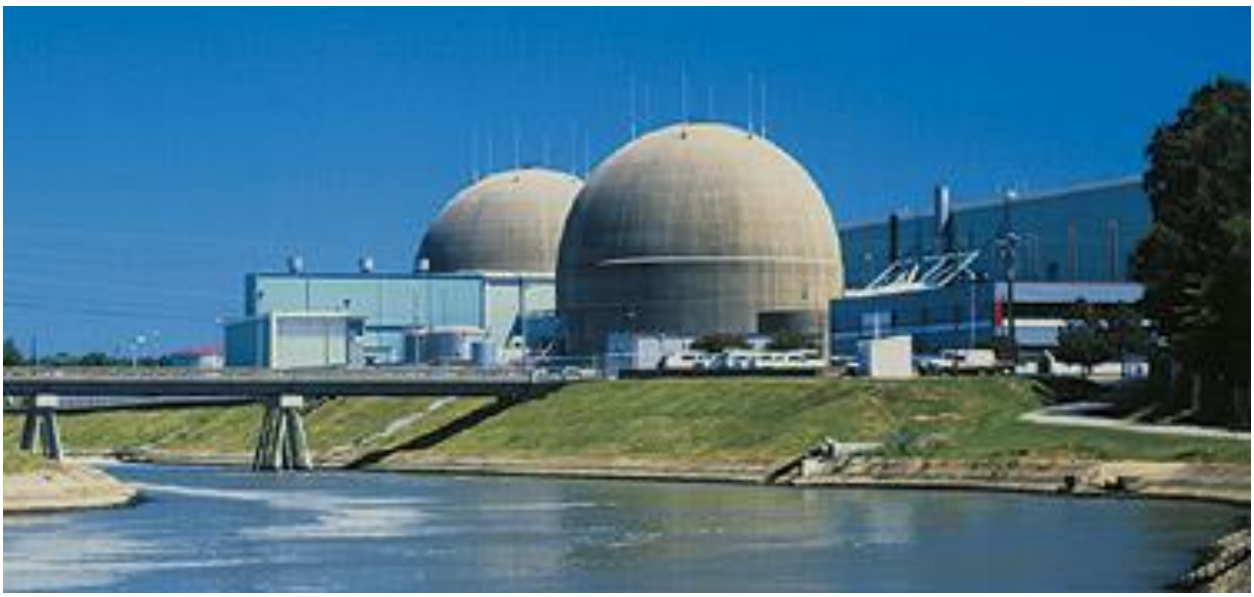

North Anna Power Station
Mineral, Virginia
After Action Report/Improvement Plan

Exercise Date – May 4, 2021

Radiological Emergency Preparedness (REP) Program

FEMA

Published July 27, 2021

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North Anna Power Station

After Action Report/Improvement Plan

Published July 27, 2021

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EXECUTIVE SUMMARY

On May 4-5, 2021, a full participation Plume and Ingestion Exposure Pathway exercise was conducted and evaluated for the 10-Mile Emergency Planning Zone (EPZ) and the 50-Mile Ingestion Pathway Zone around the North Anna Power Station (NAPS) by the U.S. Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), Region 3. This exercise was postponed from August 18, 2020 in accordance with the FEMA Technological Hazards, Relief from Frequency Framework due to the COVID-19 Pandemic. The previous full-scale Plume Exercise at this site was evaluated on July 17, 2018.The previous full participation Ingestion Exercise in the Commonwealth of Virginia was July 16, 2013.

Thirty-two Ingestion Pathway Jurisdictions received Ingestion Pathway training provided by the Virginia Department of Emergency Management (VDEM) conducted from November 17, 2020 to December 7, 2020 in accordance with NUREG-0654 Planning Standard N.1.d.

Out-of-Sequence demonstrations were conducted during the week of June 7, 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 North Anna 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 no Plan Issues. Two prior Level 2 Findings and three Plan Issues were resolved prior to this exercise and one remaining Level 2 Finding was resolved during the exercise.

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 five risk jurisdictions of Caroline, Hanover, Louisa, Orange, and Spotsylvania Counties. 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/Ingestion 2021-05-04

Type of Exercise
Plume/Ingestion

Exercise Date
May 4-5, 2021

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Radiological Release/Ingestion

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the North Anna Power Station (NAPS) exercise:

State Jurisdictions

Commonwealth of Virginia

- City of Newport News Regional HazMat Team
- Commonwealth of Virginia Governor's Office
- Virginia Cooperative Extension
- Virginia Department of Agriculture and 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 (VDH/ORH)
- Virginia Department of Health, Office of Radiological Health (ORH)
- Virginia Department of Transportation (VDOT)
- Virginia Emergency Support Team (VEST)
- Virginia State Police

Risk Jurisdictions

Caroline County

- Caroline County Emergency Communication Center Enhanced 911
- Caroline County Emergency Management
- Caroline County Fire and Rescue
- Caroline County Public Schools
- Caroline County Sheriff's Department
- Ladysmith Volunteer Fire Company
- Rappahannock Area American Red Cross

- Virginia Cooperative Extension

Hanover County

- Hanover County Emergency Management
- Hanover Fire and Emergency Medical Services
- Hanover County Public Schools
- Hanover County Sheriff's Office
- Virginia Cooperative Extension
- Virginia Department of Emergency Management

Louisa County

- Community Emergency Response Team (CERT)
- Louisa County Department of Human Services
- Louisa County Emergency Medical Services
- Louisa County Fire Department
- Louisa County Office of Emergency Management
- Louisa County Public Health Department
- Louisa County Public Schools
- Louisa County Sheriff's Office
- Virginia Department of Emergency Management

Orange County

- Newport News Fire Department
- Orange County Administrator
- Orange County Agriculture Extension
- Orange County Chairman of the Board
- Orange County Department of Health
- Orange County Department of Social Services
- Orange County Fire/EMS
- Orange County Office of Emergency Management
- Orange County School Department
- Orange County Sheriff's Office
- Orange Police Department

Spotsylvania County

- American Red Cross of Virginia
- Fredericksburg Fire and Rescue
- Radio Amateur Civil Emergency Services (RACES), virtually
- Spotsylvania County Department of Social Services
- Spotsylvania County Emergency Services Staff
- Spotsylvania County Extension Agent
- Spotsylvania County Fire and Rescue
- Spotsylvania County GIS Department
- Spotsylvania County Public Information Office
- Spotsylvania County Schools

- Spotsylvania County Schools Department of Facility Operations
- Spotsylvania County Schools Department of Transportation
- Spotsylvania County Sheriff's Department
- Virginia Department of Health
- Virginia Department of Emergency Management
- Virginia Department of Transportation
- Virginia State Police

Ingestion Pathway Jurisdictions

- Albemarle County
- Amelia County
- Buckingham County
- Caroline County
- Charlottesville City
- Chesterfield County
- Culpeper County
- Cumberland County
- Essex County
- Fairfax County
- Fauquier County
- Fluvanna County
- Fredericksburg City
- Goochland County
- Greene County
- Hanover County
- Henrico County
- King and Queen County
- King George County
- King William County
- Madison County
- Manassas City
- New Kent County
- Page County
- Powhatan County
- Prince William County
- Rappahannock County
- Richmond City
- Richmond County
- Rockingham County
- Stafford County
- Westmoreland County

Private Organizations

- Dominion Energy
- American Red Cross

Federal Organizations

- Department of Energy – National Nuclear Security Administration (DOE-NNSA)
- Federal Emergency Management Agency
- US Air Force
- US Army

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/Ingestion Exposure Pathway Exercise was conducted during the week of May 3, 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 North Anna Power Station (NAPS). 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

Emergency Planning Zone Description: North Anna Power Station

The 10-mile plume Emergency Planning Zone (EPZ) includes Caroline, Hanover, Louisa, Orange, and Spotsylvania Counties. The North Anna Power Station, consisting of approximately 1,856 acres, is located in Louisa County on the southern shore of Lake Anna in central Virginia, 40 miles northwest of Richmond, 38 miles east of Charlottesville, and 24 miles southwest of Fredericksburg. North Anna Power Station is located within the central Piedmont Plateau of Virginia. The topography is characterized as a gently undulating surface that varies from 60 m (200 ft.) to 150 m (500 ft.) above mean sea level. Lake Anna is a man-made reservoir, approximately 8 km (5 mi) upstream from the North Anna Dam. Forests comprising primarily pine and hardwoods cover the majority of the peninsula on which North Anna is sited. The predominant land use in Louisa County is forestry, a major contributor to the economy. Almost 70 percent of the total land area is forest interspersed with small farm agriculture.

2.2 Exercise Objectives, Capabilities and Activities

The objectives of the 2021 North Anna Power Station (NAPS) Plume/Ingestion 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) and the 50-mile Ingestion Pathway Zone (IPZ).

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.

The 50-Mile Ingestion Pathway Zone (IPZ) exercise was conducted in a table-top exercise format and involved participants from Federal, State and County governments. The objectives of the Ingestion Pathway Zone exercise were:

To demonstrate the use of procedures to assess the radiological consequences of a release on the food and water supplies, such as the development of a sampling plan. The assessment must include evaluation of the radiological analyses of representative samples of water, food, and other ingestible substances of local interest from potentially impacted areas; characterization of the releases from the facility; and the extent of areas potentially impacted by the release. During this assessment, OROs must consider use of agricultural and watershed data within the 50-mile IPZ.

To demonstrate the capability to secure and use current information on the locations of dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points to implement protective actions within the IPZ. OROs use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts, nuclear insurers) if available.

To demonstrate the capability to estimate integrated dose in contaminated areas and compare these estimates with Protective Action Guidelines (PAGs); apply decision criteria for relocation of those individuals in the general public who have not been evacuated, but where actual or projected doses are in excess of relocation PAGs; and control access to evacuated and restricted areas.

Decisions must be made on location of control points and policies regarding access and exposure control for emergency workers and members of the general public who need to temporarily enter the evacuated area to perform specific tasks or missions.

To demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase (i.e., permitting populations that were previously evacuated to reoccupy their homes and businesses on an unrestricted basis).

To demonstrate the development of measures and strategies for implementation of Ingestion Pathway Zone (IPZ) protective actions by formulating protective action information for the general public and food producers and processors.

2.3 Scenario Summary

The Plume Exposure Pathway exercise scenario started with both North Anna Power Station (NAPS) Unit 1 and 2 reactors operating at 100% power. The weather forecast called for an approximate wind speed from 5 mph and wind direction from 270 degrees.

At 0807 an earthquake occurs. An Alert Emergency Classification Level (ECL) was declared at 0811 due to damage to Unit 1 safety-related systems. Notifications were made to offsite response organizations.

At 0900, a significant aftershock occurs, resulting in damage to the Spent Fuel Pit. An elongated crack on the south wall results in a 300-gallon-per-minute leak and Unit 1 reactor experiences fuel damage.

At 0945, a Unit 1 Small Break Loss of Coolant Accident (LOCA) occurs (a break of the reactor coolant system piping) and reactor fuel damage occurs. A Site Area Emergency was declared at 0950.

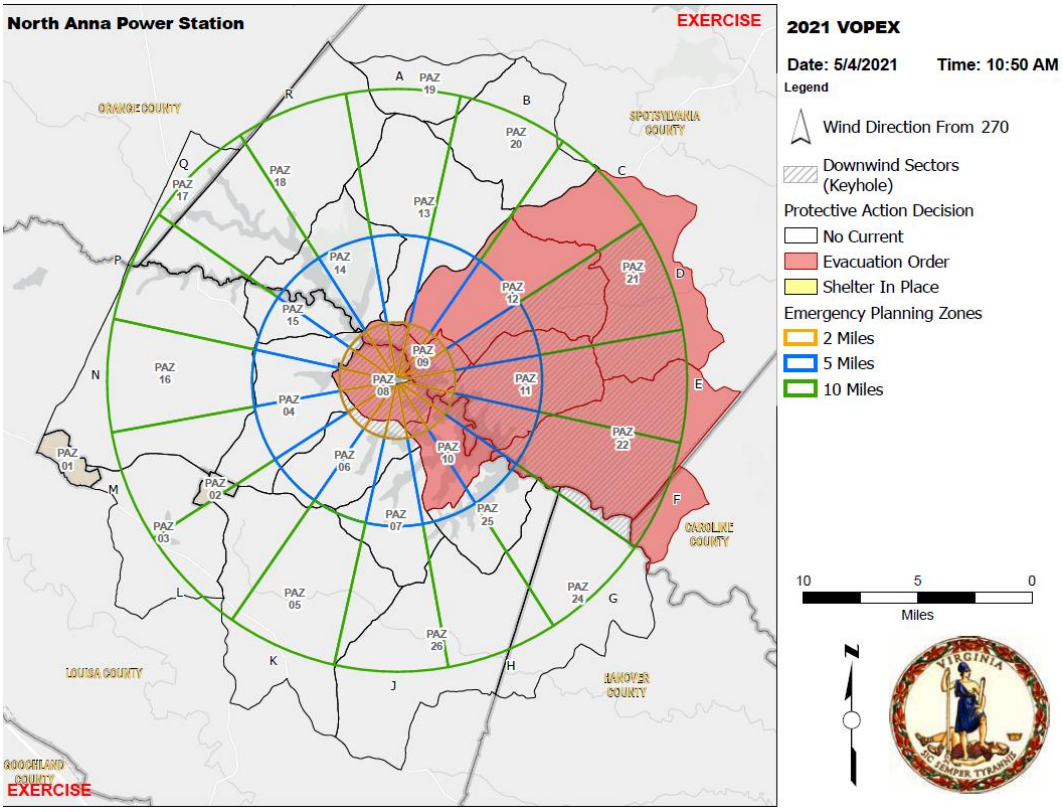
At 1019 due to further earthquake damage a Unit 1 Large Break LOCA (larger piping rupture) occurs and further damage challenges containment integrity. A General Emergency was declared at 1022. A Protective Action Recommendation (PAR) was made by the Licensee to evacuate 0-2 miles all Sectors and 2-5 miles in Sectors D, E, and F.

At 1050, the Commonwealth of Virginia and off-site response organizations take appropriate protective actions based on conditions to evacuate Protective Action Zones (PAZs) 8, 9, 10, 11, 12, 21, 22, and 23.

At 1135 a containment breach occurs due to ruptured piping from the inside to outside of containment initiating an airborne radiological release to the environment. These worsening conditions result in a PAR upgrade from the Licensee to evacuate 0-5 miles all Sectors and 5-10 miles in Sectors D, E, and F.

At 1210 an upgraded Protective Action Decision (PAD) was made by the Commonwealth of Virginia to evacuate PAZs 8, 9, 10, 11, 12, 21, 22, and 23 and Emergency Workers, General Public and Special Populations should ingest KI.

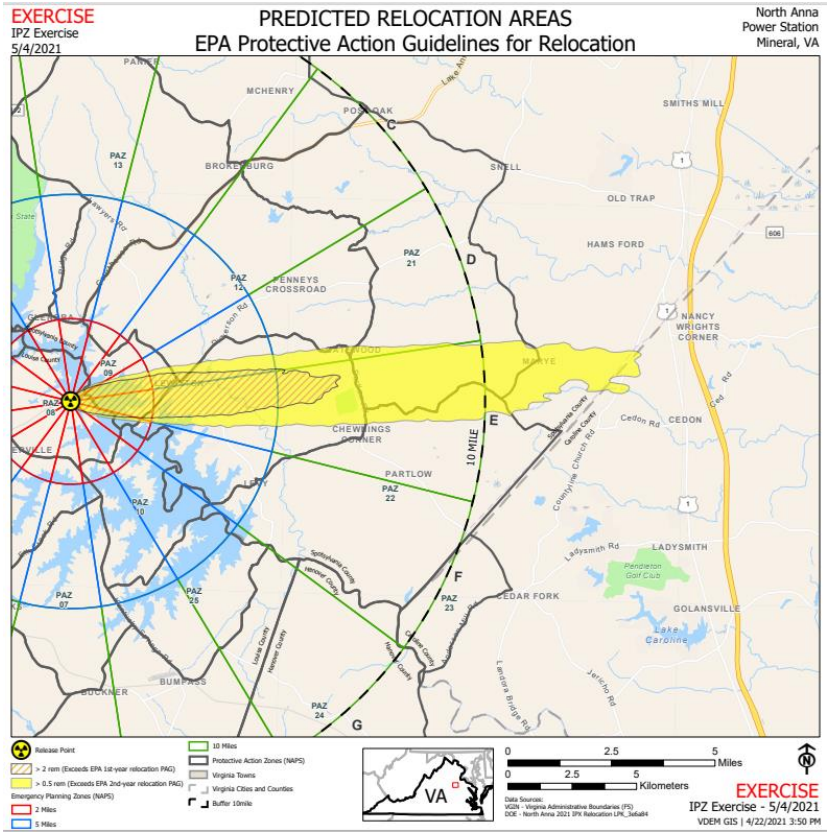
At 1300 the release was terminated.



At 1330 the Plume Exposure Pathway Exercise is terminated.

At 1500, the Ingestion Exposure Pathway (Tabletop) exercise started and was based on the power plant status, State and meteorological conditions presented and concluded at termination of the Plume exercise. These included NAPS Unit 1 in a shutdown and controlled condition. Unit 2 operating unaffected. Both the liquid and airborne radiological releases having been terminated and the Commonwealth of Virginia's implemented Protective Action Decisions (evacuations and other PADs) having been implemented and completed.

Multiple scenario 'time jumps' were implemented during the timeframe by which the Post Plume and Ingestion Exposure Pathway Tabletop Exercise was conducted. These time jumps simulated days, weeks and beyond for the purpose of demonstration of the Commonwealth of Virginia and risk jurisdictions implementation actions associated with a Post Plume/Ingestion accident response. Beyond the 10-mile plume exposure pathway, actions included soil, dairy, milk and vegetation sampling, establishment of a restricted zone and subsequent relocation of the public.



At 1400 on May 5, 2021 the Ingestion Exposure Pathway Tabletop terminated.

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 May 4, 2021 biennial Plume Exposure Pathway 10-mile Emergency Planning Zone (EPZ) and the May 5, 2021 50-mile Ingestion Pathway Zone (IPZ) (required once every eight years by States that have nuclear power plants operating within their geographical boundaries) Radiological Emergency Preparedness (REP) Exercises. 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 and the 50-mile Ingestion Pathway Zone surrounding the North Anna 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.

Tables 3.1 - Summary of Exercise Evaluation

Table 3.1a - Exercise Evaluation by Classification

Date: May 4, 2021 Site: North Anna Power Station			
Location	Criteria Title	Criteria	Classification
Corporate Emergency Response Center (CERC) (VDEM)	Plume Phase Field Measurement and Analyses	4a2	L2

Table 3.1b – Exercise Credit Granted for the Offsite Response Organizations response during the COVID-19 Public Health Emergency (PHE)

Date: May 4, 2021 Site: North Anna Power Station		
Location	Criteria Title	Criteria
Caroline County EOC	Mobilization	1a1
Hanover County EOC	Mobilization	1a1
Mary Washington Hospital	Transportation/Treatment of Contaminated Injured Individuals	6d1
Orange County MCC at Prospect Heights	Temporary Care of Evacuees	6c1
Spotsylvania County EOC	Mobilization	1a1
Spotsylvania County MCC at Chancellor High School	Temporary Care of Evacuees	6c1
Virginia SEOC	Mobilization	1a1

Table 3.1c – Exercise Evaluation – Criteria Met

Date: May 4, 2021 Site: North Anna Power Station		
Location	Criteria Title	Criteria
Caroline County EARA5-10	Communications Equipment	1d1
Caroline County EARA5-10	Equipment and Supplies to Support Operations	1e1
Caroline County EARA5-10	Implementation of Emergency Worker Exposure Control	3a1
Caroline County EARA5-10	Activation of the Exception Area ANS	5a4
Caroline County EOC	Direction and Control	1c1
Caroline County EOC	Communications Equipment	1d1
Caroline County EOC	Equipment and Supplies to Support Operations	1e1
Caroline County EOC	PADs for Disabilities and Access Functional Needs People	2c1
Caroline County EOC	Implementation of Emergency Worker Exposure Control	3a1
Caroline County EOC	Implementation of PADs for Disabilities & Access Functions Needs People	3c1
Caroline County EOC	Implementation of PADs for Schools	3c2
Caroline County EOC	Implementation of Traffic & Access Control	3d1
Caroline County EOC	Impediments to Evacuation	3d2
Caroline County EOC	Activation of the Exception Area ANS	5a4
Caroline County EOC	Emergency Information & Instructions for the Public/Media	5b1
Caroline County EOC (IPX)	Direction and Control	1c1
Caroline County EOC (IPX)	Implementation of Post-Plume Phase Relocation, Reentry and	3f1

	Return Decisions	
Caroline County EOC (IPX)	Emergency Information & Instructions for the Public/Media	5b1
Caroline County FMT	Mobilization	1a1
Caroline County FMT	Communications Equipment	1d1
Caroline County FMT	Equipment and Supplies to Support Operations	1e1
Caroline County FMT	Implementation of Emergency Worker Exposure Control	3a1
Caroline County FMT	Plume Phase Field Measurement, Handling, & Analyses	4a3
Caroline County TCP/ACP	Communications Equipment	1d1
Caroline County TCP/ACP	Equipment and Supplies to Support Operations	1e1
Caroline County TCP/ACP	Implementation of Emergency Worker Exposure Control	3a1
Caroline County TCP/ACP	Implementation of Traffic & Access Control	3d1
Caroline County TRNSDEP	Communications Equipment	1d1
Caroline County TRNSDEP	Equipment and Supplies to Support Operations	1e1
Caroline County TRNSDEP	Implementation of Emergency Worker Exposure Control	3a1
Caroline County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3c1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Mobilizations	1a1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Direction and Control	1c1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Communications Equipment	1d1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Equipment and Supplies to Support Operations	1e1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Emergency Worker Exposure Control Decisions	2a1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Accident Assessment and PARs for the Emergency Event	2b1
Corporate Emergency Response Center (VDH/ORH/VDEM)	Field Team Management	4a2
Division of Consolidated Laboratory Services	Implementation of Emergency Worker Exposure Control	3a1
Division of Consolidated Laboratory Services	Laboratory Operations	4c1
Hanover County EARA5-10	Communications Equipment	1d1
Hanover County EARA5-10	Equipment and Supplies to Support Operations	1e1
Hanover County EARA5-10	Implementation of Emergency Worker Exposure Control	3a1
Hanover County EARA5-10	Activation of the Exception Area ANS	5a4
Hanover County EOC	Direction and Control	1c1
Hanover County EOC	Communications Equipment	1d1
Hanover County EOC	Equipment and Supplies to Support Operations	1e1
Hanover County EOC	PADs for Disabilities and Access Functional Needs People	2c1
Hanover County EOC	Implementation of Emergency Worker Exposure Control	3a1
Hanover County EOC	Implementation of PADs for disabilities & access/functional needs people	3c1
Hanover County EOC	Implementation of PADs for Schools	3c2
Hanover County EOC	Implementation of Traffic & Access Control	3d1
Hanover County EOC	Impediments to Evacuation	3d2
Hanover County EOC	Activation of the Exception Area ANS	5a4
Hanover County EOC	Emergency Information & Instructions for the Public/Media	5b1
Hanover County EOC (IPX)	Direction and Control	1c1
Hanover County EOC (IPX)	Implementation of Post-Plume Phase Relocation, Reentry and	3f1

	Return Decisions	
Hanover County EOC (IPX)	Emergency Information & Instructions for the Public/Media	5b1
Hanover County FMT	Mobilization	1a1
Hanover County FMT	Communications Equipment	1d1
Hanover County FMT	Equipment and Supplies to Support Operations	1e1
Hanover County FMT	Implementation of Emergency Worker Exposure Control	3a1
Hanover County FMT	Plume Phase Field Measurement, Handling, & Analyses	4a3
Hanover County TCP/ACP	Communications Equipment	1d1
Hanover County TCP/ACP	Equipment and Supplies to Support Operations	1e1
Hanover County TCP/ACP	Implementation of Emergency Worker Exposure Control	3a1
Hanover County TCP/ACP	Implementation of Traffic & Access Control	3d1
Hanover County TRNSDEP	Communications Equipment	1d1
Hanover County TRNSDEP	Equipment and Supplies to Support Operations	1e1
Hanover County TRNSDEP	Implementation of Emergency Worker Exposure Control	3a1
Hanover County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3c1
Louisa County BuRA	Communications Equipment	1d1
Louisa County BuRA	Equipment and Supplies to Support Operations	1e1
Louisa County BuRA	Implementation of Emergency Worker Exposure Control	3a1
Louisa County BuRA	Activation of the Back-up ANS	5a3
Louisa County EARA5-10	Communications Equipment	1d1
Louisa County EARA5-10	Equipment and Supplies to Support Operations	1e1
Louisa County EARA5-10	Implementation of Emergency Worker Exposure Control	3a1
Louisa County EARA5-10	Activation of the Exception Area ANS	5a4
Louisa County EWMDS	Communications Equipment	1d1
Louisa County EWMDS	Implementation of Emergency Worker Exposure Control	3a1
Louisa County EWMDS	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1
Louisa County EOC	Mobilization	1a1
Louisa County EOC	Direction and Control	1c1
Louisa County EOC	Communications Equipment	1d1
Louisa County EOC	Equipment and Supplies to Support Operations	1e1
Louisa County EOC	PADs for Disabilities and Access Functional Needs People	2c1
Louisa County EOC	Implementation of Emergency Worker Exposure Control	3a1
Louisa County EOC	Implementation of PADs for disabilities & access/functional needs people	3c1
Louisa County EOC	Implementation of PADs for Schools	3c2
Louisa County EOC	Implementation of Traffic & Access Control	3d1
Louisa County EOC	Impediments to Evacuation	3d2
Louisa County EOC	Activation of the Prompt Alert & Notification System	5a1
Louisa County EOC	Activation of the Exception Area ANS	5a4
Louisa County EOC	Emergency Information & Instructions for the Public/Media	5b1
Louisa County EOC (IPX)	Direction and Control	1c1
Louisa County EOC (IPX)	Implementation of Post-Plume Phase Relocation, Reentry and Return Decisions	3f1
Louisa County EOC (IPX)	Emergency Information & Instructions for the Public/Media	5b1
Louisa County FMT	Communications Equipment	1d1
Louisa County FMT	Equipment and Supplies to Support Operations	1e1
Louisa County FMT	Implementation of Emergency Worker Exposure Control	3a1
Louisa County FMT	Plume Phase Field Measurement, Handling, & Analyses	4a3
Louisa County MCC	Facilities	1b1

Louisa County MCC	Communications Equipment	1d1
Louisa County MCC	Implementation of KI Decision for Institutionalized Individuals and the Public	3b1
Louisa County MCC	Temporary Care of Evacuees	6c1
Louisa County PARA0-5	Communications Equipment	1d1
Louisa County PARA0-5	Equipment and Supplies to Support Operations	1e1
Louisa County PARA0-5	Implementation of Emergency Worker Exposure Control	3a1
Louisa County PARA0-5	Activation of the Prompt Alert & Notification System	5a1
Louisa County RC	Facilities	1b1
Louisa County RC	Direction and Control	1c1
Louisa County RC	Implementation of Emergency Worker Exposure Control	3a1
Louisa County RC	Monitoring, Decontamination and Registration of Evacuees	6a1
Louisa County School District	Implementation of PADs for Schools	3c2
Louisa County TCP/ACP	Communications Equipment	1d1
Louisa County TCP/ACP	Equipment and Supplies to Support Operations	1e1
Louisa County TCP/ACP	Implementation of Emergency Worker Exposure Control	3a1
Louisa County TCP/ACP	Implementation of Traffic & Access Control	3d1
Louisa County, Thomas Jefferson Elementary School	Implementation of PADs for Schools	3c2
Louisa County TRNSDEP	Communications Equipment	1d1
Louisa County TRNSDEP	Equipment and Supplies to Support Operations	1e1
Louisa County TRNSDEP	Implementation of Emergency Worker Exposure Control	3a1
Louisa County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3c1
Mary Washington Hospital	Implementation of Emergency Worker Exposure Control	3a1
Orange County EARA5-10	Communications Equipment	1d1
Orange County EARA5-10	Equipment and Supplies to Support Operations	1e1
Orange County EARA5-10	Implementation of Emergency Worker Exposure Control	3a1
Orange County EARA5-10	Activation of the Exception Area ANS	5a4
Orange County EWMDS	Communications Equipment	1d1
Orange County EWMDS	Implementation of Emergency Worker Exposure Control	3a1
Orange County EWMDS	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1
Orange County EOC	Mobilization	1a1
Orange County EOC	Direction and Control	1c1
Orange County EOC	Communications Equipment	1d1
Orange County EOC	Equipment and Supplies to Support Operations	1e1
Orange County EOC	PADs for Disabilities and Access Functional Needs People	2c1
Orange County EOC	Implementation of Emergency Worker Exposure Control	3a1
Orange County EOC	Implementation of PADs for disabilities & access/functional needs people	3c1
Orange County EOC	Implementation of PADs for Schools	3c2
Orange County EOC	Implementation of Traffic & Access Control	3d1
Orange County EOC	Impediments to Evacuation	3d2
Orange County EOC	Activation of the Exception Area ANS	5a4
Orange County EOC	Emergency Information & Instructions for the Public/Media	5b1
Orange County EOC (IPX)	Direction and Control	1c1
Orange County EOC (IPX)	Implementation of Post-Plume Phase Relocation, Reentry and Return Decisions	3f1
Orange County EOC (IPX)	Emergency Information & Instructions for the Public/Media	5b1
Orange County FMT	Mobilization	1a1

Orange County FMT	Communications Equipment	1d1
Orange County FMT	Equipment and Supplies to Support Operations	1e1
Orange County FMT	Implementation of Emergency Worker Exposure Control	3a1
Orange County FMT	Plume Phase Field Measurement, Handling, & Analyses	4a3
Orange County RC	Facilities	1b1
Orange County RC	Direction and Control	1c1
Orange County RC	Implementation of Emergency Worker Exposure Control	3a1
Orange County RC	Monitoring, Decontamination and Registration of Evacuees	6a1
Orange County TCP/ACP	Communications Equipment	1d1
Orange County TCP/ACP	Equipment and Supplies to Support Operations	1e1
Orange County TCP/ACP	Implementation of Emergency Worker Exposure Control	3a1
Orange County TCP/ACP	Implementation of Traffic & Access Control	3d1
Orange County TRNSDEP	Communications Equipment	1d1
Orange County TRNSDEP	Equipment and Supplies to Support Operations	1e1
Orange County TRNSDEP	Implementation of Emergency Worker Exposure Control	3a1
Orange County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3c1
Spotsylvania County BuRA	Communications Equipment	1d1
Spotsylvania County BuRA	Equipment and Supplies to Support Operations	1e1
Spotsylvania County BuRA	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County BuRA	Activation of the Back-up ANS	5a3
Spotsylvania County PARA0-5	Communications Equipment	1d1
Spotsylvania County PARA0-5	Equipment and Supplies to Support Operations	1e1
Spotsylvania County PARA0-5	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County PARA0-5	Activation of the Prompt Alert & Notification System	5a1
Spotsylvania County EARA5-10	Communications Equipment	1d1
Spotsylvania County EARA5-10	Equipment and Supplies to Support Operations	1e1
Spotsylvania County EARA5-10	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County EARA5-10	Activation of the Exception Area ANS	5a4
Spotsylvania County EWMDS	Communications Equipment	1d1
Spotsylvania County EWMDS	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County EWMDS	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1
Spotsylvania County EOC	Direction and Control	1c1
Spotsylvania County EOC	Communications Equipment	1d1
Spotsylvania County EOC	Equipment and Supplies to Support Operations	1e1
Spotsylvania County EOC		2c1
Spotsylvania County EOC	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County EOC	Implementation of PADs for disabilities & access/functional needs people	3c1
Spotsylvania County EOC	Implementation of PADs for Schools	3c2
Spotsylvania County EOC	Implementation of Traffic & Access Control	3d1
Spotsylvania County EOC	Impediments to Evacuation	3d2
Spotsylvania County EOC	Activation of the Prompt Alert & Notification System	5a1
Spotsylvania County EOC	Activation of the Exception Area ANS	5a4
Spotsylvania County EOC	Emergency Information & Instructions for the Public/Media	5b1
Spotsylvania County EOC (IPX)	Direction and Control	1c1
Spotsylvania County EOC (IPX)	Implementation of Post-Plume Phase Relocation, Reentry and Return Decisions	3f1
Spotsylvania County EOC (IPX)	Emergency Information & Instructions for the Public/Media	5b1
Spotsylvania County FMT	Mobilization	1a1

Spotsylvania County FMT	Communications Equipment	1d1
Spotsylvania County FMT	Equipment and Supplies to Support Operations	1e1
Spotsylvania County FMT	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County FMT	Plume Phase Field Measurement, Handling, & Analyses	4a3
Spotsylvania County Post Oaks Middle School	Implementation of PADs for Schools	3c2
Spotsylvania County RC	Facilities	1b1
Spotsylvania County RC	Direction and Control	1c1
Spotsylvania County RC	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County RC	Monitoring, Decontamination and Registration of Evacuees	6a1
Spotsylvania County School District	Implementation of PADs for Schools	3c2
Spotsylvania County TCP/ACP	Communications Equipment	1d1
Spotsylvania County TCP/ACP	Equipment and Supplies to Support Operations	1e1
Spotsylvania County TCP/ACP	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County TCP/ACP	Implementation of Traffic & Access Control	3d1
Spotsylvania County TRNSDEP	Communications Equipment	1d1
Spotsylvania County TRNSDEP	Equipment and Supplies to Support Operations	1e1
Spotsylvania County TRNSDEP	Implementation of Emergency Worker Exposure Control	3a1
Spotsylvania County TRNSDEP	Implementation of PADs for Disabilities & Access Functions Needs People	3c1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Mobilization	1a1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Direction and Control	1c1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Communications Equipment	1d1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Equipment and Supplies to Support Operations	1e1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Emergency Worker Exposure Control Decisions	2a1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Accident Assessment and PARs for the Emergency Event	2b1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Protective Action Decision Process and Coordination	2b2
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	2d1
Virginia Department of Health (VDH)/Office of Radiological Health (ORH)	Radiological Assessment and Decision-making Concerning Post-Plume Phase Relocation, Reentry and Return	2e1
Virginia Joint Information Center	Communications Equipment	1d1
Virginia Joint Information Center	Equipment and Supplies to Support Operations	1e1
Virginia Joint Information Center	Emergency Information & Instructions for the Public/Media	5b1

Virginia Joint Information Center (IPX)	Emergency Information & Instructions for the Public/Media	5b1
Virginia State EOC	Direction and Control	1c1
Virginia State EOC	Communications Equipment	1d1
Virginia State EOC	Equipment and Supplies to Support Operations	1e1
Virginia State EOC	Protective Action Decision Process and Coordination	2b2
Virginia State EOC	PADs for Disabilities and Access Functional Needs People	2c1
Virginia State EOC	Implementation of KI Decision for Institutionalized Individuals and the Public	3b1
Virginia State EOC	Implementation of Traffic & Access Control	3d1
Virginia State EOC	Activation of the Prompt Alert & Notification System	5a1
Virginia State EOC (IPX)	Direction and Control	1c1
Virginia State EOC (IPX)	Implementation of Ingestion Exposure Pathway Decisions	3e1
Virginia State EOC (IPX)	Implementation of Ingestion Exposure Pathway Decisions	3e2
Virginia State EOC (IPX)	Implementation of Post-Plume Phase Relocation, Reentry and Return Decisions	3f1
Virginia State FST1	Mobilization	1a1
Virginia State FST1	Implementation of Emergency Worker Exposure Control	3a1
Virginia State FST1	Post Plume Phase Field Measurements and Sampling	4b1
Virginia State FST2	Mobilization	1a1
Virginia State FST2	Implementation of Emergency Worker Exposure Control	3a1
Virginia State FST2	Post Plume Phase Field Measurements and Sampling	4b1
Virginia State Mobile Laboratory	Laboratory Operations	4c1

Table 3.1d – 2018 Prior Issues Resolved Following the Issuance of the 2018 NAPS After Action Report

Site: North Anna Power Station			
Location	Criteria Title	Criteria	Classification
Virginia State EOC	Direction and Control	1c1	L2 *(resolved 01/08/19)*
Virginia State EOC	Direction and Control	1c1	L2 *(resolved 01/08/19)*
Virginia State EOC	Protective Action Decision Process and Coordination	2b2	L2 *(resolved 05/04/21)*
Virginia State EOC	Protective Action Decision Process and Coordination	2b2	P *(resolved 01/08/19)*
Louisa County BuRA	Activation of the Back-up ANS	5a3	P *(resolved 02/24/21)*
Louisa County School District	Implementation of PADs for Schools	3c2	P *(resolved 04/19/21)*

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

a. Met: 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: FOUR
f. Prior Issues - Unresolved: NONE

3.3.1.2 Commonwealth of Virginia Emergency Operations Center (Ingestion)

a. Met: 1.c.1, 3.e.1, 3.e.2, 3.f.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 Commonwealth of Virginia Joint Information Center

a. Observed: 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

3.3.1.4 Commonwealth of Virginia Joint Information Center (Ingestion)

a. Observed: 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

3.3.1.5 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

3.3.1.6 Virginia Department of Health/Office of Radiological Health (VDH/ORH) (Ingestion)

a. Met: 2.d.1, 2.e.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

3.3.1.7 Virginia State Field Sampling Team 1

a. Met: 1.e.1, 3.a.1, 4.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

3.3.1.8 Virginia State Field Sampling Team 2

a. Met: 1.e.1, 3.a.1, 4.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

3.3.1.9 Mobile State Lab (VDH/ORH)

a. Met: 4.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

3.3.1.10 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: ONE

ISSUE NO: 41-21-4a2-L2-01

CRITERION: Field Team Management

CONDITION: At 1140, a revised dosimeter-to-TEDE correction factor of 25 was calculated, which changed the Reporting Limit of 1.5R to 120 mR and the Turn-Back Limit from 2.5R to 200 mR. The VDEM Assistant State On-Scene Coordinator posted the revisions on Microsoft Teams, however, did not ensure Local FMTs received the information by directly contacting the counties.

POSSIBLE CAUSE: The CERC procedures do not address follow-up direct contact with counties by telephone or radio but assume that the counties are actively monitoring the appropriate Microsoft Teams channel

REFERENCE: NUREG-0654/FEMA-REP-1, K.3.a and EPA 400-R-17-001

EFFECT: The Reporting and Turn-Back Dosimeter Limit revision downwards to 120 mR and 200 mR, respectively, were not communicated to the actual members of the Local FMTs and could have contributed to overexposures exceeding the EPA dose limits for emergency workers during the Early-Phase.

RECOMMENDATION: Revise the Assistant State On-Scene Coordinator CERC procedure to have the Assistant State On-Scene Coordinator or other personnel verify that the counties have received and are acting upon revised dosimeter limits and release data.

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

3.3.1.11 Division of Consolidated Laboratory Services

a. Met: 3.a.1, 4.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 Risk Jurisdictions

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

3.3.2.1 Caroline County Emergency Operations Center

a. Met: 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

3.3.2.2 Caroline County Emergency Operations Center (Ingestion)

a. Met: 1.c.1, 3.f.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

3.3.2.3 Caroline 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

3.3.2.4 Caroline 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

3.3.2.5 Caroline 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

3.3.2.6 Caroline 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

3.3.2.7 Hanover County Emergency Operations Center

a. Met: 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

3.3.2.8 Hanover County Emergency Operations Center (Ingestion)

a. Met: 1.c.1, 3.f.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

3.3.2.9 Hanover 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

3.3.2.10 Hanover 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

3.3.2.11 Hanover 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

3.3.2.12 Hanover 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

3.3.2.13 Louisa County Emergency Operations Center

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

3.3.2.14 Louisa County Emergency Operations Center (Ingestion)

a. Met: 1.c.1, 3.f.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

3.3.2.15 Louisa 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

3.3.2.16 Louisa 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

3.3.2.17 Louisa 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

3.3.2.18 Louisa County Backup Route Alerting Route A

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: ONE
f. Prior Issues - Unresolved: NONE

3.3.2.19 Louisa County Backup Route Alerting Route B

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

3.3.2.20 Louisa County Backup Route Alerting Route C

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

3.3.2.21 Louisa 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

3.3.2.22 Louisa 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

3.3.2.23 Louisa County Emergency Worker Monitoring/Decontamination at Moss-Nuckols 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

3.3.2.24 Louisa County Reception Center at Moss-Nuckols Evacuation Assembly Center (EAC)

a. Met: 1.b.1, 1.d.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

3.3.2.25 Louisa County Evacuee Monitoring/Decontamination at Moss-Nuckols 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

3.3.2.26 Louisa County Mass Care Center at Orange County High School

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

3.3.2.27 Louisa 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: ONE
f. Prior Issues - Unresolved: NONE

3.3.2.28 Louisa County Thomas Jefferson Elementary 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

3.3.2.29 Orange County Emergency Operations Center

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

3.3.2.30 Orange County Emergency Operations Center (Ingestion)

a. Met: 1.c.1, 3.f.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

3.3.2.31 Orange 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

3.3.2.32 Orange 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

3.3.2.33 Orange 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

3.3.2.34 Orange 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

3.3.2.35 Orange County Emergency Worker Monitoring/Decontamination at Prospect Heights 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

3.3.2.36 Orange County Reception Center at Prospect Heights Middle School Evacuation Assembly Center (EAC)

a. Met: 1.b.1, 1.d.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

3.3.2.37 Orange County Evacuee Monitoring/Decontamination at Prospect Heights 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

3.3.2.38 Orange County Mass Care Center at Prospect Heights 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

3.3.2.39 Spotsylvania County Emergency Operations Center

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

3.3.2.40 Spotsylvania County Emergency Operations Center (Ingestion)

a. Met: 1.c.1, 3.f.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

3.3.2.41 Spotsylvania 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

3.3.2.42 Spotsylvania 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

3.3.2.43 Spotsylvania 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

3.3.2.44 Spotsylvania 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

3.3.2.45 Spotsylvania 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

3.3.2.46 Spotsylvania County Emergency Worker Monitoring/Decontamination at Chancellor 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

3.3.2.47 Spotsylvania County Reception Center at Chancellor High School Evacuation Assembly Center (EAC)

a. Met: 1.b.1, 1.d.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

3.3.2.48 Spotsylvania County Evacuee Monitoring/Decontamination at Chancellor 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

3.3.2.49 Spotsylvania County Mass Care Center at Chancellor 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

3.3.2.50 Spotsylvania 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

3.3.2.51 Spotsylvania County Post Oaks 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

3.3.3 Private Jurisdictions

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

3.3.3.1 Mary Washington Hospital

a. Met: 3.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

SECTION 4: DEMONSTRATED STRENGTHS

4.1 State Jurisdictions

4.1.1 Commonwealth of Virginia State Emergency Operations Center

The GIS capabilities that were utilized during both the Plume Exercise and the Ingestion Tabletop were very impressive. The mapping displays provided excellent situational awareness in an easy to digest format, and the analytical capabilities that were available were relied upon by exercise players as a source of quick and accurate information.

4.1.2 Accident Assessment Center at the SEOC

The Virginia Department of Health/Office of Radiological Health Lead followed his procedures and interacted well with the Federal Radiological Monitoring and Assessment Center (FRMAC) Advance Team. Relevant technical questions were asked regarding federal asset allocations and reentry criteria. In addition, comparisons of calculations for relocation boundaries were made and mutual agreed.

4.2 Risk Jurisdictions

4.2.1 Caroline County Emergency Operations Center

Caroline County used the exercise as an opportunity to train/develop staff. The PIO, radiological officer, Fire Services, and the Sheriff's Office Deputy were new to their positions and performed flawlessly. The Extension Agent was also a last-minute replacement. At the ingestion demonstration, county participants roles changed. The effort to create defense in depth cross training is commendable.

4.2.2 Caroline County Staging Area

The Exposure Control Officer for the Caroline County Staging Area was extremely organized and well versed on the elements of the radiological brief.

4.2.3 Hanover County Emergency Operations Center

ESF #13 Public Safety and Security did an outstanding job of dealing with the controller injected traffic impediment. Not only did they write out detours but also drew a detailed traffic map.

4.2.4 Hanover County Staging Area

The Hanover County Radiological Officer used a power point presentation created by the county. The presentation was extremely detailed and could be modified based on the audience he was presenting to (FMTs; Route Alerting; Traffic Control, EAC, EOC, etc.). The briefing included: current status of incident, meteorological data of the event, dosimetry, survey meters, donning/doffing, KI, and all forms that would be issued. Following the briefing, the RO distributed the equipment and ensured that each emergency worker had a working knowledge of the equipment they were receiving.

4.2.5 Louisa County Emergency Operations Center

There was outstanding coordination between the staff members which resulted in the County doing an excellent job implementing new plans and procedures addressing the relocation of schools. In addition, the field team demonstrated excellent use of information cards and checklists.

4.2.6 Louisa County Evacuation Assembly Center at Moss-Nuckols Elementary School

The Louisa County Deputy Fire Chief demonstrated outstanding leadership in providing overall direction and control during the successful operation of the Louisa County EAC.

The EAC director was having pictures and diagrams created to laminate cards for future activities. It was explained it would make set up much easier and less confusing for subsequent endeavors.

4.2.7 Louisa County Staging Area

When the Louisa County Staging Area Supervisor (LCSAS) was informed by the Louisa County Primary Area Route Alerting Team they were starting Route F alerting, the LCSAS looked at the plan and realized the route was long. The LCSAS contacted another route alerting team who had finished their assignment and instructed them to start alerting on the opposite end of Route F.

4.2.8 Orange County Emergency Operations Center

The Sherriff's Office drives Exception Area alerting routes once per year to gauge the amount of growth and how that may affect the completion times. Due to the amount growth, the county is considering adding a third route.

4.2.9 Orange County Staging Area

The Orange County Sheriff's Office displayed great professionalism and dedication to public safety during the out-of-sequence demonstration of Exception Area Route Alerting. It was evident that the officer assigned to the mission had an impressive command of the mission, as well as emergency worker protection procedures and the chain of communications. Additionally, the officer happened upon and assisted with a real-world traffic accident involving an overturned vehicle while returning to the Orange County Evacuation Assembly Center after completing his route alerting mission.

4.2.10 Spotsylvania County Emergency Operations Center

The Spotsylvania County Public Information Officer (PIO) integrated the PIO from Spotsylvania County School District into Emergency Support Function (ESF) 15, External Affairs within the County EOC resulting in a more accurate and coordinated public messaging initiative for both the public and information pertaining to school children.

4.2.11 Spotsylvania County Evacuation Assembly Center at Chancellor High School

The EAC Manager provided excellent direction and control through detailed briefing information and decision-making communications to responders that generated realistic response actions.

Radiological briefing was noteworthy. The Radiological Officer (RO) conducted the distribution of dosimetry and radiation survey instruments in a group setting. As each piece of equipment was issued, the RO provided an explanation of what it was used for and how it was used. Operability of survey instruments was also done as a group, step by

step. This method provided a training refresher for responders who do not use radiological equipment and dosimetry on a regular basis.

An ongoing construction project in the parking lot of the Spotsylvania County Evacuation Assembly Center (EAC) impacted the planned EAC vehicular traffic pattern as displayed in the Spotsylvania County Radiological Emergency Response Plan (RERP). As a result, the EAC Site Manager demonstrated creativity and flexibility by modifying the vehicular traffic pattern to work around the limitations presented by the construction project; the revised traffic pattern was implemented successfully without violating cross-contamination principles and without detriment to effectiveness or public safety.

4.2.12 Spotsylvania County Primary Area Route Alerting

The Spotsylvania County Sheriff Deputy identified that a road during the primary area route alerting had changed from public to private and notified the Emergency Services Coordinator.

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 North Anna Power Station Plume/Ingestion Pathway exercise evaluated on May 4-5, 2021.

Federal Emergency Management Agency (FEMA) evaluators assessed 252 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 no new Plan Issues.

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.

NAPS 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.

Emergency Classification Level or Event	**Time Utility Declared**	***Time That Notification Was Received at the Listed Location***								
		Virginia State EOC	**Corporate Emergency Response Center (CERC)**	**VDH/ORH Accident Assessment**	**Virginia JIC**	**Caroline County EOC**	**Hanover County EOC**	**Louisa County EOC**	**Orange County EOC**	**Spotsylvania County EOC**
Unusual Event										
Alert	0811	0816	0814	0816	0816	0816	0816	0816	0816	0815
Site Area Emergency	0950	0956	0951	0956	0956	0957	0957	0956	0955	0956
General Emergency	1022	1030	1022	1030	1030	1031	1029	1029	1029	1929
Start of Simulated Radiation Liquid Release	0900	0914	0904	0915	0915	0914	0916	0916	0913	0915
Start of Simulated Radiation Airborne Release	1135	1137	1135	1139	1139	1140	1139	1139	1139	1140
Terminated of Simulated Radiation Release	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Facility Declared Operational		0821	0842	0821	0821	0827	0838	0829	0824	0818
Governor's Declaration of State of Emergency		0921		0921	0921	0921	0924	0930	0925	0948
Exercise Terminated		1330	1330	1330	1330	1330	1330	1330	1330	1330
Precautionary Actions:										
Shelter livestock and poultry 0-10 miles; place animals on stored feed and water 0-10 miles		0841		0847	0841	0841	0841	0841	0841	0842
Close and evacuate Lake Anna and Lake Anna State Park; CSX Rail Restrictions, FAA Air Restrictions		1010		1010						

	Virginia State EOC	Corporate Emergency Response Center (CERC)	VDH/ORH Accident Assessment	Virginia JIC	Caroline County EOC	Hanover County EOC	Louisa County EOC	Orange County EOC	Spotsylvania County EOC
First Protective Actions:									
Evacuate Caroline, Spotsylvania, Louisa Counties – PAZs 8, 9, 10, 11, 12, 21, 22, and 23	1050	1055	1059	1050	1050	1052	1050	1050	1050
Siren Sounding	1106	1106	1106	1106	1106	1108	1108	1106	1106
EAS Message - *EAS message was reviewed and updated by the State. Sent to broadcast stations after 2nd siren sounding.*									
Second Protective Actions:									
Updated EAS Message from 1st protective action									
Siren Sounding	1129	1129	1129	1129	1129	1129	1129	1129	1129
EAS Message Broadcast	1132	1132	1132	1132	1132	1132	1132	1132	1132
Third Protective Actions:									
Residents living in Caroline, Spotsylvania, Louisa Counties – PAZs 8, 9, 10, 11, 12, 21, 22, and 23 and ***Emergency Workers , general public and special populations should ingest KI***									
Siren Sounding (KI)	1237	1237	1237	1237	1237	1237	1237	1237	1237
EAS Message Broadcast (KI)	1240	1240	1240	1240	1240	1240	1240	1240	1240
KI Decision Emergency Workers	1210	1215	1200	1212	1210	1210	1210	1210	1210
KI Decision General Public/Special populations	1225	1225	1225	1220	1224	1210	1210	1210	1223

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

The following is the list of Evaluators and Team Leaders for the North Anna Power Station 2021 Radiological Emergency Preparedness Plume/Ingestion Exposure Pathway Exercise evaluated on May 4-5, 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

North Anna Power Station

LOCATION	TEAM LEADER	AGENCY
Caroline County Emergency Operations Center	Kathy Duran	FEMA R3
Caroline County Field Monitoring Team	John Wills	ICF
Division of Consolidate Laboratory Service	John Wills	ICF
Hanover County Emergency Operations Center	Tina Thomas	FEMA R3
Hanover County Field Monitoring Team	John Wills	ICF
Louisa County Emergency Operations Center	Michele Sturman	FEMA R2
Louisa County Field Monitoring Team	John Wills	ICF
Louisa County School District	Michele Sturman	FEMA R2
Louisa County, Thomas Jefferson Elementary School	Michele Sturman	FEMA R2
Orange County Emergency Operations Center	Lisa Rink	FEMA HQ
Orange County Field Monitoring Team	John Wills	ICF
Spotsylvania County Emergency Operations Center	Joe Suders	FEMA R3
Spotsylvania Field Monitoring Team	John Wills	ICF
Virginia Department of Emergency Management Joint Information Center	Dan Rose	FEMA R3
Virginia Department of Health, Office of Radiological Health	John Wills	ICF
Virginia State Emergency Operations Center	Dan Rose	FEMA R3
Virginia State Field Sampling Team 1	John Wills	ICF
Virginia State Field Sampling Team 2	John Wills	ICF

LOCATION	EVALUATOR	AGENCY
Caroline County Emergency Operations Center	Joe Suders	FEMA R3
	Heather Duschell	FEMA HQ
Caroline County Exception Area Route Alerting (5 - 10 Miles)	Mike Burriss	ICF
Caroline County Field Monitoring Team	Kevin Reed	ICF
Caroline County Traffic and Access Control Points	PJ Nied	ICF
Caroline County Transportation Dependent	Tom Reynolds	ICF
Corporate Emergency Response Center (VDH/ORH/VDEM)	John Wills	ICF
	Nick Buls	FEMA R3
Division of Consolidated Laboratory Service	John Wills	ICF

Hanover County Emergency Operations Center	Tina Thomas	FEMA R3
	Jim Greer	ICF
Hanover County Exception Area Route Alerting (5 – 10 Miles)	Alonzo McSwain	FEMA HQ
Hanover County Field Monitoring Team	Larry Broockerd	FEMA HQ
Hanover County Traffic and Access Control Points	Lisa Hamilton	FEMA HQ
Hanover County Transportation Dependent	Chris Bellone	FEMA HQ
Louisa County Back-up Route Alerting	PJ Nied	ICF
	Tom Reynolds	ICF
	Mike Burriss	ICF
Louisa County Emergency Operations Center	Michele Sturman	FEMA R2
	Brian Hasemann	FEMA R2
	Kevin Reed	ICF
Louisa County Emergency Worker Mon/Decon Station at Moss-Nuckols Evacuation Assembly Center	Debra Blunt	ICF
Louisa County Evacuee Mon/Decon Station at Moss-Nuckols Evacuation Assembly Center	Larry Broockerd	FEMA HQ
Louisa County Exception Area Route Alerting (5 – 10 Miles)	Mike Burriss	ICF
Louisa County Field Monitoring Team	Jeff Clark	FEMA R7
Louisa County Mass Care Center	Lee Torres	FEMA R3
	Tina Thomas	FEMA R3
Louisa County Public Schools	Michele Sturman	FEMA R2
Louisa County Primary Area Route Alerting (0 – 5 Miles)	Tom Reynolds	ICF
Louisa County Reception Center at Moss-Nuckols Evacuation Assembly Center	Dan Rose	FEMA R3
Louisa County, Thomas Jefferson Elementary School	Brian Hasemann	FEMA R2
Louisa County Traffic and Access Control Points	Alonzo McSwain	FEMA HQ
Louisa County Transportation Dependent	Tina Thomas	FEMA R3
Mary Washington Hospital	Lee Torres	FEMA R3
Orange County Emergency Operations Center	Lisa Rink	FEMA HQ
	Cody McKown	FEMA R7
Orange County Emergency Worker Mon/Decon Station at Prospect Heights Evacuation Assembly Center	Larry Broockerd	FEMA HQ
Orange County Evacuee Mon/Decon Station at Prospect Heights Evacuation Assembly Center	Tina Thomas	FEMA R3
Orange County Exception Area Route Alerting (5 – 10 Miles)	Dan Rose	FEMA R3
Orange County Field Monitoring Team	Greg Voss	FEMA R7
Orange County Reception Center at Prospect Heights Evacuation Assembly Center	Joe Suders	FEMA R3
Orange County Traffic and Access Control Points	Lee Torres	FEMA R3
Orange County Transportation Dependent	Heather Duschell	FEMA HQ

Spotsylvania County Emergency Operations Center	Joe Suders	FEMA R3
	Heather Duschell	FEMA HQ
Spotsylvania County Emergency Worker Mon/Decon Station at Chancellor Evacuation Assembly Center	Debra Blunt	ICF
Spotsylvania County Evacuee Mon/Decon Station at Chancellor Evacuation Assembly Center	Larry Broockerd	FEMA HQ
Spotsylvania County Exception Area Route Alerting (5 – 10 Miles)	Lisa Hamilton	FEMA HQ
Spotsylvania County Field Monitoring Team	Carol Shepard	ICF
Spotsylvania County, Post Oaks Middle School	Heather Duschell	FEMA HQ
Spotsylvania County Public Schools	Joe Suders	FEMA R3
Spotsylvania County Primary Area Route Alerting (0 – 5 Miles)	Chris Bellone	FEMA HQ
Spotsylvania County Reception Center at Chancellor Evacuation Assembly Center	Heather Duschell	FEMA HQ
Spotsylvania County Traffic and Access Control Points	Alonzo McSwain	FEMA HQ
Spotsylvania County Transportation Dependent	Tina Thomas	FEMA R3
Virginia Department of Emergency Management/Joint Information Center	Peter Judge	ICF
Virginia Department of Health, Office of Radiological Health (Accident Assessment)	Kent Tosch	ICF
	Debra Blunt	ICF
Virginia Department of Health, Office of Radiological Health Mobile State Laboratory	Ken Wierman	FEMA HQ
Virginia State Emergency Operations Center	Dan Rose	FEMA R3
	Nick Buls	FEMA R3
	Gary Bolender	ICF
Virginia State Field Sampling Team 1	Ken Wierman	FEMA HQ
Virginia State Field Sampling Team 2	Larry Broockerd	FEMA HQ

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
FTC	Field Team Coordinator

GE	General Emergency
GIS	Geographic Information Systems
HazMat	Hazardous Materials
IPAWS	Integrated Public Alert & Warning System
IPZ	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
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 North Anna Power Station Plume/Ingestion 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.

NORTH ANNA POWER STATION PLUME/INGESTION 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 May 4 - 5, 2021 North Anna Power Station Plume/Ingestion Exercise.

LEE A TORRES Digitally signed by LEE A TORRES Date: 2021.04.22 14:05:04 -04'00'

FEMA Site Specialist — Date

Lead State Planner — Date: 20210423

FEMA Team Leader — Date: 5/21/21

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 Alternate 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 for VOPEX20/21 is allowed.

VEOC – exercise credit received during their response to COVID-19

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 VOPEX20/21 is allowed.***

Risk:
Louisa County EOC
Orange County EOC
All county EOCs will demonstrate activation of their FMTs during the exercise.

(Exercise credit received for Spotsylvania, Caroline, and Hanover Counties for their EOC activations during their response to COVID-19.

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:

Evaluated during 2014

Out-of-Sequence Demonstrations:
Evacuation Assembly Centers (EACs):
- *Spotsylvania County – Chancellor High School*
- *Louisa County – Moss-Nuckols Elementary School*
- *Louisa County Mass Care Center at Orange County High School*
- *Orange County – Prospect Heights 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 alternate 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.

OROs 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. Carefully consider 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:
State sampling teams will demonstrate this criterion during the ingestion out of sequence demonstration during the week of April 27, 2021.

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

- *Louisa County – Moss Nuckols Elementary School*
- *Louisa County – Mass Care Center at Orange County HS*

- *Orange County – Prospect Heights Middle School*
- *Spotsylvania County – Chancellor High School*

Out of sequence demonstration moved to June 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.

OROs 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: *State field monitoring teams will not demonstrate this criterion in VOPEX20/21 but will demonstrate during out of sequence events. State field monitoring teams will be simulated by controllers in the field relaying information to the Field Team Coordinator at the CERC.*

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, 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.

Dose projections will be developed by the Office of Radiological Health at the CERC to confirm or modify, as necessary, the PAR in effect. The protective action recommendation will be forwarded from the CERC or backup facility 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 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.

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: *a L2 issue identified at the State EOC which has not been resolved.*
Level 2 – 41-18-2b2-L2-02 – Protective Action Decision Process and Coordination: When the Protective Action Decision to evacuate zones out to 10 miles was expanded, the protective action to shelter livestock and place them on stored feed and protected water was not included.

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, enroute 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.

Risk Jurisdictions Negotiated Extent of Play:
Risk jurisdictions will have a school representative and social services representative available at their EOC. When dictated by events and according to procedures, officials will demonstrate what protective action decision they would make for schools located within the 10-mile EPZ, schools located outside of the 10-mile emergency planning zone (EPZ), yet have students residing within the 10 mile EPZ and 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*

Sub-element 2.d. – Radiological Assessment and Decision Making for the Ingestion Exposure Pathway

Intent

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the means to assess the radiological consequences for the ingestion exposure pathway, relate them to the appropriate PAGs, and make timely, appropriate PADs to mitigate exposure from the pathway.

During an incident at an NPP, a release of radioactive material may contaminate water supplies and agricultural products in the surrounding areas. Any such contamination would likely occur during the plume phase of the incident and, depending on the nature of the release, could impact the ingestion pathway for weeks or years.

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO's planning criteria. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; D.4; J.9,11)

Assessment/Extent of Play

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

OROs are expected to take precautionary actions to protect food and water supplies, or to minimize exposure to potentially contaminated water and food, in accordance with their respective plans/procedures. Often OROs initiate such actions based on criteria related to the facility's ECLs. Such actions may include recommendations to place milk animals on stored feed and use protected water supplies. The ORO must use its procedures to assess the radiological consequences of a release on the food and water supplies, such as the development of a sampling plan. The ORO's assessment must include evaluation of the radiological analyses of representative samples of water, food, and other ingestible substances of local interest from potentially impacted areas; characterization of the releases from the facility; and the extent of areas potentially impacted by the release. During this assessment, OROs must consider use of agricultural and watershed data within the 50-mile EPZ. The radiological impacts on the food and water must then be compared to the appropriate ingestion PAGs contained in the OROs plans/procedures. The plans/procedures contain PAGs based on specific dose commitment criteria or on criteria as recommended by current Food and Drug Administration (FDA) guidance. Timely and appropriate recommendations must be provided to the ORO decision-makers group for implementation decisions. OROs may also include a comparison of taking or not taking a given action on the resultant ingestion pathway dose commitments.

The ORO must demonstrate timely decisions to minimize radiological impacts from the ingestion pathway, based on the given assessments and other information. Any such decisions must be communicated and, to the extent practical, coordinated with neighboring OROs.

OROs must use Federal resources, as identified in the Nuclear/Radiological Incident Annex of the NRF and other resources (e.g., compacts or nuclear insurers). Evaluation of this criterion will take into consideration the level of Federal and other participating resources.

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 Radiological Health:

VDH-ORH will complete their initial sampling plan at the conclusion of the plume phase of the exercise. The ingestion phase will be demonstrated at the VEOC by tabletop exercise. Controller data will provide sample results to VDH-ORH. Additionally, the Aerial Monitoring Survey (AMS) results (controllers inject) will be provided to VDH-ORH. Sample results will be provided to VDH-ORH via controller inject.

VDH-ORH will provide sample analysis calculations and protective action recommendations in regard to human food and animal feed in accordance with 1998 FDA guidance.

Appropriate state personnel will define the boundary of the restricted zone to include a buffer zone as necessary and recommend locations for access control points to the restricted zone. Controllers will provide inject messages as necessary to accomplish this task.

This criterion will be demonstrated on May 4, 2021 following the plume portion of the exercise.

Outstanding Issues: *None*

Sub-element 2.e. – Radiological Assessment and Decision Making Concerning Post-Plume Phase Relocation, Reentry, and Return

Intent
This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to make decisions on post-plume phase *relocation*, *reentry*, and *return* of the general public. These decisions are essential for protection of the public from direct long-term exposure to deposited radioactive materials from a severe incident at an NPP.

Criterion 2.e.1: Timely post-plume phase relocation, reentry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG-0654/FEMA-REP-1, I.10; J.9; K.3.a; M.1)

Assessment/Extent of Play
Assessment of this demonstration criterion must be accomplished concurrently with a licensee exercise and may be demonstrated in a full-scale, functional or tabletop exercise that would include the use of plant conditions transmitted from the licensee.

Relocation: OROs must demonstrate the capability to estimate integrated dose in contaminated areas and compare these estimates with PAGs; apply decision criteria for relocation of those individuals in the general public who have not been evacuated, but where actual or projected doses are in excess of relocation PAGs; and control access to evacuated and restricted areas. OROs will make decisions for relocating members of the evacuated public who lived in areas that now have residual radiation levels in excess of the PAGs. Determination of areas to be restricted must be based on factors such as the mix of radionuclides in deposited materials, calculated exposure rates versus the PAGs, and analyses of vegetation and soil field samples.

Reentry: Decisions must be made on location of control points and policies regarding access and exposure control for emergency workers and members of the general public who need to temporarily enter the evacuated area to perform specific tasks or missions.

Examples of control procedures are the assignment of, or checking for, direct-reading and permanent record dosimetry for emergency workers; questions regarding an individual's objectives, locations expected to be visited, and associated timeframes; availability of maps and plots of radiation exposure rates; and advice on areas to avoid. Control procedures also include monitoring of individuals, vehicles, and equipment; the implementation of decision criteria

regarding decontamination; and proper disposition of emergency worker dosimetry and maintenance of emergency worker radiation exposure records.

Responsible OROs must demonstrate the capability to develop a strategy for authorized reentry of individuals into the restricted zone(s), based on established decision criteria. OROs must demonstrate the capability to modify those policies for security purposes (e.g., police patrols), maintenance of essential services (e.g., fire protection and utilities), and other critical functions. They must demonstrate the capability to use decision-making criteria in allowing access to the restricted zone by the public for various reasons, such as to maintain property (e.g., to care for farm animals or secure machinery for storage) or retrieve important possessions. Coordinated policies for access and exposure control must be developed among all agencies with roles to perform in the restricted zone(s). OROs must demonstrate the capability to establish policies for provision of dosimetry to all individuals allowed to reenter the restricted zone(s). The extent to which OROs need to develop policies on reentry will be determined by scenario events.

Return: OROs must demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase (i.e., permitting populations that were previously evacuated to reoccupy their homes and businesses on an unrestricted basis). OROs must base decisions on environmental data and political boundaries or physical/ geological features, which allow identification of the boundaries of areas to which members of the general public may return. Return is permitted to the boundary of the restricted area(s) that is based on the relocation PAG.

Other factors that the ORO must consider in decision-making include conditions that permit cancellation of the ECL and relaxation of associated restrictive measures. OROs must base return recommendations on measurements of radiation from ground deposition. OROs must have the capability to identify services and facilities that require restoration within a few days and to identify the procedures and resources for their restoration. Examples of these services and facilities are medical and social services, utilities, roads, schools, and intermediate-term housing for relocated persons.

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:
VDH-ORH will provide their dose assessment results and any additional protective action recommendations concerning relocation, re-entry, and return to VDEM at the CERC. These protective action recommendations will be based on the projected dose for 1 year and 2 years and will involve relocation, re-entry and/or return of the population within the 10-mile emergency planning zone (EPZ).

VDEM will make protective action decisions based on information provided by VDH-ORH.

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.

OROs 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 sampling teams will demonstrate this criterion during the ingestion out-of-sequence demonstration during the week of April 27, 2021.*

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:
Mary Washington Hospital

Pre-staging is allowed for EAC demonstrations.
Evacuation Assembly Centers (EACs):

- *Louisa County – Moss Nuckols Elementary School*
- *Orange County – Prospect Heights Middle School*
- *Spotsylvania County – Chancellor High 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.

OROs 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):***

- *Louisa County – Moss Nuckols Elementary School*
- *Orange County – Prospect Heights Middle School*
- *Spotsylvania County – Chancellor High 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 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.

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 out of sequence in June 2021.

Movement of Transportation Dependent *– An interview will be conducted in June 2021 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:

Staging Areas, June 7-11, 2021:

- *Caroline County*
- *Hanover County*
- *Louisa County*
- *Orange County*
- *Spotsylvania County*

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 – Orange County
School District – Louisa County
School District – Spotsylvania County

These evaluation areas will be demonstrated out-of-sequence in June 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.*

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

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.

OROs 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.

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 June 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:

Staging Areas, June 2021*:*

- *Caroline County*
- *Hanover County*
- *Louisa County*
- *Orange County*
- *Spotsylvania County*

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.

OROs 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.

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*

Sub-element 3.e – Implementation of Ingestion Pathway Decisions

Intent
This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement protective actions, based on criteria recommended by current FDA guidance, for the ingestion exposure pathway EPZ (i.e., the area within an approximate 50-mile radius of the NPP). This Sub-element focuses on those actions required for implementation of protective actions.

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions. NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.11)

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

Applicable OROs must demonstrate the capability to secure and use current information on the locations of dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points to implement protective actions within the EPZ. OROs use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex, and other resources (e.g., compacts, nuclear insurers), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the 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:

Virginia Department of Emergency Management and Virginia Department of Health - Office of Radiological Health Negotiated Extent of Play:
On May 5, 2021, VDH will report their protective action recommendations to VDEM regarding ingestion pathway decisions. VDEM will review protective action recommendations from VDH and demonstrate the implementation of protective action decisions. VDEM will demonstrate the capability to obtain copies of ingestion information in a timely manner. VDEM will notify ***(simulated)*** *the risk jurisdictions of the protective action decisions via CNS or other virtual system. VDEM will notify* ***(simulated)*** *the host and ingestion jurisdictions via Virginia Criminal Information Network (VCIN), virtual system, or fax.*

Risk, host, and Ingestion Pathway Jurisdictions Negotiated Extent of Play (out-of-sequence):
Completed by training by State in December 2020.

Outstanding Issues: *None*

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654/FEMA-REP-1, G.1, J.9, 11)

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

OROs must demonstrate the development of measures and strategies for implementation of ingestion exposure pathway EPZ protective actions by formulating protective action information for the general public and food producers and processors. Demonstration of this criterion includes either pre-distributed public information material in the ingestion exposure pathway EPZ or the capability for rapid reproduction and distribution of appropriate reproduction-ready information and instructions to pre-determined individuals and businesses.

OROs must also demonstrate the capability to control, restrict, or prevent distribution of contaminated food by commercial sectors. Exercise play must include demonstration of communications and coordination among organizations to implement protective actions. Field play of implementation activities may be simulated. For example, communications and coordination with agencies responsible for enforcing food controls within the ingestion exposure pathway EPZ must be demonstrated, but actual communications with food producers and processors may be simulated.

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:

Virginia Department of Emergency Management Negotiated Extent of Play
On May 5, 2021, VDEM will review protective action recommendations from VDH and demonstrate the implementation of protective action decisions. The JIC at the VEOC will demonstrate that pre-printed instructional materials are available, and strategies are developed to implement ingestion pathway decisions by drafting and distributing appropriate news release in a timely manner. No public inquiry calls, or media briefings will occur on May 5, 2021.

Outstanding Issues: *None*

Sub-element 3.f – Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions

Intent
This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement plans, procedures, and decisions for post-plume phase relocation, reentry, and return. Implementation of these decisions is essential for protecting the public from direct long-term exposure to deposited radioactive materials from a severe incident at a commercial NPP.

Criterion 3.f.1: Decisions regarding controlled reentry of emergency workers and relocation and return of the public during the post-plume phase are coordinated with appropriate organizations and implemented. (NUREG-0654/FEMA-REP-1, E.7; J.10.j; J.12; K.5.b; M.1, 3)

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

Relocation: OROs must demonstrate the capability to coordinate and implement decisions concerning relocation of individuals located in radiologically contaminated areas who were not previously evacuated. Such individuals must be relocated to an area(s) where radiological contamination will not expose the general public to doses that exceed the relocation PAGs. OROs must also demonstrate the capability to provide for short- or long-term relocation of evacuees who lived in an area(s) that has residual radiation levels above the (first- and second-) PAGs.

Areas of consideration must include the capability of OROs to communicate with other OROs regarding timing of actions, notification of the population of procedures for relocation, and notification of, and advice for, evacuated individuals who will be converted to relocation status in situations where they will not be able to return to their homes due to high levels of contamination. OROs must also demonstrate the capability to communicate instructions to the public regarding relocation decisions and intermediate-term housing for relocated persons.

Reentry: OROs must demonstrate the capability to control reentry and exit of individuals who are authorized by the ORO to temporarily reenter the restricted area during the post-plume (i.e., intermediate or late) phase to protect them from unnecessary radiation exposure. OROs must also demonstrate the capability to control exit of vehicles and other equipment to control the spread of contamination outside the restricted area(s). Individuals without specific radiological response missions, such as farmers for animal care, essential utility service personnel, or other members of the public who must reenter an evacuated area during the post-emergency phase must be limited to the lowest radiological exposure commensurate with completing their missions. Monitoring and decontamination facilities will be established as appropriate.

Examples of control procedures are: (1) assignment of, or checking for, direct-reading and permanent record dosimetry for emergency workers; (2) questions regarding the individuals' objective(s), location(s) expected to be visited, and associated timeframes; (3) maps and plots of radiation exposure rates; (4) advice on areas to avoid; (5) procedures for exit, including monitoring of individuals, vehicles, and equipment; (6) decision criteria regarding contamination; (7) proper disposition of emergency worker dosimetry, and (8) maintenance of emergency worker radiation exposure records.

Return: OROs must demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase. OROs must demonstrate the capability to identify and prioritize services and facilities that require restoration within a few days, and to identify procedures and resources for their restoration. Examples of these services and facilities are medical and social services, utilities, roads, and schools.

Communication among OROs for relocation, reentry, and return may be simulated. All simulated or actual contacts must be documented. These discussions may be accomplished in a group setting.

OROs must use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex, and other resources (e.g., compacts or nuclear insurers), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the 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:

Virginia Department of Emergency Management Negotiated Extent of Play:
On May 5, 2021, VDEM will review protective action recommendations from VDH and demonstrate the implementation of protective action decisions.

Risk, host, and Ingestion Pathway Jurisdictions (out-of-sequence) Negotiated Extent of Play:
On May 5, 2021, the implementation of the protective action decisions for relocation, reentry, and/or return will be conducted by evaluator tabletop exercise. All decisions will be in accordance with plans and procedures.

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:

Virginia Department of Health, Office of Radiological Health Negotiated Extent of Play:
State field monitoring teams will not demonstrate this criterion in VOPEX20/21. State field monitoring teams will be simulated by controllers relaying information to the Field Team Coordinator at the CERC.

VDH/ORH will simulate 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 simulate all communications between the State Field Teams and the CERC. The controller will be equipped with time stamped radiological scenario data which they will communicate to the Field Team Coordinator as necessary or appropriate.

Outstanding Issues: *None*

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654/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:
Virginia Department of Health, Office of Radiological Health Negotiated Extent of Play:
State field monitoring teams will not demonstrate this criterion in VOPEX20/21. State field monitoring teams will be simulated by a controller relaying information to the Field Team Coordinator at the CERC

Risk Jurisdictions Negotiated Extent of Play:
All risk jurisdictions conduct a demonstration of skills on May 4, 2021 in sequence at their County EOC. Each jurisdiction 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 County EOC site and will not travel to any points. 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. ***Teams will not deploy to into the field.***

Outstanding Issues: *None*

Sub-element 4.b – Post-Plume Phase Field Measurements and Sampling

Intent
This Sub-element is derived from NUREG-0654/FEMAREP-1, which requires that OROs have the capability to assess the actual or potential magnitude and locations of radiological hazards to determine the ingestion exposure pathway EPZ and to support relocation, reentry, and return decisions. This Sub-element focuses on collecting environmental samples for laboratory analyses that are essential for decisions on protecting the public from contaminated food and water and direct radiation from
deposited materials.

Criterion 4.b.1: The field teams (2 or more) demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision making. (NUREG-0654/FEMA-REP-1, C.1; I.8; J.11)

Assessment/Extent of Play
Assessment of this Demonstration Criterion may be accomplished during a biennial or tabletop exercise. Other means may include drills, seminars, or training activities that would fully demonstrate technical proficiency. The ORO's FMTs must demonstrate the capability to take measurements and samples at such times and locations as directed to enable an adequate assessment of the ingestion exposure pathway and to support reentry, relocation, and return decisions. When resources are available, use of aerial surveys and in-situ gamma measurement is appropriate. All methodology, including contamination control, instrumentation, preparation of samples, and chain-of custody form(s) for transfer to a laboratory(ies), will be in accordance with the ORO's plans/procedures. The FMTs and/or other sampling personnel must secure ingestion

exposure pathway samples from agricultural products and water. Samples in support of relocation and return must be secured from soil, vegetation, and other surfaces in areas that received radioactive ground deposition. OROs will use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts, the licensee, or nuclear insurers) as needed. 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:
Virginia Department of Health, Office of Radiological Health Negotiated Extent of Play:
During the week of April 27,2021, two State environmental sampling teams will demonstrate post-emergency sampling. The sampling team will be established and demonstrate the ability to take water, soil, and vegetation samples the locations where these samples will be taken will be included as a controller inject. Note that these pre-selected sample points are not necessarily points, which will be selected as part of Office of Radiological Health's dose assessment process. The appropriate procedures will be followed for this demonstration. Each sample will be transported to the Mobile Laboratory for analysis. Chain of Custody procedures will be demonstrated by the teams.

Sub-element 4.c – Laboratory Operations

Intent
This Sub-element is derived from NUREG-0654/FEMAREP-1, which requires that OROs have the capability to perform laboratory analyses of radioactivity in air, liquid, and environmental samples to support protective action decision making.

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654/FEMA-REP-1, C.1, 3; J.11)

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

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The laboratory staff must demonstrate the capability to follow appropriate procedures for receiving samples, including logging information, preventing contamination of the laboratory(ies), preventing buildup of background radiation due to stored samples, preventing cross contamination of samples, preserving samples that may spoil (e.g., milk), and keeping track of sample identity. In addition, the laboratory staff must demonstrate the capability to prepare samples for conducting measurements. The laboratory(ies) must be appropriately equipped to provide, upon request, timely analyses of media of sufficient quality and sensitivity to support assessments and decisions anticipated in the ORO's plans/procedures. The laboratory instrument

calibrations must be traceable to standards provided by the National Institute of Standards and Technology. Laboratory methods used to analyze typical radionuclides released in a reactor incident must be as described in the plans/procedures. New or revised methods may be used to analyze atypical radionuclide releases (e.g., transuranic or as a result of a terrorist incident) or if warranted by incident circumstances. Analysis may require resources beyond those of the ORO. The laboratory staff must be qualified in radioanalytical techniques and contamination control procedures. OROs will use Federal resources as identified in the NRF Nuclear/Radiological Incident Annex and other resources (e.g., compacts, the licensee, or nuclear insurers) as needed. 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:

Virginia Department of Health, Office of Radiological Health Negotiated Extent of Play:
During the week of April 27, 2021, TBD, laboratory operations will be demonstrated for the sample at the mobile laboratory to include the completion of the Chain of Custody form. Laboratory operations will be demonstrated in accordance with ORH procedures. State labs will be demonstrated by interview. DCLS representatives will be available for interview during the May 5 ingestion TTX.

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
Primary Alert and Notification			
5.a.1 … covering essentially 100% of 10-mile EPZ	X		
5.a.3 … covering the 10-mile EPZ **Backup Alert and Notification for All Incidents**			X
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.

OROs 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. Louisa County and Spotsylvania 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.

Out-of-Sequence Demonstrations:

Risk Jurisdiction Negotiated Extent of Play:
The following jurisdictions *will demonstrate primary route alerting (one route) for areas not covered by sirens within the 0-5 mile radius during June 7-11, 2021.*

- *Louisa County*
- *Spotsylvania 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:

Backup route alerting will be demonstrated by Louisa County on 10 June 2021 during the OOS.

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.

OROs 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) for areas not covered by sirens within the 5-10 mile radius during the June 2021 OOS:*

- *Caroline County*
- *Hanover County*
- *Louisa County*
- *Orange County*
- *Spotsylvania 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 demonstrated 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. One simulated media briefing will be demonstrated at the JIC. 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.

OROs 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: June 2021

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

- *Louisa County – Moss Nuckols Elementary School*
- *Orange County – Prospect Heights Middle School*
- *Spotsylvania County – Chancellor High 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. Wastewater 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: June 2021
Evacuation Assembly Centers (EACs):

- *Louisa County – Moss Nuckols Elementary School*
- *Orange County – Prospect Heights Middle School*
- *Spotsylvania County – Chancellor High 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: June 2021
Evacuation Assembly Centers (EACs):

- *Louisa County – Moss Nuckols Elementary School*
- *Orange County – Prospect Heights – Credit given for COVID-19 response.*
- *Spotsylvania County – Chancellor - Credit given for COVID-19 response*

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

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

Exercise credit during COVID-19 Response

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
  - Caroline County
  - Hanover County
  - Louisa County
  - Orange County
  - Spotsylvania County
- Ingestion Pathway Jurisdictions
  - Albemarle County
  - Amelia County
  - Buckingham County
  - Caroline County
  - Charlottesville City
  - Chesterfield County
  - Culpeper County
  - Cumberland County
  - Essex County
  - Fairfax County
  - Fauquier County
  - Fluvanna County
  - Fredericksburg City
  - Goochland County
  - Greene County
  - Hanover County
  - Henrico County
  - King and Queen County
  - King George County
  - King William County
  - Madison County
  - Manassas City
  - New Kent County
  - Page County
  - Powhatan County
  - Prince William County
  - Rappahannock County
  - Richmond City
  - Richmond County
  - Rockingham County
  - Stafford County

    - Westmoreland County
- 2-1-1 Virginia
- Mary Washington Hospital

Annex D: Addresses of Locations to be Evaluated

Virginia EOC 9711 Farrar Ct, Richmond, VA 23236	**Corporate Emergency Response Center (CERC)** 5000 Dominion Blvd Glen Allen, VA 23060
Joint Information Center (JIC) 9711 Farrar Ct, Richmond, VA 23236	***State Field Team 1 and 2* - Staging Area** Will be demonstrated at the Surry Exercise

Local Emergency Operations Centers	**Local Staging Areas**
Spotsylvania County EOC 9119 Dean Ridings Lane, 2nd Floor Spotsylvania, VA 22553	**Spotsylvania County Staging Area** Fire Company 1 7200 Courthouse Commons Blvd. Spotsylvania, VA 22553
Caroline County EOC 17202 Richmond Turnpike Milford, VA	**Caroline Staging Area** Ladysmith Fire Station 17401 Jefferson Davis Highway Ladysmith, VA 22501
Louisa County EOC 1 Woolfolk Ave Louisa, VA 23093	**Louisa County Staging Area** 201 East First Street (Mineral Fire Station) Mineral, VA 23117
Hanover County EOC Hanover County Fire Administration Bldg. 13326 Hanover Courthouse Rd.	**Hanover County Staging Area** Beaverdam Fire Station 16150 Trainham Road Beaverdam, VA 23015
Orange County EOC 112 West Main Street Gordon Building Basement Orange, VA 22960	**Orange County Staging Area** East Orange Ruritan Club 24124 Constitution Highway Unionville VA 22567

Out-of-Sequence Demonstrations:

Demonstration	Date/Time	Participants
Louisa County Evacuation Assembly Center (EAC) Exercise	Date: June 10, 2021 Time: 8 am – 12 pm	Moss Nuckols Elementary School
Louisa County School District Interview	Date: May 5, 2021 Time: 1 pm - 5 pm	Louisa County S.D. and necessary support staff
Louisa Schools Interview	Date: May 5, 2021 Time: 1 pm - 5 pm	Thomas Jefferson Elementary School Principal or Representative
Orange County Evacuation Assembly Center (EAC) Exercise	Date: June 11, 2021 Time: 8 am – 12 pm	Prospect Heights Middle School

Spotsylvania County Evacuation Assembly Center (EAC) Exercise	Date: June 9, 2021 Time: 8 am – 12 pm	Chancellor High School
Spotsylvania County School District Interview	Date: June 8, 2021 Time: 8 am – 12 pm	Spotsylvania County S.D. and necessary support staff
Spotsylvania County Schools Interview	Date: June 8, 2021 Time: 8 am – 12 pm	(Post Oak MS) Principal or Representative
Mary Washington Hospital	Date: June 8, 2021 Time: 8 am – 12 pm *(Virtual)*	Exercise credit was granted for all criteria (1e1; 6d1) except for 3a1
VDH Ingestion Sampling Team	Date: April 27, 2021 Time: 0800 am	VDH Ingestion Sampling Team 5000 Dominion Blvd Glen Allen, VA
VDH Ingestion Sampling Lab	Date: April 27, 2021 Time: 0800 am	VDH Ingestion Sampling Lab 5000 Dominion Blvd Glen Allen, VA
Risk Area Staging Areas	Caroline: June 9 – 2 PM – 5 PM Hanover: June 10 - 1 PM – 5 PM Louisa: June 10 – 8 AM - 12 PM Orange: June 11 – 8 AM - 12 PM Spotsylvania: June 9 - 8 AM-12 PM	To be demonstrated OOS. TCP/ACP, Designated primary, exception, and backup area route alerting

Annex E: Open Issues

There are no Level 1 findings, there is one Level 2 finding, and two open Planning Issues as a result of the FEMA-evaluated plume-phase exercise at North Anna Power Station on July 17, 2018.

VA State EOC - ISSUE NO: 41-18-2b2-L2-02 - When the PAD to evacuate zones out to 10 miles was expanded the protective action to shelter livestock and place them on stored feed and protected water was not included.