



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

February 27, 2019

Mr. Daniel G. Stoddard
Senior Vice President and
Chief Nuclear Officer
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2, AND SURRY POWER STATION, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENT NOS. 281, 264, 294, AND 294 TO CONSOLIDATE EMERGENCY OPERATIONS FACILITIES AND ASSOCIATED EMERGENCY PLAN CHANGES (EPID L-2018-LLA-0014)

Dear Mr. Stoddard:

The U.S. Nuclear Regulatory Commission (NRC or the Commission) has issued the enclosed Amendment Nos. 281 and 264 to Renewed Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Unit Nos. 1 and 2, respectively; and Amendment Nos. 294 and 294 to Renewed Facility Operating License Nos. DPR-32 and DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments are in response to Dominion Energy Virginia's (Dominion's) application dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018.

These amendments revise the emergency plans for the North Anna Power Station (North Anna), Unit Nos. 1 and 2, including the North Anna Independent Spent Fuel Storage Installation, and the Surry Power Station (Surry), Unit Nos. 1 and 2, including the Surry Independent Spent Fuel Storage Installation. The changes consolidate the near-site emergency operations facilities (EOFs), their common backup EOF, and the headquarters support organization for North Anna and Surry at the proposed Virginia Electric and Power Company (Dominion Energy Virginia) Corporate Emergency Response Center in the Innsbrook Technical Center, located at 5000 Dominion Boulevard, Glen Allen, Virginia.

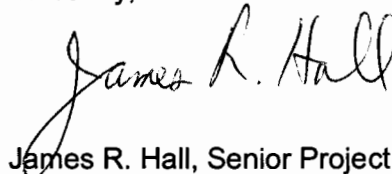
In addition to the consolidation of the North Anna and Surry EOFs, the emergency plans for North Anna and Surry are revised to: (1) eliminate ringdown phones between the existing EOFs and risk jurisdictions capable of activating the site-specific Early Warning System (sirens), (2) replace references to "equivalency credit" for required training sessions with references to administrative processes for training, (3) change the approval authority for changes to respective site emergency plans and emergency plan implementing procedures, and (4) allow letters of agreement to be maintained separate from the emergency plan.

Dominion also requested in its application dated January 16, 2018, to: (1) change emergency response organization augmentation and emergency response facility activation goals, and (2) expand the timeframe for starting an emergency drill or exercise outside normal working hours. However, these two proposed changes were subsequently withdrawn in Dominion's supplemental letter dated June 13, 2018.

Since the proposed Corporate Emergency Response Center is more than 25 miles from both the North Anna and Surry sites, prior Commission approval was required per paragraph IV.E.8.b of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to Part 50, "Domestic Licensing of Production and Utilization Facilities," of Title 10 of the *Code of Federal Regulations*. The Commission approved the NRC staff's recommendation to issue the subject amendments in the Staff Requirements Memorandum to SECY-18-0080, "Dominion Energy Virginia Request to Consolidate the Emergency Operations Facilities for North Anna and Surry Power Stations," dated August 27, 2018.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink that reads "James R. Hall". The signature is written in a cursive style with a large, stylized "J" and "H".

James R. Hall, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-280, 50-281, 50-338,
and 50-339

Enclosures:

1. Amendment No. 281 to NPF-4
2. Amendment No. 264 to NPF-7
3. Amendment No. 294 to DPR-32
4. Amendment No. 294 to DPR-37
5. Safety Evaluation

cc: Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

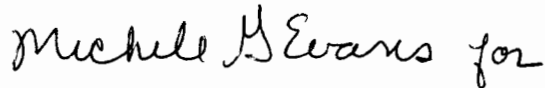
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 281
Renewed License No. NPF-4

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 281, Renewed Facility Operating License No. NPF-4 is hereby amended to authorize revision to the Emergency Plan as set forth in the licensee's application dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, and evaluated in the NRC staff's safety evaluation enclosed with this amendment.
3. This license amendment is effective as of its date of issuance and shall be implemented within 180 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "Michelle A. Evans for".

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: February 27, 2019



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 264
Renewed License No. NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 264, Renewed Facility Operating License No. NPF-7 is hereby amended to authorize revision to the Emergency Plan as set forth in the licensee's application dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, and evaluated in the NRC staff's safety evaluation enclosed with this amendment.
3. This license amendment is effective as of its date of issuance and shall be implemented within 180 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michele B Evans for

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: February 27, 2019



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

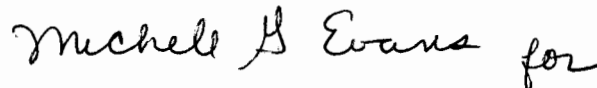
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 294
Renewed License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 294, Renewed Facility Operating License No. DPR-32 is hereby amended to authorize revision to the Emergency Plan as set forth in the licensee's application dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, and evaluated in the NRC staff's safety evaluation enclosed with this amendment.
3. This license amendment is effective as of its date of issuance and shall be implemented within 180 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "Mitchell B. Evans for".

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: February 27, 2019



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 294
Renewed License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 294, Renewed Facility Operating License No. DPR-37 is hereby amended to authorize revision to the Emergency Plan as set forth in the licensee's application dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, and evaluated in the NRC staff's safety evaluation enclosed with this amendment.
3. This license amendment is effective as of its date of issuance and shall be implemented within 180 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michelle A. Evans for

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: February 27, 2019



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO EMERGENCY PLAN CHANGES FOR

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2, AND

INDEPENDENT SPENT FUEL STORAGE INSTALLATION

AND

SURRY POWER STATION, UNIT NOS. 1 AND 2, AND

INDEPENDENT SPENT FUEL STORAGE INSTALLATION

DOCKET NOS. 50-338, 50-339, 50-280, AND 50-281

1.0 INTRODUCTION

By letter dated January 16, 2018 (Reference 1), as supplemented by letters dated June 13, 2018 (Reference 2), and September 18, 2018 (Reference 3), Virginia Electric and Power Company (referred to hereafter as Dominion Energy Virginia or the licensee) submitted a license amendment request (LAR) to modify the emergency plans for the North Anna Power Station (NAPS), Unit Nos. 1 and 2, including the NAPS Independent Spent Fuel Storage Installation (ISFSI), and the Surry Power Station (SPS), Unit Nos. 1 and 2, including the SPS ISFSI. The proposed changes would revise the NAPS and SPS emergency plans to consolidate the near-site emergency operations facilities (EOFs), their common backup EOF, and the headquarters support organization for NAPS and SPS at the proposed Corporate Emergency Response Center (CERC) in the Innsbrook Technical Center, located at 5000 Dominion Boulevard, Glen Allen, Virginia.

Since the proposed CERC is more than 25 miles from both the NAPS and SPS sites, prior U.S. Nuclear Regulatory Commission (NRC or the Commission) approval is required per paragraph IV.E.8.b of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to Part 50, "Domestic Licensing of Production and Utilization Facilities," of Title 10 of the *Code of Federal Regulations* (10 CFR).

Attachment 3 to the Dominion Energy Virginia letter dated January 16, 2018, as supplemented by letter dated June 13, 2018, provided additional changes to the NAPS and SPS emergency plans, which Dominion Energy Virginia determined would require prior NRC approval under

10 CFR 50.54(q)(4) as a reduction in effectiveness. In addition to the consolidation of the NAPS and SPS EOFs, Dominion Energy Virginia requested to revise the emergency plans for NAPS and SPS to: (1) eliminate ringdown phones between the existing EOFs and risk jurisdictions capable of activating the site-specific Early Warning System (sirens), (2) replace references to "equivalency credit" for required training sessions with references to administrative processes for training, (3) change the approval authority for changes to respective site emergency plans and emergency plan implementing procedures, and (4) allow letters of agreement to be maintained separate from the emergency plan. Dominion Energy Virginia also requested in its letter dated January 16, 2018, to: (1) change emergency response organization (ERO) augmentation and emergency response facility (ERF) activation goals, and (2) expand the timeframe for starting an emergency drill or exercise outside normal working hours; however, these two proposed changes were subsequently withdrawn in its supplemental letter dated June 13, 2018.

The supplemental letter dated September 18, 2018, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on September 11, 2018 (83 FR 45981).

2.0 REGULATORY EVALUATION

The NRC staff considered the following regulatory requirements and guidance during its review of the proposed changes.

Regulations

The regulation in 10 CFR 50.47 sets forth emergency plan requirements for nuclear power plant facilities. The regulation in 10 CFR 50.47(b) establishes the standards that the onsite and offsite emergency response plans must meet for the NRC staff to make a finding that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Planning standards applicable to the changes requested include:

- 10 CFR 50.47(b)(2), which requires that, "On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified."
- 10 CFR 50.47(b)(3), which requires that, "Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified."
- 10 CFR 50.47(b)(5), which requires that, "Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established."

- 10 CFR 50.47(b)(6), which requires that, "Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public."
- 10 CFR 50.47(b)(8), which requires that, "Adequate emergency facilities and equipment to support the emergency response are provided and maintained."
- 10 CFR 50.47(b)(15), which requires that, "Radiological emergency response training is provided to those who may be called on to assist in an emergency."
- 10 CFR 50.47(b)(16), which requires that, "Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained."

Paragraph IV of Appendix E to 10 CFR Part 50 includes the requirements for the content of emergency plans. Requirements applicable to the proposed changes include:

- Paragraph IV.E.8.a(i) of Appendix E to 10 CFR Part 50, which specifies the requirement for a licensee onsite technical support center and an EOF from which effective direction can be given and effective control can be exercised during an emergency.
- Paragraph IV.E.8.b of Appendix E to 10 CFR Part 50, which states, in part:

A licensee desiring to locate an emergency operations facility more than 25 miles from a nuclear power reactor site shall request prior Commission approval by submitting an application for an amendment to its license. For an emergency operations facility located more than 25 miles from a nuclear power reactor site, provisions must be made for locating NRC and offsite responders closer to the nuclear power reactor site so that NRC and offsite responders can interact face-to-face with emergency response personnel entering and leaving the nuclear power reactor site.

Regulatory Guidance

Regulatory Guide (RG) 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors" (Reference 4), provides guidance on methods acceptable to the NRC staff for implementing specific parts of the NRC's regulations, which are in this case 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. RG 1.101 endorses Revision 1 to NUREG-0654/FEMA-REP-1 (NUREG-0654), "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference 5), which provides acceptance criteria outlining an acceptable means for complying with the standards set forth in 10 CFR 50.47(b). These guidance documents provide a basis for NRC licensees to develop acceptable radiological emergency preparedness plans consistent with 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50.

NUREG-0696, "Functional Criteria for Emergency Response Facilities," dated February 1981 (Reference 6), describes the facilities and systems to be used by nuclear power plant licensees to improve responses to emergencies.

Office of Nuclear Security and Incident Response/Division of Preparedness and Response Interim Staff Guidance document NSIR/DPR-ISG-01, "Emergency Planning for Nuclear Power

Plants" (Reference 7), provides updated guidance for addressing emergency planning requirements for nuclear power plants based on changes to emergency preparedness regulations in 10 CFR 50.47 and Appendix E to 10 CFR Part 50 that were published in the *Federal Register* on November 23, 2011 (76 FR 72560) (referred to hereafter as the 2011 EP Final Rule).

3.0 TECHNICAL EVALUATION

3.1 Background

By letter dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, Dominion Energy Virginia proposed to consolidate the near-site (local) EOFs, the common backup EOF and the headquarters support organization for NAPS, Unit Nos. 1 and 2, and ISFSI, and for SPS, Unit Nos. 1 and 2, and ISFSI.

Dominion Energy Virginia, in its letter dated January 16, 2018, stated:

The North Anna Unit 3 (NA3) combined operating license [COL] (NPF-103, 052000017) Emergency Plan describes the NAPS local EOF and the central (back-up) EOF. Following approval and implementation of this license amendment, these facilities will cease to exist. A NA3-specific license amendment would be needed to reference the proposed CERC in the NA3 COL Emergency Plan prior to commencing operation at NA3. If Dominion Energy Virginia decides to construct NA3, a separate license amendment would be developed and submitted.

Therefore, NAPS, Unit No. 3, is not a part of this review. As such, further references to NAPS in this evaluation will only apply to NAPS, Unit Nos. 1 and 2, and the ISFSI. Separate Commission approval will be required per Appendix E to 10 CFR Part 50 if the licensee eventually decides to consolidate the local EOF for NAPS, Unit No. 3, with the proposed CERC.

The proposed CERC is approximately 30 miles from the NAPS site and approximately 59 miles from the SPS site. As such, prior Commission approval is required per paragraph IV.E.8.b of Appendix E to 10 CFR Part 50.

The purpose of an EOF is to provide a facility to manage the overall licensee emergency response during an event, including coordinating radiological and environmental assessments; determining protective actions, and communicating and coordinating with Federal, State, and local agencies. This facility complements other licensee emergency response facilities, such as the technical support center (TSC), which is located onsite at each respective site. The TSC is a facility from which the licensee staff provides plant management and technical support to plant operations personnel during emergency conditions, relieves the reactor operators of peripheral duties and communications not directly related to reactor system manipulations, prevents congestion in the control room, and performs EOF functions until the EOF is staffed and ready to respond. EOF functions can be fulfilled by each respective site's TSC under emergency response conditions, as needed.

3.2 NRC Staff Evaluation

NAPS and SPS EOF Consolidation

The NRC staff considered relevant regulations and guidance documents in its evaluation of Dominion Energy Virginia's proposal to consolidate the near-site EOFs for NAPS and SPS. Specifically, 10 CFR 50.47(b)(8) states that, "Adequate emergency facilities and equipment to support the emergency response are provided and maintained." In addition, paragraph IV.E.8.c of Appendix E of 10 CFR Part 50 establishes the following minimum capabilities for an applicant/licensee EOF, which were added by the 2011 EP Final Rule:

- The capability for obtaining and displaying plant data and radiological information for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves;
- The capability to analyze plant technical information and provide technical briefings on event conditions and prognosis to licensee and offsite response organizations for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves; and
- The capability to support response to events occurring simultaneously at more than one nuclear power reactor site if the EOF serves more than one site.

In accordance with paragraph IV.E.8.b to Appendix E of 10 CFR Part 50, a licensee with an EOF located more than 25 miles from a nuclear power reactor site must also have an additional facility closer than 25 miles to the nuclear power reactor site so that the NRC and offsite responders can interact face-to-face with emergency response personnel entering and leaving the nuclear power reactor site. Further, the additional facility must include the following provisions.

- Space for members of an NRC site team and Federal, State, and local responders;
- Additional space for conducting briefings with emergency response personnel;
- Communication with other licensee and offsite emergency response facilities;
- Access to plant data and radiological information; and
- Access to copying equipment and office supplies.

The NRC's issuance of guidance document NUREG-0696 in 1981 established criteria for the NRC staff to use in evaluating whether an applicant or licensee met the existing requirements in paragraph IV.E.8 to Appendix E of 10 CFR Part 50. Section 4, "Emergency Operations Facility," of NUREG-0696 provides compliance criteria for the EOF in the following categories:

- Functions (Section 4.1);
- Location, Structure and Habitability (Section 4.2);
- Staffing and Training (Section 4.3);
- Size (Section 4.4);
- Radiological Monitoring (Section 4.5);
- Communications (Section 4.6);
- Instrumentation, Data System Equipment, and Power Supplies (Section 4.7);
- Technical Data and Data System (Section 4.8); and
- Records Availability and Management (Section 4.9).

The NRC amended its EOF regulations as part of the 2011 EP Final Rule in response to Commission direction in SRM to SECY-04-0236, "Southern Nuclear Operating Company's Proposal to Establish a Common Emergency Operating Facility at its Corporate Headquarters," dated February 23, 2005 (Reference 8), which states:

The staff should consider revising 10 CFR Part 50 to make the requirements for EOFs more performance-based to allow other multi-plant licensees to consolidate their EOFs, if those licensees can demonstrate their emergency response strategies will adequately cope with an emergency at any of the associated plants.

NUREG-0696 was supplemented as part of the 2011 EP Final Rule by Section IV.I, "Emergency Operations Facility – Performance-Based Approach," of NSIR/DPR-ISG-01. As such, the guidance provided in Section 4 of NUREG-0696, as supplemented by Section IV.I of NSIR/DPR-ISG-01, was used in the NRC staff's evaluation of Dominion Energy Virginia's proposal.

3.2.1 Functions

Dominion Energy Virginia, in Section 2.1 to Attachment 1, "Discussion of Proposed Change," of its January 16, 2018, letter, discussed how the proposed CERC will have the facilities and capability for: (1) managing overall licensee emergency response; (2) coordinating radiological and environmental assessment; (3) determining recommended public protective actions, (4) notifying offsite agencies; (5) coordinating event, plant, and response information provided to public information staff for dissemination to the media and the public; (6) staffing and activating the facility within time frames and at emergency classification levels defined in the licensee emergency plan; (7) coordinating emergency response activities with Federal, State, tribal and local agencies; (8) locating NRC and offsite agency staff closer to a site if the EOF is greater than 25 miles from the site; (9) obtaining and displaying key plant data and radiological information for each unit or plant the EOF serves; (10) analyzing plant technical information and providing technical briefings on event conditions and prognosis to licensee staff and offsite agency responders for each type of unit or plant; and (11) effectively responding to and coordinating response efforts for events occurring simultaneously at more than one site for a consolidated EOF.

Dominion Energy Virginia further stated that the proposed CERC will assume responsibility for the offsite notification of emergency declarations and protective action recommendations (PARs) with the respective site's TSC, continuing to have the responsibility for event classification. Section 2.1 to Attachment 1 of the Dominion Energy Virginia January 16, 2018, letter stated that, "If the proposed CERC becomes unavailable during an event, the NAPS and SPS TSCs will have the capability to determine PARs for the public, notify offsite agencies, and perform dose assessments."

The proposed CERC will also continue its current function of housing offsite response organizations, including Federal agencies, to coordinate information and deploy emergency resources with State and Federal agencies. Working space is provided for licensee ERO staff, and a dedicated room is available for the Commonwealth of Virginia, consistent with the criteria in Section II.H.2 of NUREG-0654 and Section 4.1 of NUREG-0696. Local agencies do not currently respond to the existing local EOFs, and this is expected to continue once the local EOFs are consolidated at the CERC.

Access to the CERC will be controlled through the use of electronic card readers to allow entry only to authorized personnel, and initial access to the Innsbrook Technical Center will be controlled via normal industrial security, which is consistent with Section 4.1 to NUREG-0696.

Section IV.I of NSIR/DPR-ISG-01, which supplements the guidance in Section 4.1 of NUREG-0696, states, in part, that the EOF will have facilities and capabilities for: "[e]ffectively responding to and coordinating response efforts for events occurring simultaneously at more than one site for a co-located or consolidated EOF." Dominion Energy Virginia, in Section 2.1 to Attachment 1 of its letter dated January 16, 2018, stated:

The proposed CERC is capable of monitoring and analyzing events at NAPS and SPS simultaneously. A sufficient number of workstations are available for data retrieval and the facility has adequate display capability to simultaneously present this information to the CERC staff. In the event both stations are in an emergency class requiring CERC activation, supplemental staff is mobilized to support the additional station. Separate NAPS and SPS communications networks will be used for notifying the Commonwealth of Virginia, and NAPS and SPS plume exposure pathway risk jurisdictions. Site-specific work spaces in the command center area and the separate NAPS and SPS Health Physics/Accident Assessment & Virginia Radiological Health rooms provide a physical separation to segregate response efforts.

The NRC staff and the Federal Emergency Management Agency (FEMA) jointly observed a dual-site drill from the CERC on March 5, 2018, which involved simulated, simultaneous emergency events at both the NAPS and SPS sites. Dominion Energy Virginia also provided the opportunity for the Commonwealth of Virginia to participate. Based on a review of the licensee's submittal and drill observation, the NRC staff confirmed that the proposed CERC can effectively respond to and coordinate designated response efforts for events occurring simultaneously at the NAPS and SPS sites. Therefore, the staff has concluded that the CERC is consistent with the guidance in NUREG-0696, as supplemented by NSIR/DPR-ISG-01, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

3.2.2 Location, Structure, and Habitability:

Section 4.2 of NUREG-0696, as supplemented by Section IV.I of NSIR/DPR-ISG-01, provides guidance on considerations for the location of an EOF.

Location

The CERC will be located in the Innsbrook Technical Center located at 5000 Dominion Boulevard, Glen Allen, Virginia, which is approximately 30 miles from the NAPS site and approximately 59 miles from the SPS site. The Innsbrook Technical Center serves as the corporate offices for Dominion Energy Virginia and, as such, would support the timely staffing of the CERC with appropriate technical and administrative disciplines. The capability to timely staff the CERC and effectively respond to and coordinate response efforts for events occurring simultaneously at the NAPS and SPS sites was demonstrated and observed by NRC staff at the dual-site drill on March 5, 2018.

In Section 1.2 to Attachment 1, "Detailed Description Change," of its January 16, 2018, letter, Dominion Energy Virginia stated that the CERC would be activated after an Alert or higher

emergency classification is declared. Section 1.2 to Attachment 1 also included the following table (Table 1.2-1) on declarations that require EOF activation at the NAPS and SPS sites, which indicates that historically the EOF has not needed to be activated for simultaneous events occurring at both the NAPS and SPS sites during their operation.

Table 1.2-1: Declarations that Require EOF Activation

<u>Date</u>	<u>Station(s)</u>	<u>Emergency Class</u>
July 3, 1980	North Anna	Alert
December 9, 1986	Surry	Alert
July 15, 1987	North Anna	Alert
February 25, 1989	North Anna	Alert
April 24, 1993	North Anna	Alert
October 7, 2006	Surry	Alert
August 23, 2011	North Anna	Alert

In addition, per Section IV.E.8.b to Appendix E of 10 CFR Part 50, a backup EOF is only required when the primary EOF is located within 10 miles of the nuclear power reactor site. As such, a backup EOF is no longer required for the NAPS and SPS sites.

Offsite Agreement

Planning standard 10 CFR 50.47(b)(3) requires that arrangements be made to accommodate State and local staff at the licensee's EOF. Dominion Energy Virginia, in Section 2.1 to Attachment 1 of its January 16, 2018 letter, stated the following:

Arrangements meeting the 10 CFR 50.47(b)(3) emergency planning standard for accommodating responding organizations exists at the NAPS and SPS local EOFs... and exists in the back-up central EOF. The proposed CERC will utilize the same areas as the back-up central EOF, which includes separate conference rooms for the NRC Region II Site Team and Commonwealth of Virginia liaisons, desk space in the main work area and designated work-stations in the site-specific Health Physics/Accident Assessment & Virginia Radiological Health rooms.

Section 4.2 to NUREG-0696, as supplemented by Section IV.I of NSIR/DPR-ISG-01, states that it is strongly recommended that the EOF location be coordinated with State and local authorities to improve the relationship between the licensee and offsite organizations. Currently, local agencies do not respond to the near-site EOFs for NAPS and SPS and are not expected to respond to the CERC. Dominion Energy Virginia, in Attachment 8, "Offsite Response Agency Letters of Concurrence," to its letter dated January 16, 2018, provided signed letters of concurrence from the following offsite response agencies:

- Virginia Department of Emergency Management;
- Virginia Department of Health;
- James City County;
- Surry County;

- Louisa County; and
- Spotsylvania County.

Per the "Memorandum of Understanding Between the Department of Homeland Security/Federal Emergency Management Agency and Nuclear Regulatory Commission Regarding Radiological Response, Planning and Preparedness," dated December 7, 2015 (Reference 9), the NRC requested that FEMA evaluate the impact of the proposed consolidation of the existing near-site EOFs for the NAPS and SPS site at the CERC on offsite radiological emergency plans and preparedness, and provide its findings to the NRC. By letter dated April 25, 2018 (Reference 10), FEMA stated:

The FEMA Region III REP [Radiological Emergency Preparedness] staff reviewed the proposed consolidation of EOFs to determine the adequacy of offsite radiological emergency plans and preparedness. ... FEMA finds that the offsite plans and procedures are not negatively impacted by the above changes.

...

Based on the March 5th drill results, FEMA did not find any impediments to the Commonwealth of Virginia's emergency response organization's operating from Dominion's common EOF. Offsite radiological emergency plans and preparedness are not negatively impacted by the change.

Impact on NRC's Incident Response

Dominion Energy Virginia, in Section 2.1 to Attachment 1 of its letter dated January 16, 2018, stated that the proposed CERC includes a separate conference room for the NRC Region II Site Team, as well as desk space in the main work area and designated work-stations in the site-specific Health Physics/Accident Assessment and Virginia Radiological Health Rooms. The NRC staff confirmed through observation at the March 5, 2018, dual-site drill that the proposed CERC provided adequate space and access to communications and plant data for the affected site(s) to effectively support NRC Region II Site Team activities and interface with licensee EOF staff and representatives from the Commonwealth of Virginia.

Paragraph IV.E.8.b of Appendix E to 10 CFR Part 50 requires that, for an EOF located more than 25 miles from a nuclear reactor site, provisions be made for locating NRC and offsite responders closer to the reactor site to facilitate face-to-face interaction with emergency personnel entering and leaving the site. Section IV.I to NSIR/DPR-ISG-01 provides guidance describing the minimum provisions at this near-site location, consistent with paragraph IV.E.8.b of Appendix E to 10 CFR Part 50.

Dominion Energy Virginia's near-site response facilities are located at the North Anna Nuclear Information Center and the Surry Nuclear Information Center. These near-site response facilities, as described in Dominion Energy Virginia's letter dated January 16, 2018, will provide a location for the NRC and other offsite agency staff to interact face-to-face with emergency response personnel entering and leaving the nuclear power reactor site. Each near-site response facility will include provisions consistent with the guidance in Section IV.I to NSIR/DPR-ISG-01, which includes a conference area with whiteboards, separate areas suitable for briefing and debriefing response personnel, telephones, site ERO contact lists, computers with internet access, access to a copier and office supplies, and access to plant radiological information.

Based on a review of the licensee's submittal and the NRC staff's observation at the proposed CERC of the dual-site drill on March 5, 2018, the staff finds that the physical location of the CERC and the near-site response locations would be consistent with the guidance in NUREG-0696, as supplemented by NSIR/DPR-ISG-01, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

Structure

Section 4.2 of NUREG-0696, as supplemented by Table 2 to Section IV.I of NSIR/DPR-ISG-01, provides guidance that, for an EOF located at or beyond 10 miles from a nuclear power reactor site, the structure be "well engineered for design life of plant," and provides the Uniform Building Code as an example. In addition, the structure should be able to withstand adverse conditions of high winds and floods. Dominion Energy Virginia, in Section 2.2 to Attachment 1 of its letter dated January 16, 2018, stated that the building in which the CERC is located is capable of withstanding wind loads and live loads equal to or greater than those specified in the Building Officials and Code Administrators International National Building Code/1981, which is the standard building code used on the East Coast of the United States.

Based on a review of the licensee's submittal and the NRC staff's observation at the proposed CERC of the dual-site drill on March 5, 2018, the staff finds that the physical structure of the proposed CERC is consistent with the guidance in NUREG-0696, as supplemented by NSIR/DPR-ISG-01, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

Habitability

Section 4.2 of NUREG-0696, as supplemented by Table 2 to Section IV.I of NSIR/DPR-ISG-01, provides guidance for the ventilation standards and protection factor for a radiological release. Because the CERC is located beyond 10 miles from the respective nuclear power reactor sites it supports, EOF functions would not be impacted by a radiological release from Dominion Energy Virginia sites due to the distance from each respective site as described in Section 3.2.1 above. In these situations, the criteria in Table 2 of NSIR/DPR-ISG-01 state that no specialized ventilation systems or protection factor are needed. As such, the NRC staff finds that the habitability of the CERC is consistent with the guidance in NUREG-0696, as supplemented by NSIR/DPR-ISG-01, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

3.2.3 Staffing and Training

Section 4.3 of NUREG-0696, as supplemented by Section IV.I of NSIR/DPR-ISG-01, provides guidance on EOF staffing and training to provide for the overall management of licensee resources and the continuous evaluation and coordination of licensee activities during and after an accident. In addition, Section 4.3 to NUREG-0696 provides guidance on the conduct of periodic EOF activation drills in accordance with the licensee's emergency plan.

The proposed CERC is located in the Innsbrook Technical Center, which serves as the corporate offices for Dominion Energy Virginia, and thereby allows for prompt response by

corporate support and management personnel with expertise from various disciplines. Dominion Energy Virginia, in Section 2.3 to Attachment 1 of its letter dated January 16, 2018, stated:

The headquarters support organization and back-up central EOF staff currently mobilize at an Alert or higher emergency per the CERP [Corporate Emergency Response Plan], and NAPS and SPS emergency plans, and will continue to do so as the CERC staff upon implementation of the proposed consolidation. In the event both stations are in an emergency class requiring CERC activation, supplemental staff will be mobilized to support the additional station. The activation time goal for the proposed CERC is within 75 minutes of the declaration of an Alert or higher emergency class by either station, with activation defined as the assembly of required positions in the proposed CERC and the CERC Corporate Response Manager declaring the facility activated.

Dominion Energy Virginia, in its letter dated January 16, 2018, included Table 2.3-1, "Current and Proposed CERC Staffing for Activation," which compares the positions currently needed for activation of the current near-site (local) EOFs, the current headquarters support organization, and the proposed CERC. Table 2.3-1 demonstrates that the staffing of the proposed CERC will be a combined organization that includes the personnel required to perform the necessary functions from the current near-site (local) EOFs and the current headquarters support organization. The staff observed the staffing of the proposed CERC during the dual-site drill on March 5, 2018, and determined that the staffing was adequate to perform the intended functions of an EOF.

Regarding the training of the proposed CERC personnel, the Dominion Energy Virginia submittal of January 16, 2018, Attachment 1, stated:

The same training program guide for the current local EOF staff also governs training for the back-up central EOF and headquarters support organization staffs. Prior to implementation of the proposed CERC, the training program guide will be revised to reflect the new roles of the proposed CERC and the ERO members filling these roles will be qualified accordingly. Training for key ERO members supporting NAPS and SPS will include station-specific differences, e.g., plume exposure pathway risk jurisdictions, release pathways, station ingress and egress routes, offsite protective action zones, and evacuation time estimates. NAPS Unit Nos. 1 and 2, and SPS Unit Nos. 1 and 2, are 3-loop Westinghouse pressurized water reactors, and both stations have Independent Spent Fuel Storage Installations; thus, the plans and procedures for operation and emergency response are similar.

In order to ensure that EOF staff remain proficient in skills required to perform EOF functions for both NAPS and SPS, Dominion Energy Virginia will use the ERO Performance Indicator (PI) under the Emergency Preparedness Cornerstone,¹ which allows the licensee and the NRC staff to verify the licensee's ability to meet the performance-based consolidated EOF criteria and to adequately cope with an emergency at any of the licensee's sites. The PI tracks the participation of ERO members assigned to fill key positions in performance enhancing experiences, and ensures that the risk-significant aspects of classification, notification, and PAR

¹ Nuclear Energy Institute (NEI) document NEI 99-02, Revision 7, "Regulatory Assessment Performance Indicator Guideline," dated August 31, 2013 (ADAMS Accession No. ML13261A116)

development are evaluated and included in the PI process. The PI also ensures that a licensee with a common EOF, where personnel are assigned to the key positions that support multiple nuclear sites, are monitored to ensure that each receives a meaningful opportunity to gain proficiency.

Based on a review of the licensee's submittal and the staff's observation at the proposed CERC of the dual-site drill on March 5, 2018, the NRC staff concludes that the staffing and training of the proposed CERC is consistent with the guidance in NUREG-0696, as supplemented by NSIR/DPR-ISG-01, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

ERO Augmentation and Emergency Response Facility Activation Goals for the Consolidated EOF

In accordance with 10 CFR 50.47(b)(2), timely augmentation of response activities shall be available.

The current NAPS near-site (local) EOF and TSC are both currently activated within approximately 60 minutes. The SPS TSC is currently activated within approximately 60 minutes; however, the SPS emergency plan provides 1 1/2 hours for the current SPS near-site (local) EOF to achieve full functional operation. Dominion Energy Virginia proposed to relocate the near-site (local) EOFs for NAPS and SPS to the proposed CERC, with a proposed staff augmentation goal of 75 minutes.

Dominion Energy Virginia, in response to the NRC staff request for additional information dated September 18, 2018, stated, in part:

The initial event notification is made from the Main Control Room (MCR) and then transitions to the Technical Support Center (TSC) for subsequent notifications. The responsibilities for making emergency class declarations, authorizing emergency exposure, and making protective action recommendations (PAR) also transfer. Currently, the responsibilities for notifying state and local agencies, making PARs and performing dose assessments are transferred from the TSC to the local EOF or back-up central EOF, as appropriate. Following implementation of the consolidated EOF, these responsibilities will transfer from the TSC to the proposed Corporate Emergency Response Center (CERC). ... If the proposed CERC becomes unavailable during an event, the respective TSC at each site will have the capability to determine PARs for the public, notify offsite agencies, and perform dose assessments, including coordination of field team activities supporting the performance of dose assessments.

...

Therefore, in summary, in the event the CERC is not fully functional for 75 minutes vice approximately 60 minutes, the TSC will have the capability to determine PARs for the public, notify offsite agencies, and perform dose assessments, including coordination of field team activities supporting the performance of dose assessments.

The following table provides a summary of the transfer of responsibilities for key functions, as outlined in Table 2.1-2, "Responsibilities for Key Functions," to Attachment 1 of the Dominion Energy Virginia letter dated September 18, 2018:

Modified Table 2.1-1: Responsibilities for Key Functions

Key Function	Current and Future TSC Responsibility Prior to Transfer of Functions	Current Near-Site (Local) EOF Responsibility After Assumption of Functions	Proposed CERC Responsibility After Assumption of Functions
Approve PARs	TSC Station Emergency Manager	Recovery Manager	Site-Specific CERC Technical Support Manager
Prepare Emergency Messages	TSC State and Local Emergency Communicator	State and Local Emergency Communicator	Site-Specific CERC State and Local Emergency Communicator
Approve Emergency Messages	TSC Station Emergency Manager	Recovery Manager	Site-Specific CERC Technical Support Manager
Transmit Emergency Messages	TSC State and Local Emergency Communicator	State and Local Emergency Communicator	Site-Specific CERC State and Local Emergency Communicator
Assess Radiological Consequences	TSC Radiological Assessment Director	Radiological Assessment Coordinator	Site-Specific CERC Radiological Assessment Coordinator
Review Press Releases for Technical Accuracy	N/A	Recovery Manager	Site-Specific CERC Technical Support Manager
Approve Press Releases	N/A	Senior Headquarters Support Position	CERC Corporate Response Manager

The NRC staff finds that the extension in activation timing for the transfer of responsibilities from the NAPS TSC to the proposed CERC is acceptable because the NAPS TSC will continue to maintain the capability to perform these responsibilities for this extension in time and, therefore, continues to meet planning standard 10 CFR 50.47(b)(2).

3.2.4 Size

Section 4.4 of NUREG-0696, as supplemented by Section IV.I of NSIR/DPR-ISG-01, provides guidance that the EOF building should be large enough to provide adequate work space for personnel assigned to the EOF, as specified in the licensee's emergency plan, at the maximum level of occupancy without crowding, as well as provide separate office space to accommodate NRC staff and other Federal personnel.

Figure 2.4-1, "Layout of Proposed CERC," included in Section 2.4 to Attachment 1 of Dominion Energy Virginia's letter dated January 16, 2018, provided the proposed layout for the CERC, illustrating a main Command Center area and separate work areas for Federal responders, the Virginia Department of Emergency Management, Health Physics/Accident Assessment and Virginia Radiological Health (separate rooms for each site), communications, briefings, administrative support, and Governmental Affairs, Media Monitoring and News Room. Dominion Energy Virginia, in its letter dated January 16, 2018, also stated that the total usable space and working space of the proposed CERC is approximately 5,987 square feet, and that the expected number of EOF personnel during a dual-site event, including offsite agency responders, will be less than 60 people. Based on the guidance in Section 4.4 of NUREG-0696 of approximately 75 square feet per person, this would provide space for up to 80 people. Therefore, the proposed CERC should provide adequate working space for the number of ERO staff at the projected maximum level of occupancy without crowding.

Space in the proposed CERC is allocated for functional activities of accident assessment, radiation assessment, offsite monitoring, offsite communications, command and control, conferences, NRC personnel, and storage. There is sufficient space for the service of equipment, displays, and instrumentation within the new facility. Phones and special communications equipment are provided as needed throughout the new facility at personnel workstations. Individuals needing access to plant data are provided access via personal computers with internet access. Functional displays of data are made available through the use of computer monitors and video display monitors.

As part of its evaluation, the NRC staff observed a dual-site drill at the proposed CERC on March 5, 2018, and verified that the new facility provides sufficient work space, which will enhance Dominion Energy Virginia's ability to effectively support simultaneous events at both the NAPS and SPS sites, while providing dedicated work space for NRC Site Team and State representatives responding to the CERC.

Based on a review of the licensee's submittal and the NRC staff's observation at the proposed CERC of the dual-site drill on March 5, 2018, the staff finds that the CERC will be of sufficient size to accommodate and support Federal, State, and licensee ERO personnel, equipment, and documentation in the CERC. As such, the NRC staff finds that the size of the CERC is consistent with the guidance in NUREG-0696, as supplemented by NSIR/DPR-ISG-01, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

3.2.5 Radiological Monitoring

The guidance in Section 4.5 to NUREG-0696 specifies that to ensure adequate radiological protection of EOF personnel, radiation monitoring systems should be provided in the EOF. The CERC will be located more than 10 miles from both the NAPS and SPS sites. No other NRC-licensed nuclear power reactor site is located within 10 miles of the proposed CERC. As such, the staff finds that based on the physical location of the CERC, EOF personnel would not be impacted by a radiological release from any nuclear power plant site. Therefore, radiological monitoring capabilities for EOF personnel, as described in NUREG-0696, as supplemented by NSIR/DPR-ISG-01, are not needed.

3.2.6 Communications

Section 4.6 of NUREG-0696 provides guidance that the EOF shall have reliable voice communications facilities to the respective site's TSC and control room, the NRC, and State and local emergency operations centers (EOCs), and describes the primary functions of the EOF voice communications facilities.

Dominion Energy Virginia, in Section 2.6 to Attachment 1 of its letter dated January 16, 2018, described the communications systems for the proposed CERC as including:

- Dominion Energy Virginia-installed telephone system, with access to the Dominion Energy Virginia internal phone system, public switched network, and long distance;
- NAPS and SPS Insta-Phones (for providing emergency notifications to the Commonwealth of Virginia and site-specific risk jurisdiction 911 Centers/EOCs);
- Radio systems for communication with NAPS and SPS field monitoring teams to coordinate radiological monitoring;
- NRC Emergency Telecommunications System telephones (Emergency Notification System, Health Physics Network, Protective Measures Counterpart Link, Reactor Safety Counterpart Link, Management Counterpart Link, and local area network connection are provided by the Dominion Energy Virginia communications infrastructure);
- Virginia Satellite Radio/Telephone (to be installed upon implementation);
- Facsimile (fax) transmission capability; and
- Scanning (email) transmission capability.

According to Dominion Energy Virginia's letter dated January 16, 2018, reliable voice communications are provided at the CERC to the NAPS and SPS control rooms (Unit Nos. 1 and 2); respective site's TSC; the NRC, State, and local EOCs; nuclear steam supply system suppliers; FEMA; the U.S. Department of Energy; and the joint information center. The Insta-Phones would serve as the primary means of communicating the declaration of an emergency classification and event information to the Commonwealth of Virginia and site-specific risk jurisdiction 911 centers/local EOCs located within the 10-mile plume exposure pathway emergency planning zone. Existing commercial telephone and fax service will serve as the backup means of communication.

Based on a review of the licensee's submittal and the staff's observation at the proposed CERC of the dual-site drill on March 5, 2018, the NRC staff finds that the proposed CERC has sufficient internal and external telecommunications capabilities to support EOF functions for simultaneous events at the NAPS and SPS sites. As such, the NRC staff has concluded that the proposed CERC will provide for reliable EOF voice and data communications and information collection consistent with the guidance in NUREG-0696, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

3.2.7 Instrumentation, Data System Equipment, and Power Supplies

Section 4.7 of NUREG-0696 provides guidance on equipment to gather, store, and display data needed in the EOF to analyze and exchange information on plant conditions, as well as criteria to perform these functions.

Dominion Energy Virginia, in Section 2.7 to Attachment 1 of its letter dated January 16, 2018, stated:

Data acquisition for the proposed CERC is achieved through a secure connection to the plant computer servers [which allows the proposed CERC to access] displays that are representative of the displays in [the respective site] Control Room via the Dominion Energy Virginia Wide and Local Area Networks (WAN and LAN). Dominion Energy Virginia has established an availability goal for the LAN/WAN that exceeds the 0.01 unavailability goal [as specified] in NUREG-0696. The proposed CERC has access to the same data points that are available to Operators in the Control Room and emergency responders in the TSCs, including the SPDS data points. The video display system in the proposed CERC will display the graphics on screens in the Command Center area.

Dominion Energy Virginia's letter dated January 16, 2018, further stated that the LAN equipment housed within the proposed CERC is provided with backup power. Additionally, the core network equipment in the Innsbrook Technical Center is also provided with backup power. Backup electrical power for the proposed CERC is supplied by at least one of the following: generator, direct current battery, and/or uninterruptable power supply systems. Therefore, a loss of primary power, which is provided by commercial power, would not impact voice or data communications equipment in the proposed CERC. The proposed CERC also has multiple workstations and displays available for the licensee to monitor conditions at NAPS and SPS sites simultaneously.

Based on a review of the licensee's submittal and the staff's observation at the proposed CERC dual-site drill on March 5, 2018, the NRC staff finds that the CERC provides for sufficient EOF instrumentation, data system equipment, and reliable power supplies. As such, the NRC staff concludes that the CERC will provide reliable equipment to gather, store, and display data needed in the CERC to analyze and exchange information on plant conditions consistent with the guidance in Section 4.7 to NUREG-0696, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

3.2.8 Technical Data and Data Systems

Section 4.8 of NUREG-0696 provides guidance on the technical data system needed to receive, store, process, and display information sufficient to perform assessments of the actual and potential onsite and offsite environmental consequences of an emergency condition.

Dominion Energy Virginia, in Section 2.8 to Attachment 1 of its letter dated January 16, 2018, stated that the proposed CERC will have the capability to receive, store, process, and display information needed to perform assessments of actual and potential offsite consequences of an emergency at both the NAPS and SPS sites. Dominion Energy Virginia further stated that the CERC data system will meet the functional intent of the data display and data storage requirements discussed in Sections 4.7 and 4.8 of NUREG-0696. This means that the CERC has access to the same data points that are available to operators in each respective site's Control Room and emergency responders in the TSC and operational support center. The CERC data set will include radiological, meteorological, and other environmental data needed to assess environmental conditions, coordinate radiological monitoring activities, and recommend implementation of offsite protective actions. This capability includes sensor data of the Type A, B, C, D, and E variables, as described in RG 1.97, "Criteria for Accident Monitoring

Instrumentation for Nuclear Power Plants” (Reference 11), and the meteorological variables required by both RG 1.23, “Meteorological Monitoring Programs for Nuclear Power Plants” (Reference 12), and NUREG-0654.

Based on a review of the licensee’s submittal and the staff’s observation at the CERC of the dual-site drill on March 5, 2018, the NRC staff concludes that the CERC will provide for the sufficient receipt, storage, processing, and display of information to perform assessments of the actual and potential onsite and offsite environmental consequences of an emergency condition consistent with the guidance in Section 4.8 to NUREG-0696, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

3.2.9 Records Availability and Management

Section 4.9 of NUREG-0696 provides guidance on ready access to up-to-date plant records, procedures, emergency plans, etc., needed to exercise overall management of licensee emergency response resources. Dominion Energy Virginia, in Section 2.9 to Attachment 1 of its letter dated January 16, 2018, stated that hard copies of key reference materials for NAPS and SPS will be maintained in the facility and distributed via a controlled distribution process. In addition, station design documentation, plant drawings, procedures, etc., are available electronically via the local area network connection.

Based on a review of the licensee’s submittal and the staff’s observation at the CERC of the dual-site drill on March 5, 2018, the NRC staff concludes that the CERC will provide for the key reference materials, station design documentation, plant drawings, procedures, etc., consistent with the records availability and management guidance in Section 4.9 to NUREG-0696, and meets the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

3.3 Elimination of County Ringdown Phones

In accordance with 10 CFR 50.47(b)(6), the licensee is required to provide prompt communications among response organizations.

In its letter dated January 16, 2018, Dominion Energy Virginia proposed to eliminate automatic ringdown (ARD) phones between the EOF and risk jurisdictions capable of activating the site-specific Early Warning System (EWS) siren systems. For NAPS, this includes ARDs to Louisa and Spotsylvania Counties, and for SPS, this includes ARDs to James City and Surry Counties. According to Dominion Energy Virginia, the difference between these counties and other risk jurisdictions is that they are capable of activating their site-specific EWS siren systems. The Commonwealth of Virginia EOC is capable of activating both the NAPS and SPS EWS sirens. The Commonwealth of Virginia will consult with the risk jurisdictions prior to the issuance of protective action decisions by the Governor. Dominion Energy Virginia did not locate any records indicating that the ARDs has been used in more than 30 years for drills, exercises, or real events.

Per the “Memorandum of Understanding Between the Department of Homeland Security/Federal Emergency Management Agency and Nuclear Regulatory Commission Regarding Radiological Response, Planning, and Preparedness,” dated December 7, 2015 (Reference 9), the NRC requested that FEMA evaluate the elimination of ARD phones between the EOF and risk jurisdictions capable of activating the EWS siren systems (in addition to the impact of the proposed consolidation of the NAPS and SPS near-site (local) EOFs at the

CERC), and provide its findings to the NRC. By letter dated April 25, 2018 (Reference 10), FEMA stated the following regarding the elimination of the ARD phones (and consolidation of the NAPS and SPS EOFs at the CERC): "FEMA finds that the offsite plans and procedures are not negatively impacted by the above changes."

The NRC staff finds that the elimination of the ARD phones is acceptable because both NAPS and SPS will continue to maintain an effective and timely alert and notification capability based on FEMA's assessment and, therefore, continue to meet planning standard 10 CFR 50.47(b)(6).

3.4 Training Exemption/Equivalent Qualification

In accordance with 10 CFR 50.47(b)(15), radiological emergency response training is provided to those who may be called on to assist in an emergency.

In its letter dated January 16, 2018, Dominion Energy Virginia proposed to replace references to "equivalency credit" for required training sessions with references to administrative processes for training exemptions and equivalent qualifications. Dominion Energy Virginia indicates that the NAPS and SPS emergency plans currently identify the approval authority for awarding equivalency credit as the Director of Nuclear Emergency Preparedness and the Site Vice President.

Dominion Energy Virginia, in Section 2.3 to Attachment 1 of its letter dated January 16, 2018, proposed the following:

The administrative process for training exemptions and equivalent qualifications requires approval by the training program owner. The location-specific emergency preparedness program owner for station ERO positions is the NAPS or SPS Manager Nuclear Emergency Preparedness, as appropriate, and for corporate positions the Manager Nuclear Fleet Emergency Preparedness. The proposed change will align the emergency preparedness training exemption and equivalent qualification processes with the process employed by other nuclear training programs.

The NRC staff finds that the change to this administrative process for training exemptions and equivalent qualifications is acceptable because this change is administrative in nature and consistent with the guidance in Section II.O, "Radiological Emergency Response Training," of NUREG-0654. Therefore, the proposed changes continue to meet planning standard 10 CFR 50.47(b)(15).

3.5 Approval Authority for Changes to Emergency Plans and Implementing Procedures

In accordance with 10 CFR 50.47(b)(16), responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.

Dominion Energy Virginia, in Section 2.4 to Attachment 1 of its letter dated January 16, 2018, stated that currently:

NAPS and SPS Emergency Plan Section 8.2.1 references to the Station Manager were revised to reference the Site Vice President as the approval authority for Emergency Plan and implementing procedure changes (NAPS

Emergency Plan, Revision 22 (July 17, 1998) and SPS Emergency Plan, Revision 43 (August 12, 1998)).

In its letter dated January 16, 2018, Dominion Energy Virginia proposed to establish the station Facility Safety Review Committee as the approval authority for changes to the emergency plan and establish the respective site Manager, Nuclear Emergency Preparedness, as the approval authority for emergency plan implementing procedures revisions.

The NRC staff finds that the change to this administrative process for review and approval of the emergency plan and emergency plan implementing procedures is acceptable because this change is administrative in nature and consistent with the guidance in Section II.P, "Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans," of NUREG-0654. Therefore, the proposed changes continue to meet planning standard 10 CFR 50.47(b)(16).

3.6 Maintenance of Emergency Plan Letters of Agreement

In accordance with 10 CFR 50.47(b)(3), arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

In its letter dated January 16, 2018, Dominion Energy Virginia proposed to "replace references to letters of agreement being maintained in an appendix to the Emergency Plan with references to those letters being maintained separately."

Dominion Energy Virginia, in Section 2.5 to Attachment 1 of its letter dated January 16, 2018, stated, in part:

The letters of agreement were included in an appendix to the Emergency Plans. Section 5.3.3 of the current NAPS and SPS Emergency Plan contains a similar statement and the current letters of agreement also appear in an appendix to NAPS Emergency Plan Revision 44 (effective February 2, 2017) and SPS Emergency Plan Revision 63 (effective March 16, 2017).

The NRC staff finds that the change to this administrative process for maintaining references to the letters of agreement in the emergency plan is acceptable because this change is administrative in nature and consistent with the guidance for Evaluation Criterion 4 in Section II.C, "Emergency Response Support and Resources," and in Section II.P of NUREG-0654. Therefore, the proposed changes continue to meet planning standard 10 CFR 50.47(b)(3).

3.7 NRC Staff Conclusion

On the basis of its evaluation, the NRC staff concludes that the proposed CERC is consistent with the guidance in Section 4 of NUREG-0696, as supplemented by Section IV.I of NSIR/DPR-ISG-01, and NUREG-0654 and, as such, continues to meet the relevant standards of 10 CFR 50.47(b) and the requirements of paragraph IV.E.8 of Appendix E to 10 CFR Part 50.

Given the technological capabilities of the facility, its demonstrated capacity to address simultaneous, multi-site events, and the staffing of an ERO that will be comprised of experienced and diverse disciplines, the NRC staff finds that there is reasonable assurance that protective measures can and will be implemented in the event of a radiological emergency at any of the sites that the proposed CERC will serve.

In SECY-18-0080, "Dominion Energy Virginia Request to Consolidate Emergency Operations Facilities for North Anna and Surry Power Stations," dated August 9, 2018 (Reference 13), the NRC staff recommended approval to consolidate the local EOFs for NAPS and SPS at the CERC. The Commission subsequently approved the staff's recommendation in the SRM to SECY-18-0080, "Dominion Energy Virginia Request to Consolidate Emergency Operations Facilities for North Anna and Surry Power Stations," dated August 27, 2018 (Reference 14). Therefore, the NRC staff concludes that the licensee's proposal to consolidate the near-site (local) EOFs for NAPS and SPS at the CERC, as detailed in Dominion Energy Virginia's letter dated January 16, 2018, as supplemented by letters dated June 13, 2018, and September 18, 2018, is acceptable.

In addition, based on the evaluation above, the NRC staff finds that the additional proposed emergency plan changes described in Sections 3.3, 3.4, 3.5, and 3.6 above continue to meet the relevant planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50, and provide reasonable assurance that adequate protective measures can and will continue to be taken in the event of a radiological emergency.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendments on February 8, 2019. The State official for the Commonwealth of Virginia had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on September 11, 2018 (83 FR 45988). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the

amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Dominion Energy Virginia, "North Anna Power Station Units 1, 2, and 3 and ISFSIs Surry Power Station Units 1 and 2 and ISFSIs Proposed Consolidated Emergency Operations Facility," dated January 16, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18025B468).
2. Dominion Energy Virginia, "North Anna Power Station Units 1, 2, and 3 and ISFSIs Surry Power Station Units 1 and 2 and ISFSIs Proposed Consolidated Emergency Operations Facility, Response to Request for Additional Information," dated June 13, 2018 (ADAMS Accession No. ML18169A224)
3. Dominion Energy Virginia, "North Anna Power Station Units 1, 2, and 3 and ISFSIs Surry Power Station Units 1 and 2 and ISFSIs Proposed Consolidated Emergency Operations Facility, Response to Request for Clarification," dated September 18, 2018 (ADAMS Accession No. ML18267A101).
4. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors," October 1981 (ADAMS Accession No. ML090440294).
5. U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," dated November 1980 (ADAMS Accession No. ML040420012).
6. U.S. Nuclear Regulatory Commission, NUREG-0696, "Functional Criteria for Emergency Response Facilities," dated February 1981 (ADAMS Accession No. ML051390358).
7. U.S. Nuclear Regulatory Commission, NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants," dated November 20, 2011 (ADAMS Accession No. ML113010523).
8. U.S. Nuclear Regulatory Commission, Staff Requirements Memorandum (SRM) to SECY-04-0236, "Southern Nuclear Operating Company's Proposal to Establish a Common Emergency Operating Facility at its Corporate Headquarters," dated February 23, 2005 (ADAMS Accession No. ML050550131).
9. U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, "Memorandum of Understanding Between the Department of Homeland Security/FEMA and NRC Regarding Radiological Response, Planning, and Preparedness," dated December 7, 2015 (ADAMS Accession No. ML15344A371).
10. Federal Emergency Management Agency, "FEMA Review of Consolidation of Dominion Emergency Operations Facility," dated April 25, 2018 (ADAMS Accession No. ML18115A260).

11. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.97, "Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants," dated June 2006 (ADAMS Accession No. ML061580448)
12. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.23, Revision 1, "Meteorological Monitoring Programs for Nuclear Power Plants," dated March 2007 (ADAMS Accession No. ML070350028).
13. U.S. Nuclear Regulatory Commission, SECY-18-0080, "Dominion Energy Virginia Request to Consolidate Emergency Operations Facilities for North Anna and Surry Power Stations," dated August 9, 2018 (ADAMS Accession No. ML18135A239).
14. U.S. Nuclear Regulatory Commission, Staff Requirements Memorandum to SECY-18-0080, "Dominion Energy Virginia Request to Consolidate Emergency Operations Facilities for North Anna and Surry Power Stations," dated August 27, 2018, (ADAMS Accession No. ML18239A093).

Principal Contributor: A. Marshall

Date: February 27, 2019

SUBJECT: NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2, AND SURRY POWER STATION, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENT NOS. 281, 264, 294, AND 294 TO CONSOLIDATE EMERGENCY OPERATIONS FACILITIES AND ASSOCIATED EMERGENCY PLAN CHANGES (EPID L-2018-LLA-0014) DATED FEBRUARY 27, 2019

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