



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

September 30, 2019

Mr. J. Ed Burchfield, Jr.
Site Vice President
Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672-0752

**SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 – ISSUANCE OF
AMENDMENT NOS. 414, 416, AND 415 REGARDING THE PHYSICAL
SECURITY PLAN (EPID L-2018-LLA-0042)**

Dear Mr. Burchfield:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment Nos. 414, 416, and 415 to Renewed Facility Operating Licenses DPR-38, DPR-47, and DPR-55, for the Oconee Nuclear Station, Units 1, 2, and 3, respectively. The amendments revise the Duke Energy Physical Security Plan in response to the application from Duke Energy Carolinas, LLC via letter ONS-2018-014 dated February 12, 2018, as supplemented by letters RA-18-0112, dated August 8, 2018, and RA-18-0139 dated August 23, 2018.

The amendments revise the Duke Energy Physical Security Plan for Oconee Nuclear Station to include additional protective measures during a specific infrequent short-term operating state, including a modification that provides additional access restriction. The staff's safety evaluation of the amendments is enclosed.

Pursuant to the National Environmental Policy Act of 1969, as amended, the NRC published an environmental assessment and finding of no significant impact in the *Federal Register* (FR) on February 6, 2019 (84 FR 2258). As discussed in the enclosed safety evaluation, the NRC determined that issuance of the amendments will not have a significant effect on the quality of the human environment.

A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Audrey L. Klett, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosures:

1. Amendment No. 414 to DPR-38
2. Amendment No. 416 to DPR-47
3. Amendment No. 415 to DPR-55
4. Safety Evaluation

cc: Listserv



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

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-269

OCONEE NUCLEAR STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 414
Renewed License No. DPR-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Oconee Nuclear Station, Unit 1 (the facility), Renewed Facility Operating License No. DPR-38, filed by Duke Energy Carolinas, LLC (the licensee), dated February 12, 2018, and supplemented by letters dated August 8, and August 23, 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 as 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 set forth in 10 CFR Chapter I;
 - 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. 414, Renewed Facility Operating License No. DPR-38 is amended to authorize revision to the Duke Energy Physical Security Plan, as set forth in the application dated February 12, 2018, as supplemented by letters dated August 8, and August 23, 2018. The licensee shall update the Duke Energy Physical Security Plan to incorporate the changes as described in the licensee's application, as supplemented, and the associated NRC safety evaluation.
3. This license amendment is effective as of its date of issuance and shall be implemented within one year of receipt of all external agency approvals.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Michael T. Markley, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: September 30, 2019



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-270

OCONEE NUCLEAR STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 416
Renewed License No. DPR-47

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Oconee Nuclear Station, Unit 2 (the facility), Renewed Facility Operating License No. DPR-47, filed by Duke Energy Carolinas, LLC (the licensee), dated February 12, 2018, and supplemented by letters dated August 8, and August 23, 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 as 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 set forth in 10 CFR Chapter I;
 - 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. 416, Renewed Facility Operating License No. DPR-47 is amended to authorize revision to the Duke Energy Physical Security Plan, as set forth in the application dated February 12, 2018, as supplemented by letters dated August 8, and August 23, 2018. The licensee shall update the Duke Energy Physical Security Plan to incorporate the changes as described in the licensee's application, as supplemented, and the associated NRC safety evaluation.
3. This license amendment is effective as of its date of issuance and shall be implemented within one year of receipt of all external agency approvals.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Michael T. Markley, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: September 30, 2019



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

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-287

OCONEE NUCLEAR STATION, UNIT 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 415
Renewed License No. DPR-55

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Oconee Nuclear Station, Unit 3 (the facility), Renewed Facility Operating License No. DPR-55, filed by Duke Energy Carolinas, LLC (the licensee), dated February 12, 2018, and supplemented by letters dated August 8, and August 23, 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 as 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 set forth in 10 CFR Chapter I;
 - 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. 415, Renewed Facility Operating License No. DPR-55 is amended to authorize revision to the Duke Energy Physical Security Plan, as set forth in the application dated February 12, 2018, as supplemented by letters dated August 8, and August 23, 2018. The licensee shall update the Duke Energy Physical Security Plan to incorporate the changes as described in the licensee's application, as supplemented, and the associated NRC safety evaluation.
3. This license amendment is effective as of its date of issuance and shall be implemented within one year of receipt of all external agency approvals.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Michael T. Markley, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: September 30, 2019



**UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION AND

THE OFFICE OF NUCLEAR SECURITY AND INCIDENT RESPONSE

AMENDMENT NO. 414 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-38

AMENDMENT NO. 416 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-47

AMENDMENT NO. 415 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-55

DUKE ENERGY CAROLINAS, LLC

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

DOCKET NOS. 50-269, 50-270, AND 50-287

1.0 INTRODUCTION

By letter ONS-2018-014 dated February 12, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18046A080), as supplemented by letters RA-18-0112 dated August 8, 2018, and RA-18-0139 dated August 23, 2018 (ADAMS Accession Nos. ML18225A076 and ML18239A112, respectively), Duke Energy Carolinas, LLC (the licensee), applied for license amendments to revise the Duke Energy Physical Security Plan for Oconee Nuclear Station, Units 1, 2, and 3 (Oconee), to include additional protective measures during a specific infrequent short-term operating state, including installation of a floating barrier to increase protection of the Keowee Hydro Station (KHS) from a waterborne threat. Portions of the letters dated February 12 and August 23, 2018, contain safeguards information (SGI) and, therefore, those portions are not publicly available. The licensee requested the amendments pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, "Domestic Licensing of Production and Utilization Facilities," Section 50.90, "Application for amendment of license, construction permit, or early site permit."

By electronic mail (e-mail) dated July 6 and August 2, 2018 (ADAMS Accession Nos. ML18192A202 and ML18218A504, respectively), the U.S. Nuclear Regulatory Commission (NRC) staff (i.e., "the staff") requested additional information from the licensee. By letters dated August 8 and August 23, 2018, the licensee responded to the requests. The supplement dated August 23, 2018, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* (FR) on October 2, 2018 (83 FR 49590).

2.0 REGULATORY EVALUATION

2.1 System Descriptions and Requirements

The renewed facility operating licenses for the Oconee units contain License Condition 3.E, "Physical Protection," which states, in part, that the licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security plan, including amendments made to the authority of §50.90 and §50.54(p)(2). The licensee's physical security plan is titled, "Duke Energy Physical Security Plan."

Section 8.1 of the Updated Final Safety Analysis Report (UFSAR), Revision 27, states, in part, that the onsite power system for each unit consists of various sources, including the KHS and the Standby Shutdown Facility (SSF). The KHS contains two Keowee Hydro Units (KHUs) that serve as the standby onsite emergency power source. Section 9.6.1 of the UFSAR, Revision 27, states that the SSF houses stand-alone systems that are designed to maintain the plant in a safe and stable condition following postulated emergency events, such as fire, security-related, or turbine building flood events, and is designed in accordance with criteria associated with these events. The SSF provides an alternate means for the units to achieve and maintain Mode 3 (Hot Standby) following these postulated events. The SSF provides additional defense-in-depth protection for the health and safety of the public by serving as a backup to existing safety systems. The SSF also serves as the alternate alternating current power source and source of decay heat removal during the coping duration required by the station blackout rule (§50.63). The SSF does not serve as a redundant source of emergency power for mitigation of the design-basis accidents described in Chapter 15, "Accident Analyses," of the UFSAR.

2.2 Licensee's Proposed Changes

The licensee requested voluntary proposed changes to the Duke Energy Physical Security Plan for Oconee Nuclear Station to include additional protective measures during a specific infrequent short-term operating state, referred to as the Higher Risk Plant Operating State (HRPOS), including a modification that provides additional access restriction. The proposed changes would increase the margin of protection for certain associated components and equipment whenever the SSF is declared inoperable. The requested amendments consist of two distinct changes related to the protection of the KHUs: installation of a waterborne vehicle barrier system in the Keowee trailrace and incorporation of an additional security measure to provide increased protection for the KHS under specific infrequent short-term plant conditions. In its application, the licensee provided an evaluation of the proposed changes to its security plans, which are designated as SGI pursuant to §73.21. Attachment 1 of the application consists of a mark-up of all affected security plan pages reflecting the requested changes.

2.3 Regulatory Review

The staff considered the following licensing basis information, regulatory requirements, and guidance during its review of the proposed changes.

Licensing Basis

The Atomic Energy Commission published regulations in December 1973 that established definitions for vital equipment and vital areas, which have not changed. In 1977, the NRC

issued a rule (i.e., §73.55) that required vital equipment to be in a protected area. As discussed in a meeting summary dated February 2, 1978 (ADAMS Accession No. ML15212A318), the licensee informed the NRC in January 1978 that it could not feasibly or economically meet NRC requirements for some vital equipment.

In its letter to the licensee dated December 6, 1978 (ADAMS Accession No. ML16134A621, which is not publicly available), the NRC references two letters from the licensee in February and June 1978 via which the licensee submitted a proposed program for a Safe Shutdown System (SSS; now called the SSF) that would augment existing capabilities relative to the licensee's Modified Amended Security Program (MASP), which was submitted in November 1977. The NRC's letter dated December 6, 1978, also had an enclosed "Concept Evaluation," which stated that the conceptual design of the SSF was acceptable and, if implemented, will provide relief from the requirements of the MASP regarding designation of vital areas. The NRC also stated in its Concept Evaluation that the number of vital areas can be reduced when the SSF is in operation. In the cover letter, the NRC stated, "NRC approval of the final design is required before you make any modifications which affect existing safety related structures or systems." Subsequent NRC approvals of the SSF final design and Technical Specifications were issued in 1983 and 1992, respectively, as discussed below.

The NRC issued a safety evaluation (SE) to the licensee dated April 28, 1983 (ADAMS Accession No. ML103370444, which is not publicly available), for the licensee's final SSF design proposal. The NRC found that the design met the appropriate requirements except for some instrumentation issues. Regarding the treatment of the SSF in the physical security plan, Section 4.9 of the SE states:

The licensee submitted physical security, contingency planning, and guard training and qualification plans in accordance with the requirements of 10 CFR Part 73, Section 73.55 and Appendices B and C. We have determined that these plans satisfy regulatory requirements and accordingly have been approved. The acceptability of the licensee's identification of vital areas required to be protected by 10 CFR 73.55(c) is contingent upon a confirmatory analysis to be performed by the NRC staff at a future date.

The SSF, with its capability to independently bring the reactor to safe shutdown, increases significantly the defense-in-depth characteristics of the facility and provides incremental protection against both internal and external sabotage."

In September 1985, the NRC performed a Regulatory Effectiveness Review (RER) at Oconee to evaluate overall effectiveness of the plant's safeguards program and to determine whether existing safeguards regulations yield the level of protection intended by NRC. The RER report was signed by NMSS management on June 13, 1986 (this report contains security-related information and is not publicly available). By letter to the licensee dated July 17, 1986 (this letter contains security-related information and is not publicly available), NRR sent the RER results to the licensee. The letter stated that the findings in the RER do not, in themselves, constitute a requirement for a licensee action, nor a new or changed staff position. The letter also states that the vital area part of the report is not intended to convey any new or changed NRC staff position or backfit, the NRC policy concerning vital areas is presently undergoing staff review, and once the NRC adopts a final position regarding the identification of vital equipment, the vital area analyses of all plants will be re-evaluated from a licensing perspective.

On April 4, 1988, the licensee submitted Revision 24 of its physical security plan and deleted interim vital areas and implemented a new vital area. This revision of the plan ceased considering some areas as vital areas. One of the interim vital areas deleted from the plan was the KHS.

By letter dated May 11, 1992 (ADAMS Accession No. ML012190128), the NRC issued the licensee Amendments 195, 195, and 192 for Oconee Units 1, 2, and 3, respectively, which approved new Technical Specifications for the SSF. The NRC's SE for the amendments stated, "The licensee is proposing the following TS for Section 3.18, "Standby Shutdown Facility," to ensure that the operability of the SSF components is compatible with fire, flooding, and security assumptions used in the design. ... In 1983, the NRC staff found the SSF design acceptable to meet the safe shutdown requirements for fire protection, turbine building flooding, and physical security." The 1992 SE does not refer to any subsequent effort changing the NRC staff's conclusion and position in its SE dated April 28, 1983.

By letter dated October 29, 2004 (ADAMS Accession No. ML043120017), the NRC issued amendments to the licensee approving the licensee's PSP that addressed security-related orders for a revised design basis threat. The licensee's PSP contained a listing of vital areas. The NRC referenced the PSP in the operating licenses via a new license condition. The orders did not change the definition of a vital area. The NRC's SE for those amendments, which is not publicly available because it contains SGI, discusses the identified vital areas as listed in the licensee's submitted PSP.

Regulatory Requirements

Section 73.1, "Purpose and scope," of 10 CFR prescribes requirements for the establishment and maintenance of a physical protection system and for protection against the design basis threat of radiological sabotage.

As defined in §73.2, a vital area is any area that contains vital equipment. Vital equipment is defined as any equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital. Other components and equipment are protected in accordance with the physical protection measures applied by the licensee and described in the licensee's NRC-approved security plan during those limited periods of time when the SSF is declared inoperable.

Section 73.55(a), "Introduction," states, in part, that each nuclear power reactor licensee shall implement the requirements of this section through its Commission-approved Physical Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Cyber Security Plan, referred to collectively as "security plans," and that the security plans must identify, describe, and account for site-specific conditions that affect the licensee's capability to satisfy the requirements of this section.

Section 73.55(b), "General performance objective and requirements," paragraph (1) states, in part, that the licensee shall establish and maintain a physical protection program, in include a security organization, which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety.

Section 73.55(c), "Security plans," states, in part, that licensee security plans must describe how the licensee will implement requirements of this section through the establishment and maintenance of a security organization, the use of security equipment and technology, the training and qualification of security personnel, the implementation of predetermined response plans and strategies, and the protection of digital computer and communication systems and networks (§73.55(c)(1)). Paragraph (c)(3) states that the licensee shall establish, maintain, and implement a PSP which describes how the performance objective and requirements set forth in this section will be implemented. to meet the requirements of 10 CFR 73.55 and 10 CFR Part 73, Appendices B and C. Paragraphs (c)(7) states that the security plans must describe security implementation procedures and that the licensee shall have a management system to provide for the development, implementation, revision, and oversight of security procedures that implement Commission requirements and the security plans. Paragraph (c)(7) also states that the licensee shall provide a process for the written approval of implementing procedures and revisions by the individual with overall responsibility for the security program.

Section 73.55(e), "Physical barriers," states that each licensee shall identify and analyze site-specific conditions to determine the specific use, type, function, and placement of physical barriers needed to satisfy the physical protection program design requirements of 10 CFR 73.55(b).

Appendix C, "Licensee Safeguards Contingency Plans," of 10 CFR Part 73 describes requirements for a documented plan to give guidance to licensee personnel in order to accomplish specific defined objectives in the event of threats, thefts, or radiological sabotage relating to special nuclear material or nuclear facilities.

Guidance

NUREG-0800, "Standard Review Plan," Section 13.6.1, "Physical Security – Combined License and Operating Reactors," Revision 2, dated August 2015 (ADAMS Accession No. ML17291B265), provides guidance for the review of applications and amendments for physical security.

NUREG-1964, "Access Control Systems: Technical Information for NRC Licensees," dated April 2011 (ADAMS Accession No. ML11115A078), provides technical details applicable to access control methods and technologies commonly used to protect facilities.

Regulatory Guide (RG) 5.12, "General Use of Locks in The Protection and Control of: Facilities, Radioactive Materials, Classified Information, Classified Matter, and Safeguards Information," Revision 1, dated October 2016 (ADAMS Accession No. ML15357A411), describes methods and procedures that are acceptable for the selection, use, and control of locking devices.

RG 5.69, "Guidance for the Application of Radiological Sabotage Design-Basis Threat in the Design, Development, and Implementation of a Physical Security Program that Meets 10 CFR 73.55 Requirements," dated September 2007, contains SGI and, therefore, is not publicly available.

RG 5.76, "Physical Protection Programs at Nuclear Power Reactors," dated July 2009, contains SGI and, therefore, is not publicly available.

3.0 TECHNICAL EVALUATION

In determining whether an amendment to a license will be issued, the Commission is guided by the considerations that govern the issuance of initial licenses to the extent applicable and appropriate. The staff evaluated the licensee's application to determine if the proposed changes are consistent with the regulations and licensing and design basis information discussed in Section 2 of this safety evaluation. The staff's review confirmed that the licensee's application and material incorporated by reference provided the information required to review the physical security plan changes. The staff's evaluation criteria focused on reasonable assurance of adequate protection (i.e., confidence based on a reasonable review that the facility will be constructed and will operate in conformity with the license, the provisions of the Atomic Energy Act of 1954, as amended, and the Commission's regulations). The staff reviewed the acceptability of the proposed changes with respect to the site's current licensing basis, as discussed in Section 2.1 of this safety evaluation.

3.1 Duke Energy Security Plan changes

In Section 3 of its application dated February 12, 2018, the licensee described two distinct changes related to the protection of the KHUs. The licensee also provided an SGI description of the proposed changes to the Duke Energy Physical Security Plan. The staff reviewed the detailed description of the proposed mark-ups to the Duke Energy Physical Security Plan.

3.1.1 Waterborne Threat Measures

The licensee proposed changes to Section 11.2.3, "Waterborne Threat Measures," of the Duke Energy Physical Security Plan (pages 11-9 and 11-10). The licensee described the installation of a new floating barrier designed to increase the protection measures for the KHS while providing sufficient standoff distance against a waterborne threat.

The staff has reviewed the licensee's description in the current Duke Energy Physical Security Plan, Section 11.2.3, and the LAR 2018-01 proposed changes for the implementation of the site specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. The provisions of 10 CFR 73.55(e)(10)(ii) require the applicant to: identify areas from which a waterborne vehicle must be restricted, and where possible, deploy buoys, markers, or other equipment; and provide periodic surveillance and observation of waterway approaches and adjacent areas. The licensee described the standoff distance to be added to the Duke Energy Physical Security Plan for the KHS and stated that additional armed security officers will be assigned to bullet-resistant posts for monitoring of closed-circuit television cameras, and that additional armed security officers will be assigned to internal and exterior patrols. The staff finds that these actions provide additional protection for the KHS and meet the sufficient standoff distance and surveillance observation requirements of 10 CFR 73.55(e)(10)(ii). The licensee's installation of the floating barrier described in the LAR 2018-01, once installed and incorporated into the current Duke Energy Security Plan, will increase protection measures and provide sufficient standoff distance to protect the KHS from a waterborne vehicle threat. The staff finds that the licensee's proposed change is consistent with the acceptance criteria described in NUREG-0800, Section 13.6.1, in accordance with Commission regulations. Therefore, the staff determined that these actions are acceptable.

3.1.2 Measures for Standby Shutdown Facility Operation

In its application dated February 12, 2018, the licensee proposed changes to Section 19.3, "Degraded Standby Shutdown Facility (SSF) Operation," of the Duke Energy Physical Security Plan (pages 19-3, 19-4, and 19-5). The licensee stated that it is in full compliance with the current NRC-approved security plans and that the proposed changes are additional "compensatory measures" being implemented to further increase the margin of protection for certain associated components and equipment during the subject HRPOS. In its application, the licensee identified these security plan changes as follows:

- Physical inspection and search of predetermined areas for indications of tampering and for firearms, explosives, and incendiary devices prior to entering predetermined site conditions.
- Additional personnel and equipment, as necessary to conduct search of all personnel, packages, materials, and vehicles for firearms, explosives, and incendiary devices prior to granting access to predetermined facility areas.
- Additional intrusion detection equipment and systems, video assessment equipment, and personnel assigned alarm monitoring and assessment duties.
- Additional badging and access authorization requirements for predetermined areas.
- Additional armed personnel in protected positions to provide access control, search, and over watch of search functions, in predetermined areas.
- Additional armed patrols of predetermined areas.
- Increased surveillance by existing patrols within predetermined areas.
- Written facility procedures, processes, and policies that are the same as those facility procedures and policies used for similar activities at protected and vital areas as appropriate to meet operational needs.

The staff has reviewed the licensee's proposed changes associated with Section 19.3 of the Duke Energy Physical Security Plan and determined that the proposed changes constitute additional security measures for (1) control access and activities, (2) detecting and assessing threat indicators, (3) responding to threat indicators, (4) providing visual deterrence, and (5) providing reasonable assurance that security can detect, assess and respond to a threat against the KHS. The staff finds that the proposed additional security measures proposed by the licensee for implementation of site-specific requirements to be included in the licensee's physical protection program are consistent with the acceptance criteria described in NUREG-0800, Section 13.6.1 and meet the regulatory intent of the regulations in 10 CFR 73.55(b). The licensee's additional security measures describe how the designs of physical security systems, operational requirements, and management systems provide the capabilities to detect, assess, interdict, and neutralize threats up to and including the design basis threat of radiological sabotage as stated in 10 CFR 73.1. The staff finds that the additional security measures, once implemented, will provide reasonable assurance during the HRPOS that the licensee's security force can detect, assess, and respond to a threat against the KHS and, therefore, are acceptable.

In its application, the licensee also stated that whenever the SSF is declared inoperable, the additional voluntarily measures identified in the NRC-approved security plan will be implemented as follows:

- All accessible portals leading to predetermined areas shall be provided with an intrusion detection (alarm) system that annunciates in the central alarm station (CAS) and

- secondary alarm station (SAS).
- Portal alarms will also annunciate on a local alarm panel.
 - CAS and SAS operators shall assess duress and portal alarms and, as necessary, direct a response.
 - Only individuals who are appropriately badged, that have authorized unescorted access to the protected area, and are authorized by site management, shall be granted unescorted access into predetermined areas, except under emergency conditions.
 - All personnel, materials, packages, and vehicles shall be searched for firearms, explosives, incendiary devices, and other unauthorized items/materials before being granted access into predetermined areas.
 - All visitors shall be appropriately badged and escorted by licensee personnel.
 - Escorts shall be authorized unescorted access to all areas in which escort duties will be performed.
 - Escorts shall be trained and qualified to perform escort duties as described in the NRC-approved security plans.
 - Escorts shall be knowledgeable of authorized and unauthorized activities for the areas in which escort duties are being performed.
 - Escort to visitor ratios will not exceed those specified by licensee management in site procedures.

The staff has reviewed the licensee's proposed changes associated with Section 19.3 of the Duke Energy Physical Security Plan and determined that the proposed changes constitute adequate additional security requirements to be incorporated into the plan for (1) access control requirements, (2) response requirements, (3) owner-controlled area barriers, and (4) CAS and SAS operations requirements when the SSF is inoperable. The staff finds that the proposed additional security measures proposed by the licensee for implementation of site specific requirements to be included in the licensee's physical protection program are consistent with the acceptance criteria described in NUREG-0800, Section 13.6.1 and meet the regulatory intent of the Commission regulations in: 10 CFR 73.55(b); 10 CFR 73.55(e)(6); 10 CFR 73.55(g)(1), (2), and (6); 10 CFR 73.55(h); 10 CFR 73.55(i)(1) and (4); 10 CFR 73.55 (k); 10 CFR 73.55(k)(8); and 10 CFR Part 73, Appendix C, Section II.B.2.5. The staff finds that the additional security measures address the key physical protection system elements including security personnel, detection and assessment systems, physical security barriers, access controls, search programs, and implementing procedures, once implemented, will provide reasonable assurance during the HRPOS that the licensee's security force can detect, assess, and respond to a threat against the KHS and, therefore, are acceptable.

3.2 Review of Request for Additional Information (RAI) Responses

In its application, the licensee stated that it is voluntarily proposing changes to further increase the margin of protection for certain associated components and equipment whenever the SSF is declared inoperable. On July 6, 2018, the staff submitted RAIs 1 through 17 to the licensee regarding the potential environmental effects of the proposed new barrier and its construction. The licensee's response dated August 8, 2018, is publicly available. On August 3, 2018, the staff submitted RAIs 18 through 27 to the licensee to gain better insight and clarification of the security-related aspects of the proposed changes. The licensee's response dated

August 23, 2018, contains SGI and, therefore, is not publicly available. The staff's non-SGI summary of the licensee's responses is presented below:

- RAI-18: The licensee indicated that the criteria and procedures used for indications of tampering and for firearms, explosives, and incendiary devices is the same as that of the nuclear site protected area. The licensee described the process for searches for explosives for accessible KHS areas.
- RAI-19: The licensee described the search process and indicated that the degree of search is the same as that of the nuclear site protected area search for firearms, explosives, and incendiary devices.
- RAI-20: The licensee described the alarm system, security computer system, and locations where the alarms annunciate. The licensee also described the duties of the security officers.
- RAI-21: The licensee clarified the methodology used to perform the assessment function and the use of closed circuit television cameras.
- RAI-22: The licensee provided additional clarifying information that personnel allowed into KHS during an HRPOS must have unescorted access to the nuclear site protected area and be identified on the required authorized access list. The licensee also described the security officer's visually verification process.
- RAI-23: The licensee clarified that "Site procedures" and site security procedures are used interchangeably within the application with facility procedures. The licensee also clarified when the HRPOS escort requirements, escort training and qualification, and escort-to-visitor ratios are the same for the nuclear site protected area.
- RAI-24: The licensee clarified that "Site procedures" and site security procedures are used interchangeably within the application with facility procedures, that there are separate procedures for the KHS and protected area access control, and that when in an HRPOS, the vehicle search requirements are the same as those for the protected area with the exception of the location of the search.
- RAI-25: The licensee clarified that for the HRPOS, the training and qualification requirements must be met by personnel assigned escort duties at the KHS, which are the same as the protected area.
- RAI-26: The licensee clarified that the two-person line-of-sight rule would be implemented during a site-specific credible threat or other credible information unless the operations Shift Manager determines it would adversely affect plant safety or security.
- RAI-27: The licensee clarified that all measures described in the application are additional measures intended to enhance the overall physical protection program capabilities and are not intended to be compensatory measures as described in 10 CFR 73.55(o).

The staff reviewed the licensee's RAI responses related to the security aspects of the proposed changes to the Duke Energy Physical Security Plan for implementation of the site-specific physical protection program. The licensee provided additional clarifying information by describing site-specific procedures and processes. The staff found that the licensee's RAI responses are consistent with the acceptance criteria described in NUREG-0800, Section 13.6.1 for the intended function and in accordance with NRC regulations and, therefore, are acceptable.

3.3 Technical Evaluation Conclusion of the Proposed Changes

Based on the above, the staff determined that the changes described in the licensee's application, as supplemented, are acceptable because the changes do not adversely affect the staff's previous evaluations of the licensee's security plans. The staff has determined that that the proposed changes include the necessary programmatic elements that, when effectively implemented, will provide the required reasonable assurance of adequate protection. The staff determined that the proposed changes do not result in a decrease in safeguards effectiveness of the current NRC-approved security plan. The licensee's proposed physical protection measures increase the margin of protection for certain components and equipment whenever the SSF is declared inoperable. The staff has concluded that the licensee's proposed physical protection measures provide reasonable assurance of an adequate level of physical protection for the associated safety-related components and equipment during those infrequent and limited periods of time when the SSF is declared inoperable. Based on these findings the staff concludes that there is reasonable assurance that the requirements of 10 CFR 73.55, as approved for this licensee, will be met. Therefore, the staff finds that the proposed changes are acceptable.

The regulations in 10 CFR 50.54(p) apply to any future changes to these new requirements once incorporated into the Duke Energy Physical Security Plan. Section 50.54(p) states:

(1) ... The licensee may not make a change which would decrease the effectiveness of a physical security plan, or guard training and qualification plan, or cyber security plan prepared under § 50.34(c) or § 52.79(a), or part 73 of this chapter, or of the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, Responsibility Matrix) contained in a licensee safeguards contingency plan prepared under § 50.34(d) or § 52.79(a), or part 73 of this chapter, as applicable, without prior approval of the Commission. A licensee desiring to make such a change shall submit an application for amendment to the licensee's license under § 50.90.

(2) The licensee may make changes to the plans referenced in paragraph (p)(1) of this section, without prior Commission approval if the changes do not decrease the safeguards effectiveness of the plan. The licensee shall maintain records of changes to the plans made without prior Commission approval for a period of 3 years from the date of the change, and shall submit, as specified in § 50.4 or § 52.3 of this chapter, a report containing a description of each change within 2 months after the change is made....

4.0 PUBLIC COMMENTS

The staff's original proposed no significant hazards consideration determination was published in the *Federal Register* (FR) on October 2, 2018 (83 FR 49590, Docket ID: NRC-2018-0199). Three comments were received from the public (ADAMS Accession Nos. ML18303A246, ML18310A048, and ML18306A645) in response to this notice; however, the staff determined that the comments were not relevant to the proposed no significant hazards consideration. Consistent with the NRC's regulations associated with issuance of a license amendment in 10 CFR Part 50, the scope of the staff's review focused on whether there is reasonable assurance that the activities authorized by the amendments can be conducted without endangering the health and safety of the public and will be conducted in compliance with the

NRC's regulations. As such, the staff deemed the three comments to not be applicable to the NRC staff decision regarding whether the license amendment request should be granted.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the staff notified the State of South Carolina officials by email dated October 10, 2018 (ADAMS Accession No. ML18298A162), of the proposed issuance of the amendments. The State officials had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

Pursuant to the National Environmental Policy Act of 1969, as amended, and 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and final finding of no significant impact were published in the *Federal Register* on February 6, 2019 (84 FR 2258). Accordingly, based on the environmental assessment and final finding of no significant impact, the Commission has determined that issuance of these amendments will not have a significant effect on the quality of the human environment.

7.0 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.

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Audrey Klett, NRR/DORL/LPL2-1

Date: September 30, 2019

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 – ISSUANCE OF AMENDMENT NOS. 414, 416, AND 415 REGARDING THE PHYSICAL SECURITY PLAN (EPID L-2018-LLA-0042) DATED SEPTEMBER 30, 2019

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