scheme to assure that the School System can respond to a mobilization.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

3.3.2 Emergency Worker Decontamination Station (New Kent County Middle School)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

3.3.3 General Population Monitoring/Decontamination Station (New Kent County Middle School)

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

3.3.4 Mass Care – Shelter (New Kent County Middle School)

a. **MET:** 6.c.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

3.4 City of Poquoson

3.4.1 City of Poquoson Emergency Operations Center

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

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

4.0 MEDICAL SERVICES DRILL (MS-1)

4.1 Riverside Medical Center

a. **MET:** 1.e.1 3.a.1 6.d.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

4.2 Isle of Wight Volunteer Rescue Squad

a. **MET:** 1.e.1 2.a.1 3.a.1 6.d.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

APPENDIX 1:
Acronyms and Abbreviations

A&N	Alert and Notification
ACP	Access Control Point
ARCA	Area Requiring Corrective Action
ATL	Assistant Team Leader
BRH	Bureau of Radiological Health
CFR	Code of Federal Regulations
cpm	Counts per minute
DAD	Digital Alarming Dosimeter
DHS	Department of Homeland Security
DRH	Division of Radiological Health
EAC	Emergency Assembly Center
EAS	Emergency Alerting System
ECL	Emergency Classification Level
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
ESC	Emergency Services Coordinator
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FR	Federal Register
FRERP	Federal Radiological Emergency Response Plan
ICFI	ICF International
IOW	Isle of Wight
JPIC	Joint Public Information Center
KI	Potassium Iodide
LOCA	Loss of Cooling Accident
m/R	Milliroentgen(s)
mR/h	Milliroentgen(s) Per Hour
MS-1	Medical Services Drill

NAPS	North Anna Power Station
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	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
OOS	Out-of-Sequence
ORO	Offsite Response Organization
PAG	Protective Action Guidance
PAR	Protective Action Recommendation
R	Roentgen(s)
RAC	Regional Assistance Committee
Rem	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RO	Radiological Officer
R/hr	Roentgens per hour
SD	School District
SOP	Standard Operating Procedure
SPS	Surry Power Station
SRD	Self-Reading Dosimeter
TBD	To Be Determined
TCP	Traffic Control Point
TL	Team Leader
VDEM	Virginia Department of Emergency Management
VDH	Virginia Department of Health
WRVA	WRVA Radio (Emergency Alert System Station)

APPENDIX 2:
Exercise Evaluators and Team Leaders

The following is a list of the personnel who evaluated the Surry Power Station exercise on June 26, 2007. Evaluator Team Leaders are indicated by "(TL)" after their organization's name; Alternate Evaluator Team Leaders are indicated by "(ATL)" after their organization's name. Technical Team Leaders are indicated by "(TTL)" after their organization's name; Technical Evaluators are indicated by "(T)" after their organization's name. The organization that each evaluator represents is indicated by the following abbreviations:

DHS	Department of Homeland Security
NRC	U.S. Nuclear Regulatory Commission
ICFI	ICF International

OBSERVERS-AT-LARGE	EVALUATOR	ORGANIZATION
RAC-Chair	Darrell Hammons	DHS/FEMA
Project Officer	Bart Freeman	DHS/FEMA
ICFI Regional Coordinator	Roger Kowieski	ICFI

PLUME EXERCISE – June 26, 2007

COMMONWEALTH OF PENNSYLVANIA		
EVALUATION SITE	**EVALUATOR**	**ORGANIZATION**
Virginia EOC	**John Price** Henry Christiansen Kim Wood	**DHS/FEMA (TL)** ICFI (ATL) ICFI
Emergency Operations Facility (EOF)	Bob Trojanowski	NRC
Emergency Alert Station (WRVA)	Bill O'Brian	ICFI
Accident Assessment (EOF VDH – BRH)	Reggie Rodgers	ICFI (T)(TTL)
Joint Public Information Center	Glenn Kinnear	ICFI
State Field Monitoring Team 1	James Hickey	ICFI (T)
State field Monitoring Team 2	Marcy Campbell	ICFI (T)

RISK JURISDICTIONS		
EVALUATION SITE	**EVALUATOR**	**ORGANIZATION**
Isle of Wight County	**James McClanahan**	**ICFI (TL)**
County EOC	William McRee Nick Lowe Dave Stuenkel	ICFI ICFI ICFI
Schools	David Petta	ICFI
Route Alerting (2 routes)	Gary Snodgrass	ICFI
Staging Area & TCP/ACP	Paul Ringheiser Jr	ICFI
Field Monitoring Team	Harry Harrison	ICFI (T)
James City County	**Wayne Shych**	**DHS/FEMA (TL)**
County EOC	Ronald Biernacki Robert Duggleby	ICFI ICFI
Schools – City of Williamsburg/James City	Ernest Boaze	ICFI
Route Alerting	Lynn Mariano	ICFI
Staging Area & TCP/ACP	Robert Vork	ICFI
Field Monitoring Team	Paul Cormier	ICFI (T)
City of Newport News	**Al Henryson**	**DHS/FEMA (TL)**
City EOC	Quirino (Bud) Iannazzo Clark Cofer John Flynn	ICFI (ATL) ICFI ICFI
Schools	Steve Denson	ICFI
Route Alerting	Mark Dalton	ICFI
Staging Area & TCP/ACP	Keith Earnshaw	ICFI
Field Monitoring Team	Alan Bevan	ICFI (T)
City of Williamsburg	**Angela Hough**	**DHS/FEMA (TL)**
City EOC	Rosemary Samsel Frank Cordaro Doug Himle	ICFI ICFI ICFI
Route Alerting	Carl Wentzell	ICFI
Staging Area & TCP/ACP	Todd Sniffin	ICFI
Field Monitoring Team	Marynette Herndon	ICFI (T)

RISK JURISDICTIONS (cont.)		
EVALUATION SITE	**EVALUATOR**	**ORGANIZATION**
Surry County	**Ken Wierman**	**DHS/FEMA (TL)**
County EOC	Gary Goldberg Terry Blackmon	ICFI ICFI
Schools	Robert Fernandez	ICFI
Route Alerting (2 routes)	Daniel Prevo	ICFI
Staging Area & TCP/ACP	Jan Jackson	ICFI
Field Monitoring Team	Michael Henry	ICFI (T)
York County	**Richard Echavarria**	**DHS/FEMA (TL)**
County EOC	Harold Spedding Sarah Everidge	ICFI ICFI
Schools	Gary Bolender	ICFI
Route Alerting	Wendy Swygert	ICFI
Staging Area & TCP/ACP	Robert Lemeshka	ICFI
Field Monitoring Team	Dennis Wilford	ICFI (T)

SUPPORT JURISDICTIONS	Deborah Bell	ICFI (TL)
EVALUATION SITE	**EVALUATOR**	**ORGANIZATION**
Charles City County		
County EOC	William Vocke Robert Gantt	ICFI ICFI (OJT)
City of Hampton		
City EOC	Richard Smith Greg Vanden-Eykel	ICFI ICFI (OJT)
New Kent County		
County EOC	Richard Wessman	ICFI
City of Poquoson		
City EOC	Deborah Bell	ICFI (TL)

MEDICAL SERVICES DRILL		
Riverside Medical Center	Patrick Taylor	ICFI (T)
Isle of Wight Volunteer Rescue Squad	Kent Tosch	ICFI

OUT-OF-SEQUENCE EXERCISE – June 6, 2007

CITY OF NEWPORT NEWS		
EVALUATION SITE – EAC	**EVALUATOR**	**ORGANIZATION**
Emergency Worker Decontamination Station (OOS – 06/6/07)	Bart Freeman	DHS/FEMA
General Population Monitoring/ Decontamination (OOS – 06/6/07)	Bart Freeman	DHS/FEMA
Mass Care – Shelter (OOS – 06/6/07)	Bart Freeman	DHS/FEMA

OUT-OF-SEQUENCE EXERCISE – June 7, 2007

NEW KENT COUNTY		
EVALUATION SITE – EAC	**EVALUATOR**	**ORGANIZATION**
Emergency Worker Decontamination Station (OOS – 06/6/07)	Bart Freeman	DHS/FEMA
General Population Monitoring/ Decontamination (OOS – 06/6/07)	Bart Freeman	DHS/FEMA
Mass Care – Shelter (OOS – 06/6/07)	Bart Freeman	DHS/FEMA

OUT-OF-SEQUENCE EXERCISE – June 27, 2007

YORK COUNTY		
EVALUATION SITE – EAC	**EVALUATOR**	**ORGANIZATION**
Emergency Worker Decontamination Station (OOS – 06/27/07)	Patrick Taylor	ICFI
General Population Monitoring/ Decontamination (OOS – 06/27/07)	Patrick Taylor	ICFI (T)
Mass Care – Shelter (OOS – 06/27/07)	Kent Tosch	ICFI (T)

APPENDIX 3:
Exercise Evaluation Area Criteria and Extent-of-Play Agreement

This appendix contains the extent-of-play agreement from the Commonwealth of Virginia approved by the Federal Emergency Management Agency (FEMA) Region III on April 18, 2007.

The exercise evaluation area criteria, contained in the "FEMA Radiological Emergency Preparedness Exercise Evaluation Methodology", 67 FR 20580, April 25, 2002, represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.

Because the exercise evaluation area criteria are intended for use at all nuclear power plant sites, and because of variations among offsite plans and procedures, an extent-of-play agreement is prepared by the State and approved by FEMA to provide evaluators with guidance on expected actual demonstration of the evaluation area criteria.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF EMERGENCY MANAGEMENT

VIRGINIA OPERATIONS PLAN EXERCISE Number 1 – 2007
VOPEX 1-07

Exercise Date: June 26, 2007

SURRY POWER STATION
AND
OFFSITE RESPONSE ORGANIZATIONS

EXTENT OF PLAY
Revised: April 18, 2007

EVALUATION AREA 1 – EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.a – Mobilization

Criterion 1.a.1 – OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.

Criterion Selected: Yes

Offsite Response Organizations:

State: Conservation and Recreation, Department of *
Emergency Management, Department of
Game and Inland Fisheries, Department of *
Health, Department of:
Division of Radiological Health (DRH)
Office of Emergency Medical Services*
Social Services, Department of *
State Police, Department of
Transportation, Department of
Virginia Cooperative Extension*
Agriculture and Consumer Services, Virginia Department of*

NOTE: Agencies listed with an asterisk will be notified, via phone, but will not participate or be evaluated.

Risk Jurisdictions:
Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Host Jurisdictions:
Charles City County
City of Hampton
New Kent County
City of Poquoson

Volunteer Organizations:
American Red Cross *
Radio Amateur Civil Emergency Service (R.A.C.E.S.)

Extent of Play:

State: The State will notify and mobilize appropriate response agencies noted above 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. No other state agencies will be notified. Personnel assigned to the Emergency Operations Facility at Surry Power Station (VDEM and DRH personnel), Joint Public Information Center (JPIC), Virginia Public Inquiry Center (VPIC) at DMV headquarters, the VEOC, Mobile laboratory at VDOT Residency Shop,

Route 10 in Surry County and field monitoring teams will be pre-positioned. VDEM and DRH will provide staffing as per procedures.

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: 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.

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

Outstanding Issues:

Isle of Wight County: Planning Issue Number: 62-06-1.a.1-P-05. Condition: The Isle of Wight County Radiological Emergency Response Plans and procedures do not specify the location of possible staging area(s).

Sub-element 1.c – Direction and Control

Criterion 1.c.1 – Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Emergency Management
Joint Public Information Center (JPIC)
Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:
- Isle of Wight County
- James City County
- Surry County
- York County
- City of Newport News
- City of Williamsburg

Host Jurisdictions:
- Charles City County
- City of Hampton
- New Kent County
- City of Poquoson

Extent of Play:

State: Overall direction and control of state activities will be demonstrated in the Virginia EOC and Emergency Operations Facility (EOF) 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: This evaluation area will be demonstrated in each risk and host jurisdiction. 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 State, risk and host jurisdictions should ensure the completion of requirements and requests.

Outstanding Issues:

Isle of Wight County: Issue Number: 62-06-1.c.1-A-06. Condition: The Emergency Services Coordinator (ESC), located in the County Emergency Operation Center, did not inform the Radiological Officer (RO), located at the Staging Area, that a General Emergency (GE) had been declared or that a radiological release was occurring. The RO relies on the information relayed to him from the ESC to appropriately direct the actions of emergency workers in the field.

Sub-element 1.d – Communications Equipment

Criterion 1.d.1 – At least two communications 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.

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Emergency Management
Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:
- Isle of Wight County
- James City County
- Surry County
- York County
- City of Newport News
- City of Williamsburg

Host Jurisdictions:
- Charles City County
- City of Hampton
- New Kent County
- City of Poquoson

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 an exercise. Facility and field workers will have access to at least one communications system that is independent of commercial landline telephone. The use of primary communication pathways will be demonstrated during this exercise.

Outstanding Issues:

None

Sub-element 1.e – Equipment and Supplies to Support Operations

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

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Emergency Management
Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:
- Isle of Wight County
- James City County
- Surry County
- York County
- City of Newport News
- City of Williamsburg

Host Jurisdictions:
- Charles City County
- City of Hampton
- New Kent County
- City of Poquoson

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 and dosimeter chargers should be available for issuance to all emergency workers.

The leakage testing of the SRDs and quantities of dosimetry were verified through documentation submitted in the Annual Letter of Certification. NOTE: The dosimeters leakage tests were submitted to DHS in the 2006 Annual Letter of Certification dated January 31, 2007.

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

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 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 EOCs by Health Representatives.

Outstanding Issues:

VEOC: Issue Number: 62-06-1.e.1-A-02 (SPS), Issue Number: 41-06-1.e.1-A-01 (North Anna Power Station). Condition: The modified administrative exposure limit (0.3 R reporting level) could not be read using the issued dosimetry.

EVALUATION AREA 2 – PROTECTIVE ACTION DECISION-MAKING

Sub-element 2.a – Emergency Worker Exposure Control

Criterion 2.a.1 – OROs 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.

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Emergency Management
Virginia Department of Health, Division of Radiological Health
Mobile Lab at Surry County VDOT Residency Shop

Risk Jurisdictions:
Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

State: VDEM and DRH working in the EOF 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 the projected thyroid dose compared with the established protective action guides (PAGs) for KI administration.

Risk Jurisdictions: 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 to make decisions on 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. This distribution will occur only if the State Commissioner of Health orders the ingestion of KI by emergency workers.

Outstanding Issues:

VEOC: Planning Issue Number: 62-06-2.a.1-P-01 (SPS), 41-06-2.a.1-P-01 (NAPS). Condition: The Commonwealth of Virginia uses the Environmental Protection Agency (EPA) "lifesaving or protective of large populations" dose limit (25 rem) as the dose limit for all of their emergency workers. This is contrary to the guidance delineated by the EPA on the use of a graduated dose limit system for emergency workers under various conditions.

VEOC & Risk Jurisdictions: Planning Issue Number: 62-06-2.a.1-P-02 (SPS), 41-06-2.a.1-P-02 (NAPS). Condition: Justification and selection criteria for lifesaving actions have not been specified for emergency workers to exceed administrative exposure limits.

Sub-element 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 ORO dose projections, as well as knowledge of onsite and offsite environmental conditions.

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Health, Division of Radiological Health

Extent of Play:

State: The initial Protective Action Recommendation (PAR) is based on plant conditions. Scenario driven doses 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 Virginia Department of Health, Division of Radiological Health at the EOF to confirm or modify, as necessary, the PAR in effect. The protective action recommendation will be forwarded from the EOF to the Virginia EOC with any information necessary to support the recommendation.

Outstanding Issues:

Virginia EOC: (VDH/RHP) Planning Issue Number: 41-06-2.b.1-P-03. Condition: The Virginia Department of Health (VDH) implementing procedure Appendix 17.2 states that a Protective Action Recommendation (PAR) must be given to the Virginia Department of Emergency Management (VDEM) within 15 minutes from the time the licensee declares a General Emergency (GE). However, this time requirement is not specified in federal regulations nor is it specified in federal guidelines. The licensee requirement for informing the offsite authorities of the GE declaration is within 15 minutes of that declaration and must be accompanied by a PAR (which is the minimum that should be implemented by the offsite authorities unless conditions exist that would make implementation of the PAR more risky than the dose savings from the implementation).

Sub-element 2.b – Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency

Criterion 2.b.2 – A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PAD) for the general public (including the recommendation for the use of KI, if that's the ORO's policy).

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Emergency Management
Virginia Department of Health, Division of Radiological Health

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 State EOC. These decisions will be coordinated with risk jurisdictions. The State Commissioner of Health (or designee) will determine whether and when to authorize the administration of KI to emergency workers within the 10-mile EPZ.

Outstanding Issues:

None

Sub-element 2.c – Protective Action Decisions for the Protective of Special Populations

Criterion 2.c.1 – Protective action decisions are made, as appropriate, for special population groups.

Criterion Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

Risk Jurisdictions: All 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 emergency planning zone (EPZ), schools located outside of the 10 mile EPZ, that 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.

Outstanding Issues:

None

EVALUATION AREA 3 – PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1 – The OROs 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.

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Emergency Management
Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:
Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

State: VDEM and DRH working in the EOF 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. During the demonstration of the evaluation area the DHS evaluator will have the participants re-demonstrate an activity that is determined to be not satisfactorily demonstrated.

Risk Jurisdictions: 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

Sub-element 3.b – Implementation of KI Decision

Criterion 3.b.1 – KI and appropriate instructions are available should a decision to recommend for the 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.

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:
Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

State: The State Commissioner of Health will determine whether and/or when to authorize the administration of KI to emergency workers.

Risk Jurisdictions: 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.

If authorized by the State Commissioner of Health, emergency workers, as appropriate, will receive KI according to their procedures and will be briefed or given information on its use. Included organizations will have the capacity 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 not be demonstrated.

Outstanding Issues:

None

Sub-element 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.

Criterion Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

Selected risk jurisdictions will demonstrate the following:

- Listing of special needs individuals located within their portion of the 10-mile EPZ is maintained by Social Services
- Listing of licensed daycare centers, if applicable, located 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 PARs, 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

Sub-element 3.c. – Implementation of Protective Actions for Special Populations

Criterion 3.c.2 – OROs/school officials decide upon and implement protective actions for schools.

Criterion Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

Isle of Wight County:
- Hardy Elementary School
- Smithfield Middle School
- Smithfield High School

City of Williamsburg/James City County:
- Lafayette High School
- Toano Middle School
- DJ Montague Elementary School

Surry County:
- L.P. Jackson Middle School

York County:
- Magruder Elementary School
- Yorktown Middle School
- York High School

City of Newport News:
- Menchville High School
- Denbigh E.C.C.
- Jenkins Elementary School
- Nelson Elementary School
- Richneck Elementary School

This evaluation area will be demonstrated during the exercise at the local EOC. An inject message will be provided to the school superintendent or designee to initiate the table-top interview. The superintendent or designee will discuss procedures and appropriate actions to be taken for school closing due to a radiological emergency at Surry Power Station. The superintendent or designee will make notifications via telephone to school representatives, i.e., School principal, transportation director, etc. from the local EOC. The school superintendent or designee will have the radiological plan available and show the pre-scripted EAC message regarding school children. In addition, the superintendent or designee will illustrate a letter to parents informing them of policies and procedures regarding early dismissal of children due to a radiological incident.

Outstanding Issues:

None

Sub-element 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.

Criterion Selected: Yes

Offsite Response Organizations:

State: State EOC

Risk Jurisdictions:
Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

The State EOC, 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, driven by the Protective Action Decision (PAD) will demonstrate one traffic control point (TCP) and one access control point (ACP). Demonstration will be 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 by interview 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

Sub-element 3.d – Implementation of Traffic and Access Control

Criterion 3.d.2 – Impediments to evacuation are identified and resolved

Criterion Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

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 scenario. Otherwise, evaluator may initiate discussion on this evaluation area.

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

EVALUATION AREA 4 – FIELD MEASUREMENT AND ANALYSIS

Sub-element 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.

Criterion Selected: Yes

Offsite Response Organizations:

State:
Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:
Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

State: Two State Field Monitoring Teams (FMTs), consisting of at least two individuals per team, will be staged at the Surry County and Williamsburg VDOT Residency Shop.

The team will be briefed and equipped with the appropriate field monitoring instruments and the team will check the equipment for operability before deployment into the field.

Risk Jurisdictions: 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 operational 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:
Isle of Wight County: Planning Issue Number: 62-06-4.a.1-P-06. Condition: The Field Monitoring Procedure (Appendix 7) in the Isle of Wight County Radiological Emergency

Response Plan (RERP) does not specify the type (thickness) of plastic bag to be used to wrap the radiological survey instrument probe.

Sub-element 4.a – Plume Phase Field Measurements and Analyses

Criterion 4.a.2 – Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure.

Criterion Selected: Yes

Offsite Response Organizations:

State:

Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:

Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

State: Two State Field Monitoring Teams (FMTs), consisting of at least two individuals per team, will be staged at the Surry County and Williamsburg VDOT Residency Shop.

Each team will communicate results, as necessary, to the DRH representative at the EOF. It should be noted that the overall monitoring effort is coordinated by DRH from the EOF.

Risk Jurisdictions: 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 monitoring team will be in contact with the Radiological Officer. The field teams will report field readings to the R.O. who will then forward the appropriate information to DRH at the EOF.

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

Sub-element 4.a – Plume Phase Field Measurements and Analyses

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/procedures) amount of radioactivity has been collected on the sampling media.

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Health, Division of Radiological Health

Risk Jurisdictions:

Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

State: Two State Field Monitoring Teams (FMTs), consisting of at least two individuals per team, will be staged at the Surry County and Williamsburg VDOT Residency Shop.

Each team will take measurements at a minimum of two locations and will operate according to procedures. A minimum of six total sets of readings will be taken per team (for example, each team may visit two locations and take three sets of readings per location, or another combination may be used).

The field teams will demonstrate the capability to determine the location of the plume. Each team will communicate results, as necessary, to the DRH representative at the EOF. It should be noted that the overall monitoring effort is coordinated by DRH from the EOF. Controllers will provide data to the field teams.

Each 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. At least one sample will be taken to the mobile laboratory for gamma spectral analysis. Chain of Custody procedures shall be demonstrated.

Laboratory operations will not be demonstrated for the sample at the mobile laboratory. Appropriate sample analysis information will be forwarded to DRH at the EOF.

Risk Jurisdictions: 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 their EOC, which will then be forward the appropriate information DRH at the EOF. The controllers will have the necessary data to provide radiation levels to these teams.

Outstanding Issues:

None

EVALUATION AREA 5 – EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

Sub-element 5.a. – Activation of the Prompt Alert and Notification System

Criterion 5.a.1 – Activities associated with primary route 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 DHS REP Guidance.

Criterion Selected: Yes

Offsite Response Organization:

State
Virginia EOC

Risk Jurisdictions:
James City County
Surry County

Extent of Play:

State: At a minimum, one alert and notification sequence will be demonstrated during the exercise. However, a second alert and notification sequence will be demonstrated only if the first activation of the system is not completed within a timely manner. **Note that actual siren activation and EAS airing will be simulated.** This activation does not have to be linked to a protective action decision.

Activation of the sirens covering all risk jurisdictions is accomplished simultaneously by the Surry County Emergency Communications Center, with backup provided by James City County Emergency Communications Center and the Virginia EOC.

WRVA will be contacted to coordinate the EAS transmission for the first sequence. Subsequent contacts with the radio station, if any will be simulated. Evaluation of the EAS system will occur at the VEOC by evaluator interview.

An Emergency Alert System (EAS) message will be prepared and dissemination will be simulated over the EAS station (WVRA radio) after each simulated siren activation (as required). The message will follow current DHS REP guidance. Due to constraints on EAS messages, an emergency news release will follow each EAS message providing the necessary details. The capacity 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.

Notification to hearing-impaired individuals, if any, will be demonstrated (e.g., through explanation, actual notifications will be simulated) during only the first alert and notification sequence. The respective personnel at the risk jurisdictions EOCs will simulate notification to transients, individuals at parks, recreation areas and waterways.

Outstanding Issues:

None

Sub-element 5.a – Activation of the Prompt Alert and Notification System

Criterion 5.a.3 – Activities associated with DHS 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 with 45 minutes following the detection by the ORO of a failure of the primary alert and notification system.

Criterion Selected: Yes

Risk Jurisdictions:

Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Extent of Play:

Risk Jurisdictions: At a minimum, one alert and notification sequences will be demonstrated during the exercise. However, a second alert and notification sequence will be demonstrated only if the first activation of the system is not completed within the within a timely manner. **Note that actual siren activation and EAS airing will be simulated.** This activation does not have to be linked to a protective action decision. Activation of the sirens covering all risk jurisdictions is accomplished simultaneously by the Surry County Emergency Communications Center, with backup provided by James City County Emergency Communications Center and the Virginia EOC.

- Routes located from 5-10 miles from the power station will be completed within 45 minutes of the decision to alert and notify the public. Route alerting for the exception areas will be demonstrated in each of the following risk jurisdictions only during the first alert and notification sequence. One route, of a route assignment, in the designated jurisdiction will be demonstrated, as follows:

  Isle of Wight County (Route TBD)
  Surry County (Route TBD)

- Backup route alerting is completed with 45 minutes following the detection by the ORO of a siren failure. Back-up route alerting will be demonstrated in each selected risk jurisdiction after the first alert and notification sequence. One route, of a route assignment, in the designated jurisdiction will be demonstrated, as follows:

  Isle of Wight County (Route TBD)
  Surry County (Route TBD)
  James City County (Route TBD)

York County (Route TBD)
City of Newport News (Route TBD)
City of Williamsburg (Route TBD)

Notification to hearing-impaired individuals, if any, will be demonstrated (e.g., through explanation, actual notifications will be simulated) during only the first alert and notification sequence. Notification to transients, individuals at parks, recreation areas and waterways will be simulated by the respective personnel at the risk jurisdictions EOCs.

Outstanding Issues:

None

Sub-element 5.b – Emergency Information and Instructions for the Public and the Media

Criterion 5.b.1 – OROs provide accurate emergency information and instructions to the public and the news media in a timely manner.

Criterion Selected: Yes

Offsite Response Organization:

State

VDEM

Risk Jurisdictions:

Isle of Wight County
James City County
Surry County
York County
City of Newport News
City of Williamsburg

Host Jurisdictions:

Charles City County
City of Hampton
New Kent County
City of Poquoson

Extent of Play:

State: A VDEM Public Affairs Officer will prepare news releases at the VEOC. 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 media briefing will be evaluated at the JPIC. Media kits will be available at the JPIC.

VDEM will establish a public inquiry function at the VPIC 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 is correct, false, or inaccurate, 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 during the Alert Emergency Classification Level (ECL).

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 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

concerning pets, sheltering in place, information concerning protective actions 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 action 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: Each jurisdiction will demonstrate this evaluation area. One media briefing will be evaluated in each participating jurisdiction. Briefings will be held in the jurisdiction's media center, the public affairs office, or other appropriate location, depending on the number of media being briefed.

Each participating jurisdiction will establish a public inquiry phone line. Each participating jurisdiction 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 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 is correct, false, or inaccurate 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 risk 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 risk jurisdictions will demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals.

Outstanding Issues:

None

EVALUATION AREA 6 – SUPPORT OPERATION/FACILITIES

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.

Criterion Selected: Yes

Offsite Response Organization:

Hospital
Riverside Health System

Risk Jurisdiction
Isle of Wight County: Isle of Wight County Volunteer Rescue Squad

Extent of Play:

Risk Jurisdiction: The Isle of Wight County Volunteer Rescue Squad will respond to the Surry Power Station to pick up one contaminated, injured individual and transport that individual to the Riverside Health System unless the Isle of Wight County Volunteer Rescue Squad is involved in a concurrent (actual) event at the time the exercise demonstration is scheduled to occur. Should this situation occur, a backup off-site rescue squad might be used to respond to and transport the patient. Dominion Generation procedures direct that a Health Physics Technician accompany the patient to the hospital. The HP Technician will conduct all monitoring of the patient and will follow Dominion Generation procedures until turnover to hospital staff.

Communications mode between the rescue squad and the hospital will be the same as if the patient had a non-radiological injury.

The patient's vitals and levels of radioactivity will be indicated by controller inject or other labeling.

Riverside Health System will receive, treat and simulate decontamination (if necessary) of the patient according to appropriate hospital procedures for a radiologically contaminated individual.

Riverside Health System will exercise monitoring and contaminated control measures, as necessary and according to appropriate hospital procedures for a radiologically contaminated individual.

The hospital staff will demonstrate undressing procedures.

Outstanding Issues:
None

Out-of-Sequence Evacuation Assembly Center (EAC) Demonstration
SURRY POWER STATION
June 6-7, 2007
June 27, 2007

Participating Localities:
City of Newport News – Huntington Middle School, June 6 at 3 p.m.
New Kent County – New Kent Co. High School, June 7, at 3 p.m.
York County – Grafton Middle School/High School Complex, June 27, 9 a.m.

INTRODUCTION

The purpose of this document is to establish those exercise evaluation areas and corresponding extent-of-play parameters expected to be demonstrated during the out-of-sequence EAC demonstration to be conducted on June 6-7, 2007 and June 27, 2007. These evaluation areas have been developed through reviews of past exercises, associated plans and procedures, the proposed exercise scenario, applicable DHS guidance documents, and extensive discussions with DHS representatives.

All demonstrations will be conducted in accordance with established plans and procedures, except as noted for specific exercise evaluation areas described herein.

EAC demonstration activities will be initiated following a controller inject to the EAC coordinator stating that a (simulated) Site Area Emergency was declared by the utility and the Emergency Services Coordinator has decided to open an EAC. The DHS Evaluator (located at the EAC) will review those actions taken by the EAC Coordinator in response to the notification. The EAC Coordinator will, in turn, verify notification (simulated) of the appropriate EAC representatives, i.e., the Red Cross, health department, sheltering staff, Radiological Officer and monitoring and decontamination staff in the designated jurisdiction.

The DHS Evaluator will be present at each EAC to observe actions taken by the EAC Coordinator, the Radiological Officer, the Monitoring and Decontamination staff, and the Red Cross and sheltering personnel.

Actions will be taken in accordance with each jurisdiction's county RERP and procedures.

All EAC personnel may be prepositioned and actual facility setup (signs, equipment, etc.) may be begun prior to the start of the evaluated demonstration.

EVALUATION AREA 1 – EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.e – Equipment and Supplies to Support Operations

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)

Criterion Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

City of Newport News
New Kent County
York County

Extent of Play:

Participating jurisdictions will provide their respective KI inventories for the general public at the EACs as well as the list of previously distributed KI.

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

This leakage testing of the SRDs and quantities of dosimetry were verified through documentation submitted in the Annual Letter of Certification. NOTE: The dosimeters leakage tests were submitted to DHS in the 2006 Annual Letter of Certification dated January 31, 2007.

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

Outstanding Issues:

None

EVALUATION AREA 3 – PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1 – The OROs 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.

Evaluation area Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

City of Newport News
New Kent County
York County

Extent of Play:

Appropriate emergency workers in the host and 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.

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

Re-demonstration is agreed upon if necessary.

Outstanding Issues:

None

Sub-element 3.b – Implementation of KI Decision

Criterion 3.b.1 – KI and appropriate instructions are available should a decision to recommend the 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, J. 10. e)

Criterion Selected: Yes

Offsite Response Organizations:

State: Virginia Department of Health

An appropriate health official from the Department of Health will determine whether and/or when to authorize the administration of KI to emergency workers.

Risk Jurisdictions:

City of Newport News
New Kent County
York County

Extent of Play:

The participating jurisdictions will open and demonstrate their EAC setups. As part of this demonstration, the health department in Newport News City, New Kent County and York County will demonstrate the implementation of the KI decision for the general public and the implementation of the KI distribution plan and health annex. Newport News City, New Kent County and York County will provide their respective KI inventories for the general public at the EACs as well as the list of previously distributed KI.
At the EACs, these emergency workers will provide health services (triage and/or basic 1st aid) to the emergency workers and evacuees, and if the situation degrades to a level requiring the prophylactic issuance of Potassium Iodide (KI), perform the administration and distribution of the tablets (simulated). The process for distribution will be as follows:

- People entering the facility must first follow EAC protocol for monitoring and decontamination, as necessary.
- People requesting potassium iodide should then be given a clipboard with a recipient information sheet and a receipt form. They should be told to read the sheet and sign the form. An area for them to sit while they read the form should be available at the sites.
- After they have read the sheet and signed the form, they will go to the next table, where a health department representative will collect the form and ask if they have any questions. He/She will then give them one tablet for each member of their family, noting on the receipt form how many he/she gave them. If desired, he/she may tape the tablets to the patient information form.
- Minimal staffing at each site will be two clerical workers, a nurse, and one environmental health worker. Additional staff members are available for backup for each site.

Emergency workers, as appropriate, will receive KI according to their procedures and will be briefed or given information on its use. Included organizations will have the capacity 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.

Outstanding Issues:

None

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.

Evaluation area Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

City of Newport News
New Kent County
York County

Extent of Play:

Each 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.*** Each 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. Sheltering staff will demonstrate the registration process after the evacuees are monitored and found to be clean from contamination.

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.

Evaluation area Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

City of Newport News
New Kent County
York County

Extent of Play:

Each 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 two vehicles will be monitored. **The decontamination of one vehicle will be demonstrated through interview.**

During vehicle monitoring, air filters will be monitored through interview. Appropriate equipment used for decontamination will be available.

Simulated contaminated wastewater need not be contained or stored.

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.

Evaluation area Selected: Yes

Offsite Response Organizations:

Risk Jurisdictions:

City of Newport News
New Kent County
York County

Extent of Play:

NOTE: 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

APPENDIX 4:
Exercise Scenario

This appendix contains a summary of the simulated sequence of events used as the basis for invoking emergency response actions by Offsite Response Organizations (OROs) during the Surry Power Station (SPS) exercise on June 26, 2007.

The exercise scenario was submitted by the Commonwealth of Virginia. The scenario was approved by the Federal Emergency Management Agency (FEMA) Region III on May 29, 2007.

The summary presented in this appendix is a compilation of exercise scenario materials submitted by the Commonwealth of Virginia and Dominion Generation. Events at the plant site that are not pertinent to the ORO response have been omitted.

Surry Power Station
Exercise Scenario Narrative Summary

An emergency exercise is scheduled for conduct at the Surry Power Station. For the purposes of the exercise, Unit 1 is designated as the affected unit.

Unit 1 is operating at 100% full power equilibrium conditions with one containment spray pump and one charging pump tagged out. No other equipment is out of service.

Unit 2 is operating at 100% full power equilibrium conditions with no equipment out of service.

Exercise play begins at 0800 hours.

"Loose Parts" alarm is received at 0804 and the letdown radiation monitor begins to increase due to fuel damage. By 0808 reactor coolant system activity, as indicated by the letdown radiation monitor, has increased to the **Alert** classification.

Comment [ELH1]: ...of what reference document?

At 0815, a first aid emergency is reported. The first aid team will be dispatched and transport of a contaminated injured individual to an off-site medical facility will be required. The station ambulance does not initially require assistance from off-site ambulance for transport of victim.

A charging pump trips at 0839 due to a dropping register around the breakers red closed light shorting to ground. Letdown will isolate when the charging pump trips.

The appropriate letdown isolation valve fails closed at 0902 due to a solenoid operated valve failure inside of containment.

At 0956, an electrical fault occurs on an emergency bus. Its associated emergency diesel generator will start, but does not load onto the bus due to the electrical fault. The emergency bus

will be de-energized resulting in the loss of one train of safety related equipment. The one remaining charging pump is now unavailable due to this partial loss of power. This establishes conditions for declaration of a **Site Area Emergency**.

A small break LOCA occurs at 1053 causing safety injection to actuate. If the Emergency Response Organization has not returned a charging pump to service, conditions will exist for classification of a **General Emergency**. When operators attempt to secure the reactor coolant pumps in accordance with emergency operating procedures it fails to secure. An operator must be sent locally to trip the breaker in order to secure the pump. This will not occur until high head safety injection flow has been established to the core.

At 1113, the small break Loss of Cooling Accident (LOCA) degrades into a large break accident. When the "B train" inside and outside recirculation spray pumps start, both will immediately trip/fail. Note: The "A train" is de-energized as a result of the loss of the emergency bus; therefore, no containment or recirculation spray is available to depressurize the containment structure after the LOCA.

At 1117, a weld leak occurs on the containment drain line outside of containment. The inside containment isolation valve for this flow path, although indicating fully closed, is actually partially open allowing a release path to the environment from inside of containment. Classification of a **General Emergency** should be made if a general emergency was not applicable to the events associated with the small break LOCA which occurred at 1053 (charging pump was returned to service prior to 1053).

The escalation through the applicable emergency classifications provides activities designed to exercise both on-site and off-site response organizations. Sufficient time is permitted to allow the response organizations to perform the required assessment and appropriate response actions.

The exercise will terminate at 1330.

APPENDIX 5:
Planning Issues

This appendix contains the resolution of Planning Issues assessed during previous exercises at Surry Power Station (SPS). Planning Issues are issues identified in an exercise or drill that do not involve participant performance, but rather involve inadequacies in the plan or procedures. Planning Issues are required to be corrected through the revision and update of the appropriate State and local radiological emergency response plans (RERPs) and/or procedures in accordance with the following schedule:

- Within 120 days of the date of the exercise/drill when the Planning Issue is directly related to protection of the public health and safety.

- During the annual plan review and update (reported in the Annual Letter of Certification) when the Planning Issue does not directly affect the public health and safety. However, when the date for the annual plan review and update is imminent and the responsible organization does not have sufficient time to make the necessary revisions in the plans and/or procedures, the revised portion of the plans and/or procedures should be submitted in the subsequent annual plan review and update and reported in the Annual Letter of Certification.

Any requirement for additional training of responders to radiological emergencies necessitated by the revision and update of the plans and/or procedures must be completed within the timeframes described above in order for the Planning Issue to be considered resolved.

PRIOR PLANNING ISSUES RESOLVED

State Emergency Operations Center

Issue Number: 62-06-2.a.1-P-01

Condition: The Commonwealth of Virginia uses the Environmental Protection Agency (EPA) "lifesaving or protective of large populations" dose limit (25 rem) as the dose limit for all of their emergency workers. This is contrary to the guidance delineated by the EPA on the use of a graduated dose limit system for emergency workers under various conditions.

Corrective Action Demonstrated: The Commonwealth of Virginia RERP has been revised and Appendix 7 and 8 now conform to EPA guidance for emergency worker exposure control.

State Emergency Operations Center

Issue Number: 62-06-2.a.1-P-02

Condition: Justification and selection criteria for lifesaving actions have not been specified for emergency workers to exceed administrative exposure limits.

In addition, no specific emergency response position at the State level has been tasked with the responsibility to authorize State emergency workers to exceed the administrative limits (turnback and lifesaving).

Also, at the local level, the Emergency Operations Center Radiological Officer has the authority to approve exposure in excess of the turnback limit. There is no specific emergency response position that has been assigned the authority to authorize exposures above the lifesaving limit (corresponding to the maximum EPA dose limit of 25 rem).

Corrective Action Demonstrated: The York County, James City County, and Isle of Wight County procedures (Appendix 6, page 6-4, respectively) have been revised to more clearly define persons who are authorized to allow emergency workers to exceed administrative dose limits.

State Emergency Operations Center

Issue Number: 62-06-2.d.1-P-03

Condition: Virginia Department of Health/Radiological Health Program (VDH/RHP) Procedures have not been updated to reflect the 1998 Food and Drug Administration (FDA) guidelines for radioactive contamination of human food and animal feeds.

Corrective Action Demonstrated: Virginia Department of Health, Division of Radiological Health (VDH/DRH), Emergency Plan Implementing Procedure (EPIP) Appendix 17.8 Post Plume Projection Procedure now cites the 1998 Food and Drug Administration (FDA) guidelines for radioactive contamination of human food and animal feeds.

State Field Monitoring Team

Issue Number: 62-06-4.a.3-P-04

Condition: Existing procedures conflict with regard to bagging the air sample for transport to a laboratory.

Appendix 17.1, "Monitoring and Sampling Team Procedure", paragraph 2.4.2, indicates the need to double bag the sample, with the "paper work" being placed

in the outside bag. However, paragraph 18 of Attachment 12, Appendix 17.1, "Air Sampling Procedure" stipulates opening of the bag containing the cartridge and placing the Air Sample Report Form (which constitutes the "paper work") inside that bag.

Corrective Action Demonstrated: Procedure Appendix 17.1, Revision date 09/1/2006 has addressed the conflict related to the bagging of samples and the placement of the paperwork. This was demonstrated during the North Anna exercise on 12/05/2006. The State Field Team 1 bagged the particulate paper filter and the iodine cartridge separately in 4x6" bags. Each bag was labeled. They then clipped both the bags together and placed them in a larger bag 9x12". The Air Sampling Report form with the sample collection data was placed in the larger bag which was then sealed with a "do not tamper" label.

Isle of Wight County Staging Area and Traffic Control Point/Access Control Point

Issue Number: 62-06-1.a.1-P-05

Condition: The Isle of Wight County Radiological Emergency Response Plans and procedures do not specify the location of possible staging area(s).

Corrective Action Demonstrated: All procedures for activation were included in the Isle of Wight Radiological Emergency Response Plan. This included the location of the Staging Area at the Smithfield Fire Station at 310 Institute Street addressing the previous ARCA 62-06-1.a.1-P-05. The location of the Staging Area was included in procedures for the County Emergency Coordinator (RERP Appendix 1), School Superintendent (RERP Appendix 3), Law Enforcement Representative (RERP Appendix 4), Route Alerting procedures (RERP Appendix 4, Attachment 5), Radiological Officer (RERP Appendix 6), and Field Monitoring Teams (RERP Appendix 7). All staff in the EOC was also well aware of the location of the Staging Area.

Isle of Wight County Field Monitoring Team

Issue Number: 62-06-4.a.1-P-06

Condition: The Field Monitoring Procedure (Appendix 7) in the Isle of Wight County Radiological Emergency Response Plan (RERP) does not specify the type (thickness) of plastic bag to be used to wrap the radiological survey instrument probe.

Corrective Action Demonstrated: The Isle of Wight County RERP, Appendix 7, pages 7-1 and 7-2, has been revised and now more clearly specifies the type of cover to be used to wrap the radiological survey instrument probe.

APPENDIX 6:
Prior Issues Resolved for ARCAs Assessed at Other Exercises

This appendix contains the resolution of one Area Requiring Corrective Action (ARCAs) that was assessed during the North Anna exercise on December 5, 2006.

State Emergency Operations Center (Virginia Department of Health/Radiological Health Program)

Issue No.: 41-06-2.b.1-P-03

Condition: The Virginia Department of Health (VDH) implementing procedure Appendix 17.2 states that a Protective Action Recommendation (PAR) must be given to the Virginia Department of Emergency Management (VDEM) within 15 minutes from the time the licensee declares a General Emergency (GE). However, this time requirement is not specified in federal regulations nor is it specified in federal guidelines. The licensee requirement for informing the offsite authorities of the GE declaration is within 15 minutes of that declaration and must be accompanied by a PAR (which is the minimum that should be implemented by the offsite authorities unless conditions exist that would make implementation of the PAR more risky than the dose savings from the implementation).

Corrective Action Demonstrated: The Virginia Department of Health, Division of Radiological Health (VDH/DRH), Emergency Plan Implementing Procedures (EPIP) has been revised to eliminate the requirement to provide a Protective Action Recommendation to Virginia Department of Emergency Management (VDEM) within 15 minutes after the utility declares a General Emergency.