

Surry Power Station  
Surry, Virginia  
After Action Report/Improvement Plan  
Exercise Date – October 26, 2021  
Radiological Emergency Preparedness (REP) Program



FEMA

*Published January 7, 2022*

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## Surry Power Station

# After Action Report/Improvement Plan

*Published January 7, 2022*

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## EXECUTIVE SUMMARY

On October 26, 2021, a full participation Plume Exposure Pathway exercise was conducted and evaluated for the 10-Mile Emergency Planning Zone (EPZ) around the Surry Power Station (SPS) by the U.S. Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), Region 3. The previous full-scale Plume Exercise at this site was evaluated on July 23, 2019.

Out-of-Sequence demonstrations were conducted during the weeks of August 17, 2021 and August 23, 2021. The purpose of the Exercise and Out-of-Sequence demonstrations was to assess the capabilities of State, counties, and local jurisdictions to implement Radiological Emergency Response Plans (RERP) and Procedures to protect the property and lives of residents and transients in the event of an emergency at the Surry Power Station. The findings in this report are based on the evaluations of the Federal evaluation team, with final determinations made by the FEMA, Region 3 Regional Assistance Committee (RAC) Chairperson, and approved by FEMA Headquarters. These reports are provided to the Nuclear Regulatory Commission (NRC) and participating States. State and local governments utilize the findings contained in these reports for the purposes of planning, training, and improving emergency preparedness.

The evaluation of this exercise determined that there were no Level 1 Findings, one Level 2 Finding and three Plan Issues. Two Plan Issues were resolved in September 2021.

A Level 1 Finding is defined by the FEMA Radiological Emergency Preparedness Program Manual as follows: "An observed or identified inadequacy of organizational performance in an exercise that could cause a determination that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a Nuclear Power Plant (NPP)."

A Level 2 Finding is defined 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."

Finally, a Plan Issue is: "An observed or identified inadequacy in the ORO's emergency plan/implementing procedures, rather than that of the ORO's performance."

FEMA wishes to acknowledge the efforts of the many individuals in the Commonwealth of Virginia; the six risk jurisdictions of City of Newport News, City of Williamsburg, Isle of Wight County, James City County, Surry County and York County, and the support jurisdictions of City of Poquoson and New Kent County. 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 the exercise.

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

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

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

Section 4 of this report entitled "Demonstrated Strengths" includes exemplary performances that were demonstrated during the exercise and information on best practices that were observed.

Section 5 of this report entitled "Conclusion" presents a summary of the findings and performance of the evaluated agencies.

The appendices, present supplementary information that is relevant to the exercise:

- Appendix A – Exercise Timeline. A table that depicts the times when an event or notifications were noted at participating agencies and locations.
- Appendix B – Exercise Evaluators and Team leaders. A table listing the evaluator names, organizations, and responsibilities of the evaluators and management.
- Appendix C – Acronyms and Abbreviations. An alphabetized table defining the formal names used in this report.
- Appendix D – Extent of Play Agreement

## SECTION 1: EXERCISE OVERVIEW

### 1.1 Exercise Details

**Exercise Name**

Plume 2021-10-26

**Type of Exercise**

Plume

**Exercise Date**

October 26, 2021

**Program**

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

**Scenario Type**

Radiological Release

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### 1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Surry Power Station (SPS) exercise:

#### **State Jurisdictions**

##### **Commonwealth of Virginia**

- Virginia 211
- Virginia Cooperative Extension
- Virginia Department of Agriculture & Consumer Services
- Virginia Department of Emergency Management
- Virginia Department of Emergency Management Joint Information Center (JIC)
- Virginia Department of Emergency Management Situational Awareness Unit (SAU)
- Virginia Department of Health, Office of Radiological Health (VHD/ORH )
- Virginia Department of Social Services
- Virginia Department of Transportation (VDOT)
- Virginia Emergency Support Team (VEST)
- Virginia Information Technologies Agency
- West Virginia Emergency Management Division

#### **Risk Jurisdictions**

##### **City of Newport News**

- City of Newport News Manager's Office
- City of Newport News Division of Emergency Management
- City of Newport News Fire Department
- City of Newport News Health Department
- City of Newport News Human Services
- City of Newport News Police Department
- City of Newport News Public Works Department
- City of Newport News Sheriff's Office
- City of Newport News Transportation Department



- City of Newport News Waterworks
- Hampton & Peninsula Health Districts
- Amateur Radio Emergency Services (ARES)
- U.S. Department of Defense – Joint Base Langley Eustis

**City of Williamsburg**

- City of Williamsburg Community Emergency Response Team (CERT)
- City of Williamsburg Emergency Management
- City of Williamsburg Fire Department
- City of Williamsburg Human Services
- City of Williamsburg Manager's Office
- City of Williamsburg Police Department
- City of Williamsburg Public Works and Utilities Department
- City of Williamsburg Radio Amateur Civil Emergency Service (RACES)
- Colonial Williamsburg Foundation
- Hanover Fire and Emergency Services
- King William County Fire and Emergency Services
- Riverside Health System
- Riverside Health System, Marketing and Business Development
- William and Mary Public University
- Williamsburg-James City County Public Schools
- Williamsburg City Council (WCC)

**Isle of Wight County**

- Isle of Wight Amateur Radio Emergency Services/Radio Amateur Civil Emergency Service (ARES/RACES)
- Isle of Wight County Administration
- Isle of Wight County Department of Emergency Services
- Isle of Wight County Department of Public Works, Transportation Division
- Isle of Wight County Emergency Communications Center
- Isle of Wight County Information Technology
- Isle of Wight County Office of Virginia Cooperative Extension
- Isle of Wight County Schools
- Isle of Wight County Sheriff's Office
- Isle of Wight County Social Services Department
- Portsmouth Fire Department, Hazardous Material Team
- Riverside Regional Medical Center
- Virginia Health Department
- Western Tidewater Health District
- Western Tidewater Radio Association ARES/RACES

**James City County**

- James City County Administration
- James City County Attorney
- James City County Department of General Services

- James City County Department of Human Resources
- James City County Department of Information Resources Management
- James City County Department of Parks & Recreation
- James City County Department of Social Services
- James City County Emergency Communications
- James City County Emergency Management
- James City County Emergency Medical Services
- James City County Fire Department
- James City County Police Department
- James City County Public Information
- James City County Service Authority
- National Park Service
- Radio Amateur Civil Emergency Service (RACES)
- Virginia Cooperative Extension
- Virginia Department of Health
- Williamsburg-James City County Public Schools

#### **Surry County**

- Radio Amateur Civil Emergency Service (RACES)
- Surry County Agriculture Department
- Surry County Board of Supervisors
- Surry County Department of Emergency Services
- Surry County Health Department
- Surry County School Board
- Surry County Sheriff's Office
- Surry County Social Services Department

#### **York County**

- American Red Cross
- York County Department of Community Services
- York County Department of Emergency Management
- York County Department of Social Services
- York County Emergency Communications Center
- York County Emergency Medical Services
- York County Fire and Life Safety
- York County Fire Department
- York County Office of Administration
- York County Police Department
- York County Public Affairs
- York County Public Information Office
- York County Public Safety
- York County Radio Amateur Civil Emergency Service (RACES)
- York County School Division
- York County Sheriff's Office
- Virginia Department of Health

## **Support Jurisdictions**

### **City of Poquoson**

- City of Poquoson City Manager's Office
- City of Poquoson Emergency Management
- City of Poquoson Fire and Rescue
- City of Poquoson Police Department
- City of Poquoson Public School Division
- City of Poquoson Public Works
- Poquoson Community Emergency Response Team (CERT)

### **New Kent County**

- New Kent County Department of Social Services
- New Kent County Emergency Management
- New Kent County Emergency Support Team
- New Kent County Sheriff's VA
- New Kent County Sheriff's VA Office of Communications/911
- New Kent Fire-Rescue
- Virginia Department of Health (Chickahominy Health District)
- Virginia Technical College Cooperative Extension (Agriculture)

## **Private/Volunteer Organizations**

- American Red Cross
- Dominion Energy
- Henrico County Division of Fire
- Radio Amateur Civil Emergency Services (RACES)
- Riverside Regional Medical Center
- Virginia Commonwealth University (VCU) Hospital

## **Federal Organizations**

- Federal Emergency Management Agency

## SECTION 2: EXERCISE DESIGN SUMMARY

### 2.1 Exercise Purpose and Design

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

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

- A. Taking the lead in offsite emergency planning and in the review and evaluation of Radiological Emergency Response Plans (RERPs) and procedures developed by State and local governments;
- B. Determining whether such plans and procedures can be implemented based on observation and evaluation of exercises conducted by State and local governments;
- C. Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated December 7, 2015 (Federal Register, Vol. 81, No. 57, March 24, 2016); and
- D. Coordinating the activities of the following Federal agencies with responsibilities in the radiological emergency planning process:
  - U.S. Department of Commerce
  - U.S. Nuclear Regulatory Commission,
  - U.S. Environmental Protection Agency
  - U.S. Department of Energy
  - U.S. Department of Health and Human Services
  - U.S. Department of Transportation
  - U.S. Department of Agriculture
  - U.S. Department of the Interior
  - U.S. Food and Drug Administration

Representatives of these agencies serve on the Region 3 Regional Assistance Committee (RAC), which is Chaired by FEMA. A REP Plume Exposure Pathway Exercise was conducted during the week of October 26, 2021 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 the 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 evaluation team, with

final determinations made by the FEMA Region 3 RAC Chairperson and approved by FEMA Headquarters.

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

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

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, "November 1980
- Radiological Emergency Preparedness Program Manual, January 2016

## **2.2 Emergency Planning Zone Description: Surry Power Station**

The SPS, located on the James River in Surry County, Virginia, is owned and operated by Dominion Energy. 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 of 1973 and began commercial operation in May 1973. An Independent Spent Fuel Storage Installations at SPS is used to store the spent fuel produced by the two units. The spent fuel is stored in sealed dry storage surface casks placed on concrete slabs within the fenced-in area onsite.

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

The topography within 10-miles of the site covers parts of Surry, Isle of Wight, York, and James City counties and parts of the independent 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 along with the cities of Newport News and Williamsburg are more urban.

The 10-mile EPZ contains an estimated residential population of 139,367. 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.

The 50-mile Ingestion Pathway Zone adds an additional 28 Ingestion jurisdictions. The population of the 50-mile is approximately 2,297,820. The 50-mile Ingestion Pathway Zone extends into North Carolina.

The tip of the peninsula, north of the site, is very marshy and nearly divided from the remainder of the peninsular 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 about the U.S. Coast Guard and

U.S. Geological Survey mean sea-level datum at Hampton Roads, Virginia. Beyond the site boundaries, elevation within a five-mile radius range from 40 to 60 feet. Farther away, the countryside is generally flat, with few elevations higher than 200 feet within 50-miles. Much of the region is characterized by marshes, extensive swamps, small streams, and pocosins. Water tables are very near the surface throughout the entire area, accounting for the large amount of surface water. Drainage throughout the area is toward Hampton Roads and the mouth of the Chesapeake Bay.

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

A total of 71 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 public address system. Exceptions for these areas must be granted by FEMA.

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

The objectives of the 2021 Surry Power Station (SPS) Plume Exercise were to demonstrate the capabilities of State and local emergency management agencies to mobilize emergency management and emergency response personnel, to activate emergency operations centers and support facilities, and to protect the health, lives, and property of the citizens residing within the 10-mile Emergency Planning Zone (EPZ).

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

An essential capability of the Radiological Emergency Preparedness Program (REPP) is to evacuate, monitor and decontaminate, if necessary, and provide temporary care and shelter to displaced residents from the EPZ. The ability of the risk/support counties to mobilize personnel and resources to establish reception, monitoring and decontamination, and mass care centers was demonstrated.

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

### **2.4 Scenario Summary**

The Plume Exposure Pathway exercise scenario started with both Surry Power Station (SPS) Unit 1 and 2 reactors operating at 100% power. The weather forecast called for an approximate wind speed from 10-12 mph and wind direction from 295 degrees.

At 8:12AM, an accidental control rod dropped. An Alert Emergency Classification Level (ECL) was declared at 8:14AM due to the control rod drop causing Unit 1 ramp to < 75% reactor power. Notifications were made to the offsite response organizations.

At 9:30AM, Unit 1 reactor trips, and plant conditions continue to degrade with loss of coolant; safety injection occurs. A Site Area Emergency is declared at 9:33AM due to conditions worsening. Offsite response organization may make precautionary protective actions based on plans and procedures.

At 10:11AM, a General Emergency is declared. A Protective Action Recommendation is made by the licensee to evacuate 0-2 miles all sectors and 2-5 miles in Sectors E, F, and G.

At 10:50AM, a leak at a flange occurs, resulting in a radiological release through safeguards to the environment. A revised Protective Action Recommendation is made by the licensee to evacuate 0-5 miles in all sectors and 5-10 miles in sectors E, F, and G with recommended Potassium Iodide (KI) for the general public.

At 11:03AM, the Commonwealth of Virginia and off-site response organizations take appropriate protective actions based on plant conditions and data collected by the field monitoring teams.

At approximately 2:00PM the exercise will terminate.



## SECTION 3: ANALYSIS OF CAPABILITIES

### 3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluations of all jurisdictions and locations that participated in the October 26, 2021 biennial Plume Exposure Pathway 10-mile Emergency Planning Zone (EPZ) Radiological Emergency Preparedness (REP) Exercise. These exercises were conducted to demonstrate the ability of the Offsite Response Organizations of State and local government to protect the health and safety of the public in the 10-mile Emergency Planning Zone surrounding the Surry Power Station.

Each jurisdiction and functional entity were evaluated based on 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 can be found in the Exercise Plan.

### 3.2 Summary Results of Exercise Evaluation

The matrix presented in Table 3.1, on the following pages, presents the status of the exercise evaluation area criteria from the REP Program Manual that was scheduled for demonstration during this 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 using the following letters:

- (D) Demonstrated Strength: an observed action, behavior, procedure, and/or practice that is worthy of special notice and positive recognition, note: this is already a common practice that many Regions employ when identifying demonstrated strengths.
- (L1) Level 1 Finding: an observed or identified inadequacy or organizational performance in an exercise that could cause a determination that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in event of a radiological emergency to protect the health and safety of the public living near a Nuclear Power Plant (NPP).
- (L2) Level 2 Finding: an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety.
- (P) Plan Issue: an observed or identified inadequacy in the offsite response organizations' (OROs) emergency plan/implementation procedures, rather than that of the ORO's performance.
- (N) Not Demonstrated: term applied to the status of a REP exercise Evaluation Area Criterion indicating that the ORO, for a justifiable reason, did not demonstrate the Evaluation Area Criterion, as required in the extent-of-play agreement or at the two-year or eight-year interval required in the FEMA REP Program Manual.
- (M) Met: The jurisdiction or functional entity performed all activities under the Demonstration Criterion to the level required in the Extent-of-Play Agreement, with no Level 1 or Level 2 Findings assessed under that criterion in the current exercise and no unresolved prior Level 2 Findings.



**Table 3.1 - Exercise Evaluation by Classification**

Date: October 26, 2021 Site: Surry Power Station			
Location	Criteria Title	Criteria	Classification
Corporate Emergency Response Center (CERC) Virginia Department of Emergency Management (VDEM)	Plume Phase Field Measurement and Analyses	2.a.1	P
James City County	Emergency Information & Instructions for the Public/Media	5b1	L2
James City County	Monitoring, Decontamination and Registration of Evacuees	6a1	P
York County	Monitoring, Decontamination and Registration of Evacuees	6a1	P

**Table 3.2 – Exercise Evaluation – Criteria Met**

Date: October 26, 2021		
Site: Surry Power Station		
Location	Criteria Title	Criteria
City of Newport News Denbigh High School	Implementation of PADs for Schools	3.c.2
City of Newport News EOC	Mobilization	1.a.1
City of Newport News EOC	Direction and Control	1.c.1
City of Newport News EOC	Communications Equipment	1.d.1
City of Newport News EOC	Equipment and Supplies to Support Operations	1.e.1
City of Newport News EOC	PADs for Disabilities and Access Functional Needs People	2.c.1
City of Newport News EOC	Implementation of Emergency Worker Exposure Control	3.a.1
City of Newport News EOC	Implementation of PADs for Disabilities & Access Functions Needs People	3.c.1
City of Newport News EOC	Implementation of PADs for Schools	3.c.2
City of Newport News EOC	Implementation of Traffic & Access Control	3.d.1
City of Newport News EOC	Impediments to Evacuation	3.d.2
City of Newport News EOC	Emergency Information & Instructions for the Public/Media	5.b.1
City of Newport News EACMDS	Implementation of Emergency Worker Exposure Control	3.a.1
City of Newport News EACMDS	Monitoring, Decontamination and Registration of Evacuees	6.a.1
City of Newport News EWMDs	Communications Equipment	1.d.1
City of Newport News EWMDs	Implementation of Emergency Worker Exposure Control	3.a.1
City of Newport News EWMDs	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6.b.1
City of Newport News MCC	Communications Equipment	1.d.1
City of Newport News MCC	Implementation of KI Decision for Institutionalized Individuals and the Public	3.b.1
City of Newport News MCC	Temporary Care of Evacuees	6.c.1
City of Newport News RC	Facilities	1.b.1
City of Newport News RC	Direction and Control	1.c.1
City of Newport News RC	Implementation of Emergency Worker Exposure Control	3.a.1
City of Newport News RC	Monitoring, Decontamination and Registration of Evacuees	6.a.1
City of Newport News School District	Implementation of PADs for Schools	3.c.2
City of Newport News TCP/ACP	Communications Equipment	1.d.1
City of Newport News TCP/ACP	Equipment and Supplies to Support Operations	1.e.1
City of Newport News TCP/ACP	Implementation of Emergency Worker Exposure Control	3.a.1
City of Newport News TCP/ACP	Implementation of Traffic & Access Control	3.d.1
City of Newport News TRNSDEP	Communications Equipment	1.d.1
City of Newport News TRNSDEP	Implementation of Emergency Worker Exposure Control	3.a.1
City of Newport News TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3.c.1
City of Poquoson EOC	Mobilization	1.a.1
City of Poquoson EOC	Direction and Control	1.c.1

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City of Poquoson EOC	Communications Equipment	1.d.1
City of Poquoson EOC	Equipment and Supplies to Support Operations	1.e.1
City of Poquoson EOC	Emergency Information & Instructions for the Public/Media	5.b.1
City of Poquoson MCC	Communications Equipment	1.d.1
City of Poquoson MCC	Implementation of KI Decision for Institutionalized Individuals and the Public	3.b.1
City of Poquoson MCC	Temporary Care of Evacuees	6.c.1
City of Williamsburg EMS	Equipment and Supplies to Support Operations	1.e.1
City of Williamsburg EMS	Implementation of Emergency Worker Exposure Control	3.a.1
City of Williamsburg EMS	Transportation and Treatment of Contaminated Injured Individuals	6.d.1
City of Williamsburg EOC	Mobilization	1.a.1
City of Williamsburg EOC	Direction and Control	1.c.1
City of Williamsburg EOC	Communications Equipment	1.d.1
City of Williamsburg EOC	Equipment and Supplies to Support Operations	1.e.1
City of Williamsburg EOC	PADs for Disabilities and Access Functional Needs People	2.c.1
City of Williamsburg EOC	Implementation of Emergency Worker Exposure Control	3.a.1
City of Williamsburg EOC	Implementation of PADs for disabilities & access/functional needs people	3.c.1
City of Williamsburg EOC	Implementation of PADs for Schools	3.c.2
City of Williamsburg EOC	Implementation of Traffic & Access Control	3.d.1
City of Williamsburg EOC	Impediments to Evacuation	3.d.2
City of Williamsburg EOC	Emergency Information & Instructions for the Public/Media	5.b.1
City of Williamsburg FMT	Mobilization	1.a.1
City of Williamsburg FMT	Communications Equipment	1.d.1
City of Williamsburg FMT	Equipment and Supplies to Support Operations	1.e.1
City of Williamsburg FMT	Implementation of Emergency Worker Exposure Control	3.a.1
City of Williamsburg FMT	Plume Phase Field Measurement, Handling, & Analyses	4.a.3
City of Williamsburg TCP/ACP	Communications Equipment	1.d.1
City of Williamsburg TCP/ACP	Equipment and Supplies to Support Operations	1.e.1
City of Williamsburg TCP/ACP	Implementation of Emergency Worker Exposure Control	3.a.1
City of Williamsburg TCP/ACP	Implementation of Traffic & Access Control	3.d.1
City of Williamsburg TRNSDEP	Communications Equipment	1.d.1
City of Williamsburg TRNSDEP	Implementation of Emergency Worker Exposure Control	3.a.1
City of Williamsburg TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3.c.1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Mobilization	1.a.1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Direction and Control	1.c.1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Communications Equipment	1.d.1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Equipment and Supplies to Support Operations	1.e.1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Emergency Worker Exposure Control Decisions	2.a.1

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Corporate Emergency Response Center (VDH/ORH/VDEM)	Accident Assessment and PARs for the Emergency Event	2.b.1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Field Team Management	4.a.2
Isle of Wight County EARA 5-10	Communications Equipment	1.d.1
Isle of Wight County EARA 5-10	Equipment and Supplies to Support Operations	1.e.1
Isle of Wight County EARA 5-10	Implementation of Emergency Worker Exposure Control	3.a.1
Isle of Wight County EARA 5-10	Activation of the Exception Area ANS	5.a.4
Isle of Wight County EMS	Equipment and Supplies to Support Operations	1.e.1
Isle of Wight County EMS	Implementation of Emergency Worker Exposure Control	3.a.1
Isle of Wight County EMS	Transportation and Treatment of Contaminated Injured Individuals	6.d.1
Isle of Wight County EOC	Mobilization	1.a.1
Isle of Wight County EOC	Direction and Control	1.c.1
Isle of Wight County EOC	Communications Equipment	1.d.1
Isle of Wight County EOC	Equipment and Supplies to Support Operations	1.e.1
Isle of Wight County EOC	PADs for Disabilities and Access Functional Needs People	2.c.1
Isle of Wight County EOC	Implementation of Emergency Worker Exposure Control	3.a.1
Isle of Wight County EOC	Implementation of PADs for disabilities & access/functional needs people	3.c.1
Isle of Wight County EOC	Implementation of PADs for Schools	3.c.2
Isle of Wight County EOC	Implementation of Traffic & Access Control	3.d.1
Isle of Wight County EOC	Impediments to Evacuation	3.d.2
Isle of Wight County EOC	Activation of the Prompt Alert & Notification System	5.a.1
Isle of Wight County EOC	Activation of the Exception Area ANS	5.a.4
Isle of Wight County EOC	Emergency Information & Instructions for the Public/Media	5.b.1
Isle of Wight County FMT	Mobilization	1.a.1
Isle of Wight County FMT	Communications Equipment	1.d.1
Isle of Wight County FMT	Equipment and Supplies to Support Operations	1.e.1
Isle of Wight County FMT	Implementation of Emergency Worker Exposure Control	3.a.1
Isle of Wight County FMT	Plume Phase Field Measurement, Handling, & Analyses	4.a.3
Isle of Wight County PARA 0-5	Communications Equipment	1.d.1
Isle of Wight County PARA 0-5	Equipment and Supplies to Support Operations	1.e.1
Isle of Wight County PARA 0-5	Implementation of Emergency Worker Exposure Control	3.a.1
Isle of Wight County PARA 0-5	Activation of the Prompt Alert & Notification System	5.a.1
Isle of Wight County TCP/ACP	Communications Equipment	1.d.1
Isle of Wight County TCP/ACP	Equipment and Supplies to Support Operations	1.e.1
Isle of Wight County TCP/ACP	Implementation of Emergency Worker Exposure Control	3.a.1
Isle of Wight County TCP/ACP	Implementation of Traffic & Access Control	3.d.1
Isle of Wight County TRNSDEP	Communications Equipment	1.d.1
Isle of Wight County TRNSDEP	Implementation of Emergency Worker Exposure Control	3.a.1
Isle of Wight County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3.c.1
James City County EARA 5-10	Communications Equipment	1.d.1
James City County EARA 5-10	Equipment and Supplies to Support Operations	1.e.1
James City County EARA 5-10	Implementation of Emergency Worker Exposure Control	3.a.1

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James City County EARA 5-10	Activation of the Exception Area ANS	5.a.4
James City County EOC	Mobilization	1.a.1
James City County EOC	Direction and Control	1.c.1
James City County EOC	Communications Equipment	1.d.1
James City County EOC	Equipment and Supplies to Support Operations	1.e.1
James City County EOC	PADs for Disabilities and Access Functional Needs People	2.c.1
James City County EOC	Implementation of Emergency Worker Exposure Control	3.a.1
James City County EOC	Implementation of PADs for disabilities & access/functional needs people	3.c.1
James City County EOC	Implementation of PADs for Schools	3.c.2
James City County EOC	Implementation of Traffic & Access Control	3.d.1
James City County EOC	Impediments to Evacuation	3.d.2
James City County EOC	Activation of the Prompt Alert & Notification System	5.a.1
James City County EOC	Activation of the Exception Area ANS	5.a.4
James City County EACMDS	Implementation of Emergency Worker Exposure Control	3.a.1
James City County EACMDS	Monitoring, Decontamination and Registration of Evacuees	6.a.1
James City County EWMDS	Communications Equipment	1.d.1
James City County EWMDS	Implementation of Emergency Worker Exposure Control	3.a.1
James City County EWMDS	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6.b.1
James City County MCC	Communications Equipment	1.d.1
James City County MCC	Implementation of KI Decision for Institutionalized Individuals and the Public	3.b.1
James City County MCC	Temporary Care of Evacuees	6.c.1
James City County PARA 0-5	Communications Equipment	1.d.1
James City County PARA 0-5	Equipment and Supplies to Support Operations	1.e.1
James City County PARA 0-5	Implementation of Emergency Worker Exposure Control	3.a.1
James City County PARA 0-5	Activation of the Prompt Alert & Notification System	5.a.1
James City County RC	Facilities	1.b.1
James City County RC	Direction and Control	1.c.1
James City County RC	Implementation of Emergency Worker Exposure Control	3.a.1
James City County RC	Monitoring, Decontamination and Registration of Evacuees	6.a.1
James City County TCP/ACP	Communications Equipment	1.d.1
James City County TCP/ACP	Equipment and Supplies to Support Operations	1.e.1
James City County TCP/ACP	Implementation of Emergency Worker Exposure Control	3.a.1
James City County TCP/ACP	Implementation of Traffic & Access Control	3.d.1
James City County TRNSDEP	Communications Equipment	1.d.1
James City County TRNSDEP	Implementation of Emergency Worker Exposure Control	3.a.1
James City County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3.c.1
New Kent County EOC	Mobilization	1.a.1
New Kent County EOC	Direction and Control	1.c.1
New Kent County EOC	Communications Equipment	1.d.1
New Kent County EOC	Equipment and Supplies to Support Operations	1.e.1
New Kent County EOC	Emergency Information & Instructions for the Public/Media	5.b.1

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Riverside Regional Hospital	Equipment and Supplies to Support Operations	1.e.1
Riverside Regional Hospital	Implementation of Emergency Worker Exposure Control	3.a.1
Riverside Regional Hospital	Transportation and Treatment of Contaminated Injured Individuals	6.d.1
Surry County EARA 5-10	Communications Equipment	1.d.1
Surry County EARA 5-10	Equipment and Supplies to Support Operations	1.e.1
Surry County EARA 5-10	Implementation of Emergency Worker Exposure Control	3.a.1
Surry County EARA 5-10	Activation of the Exception Area ANS	5.a.4
Surry County EOC	Mobilization	1.a.1
Surry County EOC	Facilities	1.b.1
Surry County EOC	Direction and Control	1.c.1
Surry County EOC	Communications Equipment	1.d.1
Surry County EOC	Equipment and Supplies to Support Operations	1.e.1
Surry County EOC	PADs for Disabilities and Access Functional Needs People	2.c.1
Surry County EOC	Implementation of Emergency Worker Exposure Control	3.a.1
Surry County EOC	Implementation of PADs for disabilities & access/functional needs people	3.c.1
Surry County EOC	Implementation of PADs for Schools	3.c.2
Surry County EOC	Implementation of Traffic & Access Control	3.d.1
Surry County EOC	Impediments to Evacuation	3.d.2
Surry County EOC	Activation of the Prompt Alert & Notification System	5.a.1
Surry County EOC	Activation of the Exception Area ANS	5.a.4
Surry County EOC	Emergency Information & Instructions for the Public/Media	5.b.1
Surry County TCP/ACP	Communications Equipment	1.d.1
Surry County TCP/ACP	Equipment and Supplies to Support Operations	1.e.1
Surry County TCP/ACP	Implementation of Emergency Worker Exposure Control	3.a.1
Surry County TCP/ACP	Implementation of Traffic & Access Control	3.d.1
Surry County TRNSDEP	Communications Equipment	1.d.1
Surry County TRNSDEP	Implementation of Emergency Worker Exposure Control	3.a.1
Surry County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3.c.1
Virginia Commonwealth University (VCU) Hospital	Equipment and Supplies to Support Operations	1.e.1
Virginia Commonwealth University (VCU) Hospital	Implementation of Emergency Worker Exposure Control	3.a.1
Virginia Commonwealth University (VCU) Hospital	Transportation and Treatment of Contaminated Injured Individuals	6.d.1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Mobilization	1.a.1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Direction and Control	1.c.1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Communications Equipment	1.d.1



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Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Equipment and Supplies to Support Operations	1.e.1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Emergency Worker Exposure Control Decisions	2.a.1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Accident Assessment and PARs for the Emergency Event	2.b.1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Protective Action Decision Process and Coordination	2.b.2
Virginia Joint Information Center	Mobilization	1.a.1
Virginia Joint Information Center	Communications Equipment	1.d.1
Virginia Joint Information Center	Equipment and Supplies to Support Operations	1.e.1
Virginia Joint Information Center	Emergency Information & Instructions for the Public/Media	5.b.1
Virginia State EOC	Mobilization	1.a.1
Virginia State EOC	Direction and Control	1.c.1
Virginia State EOC	Communications Equipment	1.d.1
Virginia State EOC	Equipment and Supplies to Support Operations	1.e.1
Virginia State EOC	Protective Action Decision Process and Coordination	2.b.2
Virginia State EOC	PADs for Disabilities and Access Functional Needs People	2.c.1
Virginia State EOC	Implementation of KI Decision for Institutionalized Individuals and the Public	3.b.1
Virginia State EOC	Implementation of Traffic & Access Control	3.d.1
Virginia State EOC	Activation of the Prompt Alert & Notification System	5.a.1
Virginia State FMT 1	Mobilization	1.a.1
Virginia State FMT 1	Communications Equipment	1.d.1
Virginia State FMT 1	Equipment and Supplies to Support Operations	1.e.1
Virginia State FMT 1	Implementation of Emergency Worker Exposure Control	3.a.1
Virginia State FMT 1	Plume Phase Field Measurement, Handling, & Analyses	4.a.3
Virginia State FMT 2	Mobilization	1.a.1
Virginia State FMT 2	Communications Equipment	1.d.1
Virginia State FMT 2	Equipment and Supplies to Support Operations	1.e.1
Virginia State FMT 2	Implementation of Emergency Worker Exposure Control	3.a.1
Virginia State FMT 2	Plume Phase Field Measurement, Handling, & Analyses	4.a.3
York County EARA 5-10	Communications Equipment	1.d.1
York County EARA 5-10	Equipment and Supplies to Support Operations	1.e.1
York County EARA 5-10	Implementation of Emergency Worker Exposure Control	3.a.1
York County EARA 5-10	Activation of the Exception Area ANS	5.a.4
York County EOC	Mobilization	1.a.1
York County EOC	Direction and Control	1.c.1
York County EOC	Communications Equipment	1.d.1
York County EOC	Equipment and Supplies to Support Operations	1.e.1
York County EOC	PADs for Disabilities and Access Functional Needs People	2.c.1
York County EOC	Implementation of Emergency Worker Exposure Control	3.a.1

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York County EOC	Implementation of PADs for disabilities & access/functional needs people	3.c.1
York County EOC	Implementation of PADs for Schools	3.c.2
York County EOC	Implementation of Traffic & Access Control	3.d.1
York County EOC	Impediments to Evacuation	3.d.2
York County EOC	Activation of the Exception Area ANS	5.a.4
York County EOC	Emergency Information & Instructions for the Public/Media	5.b.1
York County EACMDS	Implementation of Emergency Worker Exposure Control	3.a.1
York County EACMDS	Monitoring, Decontamination and Registration of Evacuees	6.a.1
York County EWMDs	Communications Equipment	1.d.1
York County EWMDs	Implementation of Emergency Worker Exposure Control	3.a.1
York County EWMDs	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6.b.1
York County FMT	Mobilization	1.a.1
York County FMT	Communications Equipment	1.d.1
York County FMT	Equipment and Supplies to Support Operations	1.e.1
York County FMT	Implementation of Emergency Worker Exposure Control	3.a.1
York County FMT	Plume Phase Field Measurement, Handling, & Analyses	4.a.3
York County MCC	Communications Equipment	1.d.1
York County MCC	Implementation of KI Decision for Institutionalized Individuals and the Public	3.b.1
York County MCC	Temporary Care of Evacuees	6.c.1
York County Queens Lake Middle School	Implementation of PADs for Schools	3.c.2
York County RC	Facilities	1.b.1
York County RC	Direction and Control	1.c.1
York County RC	Implementation of Emergency Worker Exposure Control	3.a.1
York County RC	Monitoring, Decontamination and Registration of Evacuees	6.a.1
York County School District	Implementation of PADs for Schools	3.c.2
York County TCP/ACP	Communications Equipment	1.d.1
York County TCP/ACP	Equipment and Supplies to Support Operations	1.e.1
York County TCP/ACP	Implementation of Emergency Worker Exposure Control	3.a.1
York County TCP/ACP	Implementation of Traffic & Access Control	3.d.1
York County TRNSDEP	Communications Equipment	1.d.1
York County TRNSDEP	Implementation of Emergency Worker Exposure Control	3.a.1
York County TRNSDEP	Implementation of PADs for disabilities & access/functional needs people	3.c.1

### 3.3 Criteria Evaluation Summaries

#### 3.3.1 State Jurisdictions

In summary, the status of DHS/FEMA criteria for the State jurisdictions are as follows:

##### 3.3.1.1 Commonwealth of Virginia Emergency Operations Center (EOC)

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.b.1, 3.d.1, 5.a.1
- b. Level 1 Findings: NONE



- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.1.2 Commonwealth of Virginia Joint Information Center**

- a. Met: 1.a.1, 1.d.1, 1.e.1, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.1.3 Virginia Department of Health/Office of Radiological Health (VDH/ORH)**

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues -Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.1.4 Virginia State Field Monitoring Team 1**

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.1.5 Virginia State Field Monitoring Team 2**

- a. Met: 1.a.1, 1d.1, 1.e.1, 3.a.1, 4.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.1.6 Corporate Emergency Response Center (VDEM & VDH/ORH)**

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 4.a.2
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: ONE

**ISSUE NO:** 62-21-2a1-P-01

**CRITERION:** Emergency Worker Exposure Control

**CONDITION:** An updated exposure control ratio with new administrative radiation exposure limits were determined by the personnel in the Corporate

Emergency Response Center (CERC). The updated administrative radiation exposure limits were not communicated to all affected emergency workers.

**POSSIBLE CAUSE:** An omission on plans and procedures to alert all emergency workers operating in the field may have contributed to the lack of notification of the dose correction factor.

**REFERENCE:** NUREG-0654/FEMA-REP-1, K.3.a.  
Virginia Emergency Operations Plan, Radiological Emergency Response, Technical Support Document Appendix 1, Direction and Control, November 2020. Commonwealth of Virginia, Office of Radiological Health, Radiological Emergency Response Plan and Emergency Plan Implementing Procedures, January 2021.

**EFFECT:** Without notification of a dosimeter correction factor, emergency workers could exceed authorized exposure limits.

**RECOMMENDATION:** Update VDEM procedures to specify how modified exposure control limits are to be communicated to all affected emergency workers.

- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: ONE

### 3.3.2 Risk Jurisdictions

In summary, the status of DHS/FEMA criteria for the Risk jurisdictions are as follows:

#### 3.3.2.1 City of Newport News Emergency Operations Center (EOC)

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### 3.3.2.2 City of Newport News Reception Center at Gildersleeve Middle School Evacuation Assembly Center (EAC)

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

#### 3.3.2.3 City of Newport News Evacuee Monitoring/Decontamination Center at Gildersleeve Middle School Evacuation Assembly Center (EAC)

- a. Met: 3.a.1, 6.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE

- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.4 City of Newport News Mass Care Center at Gildersleeve Middle School Evacuation Assembly Center (EAC)**

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

**3.3.2.5 City of Newport News Emergency Worker Monitoring/Decontamination Center at Gildersleeve Middle School Evacuation Assembly Center (EAC)**

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

**3.3.2.6 City of Newport News TCP/ACP**

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

**3.3.2.7 City of Newport News Transportation Dependent**

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

**3.3.2.8 City of Newport News School District**

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

**3.3.2.9 City of Newport News Denbigh High School**

- a. Met: 3.c.2

- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.10 City of Williamsburg Emergency Operations Center (EOC)**

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.11 City of Williamsburg Field Monitoring Team**

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.12 City of Williamsburg TCP/ACP**

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

**3.3.2.13 City of Williamsburg Transportation Dependent**

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

**3.3.2.14 City of Williamsburg Rescue Squad**

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

**3.3.2.15 Isle of Wight County Emergency Operations Center (EOC)**

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.4, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.16 Isle of Wight County Field Monitoring Team**

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.17 Isle of Wight County Primary Area Route Alerting (0-5 Miles)**

- a. Met: 1.d.1, 1.e.1, 3.a.1, 5.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.18 Isle of Wight County Exception Area Route Alerting (5-10 Miles)**

- a. Met: 1.d.1, 1.e.1, 3.a.1, 5.a.4
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.19 Isle of Wight County TCP/ACP**

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

**3.3.2.20 Isle of Wight County Transportation Dependent**

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

### **3.3.2.21 Isle of Wight County Rescue Squad**

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

### **3.3.2.22 James City County Emergency Operations Center (EOC)**

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.4
- b. Level 1 Findings: NONE
- c. Level 2 Findings: ONE

**ISSUE NO:** 62-21-5b1-L2-01

**CRITERION:** Emergency Information & Instructions for the Public/Media

**CONDITION:** The Public Information Officer (PIO) failed to follow their plan and issue a special needs news release notifying James City County residents of the telephone number to call for special evacuation assistance.

**POSSIBLE CAUSE:** The Public Information Officer (PIO) failed to follow their plan and check list under the Alert status.

**REFERENCE:** NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c  
James City County Radiological Plan – Public Information Officer Procedure

**EFFECT:** Although information on where to get assistance was provided through the EAS broadcast, residents of James City County that may require special assistance with evacuation could have been delayed.

**RECOMMENDATION:** Ensure that the PIO team and leadership in the James City Emergency Operation Center (EOC) follow procedures on issuing media releases and confirm that messages are thoroughly reviewed and approved prior to release to the public.

- d. Plan Issues: NONE
- e. Prior Issues - Resolved: ONE
- f. Prior Issues - Unresolved: NONE

### **3.3.2.23 James City County Primary Area Route Alerting (0-5 Miles)**

- a. Met: 1.d.1, 1.e.1, 3.a.1, 5.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

### **3.3.2.24 James City County Exception Area Route Alerting (5-10 Miles)**

- a. Met: 1.d.1, 1.e.1, 3.a.1, 5.a.4

- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.25 James City County TCP/ACP**

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

**3.3.2.26 James City County Transportation Dependent**

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

**3.3.2.27 James City Reception Center at Warhill High School Evacuation Assembly Center (EAC)**

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

**3.3.2.28 James City County Evacuee Monitoring/Decontamination Center at Warhill High School Evacuation Assembly Center (EAC)**

- a. Met: 3.a.1, 6.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: ONE

**ISSUE NO:** 62-21-6a1-P-02

**CRITERION:** Monitoring, Decontamination and Registration of Evacuees

**CONDITION:** Vehicle Monitoring personnel at the Warhill High School Evacuation Assembly Center (EAC) were neither aware of nor provided with instructions on how to further direct evacuees whose vehicles were monitored as “clean” at the Vehicle Monitoring Station.

**POSSIBLE CAUSE:** The James City County Radiological Emergency Response Plan (RERP) does not provide clear direction to the Vehicle

Monitoring Team on how to direct evacuees/drivers whose vehicles are monitored and determined to be “clean.”

**REFERENCE:** NUREG-0654/FEMA-REP-1- A.3; C.4; J.10.h; J.12  
James City County Radiological Emergency Response Plan

**EFFECT:** The Vehicle Monitoring Station’s inability to further direct the driver of a “clean” vehicle caused an unnecessary delay, hindered achievement of the stated goal, and could have caused significant residual impacts to the EAC in the event of a real emergency.

**RECOMMENDATION:**

- Add language as necessary throughout the RERP, but specifically in the “EAC Manager” and “Vehicle Monitors” sections, that provides clear and direct instruction as to the prescribed route for vehicles monitored as “clean” at the Vehicle Monitoring Station.
  - Distribute a (laminated) copy of Attachment 8 (Facility Layout and Flow Diagram), Attachment 9 (Warhill EAC Map), and Attachment 10 (Warhill EAC Additional Parking Map) to the Vehicle Monitoring Station as a means to promote overall awareness of the prescribed flow of vehicle traffic, as well as the flow of foot traffic for evacuees once they have parked their vehicles in designated clean parking areas.
  - Clarify Attachment 9 (Warhill EAC Map) to indicate the prescribed route of travel/foot traffic for drivers who have parked their vehicles in designated clean parking areas but are still in need of personnel monitoring inside the EAC.
  - Training sessions at this EAC should provide a “big picture” level of awareness to staff in order to foster a greater understanding of the entire facility’s processes and flow.
- e. Prior Issues – Resolved: NONE
  - f. Prior Issues - Unresolved: NONE

**3.3.2.29 James City County Mass Care Center at Warhill High School Evacuation Assembly Center (EAC)**

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

**3.3.2.30 James City County Emergency Worker Monitoring/Decontamination Center at Warhill High School Evacuation Assembly Center (EAC)**

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



- f. Prior Issues - Unresolved: NONE

#### **3.3.2.31 Surry County Emergency Operations Center (EOC)**

- a. Met: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.4, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.2.32 Surry County Exception Area Route Alerting (5-10 Miles)**

- a. Met: 1.d.1, 1.e.1, 3.a.1, 5.a.4
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.2.33 Surry County TCP/ACP**

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

#### **3.3.2.34 Surry County Transportation Dependent**

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

#### **3.3.2.35 York County Emergency Operations Center (EOC)**

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c.1, 3.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.4, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### **3.3.2.36 York County Field Monitoring Team**

- a. Met: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.3
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE

- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.37 York County Exception Area Route Alerting (5-10 Miles)**

- a. Met: 1.d.1, 1.e.1, 3.a.1, 5.a.4
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.38 York County TCP/ACP**

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

**3.3.2.39 York County Transportation Dependent**

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

**3.3.2.40 York County School District**

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

**3.3.2.41 York County Queens Lake Middle School**

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

**3.3.2.42 York County Reception Center at Tabb High School Evacuation Assembly Center (EAC)**

- a. Met: 1.b.1, 1.c.1, 3.a.1, 6.a.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE

- d. Plan Issues: NONE
- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

**3.3.2.43 York County Evacuee Monitoring/Decontamination at Tabb High School Evacuation Assembly Center (EAC)**

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

**3.3.2.44 York County Mass Care Center at Tabb High School Evacuation Assembly Center (EAC)**

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

**3.3.2.45 York County Emergency Worker Monitoring/Decontamination at Tabb High School Evacuation Assembly Center (EAC)**

- a. Met: 1.d.1, 3.a.1, 6.b.1
  - b. Level 1 Findings: NONE
  - c. Level 2 Findings: NONE
  - d. Plan Issues: ONE
- ISSUE NO:** 62-21-6b1-P-03

**CRITERION:** Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles.

**CONDITION:** The vehicle monitoring team failed to detect contamination on the rear bumper of an emergency worker vehicle.

**POSSIBLE CAUSE:** The York County Plan does not include specific guidance to monitor rear bumpers, door handles, or portions of the vehicle previously occupied by passengers or used equipment.

**REFERENCE:** NUREG-0654/FEMA-REP-1- K.5.a, b.  
York County Radiological Emergency Response Plan, Support Annex 8, RSA8.20

**EFFECT:** The current plan does not provide the proper guidance for decontamination teams, which could result in contamination on an evacuee vehicle being missed during the vehicle monitoring process.

**RECOMMENDATION:** Revise current plans to reflect the proper monitoring of vehicles to include bumpers.

**CORRECTIVE ACTION DEMONSTRATED:** Plan changes submitted September 2021 incorporated revised procedures for monitoring teams to include all areas of vehicles during the monitoring process.

- e. Prior Issues - Resolved: NONE
- f. Prior Issues - Unresolved: NONE

### 3.3.3 Support Jurisdictions

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

#### 3.3.3.1 City of Poquoson Emergency Operations Center (EOC)

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

#### 3.3.3.2 City of Poquoson Mass Care Center at Poquoson High School

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

#### 3.3.3.3 New Kent County Emergency Operations Center (EOC)

- a. Met: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1
- b. Level 1 Findings: NONE
- c. Level 2 Findings: NONE
- d. Plan Issues: NONE
- e. Prior Issues – Resolved: NONE
- f. Prior Issues - Unresolved: NONE

### 3.3.4 Private Jurisdictions

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

#### 3.3.4.1 Riverside Regional Hospital

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

#### 3.3.4.2 Virginia Commonwealth University (VCU) Hospital

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

## **SECTION 4: DEMONSTRATED STRENGTHS**

### **4.1 Risk Jurisdictions**

#### **4.1.1 City of Newport News**

The Emergency Manager representing the Hampton & Peninsula Health Districts utilized the U. S. Department of Health and Human Services (USDHHS) emPOWER Map data base that provides information on at-risk electricity-dependent members of the public in a geographic area in addition to real-time natural hazard data. The empower data base was used during the exercise to identify individuals in Protective Action Zones (PAZs) 15 and 16 that needed medical assistance to evacuate.

The City of Newport News utilized a combination of GIS products and live traffic camera feeds that provided real time displays of traffic flow on evacuation routes and identified critical infrastructure and key resources (CIKR).

#### **4.1.2 City of Newport News Evacuation Assembly Center (EAC) at Gildersleeve Middle School**

The City of Newport News during the Gildersleeve EAC evaluation, demonstrated processing 20 general public evacuees, eight service dogs and two wheelchairs. This provided an excellent training opportunity to the EAC staff members.

#### **4.1.3 York County Evacuation Assembly Center (EAC) at Tabb High School**

Accounting for environmental factors/potential heat stress: Use of Tents/awnings for shade and dedicated personnel for providing water. Excellent use of bilingual (Spanish) signage in all evacuee areas.

The Emergency Worker Tool Drop station is provided with firearm chamber locks to ensure Clear/Safe status of contaminated firearms checked by law enforcement personnel.

York County employed an Automatic Shoe Cover Dispenser for use at the portal monitor when an individual was found to be contaminated. The dispenser included a handlebar to allow individuals to maintain their balance while donning shoe coverings.

## SECTION 5: CONCLUSION

The Commonwealth of Virginia and local jurisdictions, except where noted in this report demonstrated knowledge of their Radiological Emergency Response Plans (RERP) and procedures were adequately implemented during the Surry Power Station Plume Pathway exercise evaluated on October 26, 2021 and the Out of Sequence Demonstrations conducted the weeks of August 17, 2021 and August 23, 2021.

Federal Emergency Management Agency (FEMA) evaluators assessed 257 evaluation criteria in six Assessment Areas:

- Evaluation Area 1: Emergency Operations Management
- Evaluation Area 2: Protective Action Decision Making
- Evaluation Area 3: Protective Action Implementation
- Evaluation Area 4: Field Measurement and Analysis
- Evaluation Area 5: Emergency Notification and Public Information
- Evaluation Area 6: Support Operation/Facilities

These analyses resulted in a determination of no Level 1 Findings, one Level 2 Finding, and three new Plan Issues. The Level 2 Finding assessed to the Field Team Coordinator in the CERC during the NAPS VOPEX was not successfully re-demonstrated during this exercise and remains open.

Based on the results of the exercise and a review of the offsite radiological emergency response plans and procedures submitted, FEMA Region 3 has determined they are adequate (meet the planning and preparedness standards of NUREG-0654/FEMA-REP-1, Revision 1, November 1980, as referenced in 44 CFR 350.5) and there is reasonable assurance they can be implemented, as demonstrated during this exercise.

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

## SPS APPENDIX A – EXERCISE TIMELINE

This section contains the Exercise Timeline. A table that depicts the times when an event or notifications were noted at participating agencies and locations. See next page.



**Unclassified**  
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Surry Power Station

Emergency Classification Level or Event	Time Utility Declared	<i>Time That Notification Was Received at the Listed Location</i>							
		Virginia State EOC	Corporate Emergency Response Center (CERC)	VDH/ORH Accident Assessment	Virginia JIC	City of Newport News EOC	City of Williamsburg EOC	Isle of Wight County EOC	James City County EOC
Unusual Event									
Alert	0814	0818	0820	0818	0818	0818	0818	0818	0818
Site Area Emergency	0933	0937	0943	0937	0937	0937	0940	0937	0939
General Emergency	1011	1017	1026	1014	1017	1024	1027	1024	1018
Start of Simulated Radiation Airborne Release	1052	1056	1052	1051	1056	1057	1104	1053	1058
Termination of Simulated Radiation	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing
Facility Declared Operational		0833	0837	0814	0833	0841	0828	0827	0824
Governor's Declaration of State of Emergency		0940	0940	0943	0940	0940	0940	0940	0947
Exercise Terminated		1418	1344	1410	1418	1329	1330	1320	1343
<b>Precautionary Actions: Describe</b>									
Shelter livestock		1011	1011	1000	1011	1040	1040	0953	1051
Air/Rail/Parks		1128	1132	1132	1133	1140	1138	1142	1150
Jamestown Ferry closed		1132	1128	1128	1128	1150	1154	1154	1154
Schools closed		n/a	n/a	n/a	n/a	0954	0830	0943	0917
Evacuate Ft. Eustis		n/a	n/a	n/a	n/a	0954	n/a	n/a	n/a
<b>First Protective Actions: Describe</b>									
Evacuate PAZs: 6, 8, 9, 14 and 18D		1103	1059	1100	1103	1057	1058	1103	1103
Siren Sounding		1128	1128	1128	1128	1128	1128	1128	1128
EAS Message Broadcast		1131	1131	1131	1131	1131	1131	1131	1131

**Unclassified**  
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Surry Power Station

Emergency Classification Level or Event	Time Utility Declared	<i>Time That Notification Was Received at the Listed Location</i>							
		Surry County EOC	York County EOC	City of Poquoson EOC	New Kent County EOC				
Unusual Event									
Alert	0814	0818	0818	0908	0827				
Site Area Emergency	0933	0938	0939	0942	0943				
General Emergency	1011	1018	1024	1030	1018				
Start of Simulated Radiation Airborne Release	1011	1018	1106	1105	1110				
Termination of Simulated Radiation	ongoing	ongoing	ongoing	ongoing	ongoing				
Facility Declared Operational		0848	0834	0912	0845				
Governor's Declaration of State of Emergency		0940	0946	0945	0946				
Exercise Terminated		1340	1343	1340	1340				
<b>Precautionary Actions: Describe</b>									
Shelter livestock		1000	1038	1050	1058				
School's dismissal/cancel		1000	0900	0945	0844				
Jamestown Ferry closed		1154	n/a	n/a	n/a				
<b>First Protective Actions: Describe</b>									
Evacuate PAZs: 6, 8, 9, 14 and 18D		1103	1118	1106	1106				
Siren Sounding		1128	1128	1128	1128				
EAS Message Broadcast		1132	1132	1132	1132				

**Unclassified**  
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Surry Power Station

	<i>Time That Notification Was Received at the Listed Location</i>							
	Virginia State EOC	Corporate Emergency Response Center (CERC)	VDH/ORH Accident Assessment	Virginia JIC	City of Newport News EOC	City of Williamsburg EOC	Isle of Wight County EOC	James City County EOC
<b>Second Protective Actions: Describe</b>								
Evacuate PAZs: 4-10, 14-17, 18B, 18C, 18D, 22A, 22B	1219	1219	1219	1219	1219	1245	1240	1240
Siren Sounding	1245	1245	1245	1245	1245	1245	1245	1245
EAS Message Broadcast	1247	1247	1247	1247	1247	1247	1247	1247
KI Decision Emergency Workers	1051	1051	1051	1051	1115	1106	1119	1117
KI Decision General Public/Special populations	1219	1219	1233	1233	1233	1219	1233	1231

	<i>Time That Notification Was Received at the Listed Location</i>							
	Surry County EOC	York County EOC	City of Poquoson EOC	New Kent County EOC				
<b>Second Protective Actions: Describe</b>								
Evacuate PAZs: 4-10, 14-17, 18B, 18C, 18D, 22A, 22B	1207	1239	1208	1205				
Siren Sounding	1245	1245	1245	1245				
EAS Message Broadcast	1247	1247	1247	1247				
KI Decision Emergency Workers	1051	1120	1144	1117				
KI Decision General Public/Special populations	1233	1225	1233	1233				

## APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leaders for the Surry Power Station 2021 Radiological Emergency Preparedness Plume Pathway Exercise evaluated on October 26, 2021. The following constitutes the managing staff for the Exercise Evaluation:

- Thomas Scardino, DHS/FEMA, Regional Assistance Committee (RAC) Chairman
- Lee Torres, DHS/FEMA, Project Officer and Site Specialist

### Surry Power Station

LOCATION	TEAM LEADER	AGENCY
City of Newport News Emergency Operations Center	Joe Suders	FEMA R3
City of Williamsburg Emergency Operations Center	Michele Sturman	FEMA R2
City of Williamsburg Field Monitoring Team	Ken Wierman	FEMA HQ
Isle of Wight County Emergency Operations Center	Tina Thomas	FEMA R3
Isle of Wight County Field Monitoring Team	Ken Wierman	HQ
James City County Emergency Operations Center	Dan Rose	FEMA R3
Surry County Emergency Operations Center	John Rice	FEMA R2
York County Emergency Operations Center	Brian Hasemann	FEMA R2
York County Field Monitoring Team	Ken Wierman	FEMA HQ
City of Poquoson Emergency Operations Center	Kathy Duran	FEMA R3
New Kent County Emergency Operations Center	Kathy Duran	FEMA R3
Virginia Department of Emergency Management Joint Information Center	Nick Buls	FEMA R3
Virginia Department of Health, Office of Radiological Health	Ken Wierman	FEMA HQ
Virginia State Emergency Operations Center	Nick Buls	FEMA R3
Virginia State Field Monitoring Team 1	Ken Wierman	FEMA HQ
Virginia State Field Monitoring Team 2	Ken Wierman	FEMA HQ
City of Newport News Emergency Operations Center	Joe Suders	FEMA R3
	Clay Spangenberg	ICF
	Brad DeKorte	FEMA R6
City of Newport News Emergency Worker Mon/Decon Station at Gildersleeve Evacuation Assembly Center	Nick Buls	FEMA R3
City of Newport News Evacuee Mon/Decon Station at Gildersleeve Evacuation Assembly Center	Taylor Griffiths	FEMA R3
City of Newport News Receptions Center at Gildersleeve Evacuation Assembly Center	Dan Rose	FEMA R3
City of Newport News Mass Care Center at Gildersleeve Evacuation Assembly Center	Joe Suders	FEMA R3
City of Newport News TCP/ACP	Lee Torres	FEMA R3
City of Newport News Transportation Dependent	Patti Gardner	FEMA R3
City of Newport News School District	Dan Rose	FEMA R3

**Unclassified**  
Radiological Emergency Preparedness Program (REP)

**After Action Report/Improvement Plan**

**Surry Power Station**

City of Newport News Denbigh High School	Lee Torres	FEMA R3
City of Poquoson Emergency Operations Center	Richard Watts	ICF
City of Poquoson Mass Care Center at Poquoson High School	Taylor Griffiths	FEMA R3
City of Williamsburg Emergency Operations Center	Michele Sturman	FEMA R2
	Cheryl Weaver	ICF
	Terry Engelhart	ICF
City of Williamsburg Field Monitoring Team	Larry Broockerd	FEMA HQ
City of Williamsburg Traffic and Access Control Points	John Wiecjorek	ICF
City of Williamsburg Transportation Dependent	John Wiecjorek	ICF
City of Williamsburg Rescue Squad	Tim Pflieger	FFEMA R6
Corporate Emergency Response Center (VDH/ORH/VDEM)	Janise Stoliarova	FEMA HQ
	Narvaez Stinson	FEMA HQ
Isle of Wight County Emergency Operations Center	Tina Thomas	FEMA R3
	Rosemary Samsel	ICF
	Deb Blunt	ICF
Isle of Wight County Primary Area Route Alerting (0 - 5 Miles)	Don Carlton	ICF
Isle of Wight County Exception Area Route Alerting (5 - 10 Miles)	Herb Massie	ICF
Isle of Wight County Field Monitoring Team	Greg Voss	FEMA R7
Isle of Wight County Traffic and Access Control Points	Gary Goldberg	ICF
Isle of Wight County Transportation Dependent	Gary Goldberg	ICF
Isle of Wight County Rescue Squad	Jeff Clark	FEMA R7
James City County Emergency Operations Center	Dan Rose	FEMA R3
	Zachary Corle	FEMA R3
	Taylor Griffiths	FEMA R3
	Bonnie Sheffield	ICF
James City County Emergency Worker Mon/Decon Station at Warhill High School Evacuation Assembly Center	Nick Buls	FEMA R3
James City County Evacuee Mon/Decon Station at Warhill High School Evacuation Assembly Center	Dan Rose	FEMA R3
James City County Reception Center at Warhill High School Evacuation Assembly Center	Joe Suders	FEMA R3
James City County Mass Care Center at Warhill High School Evacuation Assembly Center	Taylor Griffiths	FEMA R3
James City County Primary Area Route Alerting (0 – 5 Miles)	Danny Loomis	ICF
James City County Exception Area Route Alerting (5 – 10 Miles)	Jim Greer	ICF
James City County Traffic and Access Control Points	Lee Torres	FEMA R3
James City County Transportation Dependent	Tina Thomas	FEMA R3

**Unclassified**  
Radiological Emergency Preparedness Program (REP)

**After Action Report/Improvement Plan**

**Surry Power Station**

New Kent County Emergency Operations Center	Kathy Duran	FEMA R3
Riverside Regional Hospital	Greg Voss	FEMA R7
Surry County Emergency Operations Center	John Rice	FEMA R1
	Barbara Thomas	FEMA R1
	Henry Christiansen	ICF
Surry County Exception Area Route Alerting (5 – 10 Miles)	Paul Ringheiser	ICF
Surry County Traffic and Access Control Points	Robert Schmitt	ICF
Surry County Transportation Dependent	Robert Schmitt	ICF
Virginia Commonwealth University Hospital	Kent Tosh	ICF
Virginia Department of Emergency Management/Joint Information Center	Taneeka Hollins	FEMA R1
Virginia Department of Health, Office of Radiological Health (Accident Assessment)	Marcy Campbell	ICF
	Kent Tosh	ICF
Virginia State Emergency Operations Center	Nick Buls	FEMA R3
	Lisa Hamilton	FEMA HQ
Virginia State Field Monitoring Team 1	Ken Wierman	FEMA HQ
Virginia State Field Monitoring Team 2	Jeff Clark	FEMA R7
York County Emergency Operations Center	Brian Hasemann	FEMA R2
	Chris Nemcheck	FEMA R3
	Mike DeBonis	FEMA R2
York County Emergency Worker Mon/Decon Station at Tabb High School Evacuation Assembly Center	Nick Buls	FEMA R3
York County Evacuee Mon/Decon Station at Tabb High School Evacuation Assembly Center	Chris Nemcheck	FEMA R3
York County Reception Center at Tabb High School Evacuation Assembly Center	Kathy Duran	FEMA R3
York County Mass Care Center at Tabb High School Evacuation Assembly Center	Patti Gardner	FEMA R3
York County Exception Area Route Alerting (5 – 10 Miles)	Tom Hegele	ICF
York County Field Monitoring Team	Tim Pflieger	FEMA R6
York County Traffic and Access Control Points	Chris Nemcheck	FEMA R3
York County Transportation Dependent	Kathy Duran	FEMA R3
York County, Queens Lake Middle School	Dan Rose	FEMA R3
York County School District	Nick Buls	FEMA R3

## APPENDIX C: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ACP	Access Control Point
ALC	Annual Letter of Certification
ANS	Alert and Notification System
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
BURA	Back-up Route Alerting
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CERC	Corporate Emergency Response Center
CNS	Commonwealth Notification System
CPM	Counts per Minute
DAD	Digital Alarming Dosimeter
DEENS	Dominion Energy Emergency Notification System
DHS	Department of Homeland Security
DOT	Department of Transportation
EAC	Evacuation Assembly Center
EAL	Emergency Action Level
EARA	Exception Area Route Alerting
EAS	Emergency Alert System
ECL	Emergency Classification Level
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Extent of Play
EPT	Exercise Planning Team
EPZ	Emergency Planning Zone
ESF	Emergency Support Function
EW	Emergency Workers
EWMDS	Emergency Worker Mon/Decon Station
FD	Fire Department
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FRMAC	Federal Radiological Monitoring Assessment Center
FPE	Full Participation Exercise
FST	Field Sampling Team

After Action Report/Improvement Plan

Surry Power Station

FTC	Field Team Coordinator
GE	General Emergency
GIS	Geographic Information Systems
HazMat	Hazardous Materials
IPAWS	Integrated Public Alert & Warning System
IPX	Ingestion Pathway Zone
JIC	Joint Information Center
JPIC	Joint Public Information Center
KI	Potassium Iodide
LOA	Letter of Agreement
MCC	Mass Care Center
MOU	Memorandum of Understanding
MSEL	Master Scenario Events List
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
OOS	Out of Sequence
ORH	Office of Radiological Health
ORO	Offsite Response Organization
OSD	Optically Stimulated Dosimeter
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PARA	Primary Area Route Alerting
PDAFN	Persons with Disabilities/Access Functional Needs
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Services
RC	Reception Center
REA	Radiation Emergency Area
REPP	Radiological Emergency Preparedness Program
RERP	Radiological Emergency Response Plan
RO	Radiological Officer
SAC	Staging Area Coordinator
SAE	Site Area Emergency
SAV	Staff Assistance Visit
SEOC	State Emergency Operations Center
SEVAN	State Emergency Voice Activation Network
SPS	Surry Power Station



SWAN	State Warning Alert Notification
TCP	Traffic Control Point
TRNSDEP	Transportation Dependent
VDEM	Virginia Department of Emergency Management
VDH	Virginia Department of Health
VEOC	Virginia Emergency Operations Center
VEST	Virginia Emergency Support Team
VHF	Very High Frequency
WEA	Wireless Emergency Alerts

## **APPENDIX D: EXTENT OF PLAY AGREEMENT**

The 2021 Surry Power Station Plume Pathway Exercise Extent-of-Play (EOP) Agreement is a document created by the Commonwealth of Virginia Emergency Management Agency that sets the parameters for exercise demonstration. The EOP agreement was signed by the FEMA Region 3 and Commonwealth of Virginia Emergency Management Agency planning team members.



**FEMA**

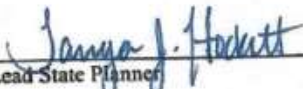
## **SURRY POWER STATION PLUME EXERCISE**

By signing this Extent of Play Agreement, the Commonwealth of Virginia and the FEMA Region III exercise planning team confirm that all conditions have been met to satisfy the requirements to drive exercise play and satisfy the Demonstration Criteria as agreed upon for the August 2021 Out of Sequence Demonstrations and the October 26-27, 2021 Surry Power Station Plume Exercise and Medical Services Drills.

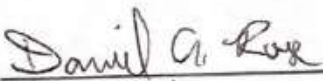
**LEE A TORRES** Digitally signed by LEE A TORRES  
Date: 2021.10.29 10:02:45 -0400

FEMA Site Specialist

Date

  
Lead State Planner

10/29/21  
Date

  
FEMA Team Leader

11/1/21  
Date

## Annex B: Method of Operation and Extent of Play

**The referenced modified evaluation methods are only applicable during the current Public Health Emergency (PHE).**

### **ASSESSMENT AREA 1: EMERGENCY OPERATIONS MANAGEMENT** **Sub-element 1.a – Mobilization**

#### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to alert, notify, and mobilize emergency personnel, and activate and staff emergency facilities.

***Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/ FEMA-REP-1, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; H.3, 4)***

#### **Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, an actual event, out-of-sequence evaluation, or by means of drills conducted at any time.*

Responsible OROs must demonstrate the capability to receive notification of an incident from the licensee; verify the notification; and contact, alert, and mobilize key emergency personnel in a timely manner and demonstrate the ability to maintain and staff 24-hour operations. Twenty-four-hour operations can be demonstrated during the exercise via rosters or shift changes or otherwise in an actual activation. Local responders must demonstrate the ability to receive and/or initiate notification to the licensees or other respective emergency management organizations of an incident in a timely manner when they receive information from the licensee or alternate sources. Responsible OROs must demonstrate the activation of facilities for immediate use by mobilized personnel upon their arrival. Activation of facilities and staff, including those associated with the Incident Command System, must be completed in accordance with ORO plans/procedures. The location and contact information for facilities included in the incident command must be available to all appropriate responding agencies and the NPP after these facilities have been activated.

The REP program does not evaluate Incident Command System tactical operations, only coordination among the incident command, the utility, and all appropriate OROs, pursuant to plans/procedures.

Pre-positioning of emergency personnel is appropriate, in accordance with the Extent-of-Play Agreement, at those facilities located beyond a normal commuting distance from the individual's duty location or residence. This includes the staggered release of resources from an assembly area. Additionally, pre-positioning of staff for out-of-sequence demonstrations may be used in accordance with the Extent-of-Play Agreement.

Initial law enforcement, fire service, HAZMAT, and emergency medical response to the NPP site may impact the ability to staff REP functions. The ability to identify and request additional resources or identify compensatory measures must be demonstrated. Exercises must also address the role of mutual aid in the incident, as appropriate. An integral part of the response to an HAB scenario at an NPP may also be within the auspices of the Federal Government (e.g., FBI, NRC, or DHS). Protocols for requesting Federal, state, local, and tribal law enforcement support must be demonstrated, as appropriate. Any resources identified through LOA/MOUs must be on the ORO's mobilization list so they can be contacted during an incident, if needed. All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

**State Negotiated Extent of Play:**

*The State will notify and mobilize appropriate response agencies which have responsibilities in the Virginia EOC, at the appropriate emergency classification level and in accordance with established plans and procedures in a timely manner. VDEM and ORH 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 pre-stage at the Virginia Emergency Operations Center (VEOC) and discuss with the evaluator the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations. In all instances, the demonstration of a shift change is not required. 24-hour staffing will be demonstrated by means of a roster or staffing chart.*

**Pre-staging of personnel assigned to the VEOC and State FMTs for VOPEX21 is allowed.**

**Staff assigned to the Corporate Emergency Response Center (CERC) may pre-position at a location nearby the facility but may not enter the facility until it is activated, or they receive a notification message.**

**Risk and Host Jurisdictions Negotiated Extent of Play:**

*Local jurisdictions will notify and mobilize appropriate response agencies and key personnel assigned to the local EOCs and media centers, field workers and Evacuation Assembly Centers, (out of sequence) if activated, at the appropriate Emergency Classification Level (ECL) and as per procedures in a timely manner. **Pre-staging of personnel assigned to local EOCs for VOPEX21 is allowed.***

*The risk 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. In all instances, the demonstration of a shift change is not required. 24-hour staffing will be demonstrated by means of a roster or staffing chart. The evaluator will conduct an interview of how the facility would activate.*

**Outstanding Issues:** None

**Sub-element 1.b – Facilities**

### **Intent**

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

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

### **Assessment/Extent of Play**

Facilities will only be specifically evaluated for this criterion if they are new or have substantial changes in structure or mission. Responsible OROs should demonstrate the availability of facilities that support the accomplishment of emergency operations. Some of the areas to be considered are adequate space, furnishings, lighting, restrooms, ventilation, backup power and/or alternate facility (if required to support operations).

Facilities must be set up based on the ORO's plans and procedures and demonstrated as they would be used in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

### **State, Risk and Host Jurisdictions Negotiated Extent of Play:**

*Surry County Emergency Operations Center*

### **Out-of-Sequence Demonstrations:**

#### ***Evacuation Assembly Centers (EACs):***

- *James City County – Warhill High School*
- *York County – Tabb High School*
- *Poquoson – Poquoson High School (mass care)*
- *Newport News – Gildersleeve Middle School*

**Outstanding Issues:** *None*

## **Sub-element 1.c – Direction and Control**

### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to control their overall response to an emergency.

***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. (NUREG-0654/FEMA-REP-1, A.1.d; A.2.a, b; A.3; C.4, 6)***

### **Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished in a biennial full scale, functional, or tabletop exercise.*

Leadership personnel must demonstrate the ability to carry out the essential management functions of the response effort (e.g., keeping staff informed through periodic briefings and/or other means, coordinating with other OROs, and ensuring completion of requirements and requests.) Leadership must demonstrate the ability to prioritize resource tasking and replace/supplement resources (e.g., through MOUs or other agreements) when faced with competing demands for finite resources. Any resources identified through LOA/MOUs must be on the ORO's mobilization list so they may be contacted during an incident, if needed.

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

**State Negotiated Extent of Play:**

*Overall direction and control of state activities will be demonstrated in the Virginia EOC to include accident assessment, Corporate Emergency Response Center (CERC) and Joint Information Center (JIC). 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 and risk/host jurisdictions should ensure the completion of requirements and requests. Demonstration will be in accordance with plans and procedures.*

**Risk and Host Jurisdictions Negotiated Extent of Play:**

*The emergency services coordinator or designee will demonstrate the ability to keep staff informed, hold briefings, and coordinate activities with other offsite response organizations. Risk and host jurisdictions should ensure the completion of requirements and requests. Demonstration will be in accordance with plans and procedures. Evacuation Assembly Center personnel will demonstrate the coordination of activities and staff briefings during the out of sequence EAC activities.*

**Outstanding Issues:** None.

## Sub-element 1.d – Communications Equipment

### Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs establish and operate reliable primary and backup communication systems to ensure communications with key emergency personnel at locations such as contiguous governments within the EPZ, Federal emergency response organizations, the licensee and its facilities, EOCs, Incident Command Posts, and FMTs.

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

### Assessment/Extent of Play

*Assessment of this Demonstration Criterion is accomplished initially in a baseline evaluation and subsequently in periodic testing and drills. System familiarity and use must be demonstrated as applicable in biennial full scale, functional and tabletop exercises, or if their use would be required, during an actual event.*

ORO must demonstrate that a primary system, and at least one backup system for fixed facilities, is fully functional at all times. Communications systems are maintained and tested on a recurring basis throughout the assessment period and system status is available to all operators. Periodic test results and corrective actions are maintained on a real time basis. If a communications system or systems are not functional, but exercise performance is not affected, no exercise issue will be assessed.

Communications equipment and procedures for facilities and field units are used as needed for transmission and receipt of exercise messages. All facilities, FMTs, and incident command must have the capability to access at least one communication system that is independent of the commercial telephone system. Responsible OROs must demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt emergency operations. OROs must ensure that a coordinated communication link for fixed and mobile medical support facilities exists. Exercise scenarios may require the failure of a communication system and use of an alternate system, as negotiated in the Extent-of-Play Agreement.

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

### **State, Risk and Host Jurisdictions Negotiated Extent of Play:**

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



**Outstanding Issues:** None

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

### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have emergency equipment and supplies adequate to support the emergency response.

***Criterion 1.e.1: Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b)***

### **Assessment/Extent of Play**

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

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

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

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

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

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

Appropriate direct-reading dosimetry must allow an individual(s) to read the administrative reporting limits and maximum exposure limits contained in the ORO's plans/procedures. Direct-reading dosimeters must be zeroed or operationally checked prior to issuance. The dosimeters must be inspected for electrical leakage at least annually and replaced when necessary. Civil Defense Victoreen Model 138s (CD V-138s) (0-200 mR), due to their documented history of electrical leakage problems, must be inspected for electrical leakage at least quarterly and replaced when necessary. This leakage testing will be verified during the exercise, through documentation submitted in the ALC and/or through an SAV.

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

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

For FMTs, the instruments must be capable of measuring gamma exposure rates and detecting beta radiation. These instruments must be capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on air sample collection media, consistent with the intended use of the instrument and the ORO's plans/procedures. An appropriate radioactive check source must be used to verify proper operational response for each low-range radiation measurement instrument (less than 1R/hr) and for high-range instruments when available. If a source is not available for a high-range instrument, a procedure must exist to operationally test the instrument before entering an area where only a high-range instrument can make useful readings. In areas where portal monitors are used, the OROs must set up and operationally check the monitor(s). The monitor(s) must conform to the standards set forth in the *Contamination Monitoring Standard for a Portal Monitor Used for Emergency Response*, FEMA-REP-21 (March 1995) or in accordance with the manufacturer's recommendations. All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

**State Negotiated Extent of Play:**

*The State field monitoring teams will demonstrate this criterion according to their procedures, during the exercise on October 26, 2021, at VDOT Staging, Williamsburg, VA. KI questions will be addressed through interviews.*

**Out-of-Sequence Demonstrations:**

**Evacuation Assembly Centers (EACs):**

- *James City County – Warhill High School*
- *York County – Tabb High School*
- *Poquoson – Poquoson High School*
- *Newport News – Gildersleeve Middle School*

*Out of sequence demonstration in October 2021.*

**Pre-staging is allowed for EAC demonstrations.**

**Outstanding Issues:** *None*

## ASSESSMENT AREA 2: PROTECTIVE ACTION DECISION-MAKING

### Sub-element 2.a – Emergency Worker Exposure Control

#### Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to assess and control the radiation exposure received by emergency workers and have a decision chain in place, as specified in the ORO's plans/procedures, to authorize emergency worker exposure limits to be exceeded for specific missions.

Radiation exposure limits for emergency workers are the recommended accumulated dose limits or exposure rates that emergency workers may be permitted to incur during an emergency. These limits include any pre-established administrative reporting limits (that take into consideration TEDE or organ-specific limits) identified in the ORO's plans/procedures.

***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. (NUREG-0654/FEMA-REP-1, C.6; J.10. e, f; K.3.a; K.4)***

#### Assessment/Extent of Play

*Assessment of this Demonstration Criterion must be assessed concurrently with a licensee exercise and may be demonstrated in a biennial full scale, functional or tabletop exercise.*

ORO's authorized to send emergency workers into the plume exposure pathway EPZ must demonstrate a capability to comply with emergency worker exposure limits based on their emergency plans/procedures.

Participating OROs must also demonstrate the capability to make decisions concerning authorization of exposure levels in excess of pre-authorized levels and the number of emergency workers receiving radiation doses above pre-authorized levels. This would include providing KI and dosimetry in a timely manner to emergency workers dispatched onsite to support plant incident assessment and mitigating actions, in accordance with respective plans/procedures. As appropriate, OROs must demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for emergency workers, based on their plans/procedures or projected thyroid dose compared with the established PAGs for KI administration. All activities must be based on the OROs plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

**State Negotiated Extent of Play:** *Virginia Department of Health/Office of Radiological Health (VDH/ORH) demonstrated this criterion during VOPEX20-21, however, this will be observed during VOPEX21 (See Assumptions)*

*The State has established reporting, turn back, protecting valuable property, lifesaving, voluntary lifesaving, and KI administration levels based on EPA Guidance. Authorization to exceed the turnback limit must be given by the local Radiological Officer for emergency workers under their respective local jurisdictions. Authorization for the State Field Teams must be given by the State Field Team Coordinator. Local Radiological Officers and the State Field Team Coordinator shall notify VDH at the State EOC whenever voluntary lifesaving has been authorized.*

*As appropriate, the Office of Radiological Health (ORH) will demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure, based on plan and/or procedures relating to the protective action guides (PAGs) for KI administration.*

**Risk Jurisdictions Negotiated Extent of Play:**

*The State has established reporting, turn back, protecting valuable property, lifesaving, voluntary lifesaving, and KI administration levels based on the EPA 2017 PAG Manual. Authorization to exceed the turnback limit must be given by the Commonwealth of Virginia. Radiological Officer for emergency workers. Any demonstration will be conducted onsite in a COVID-19 safe manner.*

**Outstanding Issues:** *None*

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

### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to independently project integrated dose from projected or actual dose rates and compare these estimates to the PAGs. OROs must have the capability to choose, among a range of protective actions, those most appropriate in a given emergency. OROs base these choices on PAGs from their plans/procedures or EPA's *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents* and other criteria, such as plant conditions, licensee PARs, coordination of PADs with other political jurisdictions (e.g., other affected OROs and incident command), availability of in-place shelter, weather conditions, and situations, to include HAB incidents, the threat posed by the specific hostile action, the affiliated response, and the effect of an evacuation on the threat response effort, that create higher than normal risk from general population evacuation.

***Criterion 2.b.1: Appropriate protective action recommendations (PARs) 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. (NUREG-0654/FEMA-REP-1, I.10 and Supplement 3)***

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial full-scale, functional or tabletop exercise.*

During the initial stage of the emergency response, following notification of plant conditions that may warrant offsite protective actions, the ORO must demonstrate the capability to use appropriate means, described in the plans/procedures, to develop PARs for decision-makers based on available information and recommendations provided by the licensee as well as field monitoring data, if available. The ORO must also consider any release and meteorological data provided by the licensee.

The ORO must demonstrate a reliable capability to independently validate dose projections. The types of calculations to be demonstrated depend on the data available and the need for assessments to support the PARs must be appropriate to the scenario. In all cases, calculation of projected dose must be demonstrated. Projected doses must be related to quantities and units of the PAG to which they will be compared. PARs must be promptly transmitted to decision-makers in a pre-arranged format.

When the licensee and ORO projected doses differ by more than a factor of 10, the ORO and licensee must determine the source of the difference by discussing input data and assumptions, using different models, or exploring possible reasons. Resolution of these differences must be incorporated into the PARs if timely and appropriate. The ORO must demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated PARs. All activities must be based on the OROs plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

**State Negotiated Extent of Play:**

*The initial Protective Action Recommendation (PAR) may be based on data from the FMTs, type of release, meteorological data and plant conditions. Scenario driven doses may or may not exceed EPA PAGs, as the plant condition-based PAR will dictate the appropriate evacuation/sheltering recommendation. This was successfully demonstrated in May 2021 during VOPEX20-21 but will be observed during VOPEX21. (See Assumptions)*

*Dose projections will be developed by the ORH at the CERC to confirm or modify, as necessary, the PAR in effect. The protective action recommendation will be forwarded from the CERC to the Virginia EOC with any information necessary to support the recommendation. If the scenario has no radiological release or potential of a radiological release, the decision-making process used to make protective action decisions can be addressed through an interview.*

**Outstanding Issues:** None



***Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m)***

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial full-scale, functional or tabletop exercise.*

OROs must have the capability to make both initial and subsequent PADs. OROs must demonstrate the capability to make initial PADs in a timely manner appropriate to the incident, based on information from the licensee, assessment of plant status and potential or actual releases, other available information related to the incident, input from appropriate ORO authorities (e.g., incident command), and PARs from the utility and ORO staff. In addition, a subsequent or alternate PAD may be appropriate if various conditions (e.g., an HAB incident, weather, release timing and magnitude) pose undue risk to an evacuation, or if evacuation may disrupt the efforts to respond to a hostile action.

OROs must demonstrate the ability to obtain supplemental resources (e.g., mutual aid) necessary to implement a PAD if local law enforcement, fire service, HAZMAT, and emergency medical resources are used to augment response to the NPP site or other key infrastructure.

Dose assessment personnel may provide additional PARs based on the subsequent dose projections, field monitoring data, or information on plant conditions. In addition, incident command must provide input regarding considerations for subsequent PARs based on the magnitude of the ongoing threat, the response, and/or site conditions. The decision-makers must demonstrate the capability to change protective actions based on the combination of all these factors.

If the ORO has determined that KI will be used as a protective measure for the general public under offsite plans/procedures, then it must demonstrate the capability to make decisions on the distribution and administration of KI to supplement sheltering and evacuation. This decision must be based on the ORO's plans/procedures or projected thyroid dose compared with the established PAG for KI administration. The KI decision-making process must involve close coordination with appropriate assessment and decision-making staff.

If more than one ORO is involved in decision making, all appropriate OROs must communicate and coordinate PADs with each other. In addition, decisions must be coordinated/communicated with incident command. OROs must demonstrate the capability to communicate the results of decisions to all the affected locations.

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

**State Negotiated Extent of Play:**

*Decisions to evacuate and shelter any portion of the affected population will be demonstrated by the VDEM State Coordinator or his/her representative in the Virginia EOC. These decisions will be coordinated with risk jurisdictions. If the scenario has no radiological release, or potential of a radiological release, the decision-making process used to make protective action decisions can be addressed through an interview. This was successfully demonstrated in May 2021 during VOPEX20-21 but will be observed during VOPEX21. (See Assumptions)*

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

**Outstanding Issues:** None.

**Sub-element 2.c – PAD Consideration for the Protection of Persons with Disabilities and Access/Functional Needs**

**Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to determine PADs, including evacuation, sheltering, and use of KI, if applicable, for groups of persons with disabilities and access/functional needs (e.g., hospitals, nursing homes, correctional facilities, schools, licensed daycare centers, mobility-impaired individuals, and transportation-dependent individuals). The focus is on those groups of persons with disabilities and access/functional needs that are, or potentially will be, affected by a radiological release from an NPP.

***Criterion 2.c.1: Protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs. (NUREG-0654/FEMA-REP-1, D.4; J.9; J.10.d, e)***

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a biennial full-scale, functional or tabletop exercise that would include the use of plant conditions transmitted from the licensee.*

Usually, it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of PAGs, except for incidents where there is a high-risk environmental condition or where high-risk groups (e.g., the immobile or infirm) are involved. In these cases, factors that must be considered include weather conditions, shelter availability, availability of transportation assets, risk of evacuation versus risk from the avoided dose, and precautionary school evacuations. In addition, decisions must be coordinated/communicated with the incident command. In situations where an institutionalized population cannot be evacuated, the ORO must consider use of KI.



Applicable OROs must demonstrate the capability to alert and notify all public-school systems/districts of emergency conditions that are expected to or may necessitate protective actions for students. Demonstration requires that the OROs actually contact public school systems/districts during the exercise.

In accordance with plans/procedures, OROs and/or officials of public-school systems/districts must demonstrate the capability to make prompt decisions on protective actions for students. The decision-making process, including any preplanned strategies for protective actions for that ECL, must consider the location of students at the time (e.g., whether the students are still at home, en route to school, or at school).

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

**State Negotiated Extent of Play:**

*The State EOC successfully demonstrated this in May 2021 during VOPEX20-21 but will be observed during VOPEX21. (See Assumptions)*

**Risk Jurisdictions Negotiated Extent of Play:**

*Risk jurisdictions will have a school representative and social services representative available to their EOC in-person or virtually. When dictated by events and according to procedures, officials will demonstrate what protective action decision they would make for schools located within the 10-mile EPZ, schools located outside of the 10-mile emergency planning zone (EPZ), yet have students residing within the 10 mile EPZ and for groups of persons with disabilities and access/functional needs (i.e. nursing homes correctional facilities if any, licensed day cares, mobility-impaired individuals, and transportation dependent). 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

## ASSESSMENT AREA 3: PROTECTIVE ACTION IMPLEMENTATION

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

#### Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide for the following: distribution, use, collection, and processing of direct-reading dosimetry and permanent record dosimetry; reading of direct-reading dosimetry by emergency workers at appropriate frequencies; maintaining a radiation dose record for each emergency worker; establishing a decision chain or authorization procedure for emergency workers to incur radiation exposures in excess of the PAGs, and the capability to provide KI for emergency workers, always applying the —as low as is reasonably achievable principle as appropriate.

***Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4)***

#### Assessment/Extent of Play

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

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

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

During a plume phase exercise, emergency workers must demonstrate the procedures to be followed when administrative exposure limits and turn-back values are reached. The emergency worker must report accumulated exposures during the exercise as indicated in the plans/procedures. OROs must demonstrate the actions described in the plans/procedures by determining whether to replace the worker, authorize the worker to incur additional exposures, or take other actions. If exercise play does not require emergency workers to seek authorizations for

additional exposure, evaluators must interview at least two workers to determine their knowledge of whom to contact in case authorization is needed, and at what exposure levels. Workers may use any available resources (e.g., written procedures and/or coworkers) in providing responses.

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

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

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

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

**State Negotiated Extent of Play:** *State field monitoring teams will demonstrate this criterion according to their procedures on October 26, 2021, at VDOT Staging, Williamsburg, VA. Emergency workers will demonstrate the basic knowledge of radiation exposure limits and KI as specified in plans/procedures. Emergency workers will demonstrate procedures to monitor and record dosimeter readings and manage radiological exposure control describe the procedures to be followed when administrative exposure limits and turn-back values are reached.*

**Virginia Department of Radiological Health Negotiated Extent of Play:** *The State Commissioner of Health (or designee) will determine whether and/or when to authorize the administration of KI to emergency workers.*

**Risk Jurisdictions Negotiated Extent of Play:** *Appropriate emergency workers in the risk jurisdictions will demonstrate this criterion according to their 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. In addition, local Field Monitoring Teams will receive their standard briefing prior to their demonstration based on COVID restrictions. Emergency workers, as appropriate, will receive KI according to their procedures and will be briefed or given information on its use. Included organizations will demonstrate the ability to develop and maintain lists of emergency workers who have ingested KI, including documentations of the date(s) and time(s) they were instructed to ingest KI. Simulated KI can be used. Emergency workers will demonstrate through interview the basic knowledge of procedures for the use of KI whether or not the scenario drives the use of KI. Emergency workers will demonstrate through interview the knowledge of exposure limits (reporting and turnback levels) and describe the procedures to be followed when administrative exposure limits and turn-back values are reached. At any time, players may ask other players or supervisors to clarify radiological information.*

**Out-of-Sequence Demonstrations:**

- VCU Medical Center
- Riverside Regional Medical Center

**Pre-staging is allowed for EAC demonstrations.**

**Evacuation Assembly Centers (EACs):**

- James City County – Warhill High School
- York County – Tabb High School
- Poquoson – Poquoson High School
- Newport News – Gildersleeve Middle School

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

**Outstanding Issues:** *None*

## **Sub-element 3.b – Implementation of KI Decision for Institutionalized Individuals and the General Public**

### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide KI for institutionalized individuals, and, if in the plans/procedures, to the general public for whom immediate evacuation may not be feasible, very difficult, or significantly delayed. While it is necessary for OROs to have the capability to provide KI to institutionalized individuals, providing KI to the general public is an ORO option and must be reflected as such in ORO plans/procedures. Provisions must include the availability of adequate quantities, storage, and means of distributing KI.

***Criterion 3.b.1: KI and appropriate instructions are available if a decision to recommend use of KI is made. Appropriate record-keeping of the administration of KI for institutionalized individuals and the general public is maintained. (NUREG-0654/FEMA-REP-1, J.10.e, f)***

### **Assessment/Extent of Play**

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

ORO must demonstrate the capability to make KI available to institutionalized individuals, and, where provided for in their plans/procedures, to members of the general public. OROs must demonstrate the capability to accomplish distribution of KI consistent with decisions made. OROs must have the capability to develop and maintain lists of institutionalized individuals who have ingested KI, including documentation of the date(s) and time(s) they were instructed to ingest KI. Ingestion of KI recommended by the designated ORO health official is voluntary. For evaluation purposes, the actual ingestion of KI shall not be performed. OROs must demonstrate the capability to formulate and disseminate instructions on using KI for those advised to take it.

If a recommendation is made for the general public to take KI, appropriate information must be provided to the public by the means of notification specified in the ORO's plans/procedures. All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

### **Risk and Host Jurisdictions Negotiated Extent of Play:**

*Risk and host 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). This criterion is also applicable to institutionalized individuals. The KI intended for use will not exceed the expiration date. **Implementation of KI use by the general public will be demonstrated out-of-sequence (see below).***

### **Out-of-Sequence Demonstrations: Evacuation Assembly Centers (EACs):**

- James City County – Warhill High School

- York County – Tabb High School
- Newport News – Gildersleeve Middle School

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

**Outstanding Issues:** None.

### **Sub-element 3.c – Implementation of Protective Actions for Persons with Disabilities and Access/Functional Needs**

#### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement PADs, including evacuation and/or sheltering, for all persons with disabilities and access/functional needs. The focus is on those persons with disabilities and access/functional needs that are (or potentially will be) affected by a radiological release from an NPP.

***Criterion 3.c.1: Protective action decisions are implemented for persons with disabilities and access/functional needs other than schools within areas subject to protective actions. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g)***

#### **Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial full-scale or functional exercise, an actual event, or by means of drills conducted at any time.*

Applicable OROs must demonstrate the capability to alert and notify (i.e., provide PARs and emergency information and instructions to) persons with disabilities and access/functional needs, including hospitals/medical facilities, nursing homes, correctional facilities, and mobility-impaired and transportation-dependent individuals. OROs must demonstrate the capability to provide for persons with disabilities and access/functional needs in accordance with plans/procedures.

Contact with persons with disabilities and access/functional needs and reception facilities may be actual or simulated, as agreed to in the extent of play. Some contacts with transportation providers must be actual, as negotiated in the extent of play. All actual and simulated contacts must be logged.



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

**Risk Jurisdictions Negotiated Extent of Play:**

*Jurisdictions will demonstrate that a list of any persons with disabilities and access/functional needs within their portion of the 10-mile EPZ is maintained. If resources are needed to assist these individuals for areas included in the Protective Action Decision, the availability of these resources will be verified (e.g., through discussion and presentation of transportation methods or providers, available vehicles, etc.). Contact with any persons with disabilities and access/functional needs 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 conducted through interview logged.*

**Out-of-Sequence Demonstrations:**

***Transportation Dependent Interviews will take place both in sequence on October 26, 2021 and out of sequence in August 2021.***

***Movement of Transportation Dependent*** – An interview will be conducted to demonstrate the necessary protective actions for the movement of transportation dependent personnel located within the 10-mile EPZ. This interview may include discussions with responsible and appropriate county emergency management personnel, Transportation Officer or provider, bus driver, and Radiological Officer and include discussion concerning protective measures such as issue of dosimetry for bus drivers, turn back values, issue of (KI), resources, pick up points, pre-identified routes or maps, and relocation points in accordance with the OROs plans and procedures.

*Demonstration dates/locations:*

***August 17, 2021:***

- James City County

***August 24, 2021:***

- York County
- Newport News

***October 26, 2021:***

- Surry County
- Williamsburg
- Isle of Wight

**Outstanding Issues:** None

***Criterion 3.c.2: OROs/School officials implement protective actions for schools. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g)***

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial full-scale, functional, or tabletop exercise, an actual event, or by means of drills conducted at any time.*

Public school systems/districts must demonstrate the ability to implement PADs for students. The demonstration must be made as follows: Each school system/district within the 10-mile EPZ must demonstrate implementation of protective actions. At least one school per affected system/district must participate in the demonstration. Canceling the school day, dismissing early, or sheltering in place must be simulated by describing to evaluators the procedures that would be followed. If evacuation is the implemented protective action, all activities to coordinate and complete the evacuation of students to reception centers, congregate care centers, or host schools may actually be demonstrated or accomplished through an interview process.

If accomplished through an interview, appropriate school personnel including decision-making officials (e.g., schools' superintendent/principals and transportation director/bus dispatchers), and at least one bus driver (and the bus driver's escort, if applicable) must be available to demonstrate knowledge of their role(s) in the evacuation of school children. Communications capabilities between school officials and the buses, if required by the plans/procedures, must be verified.

Officials of the school system(s) must demonstrate the capability to develop and provide timely information to OROs for use in messages to parents, the general public, and the media on the status of protective actions for schools.

The provisions of this criterion also apply to any private schools, private kindergartens, and licensed daycare centers that participate in REP exercises pursuant to the ORO's plans/procedures as negotiated in the Extent-of-Play Agreement.

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

**Out-of-Sequence Demonstrations:**

**Risk Jurisdiction Negotiated Extent of Play:**

***School District – York County***

***School District – Newport News***

*These evaluation areas will be demonstrated out-of-sequence in August 2021. Public school systems/districts will demonstrate the ability to make protective action decisions for students. Implementation procedures for closing schools, dismissing early or sheltering will be simulated by describing procedures to evaluators. The designated school will demonstrate, by discussion, the implementation of protective actions.*

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



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

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

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

**Pre-staging is allowed for school district and school interviews.**

**Outstanding Issues:** *None*

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

#### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement protective action plans/procedures, including relocation and restriction of access to evacuated/sheltered areas. This Sub-element focuses on selecting, establishing, and staffing of traffic and access control points, and removal of impediments to the flow of evacuation traffic.

***Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10.g, j)***

#### **Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial full-scale or functional exercise, an actual event, or by means of drills conducted at any time.*

ORO must demonstrate the capability to select, establish, and staff appropriate traffic and access control points consistent with current conditions and PADs (e.g., evacuating, sheltering, and relocation) in a timely manner. OROs must demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled. Traffic and access control staff must demonstrate accurate knowledge of their roles and responsibilities, including verifying emergency worker identification and access authorization to the affected areas, as per the Extent-of-Play Agreement. These capabilities may

be demonstrated by actual deployment or by interview, in accordance with the Extent-of-Play Agreement.

In instances where OROs lack authority necessary to control access by certain types of traffic (e.g., rail, water, and air traffic), they must demonstrate the capability to contact the state or Federal agencies that have the needed authority, as agreed upon in the Extent-of-Play Agreement.

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

**State Negotiated Extent of Play:**

*The Virginia 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. Traffic/Access Control personnel will not be deployed. This was successfully demonstrated during VOPEX20-21 in May 2021 but will be observed (See Assumptions) during VOPEX21.*

**Out-of-Sequence Demonstrations:**

**Risk Jurisdictions Negotiated Extent of Play:**

*Risk Jurisdictions, driven by the Protective Action Decision (PAD) to activate traffic control points and access control points will activate one traffic control point (TCP) and one access control point (ACP) simulated at the staging area. Both the TCP and the ACP will be established and held until evaluated. One unit (officer) will be provided to demonstrate this evaluation area. The personnel used to activate the TCP can also be the one to activate the ACP. Risk jurisdictions will demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications to protective action strategies necessitate change in evacuation patterns or in the area(s) where access is controlled. This will be demonstrated in August 2021 as an out of sequence event.*

*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*

*Demonstration dates/locations:*

**August 17, 2021:**

- *James City County*
- *Newport News*

**August 24, 2021:**

- *York County*

**October 26, 2021:**

- Surry County
- Williamsburg
- Isle of Wight

**Outstanding Issues:** None

**Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654/FEMA-REP-1, J.10.k)**

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial full-scale or functional exercise, an actual event, or by means of drills conducted at any time.*

ORO's must demonstrate the capability to identify and take appropriate actions concerning impediments to evacuations. In demonstrating this capability, the impediment must remain in place during the evacuation long enough that re-routing of traffic is required and must also result in demonstration of decision-making and coordination with the JIC to communicate the alternate route to evacuees. When, due to specifics of the scenario or jurisdiction, the impediment cannot be located on an evacuation route, it must be located so as to impact the evacuation. When not possible, actual dispatch of resources need not be physically demonstrated; however, all contacts, actual or simulated, must be logged.

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

**State Negotiated Extent of Play:**

*None.*

**Risk Jurisdictions Negotiated Extent of Play:**

*Risk jurisdiction Emergency Operations Centers will demonstrate the ability to identify and take appropriate actions concerning impediments to evacuation by inject and interview and presented at the time an evacuation is ordered or recommended. Impediments to evacuation routes will remain throughout the evacuation and will not be able to be cleared. Actual dispatch of resources to deal with impediments, such as tow trucks, need not be demonstrated; however, simulated contacts will be logged. If the scenario does not lead to evacuation, the criteria shall be deemed complete if the ORO can describe to the evaluator the actions, they would take to overcome a major traffic impediment during an evacuation and how such actions would be communicated to the public.*

**Outstanding Issues:** None

## ASSESSMENT AREA 4: FIELD MEASUREMENTS AND ANALYSIS

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

#### Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to deploy FMTs with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume. In addition, NUREG-0654/FEMA-REP-1 indicates that OROs must have the capability to use FMTs within the plume exposure pathway EPZ to detect airborne radioiodine in the presence of noble gases and radioactive particulate material in the airborne plume. In an incident at an NPP, the possible release of radioactive material may pose a risk to the nearby population and environment. Although incident assessment methods are available to project the extent and magnitude of a release, these methods are subject to large uncertainties. During an incident, it is important to collect field radiological data to help characterize any radiological release. Adequate equipment and procedures are essential to such field measurement efforts.

***Criterion 4.a.2: Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654/FEMA-REP-1, C.1; H.12; I.7, 8, 11; J.10.a)***

#### Assessment/Extent of Play

*Assessment of this Demonstration Criterion may be accomplished during a biennial exercise. Other means may include drills that would fully demonstrate technical proficiency.*

Responsible OROs must demonstrate the capability to brief FMTs on predicted plume location and direction, plume travel speed, and exposure control procedures before deployment. During an HAB incident, the Field Team management must keep the incident command informed of field monitoring teams' activities and location. Coordination with FMTs and field monitoring may be demonstrated as out-of-sequence demonstrations, as negotiated in the Extent-of-Play Agreement.

Field measurements are needed to help characterize the release and support the adequacy of implemented protective actions, or to be a factor in modifying protective actions. Teams must be directed to take measurements at such locations and times as necessary to provide sufficient information to characterize the plume and its impacts.

If the responsibility for obtaining peak measurements in the plume has been accepted by licensee field monitoring teams, with concurrence from OROs, there is no requirement for these measurements to be repeated by ORO monitoring teams. If the licensee FMTs do not obtain peak measurements in the plume, it is the ORO's decision as to whether peak measurements are necessary to sufficiently characterize the plume. The sharing and coordination of plume measurement information among all FMTs (licensee, Federal, and ORO) is essential. OROs must use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts or the licensee). Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

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

**Out-of-Sequence Demonstrations:**

*None.*

**Virginia Department of Health, Office of Radiological Health Negotiated Extent of Play:**

*VDH/ORH will demonstrate the deployment of two field teams in order for FEMA to observe the coordination of State and Utility Field Team operations, communications between the State Field Teams and the Field Team Coordinator (located at the CERC) and for the analyzing of field data at the CERC. This data will be provided to ORH at the VEOC to support decision making. The controller will be equipped with time stamped radiological scenario data which they will communicate to the Field Teams as necessary or appropriate.*

**Outstanding Issues:** *ISSUE Number 41-21-4a2-L2-01 identified VOPEX20/21 NAPS Exercise to be re-demonstrated by the VDEM State On-Scene Coordinator during VOPEX21.*

***Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654/FEMA-REP-1, C.1; H.12: I.8, 9; J.10.a)***

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial exercise. Other means may include drills that would fully demonstrate technical proficiency.*

Two or more FMTs must demonstrate the capability to make and report measurements of ambient radiation to the field team coordinator, dose assessment team, or other appropriate authority. FMTs must also demonstrate the capability to obtain an air sample for measurement of airborne radioiodine and particulates, and to provide the appropriate authority with field data pertaining to measurement. If samples have radioactivity significantly above background, the authority must consider the need for expedited laboratory analyses of these samples. Coordination concerning transfer of samples, including a chain-of-custody form(s), to a radiological laboratory(ies) must be demonstrated. OROs must share data in a timely manner with all other appropriate OROs. All methodology, including contamination control, instrumentation, preparation of samples, and a chain-of-custody form(s) for transfer to a laboratory(ies), will be in accordance with the ORO's plans/procedures. OROs must use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts or the licensee). Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

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

**Out-of-Sequence Demonstrations:**

*None.*

**Virginia Department of Health, Office of Radiological Health Negotiated Extent of Play:**

*State field monitoring teams will demonstrate this criterion according to their procedures in sequence with the exercise on October 26, 2021, at ORH Field Team Staging Area, Chester, VA. Two State Field Monitoring Teams (FMT), consisting of at least two individuals per team, will be pre-staged at the Chester staging area and will operate according to their procedures. Injects will be provided by a Controller to drive play. The teams will demonstrate the capability to make and report measurements to the field team coordinator. One field monitoring team member per team will demonstrate donning and doffing of PPE at the staging area. If directed to don PPE during the exercise, Field monitoring teams will describe the process and are not required to wear PPE. Teams will demonstrate taking and analyzing an air sample as directed to by the field team coordinator. NOTE: some actions taken by the field team coordinator and field teams will be driven by controller inject, not procedures, in order to facilitate exercise play within the established timeline. In addition, players may be asked to provide identifying information or credentials in the event field monitoring teams are required to access controlled areas.*

**Risk Jurisdictions Negotiated Extent of Play:**

*Isle of Wight, City of Williamsburg, and York County risk jurisdictions will conduct a demonstration of skills on October 26, 2021 in sequence at their Local Staging sites. These jurisdictions will deploy one FMT, consisting of at least two individuals per team as directed by the VDEM State Radiological Protection Officer (RPO) at the CERC or backup facility. Teams will not leave the Local Staging site and will not travel to any points. One local FMT member will demonstrate donning and doffing.*

*Teams will take measurements and operate according to their procedures. The controllers will have the necessary data to provide radiation levels to these teams. Note: Local field monitoring teams will not demonstrate the collection of air samples.*

**Outstanding Issues:** *None*



## ASSESSMENT AREA 5: EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

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

#### Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide prompt instructions to the public within the plume exposure pathway EPZ. Specific provisions addressed in this Sub-element are derived from the *Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants*, FEMA-REP-10 (November 1985).

Demonstration Criterion:	In a Timely Manner	Within 45 minutes	Within a Reasonable Time
<b>Primary Alert and Notification</b>			
5.a.1 ... covering essentially 100% of 10-mile EPZ	X		
5.a.3 ... covering the 10-mile EPZ			X
<b>Backup Alert and Notification for All Incidents</b>			
5.a.4 ... for FEMA approved exception areas		X	

***Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current REP guidance. (NUREG-0654/FEMA-REP-1, E.5, 6, 7)***

#### Assessment/Extent of Play

*Assessment of this Demonstration Criterion may be accomplished during a biennial full-scale or functional exercise, drills, or operational testing of equipment that would fully demonstrate capability.*

Responsible OROs must demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume EPZ. Following the decision to activate the alert and notification system, OROs must complete system activation for primary alert/notification and disseminate the information/instructions in a timely manner. For exercise purposes, timely is defined as —with a sense of urgency and without undue delay. If message dissemination is identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

Procedures to broadcast the message must be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test message(s) is not

required. The procedures must be demonstrated up to the point of actual activation. The alert signal activation should be simulated, not performed. Evaluations of EAS broadcast stations may also be accomplished through SAVs. The capability of the primary notification system to broadcast an instructional message on a 24-hour basis must be verified during an interview with appropriate personnel from the primary notification system, including verification of provisions for backup power or an alternate station.

The initial message must include at a minimum the following elements:

- ☐ Identification of the ORO responsible and the official with authority for providing the alert signal and instructional message.
  - ☐ Identification of the commercial NPP and a statement that an emergency exists there.
  - ☐ Reference to REP-specific emergency information (e.g., brochures, calendars, and/or information in telephone books) for use by the general public during an emergency; and
- A closing statement asking that the affected and potentially affected population stay tuned for additional information, or that the population tune to another station for additional information.

If route alerting is demonstrated as a primary method of alert and notification, it must be done in accordance with the ORO's plans/procedures and the Extent-of-Play Agreement. OROs must demonstrate the capability to accomplish the primary route alerting in a timely manner (not subject to specific time requirements). At least one route needs to be demonstrated and evaluated. The selected route(s) must vary from exercise to exercise. However, the most difficult route(s) must be demonstrated no less than once every 8 years. All alert and notification activities along the route(s) must be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as negotiated in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed-upon location.

ORO's may demonstrate any means of primary alert and notification included in their plans/procedures as negotiated in the Extent-of-Play Agreement. All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play Agreement.

**Virginia Department of Emergency Management**

*Coordination will occur between the Virginia EOC and the affected counties with respect to the Alert and Notification System (ANS) process. Surry County and James City County have the control equipment for activation of sirens. Sirens will be coordinated, and the sounding simulated at the appropriate time with the simulated activation of EAS taking place following the simulated activation of the sirens. The Virginia EOC is the initiating point for the activation of the EAS. Regular Broadcasting will not be interrupted on the EAS Stations. Broadcast of the message(s) or test message(s) is **NOT** required and **NOT** requested. Following the decision to activate the alert and notification system, in accordance with the ORO's plan and/or procedures, ANS activation should be accomplished in a timely manner for primary alerting/notification. This action will be performed "with a sense of urgency and without undue delay" (REP Manual-January 2016). All actions to broadcast stations will be simulated. Systems that use automatic sending technology may be demonstrated by explanation during an interview. Each risk county*



*will demonstrate, by interview, route alerting of the hearing-impaired residents within their jurisdiction. Hearing impaired notification teams will not be deployed.*

**Risk Jurisdiction Negotiated Extent of Play:**

*In addition, they will demonstrate the process for siren activation. Actual sounding of sirens will be simulated.*

**Risk Jurisdiction Negotiated Extent of Play:**

*The following jurisdictions will demonstrate primary route alerting (one route) in sequence with the exercise for areas not covered by sirens within the 0-5-mile radius in sequence on October 26, 2021.*

- *Isle of Wright County*
- *James City County*

*This action is not subject to specific time requirements but must be completed within a timely manner.*

**Outstanding Issues:** *None*

***Criterion 5.a.3: Backup alert and notification of the public is completed within a reasonable time following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654/FEMA-REP-1, E.6, Appendix 3.B.2.c)***

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, drills, or operational testing of equipment that would fully demonstrate capability.*

If the exercise scenario calls for failure of any portion of the primary system(s) or if any portion of the primary system(s) actually fails to function during the exercise, OROs must demonstrate backup means of alert and notification. Backup means of alert and notification will differ from facility to facility. Backup alert and notification procedures that would be implemented in multiple stages must be structured such that the population closest to the plant (e.g., within 2 miles) is alerted and notified first. The populations farther away and downwind of any potential radiological release would be covered sequentially (e.g., 2 to 5 miles, followed by downwind 5 to 10 miles, and finally the remaining population as directed by authorities). Topography, population density, existing ORO resources, and timing will be considered in judging the acceptability of backup means of alert and notification. Although circumstances may not allow this for all situations, FEMA and the NRC recommend that OROs and operators attempt to establish backup means that will reach those in the plume exposure EPZ within a reasonable time of failure of the primary alert and notification system, with a recommended goal of 45 minutes. The backup alert message must, at a minimum, include (1) a statement that an emergency exists at the plant and (2) instructions regarding where to obtain additional information.

If backup route alerting is demonstrated, **only one route needs to be selected and demonstrated.** All alert and notification activities along the route(s) must be simulated (that is,

the message that would actually be used is read for the evaluator, but not actually broadcast), as negotiated in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed-upon location. OROs may demonstrate any means of backup alert and notification included in their plans/procedures as negotiated in the Extent-of-Play Agreement.

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

**Risk Jurisdictions Negotiated Extent of Play:**

*None.*

***Outstanding Issue: None***

***Criterion 5.a.4: Activities associated with FEMA-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. (NUREG-0654/FEMA-REP-1, E.6; Appendix 3.B.2.c)***

**Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a biennial exercise, drills, or operational testing of equipment that would fully demonstrate capability.*

ORO's with FEMA-approved exception areas (identified in the approved *Alert and Notification System Design Report*), 5 to 10 miles from the NPP, must demonstrate the capability to accomplish primary alerting and notification of the exception area(s). FEMA and the NRC recommend that OROs and operators establish means that will reach those in approved exception areas within 45 minutes once the initial decision is made by authorized offsite emergency officials to notify the public of an incident. The exception area alert message must, at a minimum, include (1) a statement that an emergency exists at the plant and (2) instructions regarding where to obtain additional information. For exception area alerting, at least one route must be demonstrated and evaluated. The selected route(s) must vary from exercise to exercise. However, the most difficult route(s) must be demonstrated no less than once every 8 years. All alert and notification activities along the route(s) must be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcasted) as negotiated in the extent of play. Actual testing of the mobile public address system will be conducted at an agreed-upon location. For exception areas alerted by air/watercraft, actual routes will be negotiated in the extent of play but must be demonstrated no less than once every 8 years.

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

**Out-of-Sequence Demonstrations:**

**Risk Jurisdiction Negotiated Extent of Play:**

***The following jurisdictions will demonstrate exception area route alerting (one route) in sequence with the exercise for areas not covered by sirens within the 5-10-mile radius during the October 26, 2021 VOPEX:***

- *Isle of Wright County*
- *Surry County*
- *James City County*
- *York County*

*This route must be demonstrated within 45 minutes once the initial decision is made to notify the public of an incident.*

**Outstanding Issues:** *None*

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

### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to disseminate appropriate emergency information and instructions, including any recommended protective actions, to the public. In addition, NUREG-0654/FEMA-REP-1 requires OROs to ensure that the capability exists for providing information to the media. This includes the availability of a physical location for use by the media during an emergency. NUREG-0654/FEMA-REP-1 also provides that a system must be available for dealing with rumors. This system will hereafter be known as the public inquiry hotline.

***Criterion 5.b.1: OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c)***

### **Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a full-scale or functional exercise, or drills.*

The responsible ORO personnel/representatives must demonstrate actions to provide emergency information and instructions to the public and media in a timely manner following the initial alert and notification (not subject to specific time requirements). For exercise purposes, timely is defined as —with a sense of urgency and without undue delay. If message dissemination is identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

**Message elements:** The ORO must ensure that emergency information and instructions are consistent with PADs made by appropriate officials. The emergency information must contain all necessary and applicable instructions (e.g., evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, shelter-in-place instructions, information concerning protective actions for schools and persons with disabilities and access/functional needs, and public inquiry hotline telephone number) to assist the public in carrying out the PADs provided. The ORO must also be prepared to disclose and explain the ECL of the incident. At a minimum, this information must be included in media briefings and/or media releases. OROs must demonstrate the capability to use language that is clear and understandable to the public within both the plume and ingestion exposure pathway EPZs. This includes demonstration of the capability to use familiar landmarks and boundaries to describe protective action areas.

The emergency information must be all-inclusive by including the four items specified under exercise Demonstration Criterion 5.a.1 and previously identified protective action areas that are still valid, as well as new areas. The OROs must demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. In addition, the OROs must demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals in accordance with the plans/procedures.

OROs must demonstrate the capability to develop emergency information in a non-English language when required by the plans/procedures.

If ingestion pathway measures are exercised, OROs must demonstrate that a system exists for rapid dissemination of ingestion pathway information to pre-determined individuals and businesses in accordance with the ORO's plans/procedures.

**Media information:** OROs must demonstrate the capability to provide timely, accurate, concise, and coordinated information to the news media for subsequent dissemination to the public. This would include demonstration of the capability to conduct timely and pertinent media briefings and distribute media releases as the incident warrants. The OROs must demonstrate the capability to respond appropriately to inquiries from the news media. All information presented in media briefings and releases must be consistent with PADs and other emergency information provided to the public. Copies of pertinent emergency information (e.g., EAS messages and media releases) and media information kits must be available for dissemination to the media.

**Public inquiry:** OROs must demonstrate that an effective system is in place for dealing with calls received via the public inquiry hotline. Hotline staff must demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate information source. Information from the hotline staff, including information that corrects false or inaccurate information when trends are noted, must be included, as appropriate, in emergency information provided to the public, media briefings, and/or media releases.

**HAB considerations:** The dissemination of information dealing with specific aspects of NPP security capabilities, actual or perceived adversarial (terrorist) force or threat, and tactical law enforcement response must be coordinated/communicated with appropriate security authorities, e.g., law enforcement and NPP security agencies, in accordance with ORO plans/procedures.

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

**Virginia Department of Emergency Management Negotiated Extent of Play:**

*This evaluation area will be observed (See Assumptions) at the JIC located at the Virginia EOC. 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. JIC staff will explain to evaluators the procedures for identification of trends in rumors, misleading information, logging calls, and the process for referring callers to appropriate agencies for emergency information. A 2-1-1 call center will be staffed at one of the two call centers but will not be evaluated at the facility. Some calls will be designed so as to allow public inquiry staff to demonstrate the capability to identify trends in rumors (e.g., frequently expressed false or misleading information). The hotline staff will demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate source. Information from the hotline staff, including information that correct false, or inaccurate information when trends are noted will be included as appropriate in emergency information provided to the public, media briefings and/or media releases. Public inquiry telephone number(s) will be designated and published at*

*the appropriate time. Public information staff will simulate monitoring EAS broadcasts to determine whether false or misleading information is being disseminated to the public. Media monitoring equipment will be available. Since no actual exercise related broadcasts will be made, the media monitoring equipment will be tested for operability and the staff will be demonstrate their capability to monitor area EAS stations. All subsequent emergency information and instruction will be provided to the public and the media in a timely manner. All emergency information and instructions are consistent with protective action decisions made by appropriate officials. The emergency information will contain all necessary and applicable instructions (e.g. evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concern pets, shelter in place, information concerning protective action for schools and special populations, public inquiry telephone numbers, etc. The State will demonstrate the capability to use familiar landmarks and boundaries to describe protective action areas. The emergency information will be all-inclusive by including previously identified protective actions areas that are still valid as well as new areas. The State will demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. The State will demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals.*

**Risk and Host Jurisdictions Negotiated Extent of Play:**

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

**Outstanding Issues:** None.



## ASSESSMENT AREA 6: SUPPORT OPERATIONS/FACILITIES

### Sub-element 6.a – Monitoring, Decontamination, and Registration of Evacuees

#### Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement radiological monitoring and decontamination of evacuees, while minimizing contamination of the facility. OROs must also have the capability to identify and register evacuees at reception centers.

***Criterion 6.a.1: The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees. (NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h; J.12)***

#### Assessment/Extent of Play

*Assessment of this Demonstration Criterion may be accomplished during a full-scale or functional exercise, drills, or SAV.*

Radiological monitoring, decontamination, and registration facilities for evacuees must be set up and demonstrated as they would be in an actual emergency or as indicated in the Extent-of-Play Agreement. OROs conducting this demonstration must have one-third of the resources (e.g., monitoring teams/instrumentation/portal monitors) available at the facility(ies) as necessary to monitor 20 percent of the population within a 12-hour period. This would include adequate space for evacuees' vehicles. Availability of resources can be demonstrated with valid documentation (e.g., MOU/LOA, etc.) reflecting how necessary equipment would be procured for the location. Plans/procedures must indicate provisions for service animals.

Before using monitoring instrument(s), the monitor(s) must demonstrate the process of checking the instrument(s) for proper operation. Staff responsible for the radiological monitoring of evacuees must demonstrate the capability to attain and sustain, within about 12 hours, a monitoring productivity rate per hour needed to monitor the 20 percent EPZ population planning base. The monitoring productivity rate per hour is the number of evacuees that can be monitored, per hour, by the total complement of monitors using an appropriate procedure. For demonstration of monitoring, decontamination, and registration capabilities, a minimum of six evacuees must be monitored per station using equipment and procedures specified in the plans/procedures. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators to determine whether the 12-hour requirement can be met.

ORO must demonstrate the capability to register evacuees upon completion of the monitoring and decontamination activities. The activities for recording radiological monitoring and, if necessary, decontamination must include establishing a registration record consisting of the evacuee's name, address, results of monitoring, and time of decontamination (if any), or as otherwise designated in the plan and/or procedures. Audio recorders, camcorders, or written records are all acceptable means for registration.

Monitoring activities shall not be simulated. Monitoring personnel must explain use of trigger/action levels for determining the need for decontamination. They must also explain the procedures for referring any evacuees who cannot be adequately decontaminated for assessment and follow-up in accordance with the ORO's plans/procedures. All activities must be based on the ORO's plans/procedures and completed as they would be in an actual emergency, unless noted above or otherwise specified in the Extent-of-Play

Decontamination of evacuees may be simulated and conducted by interview. Provisions for separate showering and same-sex monitoring must be demonstrated or explained. The staff must demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs, and appropriate means (e.g., partitions, roped-off areas) to separate uncontaminated from potentially contaminated areas. Provisions must also exist to separate contaminated and uncontaminated evacuees, provide changes of clothing for those with contaminated clothing; and store contaminated clothing and personal belongings to prevent further contamination of evacuees or facilities. In addition, for any evacuee found to be contaminated, procedures must be discussed concerning handling of potential contamination of vehicles and personal belongings. Wastewater from decontamination operations does not need to be collected.

Individuals who have completed monitoring (and decontamination, if needed) must have means (e.g., hand stamp, sticker, bracelet, form, etc.) indicating that they, and their service animals and vehicles, where applicable, have been monitored, cleared, and found to have no contamination or contamination below the trigger/action level or have been placed in a secure area until they can be monitored and decontaminated, if necessary.

In accordance with plans/procedures, individuals found to be clean after monitoring do not need to have their vehicle monitored. These individuals do not require confirmation that their vehicle is free from contamination prior to entering the congregate care areas.

However, those individuals who are found to be contaminated and are then decontaminated will have their vehicles held in a secure area or monitored and decontaminated (if applicable) and do require confirmation that their vehicle is being held in a secure area or free from contamination prior to entering the congregate care areas.

#### **Out-of-Sequence Demonstrations: August 2021**

##### ***Risk Jurisdictions Negotiated Extent of Play Evacuation Assembly Centers (EACs):***

- *James City County – Warhill High School*
- *York County – Tabb High School*
- *Newport News – Gildersleeve Middle School*

*The activated EAC will be set up according to established plans and procedures in a partial set-up to allow for exercise evaluation. However, the EAC will be staffed with adequate monitoring and decontamination personnel to allow exercise demonstration. **All EAC personnel may be prepositioned and actual facility setup (signs, equipment, etc.) may be***



***begin prior to the start of the evaluated demonstration.*** The EAC will monitor and register six persons consecutively. For demonstration purposes, these six persons can be emergency workers or EAC personnel acting as evacuees. The use of walk-through portal monitors will be demonstrated in all activated EACs. Evacuee decontamination procedures and the referral of individuals to a medical facility will be simulated through interview. The decontamination of one person will be demonstrated through controller inject. Monitoring of one evacuee vehicle will be demonstrated. Decontamination of one evacuee vehicle will be demonstrated via interview with the evaluator. Once the evacuees are monitored and found to be clean from contamination, sheltering staff will demonstrate the registration process.

**Outstanding Issues:** None

### **Sub-element 6.b – Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles**

#### **Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement radiological monitoring and decontamination of emergency workers and their equipment, inclusive of vehicles.

***Criterion 6.b.1: The facility/ORO has adequate procedures and resources to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles. (NUREG-0654/FEMA-REP-1, K.5.a, b)***

#### **Assessment/Extent of Play**

*Assessment of this Demonstration Criterion may be accomplished during a full-scale or functional exercise, drills, or SAV.*

The monitoring staff must demonstrate the capability to monitor emergency worker personnel and their equipment and vehicles for contamination in accordance with the ORO's plans/procedures.

Specific attention must be given to equipment, including any vehicles that were in contact with contamination. The monitoring staff must demonstrate the capability to make decisions on the need for decontamination of personnel, equipment, and vehicles based on trigger/action levels and procedures stated in the ORO plans/procedures. Monitoring of emergency workers does not have to meet the 12-hour requirement. However, appropriate monitoring procedures must be demonstrated for a minimum of two emergency workers and their equipment and vehicles. Before using monitoring instrument(s), the monitor(s) must demonstrate the process of checking the instrument(s) for proper operation.

The area to be used for monitoring and decontamination must be set up as it would be in an actual emergency, with all route markings, instrumentation, record keeping, and contamination

control measures in place. Monitoring procedures must be demonstrated for a minimum of one vehicle. It is generally not necessary to monitor the entire surface of vehicles. However, the capability to monitor areas such as radiator grills, bumpers, wheel wells, tires, and door handles must be demonstrated. Interior surfaces of vehicles that were in contact with contaminated individuals must also be checked.

Decontamination of emergency workers may be simulated and conducted via interview. Provisions for separate showering and same-sex monitoring must be demonstrated or explained. The staff must demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs, and appropriate means (e.g., partitions, roped-off areas) to separate uncontaminated from potentially contaminated areas. Provisions must also exist to separate contaminated and uncontaminated individuals where applicable; provide changes of clothing for those with contaminated clothing; and store contaminated clothing and personal belongings to prevent further contamination of emergency workers or facilities.

Monitoring activities shall not be simulated. Monitoring personnel must explain use of trigger/action levels for determining the need for decontamination. They must also explain the procedures for referring any emergency workers who cannot be adequately decontaminated for assessment and follow-up in accordance with the ORO's plans/procedures. Decontamination capabilities and provisions for vehicles and equipment that cannot be successfully decontaminated may be simulated and conducted by interview. Waste water from decontamination operations does not need to be collected.

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

**Risk Jurisdictions Negotiated Extent of Play:**

**Out-of-Sequence Demonstrations: August 2021**

**Evacuation Assembly Centers (EACs):**

- James City County – Warhill High School
- York County – Tabb High School
- Newport News – Gildersleeve Middle School

*The activated EAC will be set up according to established plans and procedures in a partial set-up to allow for exercise evaluation. However, the EACs will be staffed with adequate monitoring and decontamination personnel to allow exercise demonstration. **All EAC personnel may be prepositioned and actual facility setup (signs, equipment, etc.) may begin prior to the start of the evaluated demonstration.***

*The emergency workers and monitoring staff will demonstrate according to their plans and procedures the equipment tool drop and **monitoring of used appropriate field survey meters being returned from the field. A minimum of one emergency worker and one emergency worker vehicle will be monitored. The decontamination of one emergency worker vehicle will be demonstrated through interview and demonstration one vehicle decontamination.***

**Outstanding Issues:** None

## Sub-element 6.c – Temporary Care of Evacuees

### Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires OROs to have the capability to establish relocation centers in host/support jurisdictions. The American Red Cross normally provides congregate care in support of OROs under existing letters of agreement.

***Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with 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. (NUREG-0654/FEMA-REP-1, J.10.h, J.12)***

### Assessment/Extent of Play

*Assessment of this Demonstration Criterion may be accomplished during a full-scale or functional exercise, drills, or SAV.*

The evaluator must conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with applicable guidance.

For planning purposes, OROs must plan for a sufficient number of congregate care centers in host/support jurisdictions based on their all-hazard sheltering experience and what is historically relevant for that particular area. In this simulation, it is not necessary to set up operations as they would be in an actual emergency. Alternatively, capabilities may be demonstrated by setting up stations for various services and providing those services to simulated evacuees. Given the substantial differences between demonstration and simulation of this criterion, exercise demonstration expectations must be clearly specified in Extent of-Play Agreements.

Congregate care staff must also demonstrate the capability to ensure that evacuees, service animals, and vehicles have been monitored for contamination, decontaminated as appropriate, and registered before entering the facility.

Individuals arriving at congregate care facilities must have means (e.g., hand stamp, sticker, bracelet, form, etc.) indicating that they, and their service animals and vehicles, where applicable, have been placed in a secured area or monitored, cleared, and found to have no contamination or contamination below the trigger/action level.

In accordance with plans/procedures, individuals found to be clean after monitoring do not need to have their vehicle monitored. These individuals do not need confirmation that their vehicle is free from contamination prior to entering the congregate care areas.

However, those individuals who are found to be contaminated and are then decontaminated will have their vehicles held in a secure area until they can be monitored and decontaminated (if applicable) and do need confirmation that their vehicle is being held in a secure area or free from contamination prior to entering the congregate care areas. This capability may be determined through an interview process.

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

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

**Risk Jurisdictions Negotiated Extent of Play:**

**Out-of-Sequence Demonstrations: August 2021**

**Evacuation Assembly Centers (EACs):**

- James City County – Warhill High School
- York County – Tabb High School
- Poquoson High School
- Newport News – Gildersleeve Middle School

**Mass Care Center**

- Poquoson – Poquoson High School

*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.*

**Pre-staging is allowed for EAC demonstrations.**

**Outstanding Issues: None**

**Sub-element 6.d – Transportation and Treatment of Contaminated Injured Individuals**

**Intent**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to transport contaminated injured individuals to medical facilities with the capability to provide medical services.

***Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4)***

**Assessment/Extent of Play**

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

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

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

An ambulance must be used for response to the victim. However, to avoid taking an ambulance out of service for an extended time, OROs may use any vehicle (e.g., car, truck, or van) to transport the victim to the medical facility. It is allowable for an ambulance to demonstrate up to the point of departure for the medical facility and then have a non-specialized vehicle transport the “victim(s)” to the medical facility. This option is used in areas where removing an ambulance from service to drive a great distance (over an hour) for a drill would not be in the best interests of the community. Monitoring of the victim may be performed before transport or enroute, or may be deferred to the medical facility. Before using monitoring instruments, the monitor(s) must demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities must be completed as they would be in an actual emergency. Appropriate contamination control measures must be demonstrated before and during transport and at the receiving medical facility.

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

Monitoring of the victim may be performed before transport or en route, or may be deferred to the medical facility. Contaminated injured individuals transported to medical facilities are monitored as soon as possible to assure that everyone (ambulance and medical facility) is aware of the medical and radiological status of the individual(s). However, if an ambulance defers monitoring to the medical facility, then the ambulance crew presumes that the patient(s) is contaminated and demonstrate appropriate contamination controls until the patient(s) is monitored. Before using monitoring instruments, the monitor(s) must demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities must be completed as they would be in an actual emergency. Appropriate contamination control measures must be demonstrated before and during transport and at the receiving medical facility. The medical facility must demonstrate the capability to activate and set up a radiological emergency area for treatment. Medical facilities are expected to have at least one trained physician and one trained nurse to perform and supervise treatment of contaminated injured

individuals. Equipment and supplies must be available for treatment of contaminated injured individuals. The medical facility must demonstrate the capability to activate and set up a radiological emergency area for treatment. Equipment and supplies must be available for treatment of contaminated injured individuals.

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

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

**Out-of-Sequence Demonstration, Pre-staging is allowed for all medical services drills.**

October 27, 2021

*Williamsburg City Fire Department will demonstrate the ability to respond to a simulated injured/contaminated individual requiring transport to VCU Medical Center. Contamination levels will be provided to EMS personnel by controller inject. EMS personnel will demonstrate appropriate contamination control measures before and during transport of the victim. Decontamination of the victim will be deferred to the medical facility due to injuries taking precedence over contamination. Dosimetry will be provided by the utility. Communications between the ambulance/dispatcher and the receiving medical facility should be demonstrated. If a substitute vehicle is used for transport to the medical facility, this communication must occur before releasing the ambulance from the drill. This communication would include reporting radiation monitoring results, if available. Additionally, the ambulance crew should demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information.*

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

October 27, 2021

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

*Isle of Wight Volunteer Rescue Squad will provide transport of an injured/contaminated patient to Riverside Regional Medical Center from the Isle of Wight Volunteer Rescue Squad Station.*

**Outstanding Issues:** *None.*



### **Annex C: Participating Agencies**

- Virginia Emergency Support Team (VEST)
  - Virginia Department of Agriculture and Consumer Services
  - Virginia Department of Emergency Management
  - Virginia Department of Health/Office of Radiological Health
  - Virginia Department of Military Affairs
  - Virginia Department of Social Services
  - Virginia Department of Transportation
  - Virginia State Police
- Risk-Area Jurisdictions
  - Surry County
  - Isle of Wight County
  - James City County
  - York County
  - Williamsburg City
  - Newport News City
- Host-Area Jurisdictions
  - New Kent County
  - Poquoson City
- American Red Cross
- 2-1-1 Virginia
- Riverside Regional Medical Center
  - Isle of Wight Volunteer Rescue Squad
- VCU Medical Center
  - Williamsburg City Fire Department



### Annex D: Addresses of Locations to be Evaluated

<b>Virginia EOC</b> 7700 Midlothian Turnpike Richmond, VA 804-674-2400	<b>Corporate Emergency Response Center (CERC)</b> 5000 Dominion Blvd Glen Allen, VA 23060
<b>Joint Information Center (JIC)</b> <i>Virginia EOC</i>	<b>State Field Team 1 and 2 - Staging Area</b> ORH Field Team Staging Area: Atlantic Emergency Solutions 13051 Redwater Drive Chester, VA 23836
<b>Local Emergency Operations Centers</b>	<b>Local Staging Areas</b>
<u><b>Surry County EOC (risk locality)</b></u> 1239 Colonial Trail West Dendron, VA 23839	<u><b>Surry County Staging Area</b></u> 1239 Colonial Trail West Dendron, VA 23839
<u><b>James City County EOC (risk locality)</b></u> 3127 Forge Road Toano, VA 23168	<u><b>James City County Staging Area:</b></u> 4600 Opportunity Way Williamsburg, VA 23188
<u><b>City of Newport News EOC (risk locality)</b></u> 511 Operations Drive Newport News, VA 23693	<u><b>City of Newport News Staging Area:</b></u> Fire Station 6 685 Oyster Point Road Newport News, VA 23602
<u><b>City of Williamsburg EOC (risk locality)</b></u> 444 N. Boundary Street Williamsburg, VA 23185	<u><b>City of Williamsburg Staging Area:</b></u> Fire Station Classroom (adjacent to EOC) 440 N. Boundary Street Williamsburg, Virginia 23185
<u><b>York County EOC (risk locality)</b></u> 301 Goodwin Neck Road Yorktown, VA 23692	<u><b>York County Staging Area:</b></u> Fire Station #3 114 Hubbard Lane Williamsburg, VA
<u><b>Isle of Wight County EOC (risk locality)</b></u> 17110 Monument Circle Isle of Wight VA 23397	<u><b>Isle of Wight County Staging Area:</b></u> Isle of Wight Volunteer Rescue Squad 13080 Great Springs Road Smithfield, VA 23430
<u><b>New Kent County EOC (host locality)</b></u> 11995 Courthouse Circle New Kent, VA 23124	
<u><b>City of Poquoson EOC (host locality)</b></u> 500 City Hall Avenue Poquoson, VA 23662	

#### Out-of-Sequence Demonstrations:

Demonstration	Date/Time	Participants/Address
James City County Evacuation Assembly Center (EAC) Exercise; TCP/ACP, Transportation Dependent Interviews	Date: August 17, 2021 Time: 9 am – 12 pm	Warhill High School 4615 Opportunity Way Williamsburg, VA 23188
Newport News Evacuation Assembly Center (EAC) Exercise; TCP/ACP, Transportation Dependent Interviews	Date: August 17, 2021 Time: 1:30 pm – 5 pm	Gildersleeve Middle School 1 Minton Drive Newport News, VA 23606
Newport News Schools/School District Interview	Date: August 23, 2021 Time: 9 am – 11 am	York County EOC / Denbigh High School 513 Operations Drive Newport News, VA 23602
Poquoson Evacuation Assembly Center (Mass Care) Exercise	Date: August 24, 2021 Time: 9 am – 11 am	Poquoson High School 51 Odd Road Poquoson, VA 23662
York County Schools/School District Interview	Date: August 24, 2021 Time: 9 am – 11 am	York County School Board Office / Queens Lake Middle School 302 Dare Road Yorktown, VA 23692
York County TCP/ACP Interviews	Date: August 24, 2021 Time: 1 pm - 3 pm	York-Poquoson Sheriff 301 Goodwin Neck Road Yorktown, VA 23692
Newport News Transportation Dependent Interview	Date: August 24, 2021 Time: 1 pm – 3 pm	York County EOC 513 Operations Drive Newport News, VA 23602
York County Evacuation Assembly Center (EAC) Exercise	Date: August 25, 2021 Time: 1 pm – 5 pm	Tabb High School 4431 Big Bethel Road Yorktown, VA 23693
VCU Medical Center	Date: October 27, 2021 Time: 8:30 am – 11 am	VCU Medical Center 57 N 11 <sup>th</sup> Street Richmond, VA 23298 (Conducted with Williamsburg Fire and Rescue)
Williamsburg Fire and Rescue (MS-1)	Date: October 27, 2021 Time: 8:30 am – 11 am	440 N. Boundary Street Williamsburg, VA 23185
Riverside Regional Medical Center	Date: October 27, 2021 Time: 8:30 am – 11 am	Riverside Medical Center 500 J Clyde Morris Blvd Newport News, VA 23601

**Unclassified**  
Radiological Emergency Preparedness Program (REP)

**After Action Report/Improvement Plan**

**Surry Power Station**

		(Conducted with Isle of Wight Rescue Squad)
Isle of Wight Rescue Squad (MS-1)	Date: October 27, 2021 Time: 8:30 am – 11 am	13080 Great Spring Road Smithfield, VA 23430

### **Annex E: Open Issues**

There are no Level 1 findings, there is one open Level 2 finding identified on May 4, 2021 during the North Anna Power Station Exercise. There were three Planning Issues, which were closed in September 2019, as a result of the FEMA-evaluated plume-phase exercise at Surry Power Station on July 23, 2019.