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

March 27, 2019

Mr. Peter P. Sena, III
President and Chief Nuclear Officer
PSEG Nuclear LLC – N09
P.O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION – ISSUANCE OF AMENDMENT NO. 215 RE: INVERTER ALLOWED OUTAGE TIME EXTENSION (EPID L-2018-LLA-0101)

Dear Mr. Sena:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 215 to Renewed Facility Operating License No. NPF-57 for the Hope Creek Generating Station. This amendment consists of a change to the technical specifications in response to your application dated April 13, 2018, as supplemented by two letters dated October 17, 2018.

The amendment revises Technical Specification 3.8.3.1, "Distribution - Operating," to increase the alternating current inverters allowed outage time from 24 hours to 7 days. The change is based on application of the Hope Creek Generating Station probabilistic risk assessment in support of a risk-informed extension and on additional considerations and compensatory actions.

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,

James S. Kim, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosures:
1. Amendment No. 215 to Renewed License No. NPF-57
2. Safety Evaluation

cc: Listserv

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

PSEG NUCLEAR LLC

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 215
Renewed License No. NPF-57

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by PSEG Nuclear LLC dated April 13, 2018, as supplemented by two letters dated October 17, 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, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-57 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 215, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating License and Technical Specifications

Date of Issuance: March 27, 2019

ATTACHMENT TO LICENSE AMENDMENT NO. 215

HOPE CREEK GENERATING STATION

RENEWED FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove	Insert
3	3

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove	Insert
3/4 8-20	3/4 8-20

reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

(4) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(5) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(6) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility. Mechanical disassembly of the GE14i isotope test assemblies containing Cobalt-60 is not considered separation.

(7) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Part 30, to intentionally produce, possess, receive, transfer, and use Cobalt-60.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

PSEG Nuclear LLC is authorized to operate the facility at reactor core power levels not in excess of 3902 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 215, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

LIMITING CONDITION FOR OPERATION (Continued)

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one of the above required A.C. distribution system channels not energized, re-energize the channel within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With one of the above required 125 volt D.C. distribution system channels not energized, re-energize the division within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With any one of the above required 250 volt D.C. distribution systems not energized, declare the associated HPCI or RCIC system inoperable and apply the appropriate ACTION required by the applicable Specifications.

d. With one or both inverters in one channel inoperable, energize the associated 120 volt A.C. distribution panel(s) within 8 hours, and restore the inverter(s) to OPERABLE status within 7 days; or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.8.3.1 Each of the above required power distribution system channels shall be determined energized in accordance with the Surveillance Frequency Control Program by verifying correct breaker/switch alignment and voltage on the busses/MCCs/panels.

UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 215

TO RENEWED FACILITY OPERATING LICENSE NO. NPF-57

PSEG NUCLEAR LLC

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated April 13, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18103A218), as supplemented by two letters dated October 17, 2018 (ADAMS Accession Nos. ML18291B038 and ML18291B053), PSEG Nuclear LLC (PSEG, the licensee) submitted a license amendment request (LAR) to revise Hope Creek Generating Station (Hope Creek) Technical Specification (TS) 3.8.3.1, "Distribution – Operating," to increase the alternating current (AC) inverters allowed outage time (AOT) from 24 hours to 7 days. The proposed change is based on application of the Hope Creek probabilistic risk assessment (PRA) in support of a risk-informed extension, and on additional considerations and compensatory actions.

The two supplemental letters dated October 17, 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* on June 19, 2018 (83 FR 28462).

2.0 REGULATORY EVALUATION

2.1 System Description

As stated in Section 2.0, "Detailed Description," of the LAR, the Hope Creek Class 1E AC power system provides a reliable source of power to all Class 1E loads that are essential for safe and orderly shutdown of the plant, maintaining the plant in a safe condition, and mitigating the consequences of an accident. The Class 1E AC power system is divided into four channels (A, B, C, and D). The channels do not share loads. The Class 1E loads are divided into four groups such that any combination of three out of the four groups can supply the minimum required safety loads to perform the above functions.

Each of the four channels includes two associated Class 1E 120 volts (V) AC (or VAC) uninterruptable power supply (UPS) units. Each UPS includes a static rectifier, a static inverter, a static switch assembly, and a regulated AC power supply. The static rectifier rectifies the normal AC power from a Class 1E 480 VAC motor control center (MCC), auctioneers the

rectified power with the direct current (DC) power from the alternate DC supply, and provides a regulated DC power to the static inverter. The static inverter converts the regulated DC power to a single phase, 60 hertz (Hz), 120 VAC for application to system loads via the static switch assembly. The static switch monitors the output of the static inverter, and shifts to the backup AC power supply (Class 1E 480 VAC MCC powered from an MCC different from the one powering the UPS static rectifier), if the static inverter output is lost.

The UPS 120 VAC panels supply loads such as emergency diesel generator (EDG) control panels, the 4.16 kilovolt (kV) switchgear, the instrumentation and controls for the emergency core cooling system and the reactor core isolation cooling system, and the remote shutdown panel.

The current TS 3.8.3.1.d requires restoring inoperable inverter(s) in one channel to operable status within 24 hours.

2.2 Regulatory Requirements and Guidance

The U.S. Nuclear Regulatory Commission (NRC, the Commission) staff's evaluation is based on the following regulations and guidance.

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications," requires, in part, that the operating license of a nuclear power facility include TSs. The regulations in 10 CFR 50.36(c)(2) require that the TSs include limiting conditions for operation (LCOs), which are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met. The time allowed by the TS for the LCO to be met is known as the AOT.

Appendix A, "General Design Criteria for Nuclear Power Plants" (GDC) to 10 CFR Part 50, GDC 17, "Electric Power Systems," requires, in part, that an onsite electric power system and an offsite electric power system be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system (assuming the other system is not functioning) shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents. The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions, assuming a single failure.

Regulatory Guide (RG) 1.174, Revision 3, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," dated January 2018 (ADAMS Accession No. ML17317A256), describes an acceptable risk-informed approach for assessing changes to licensing bases.

RG 1.177, Revision 1, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," dated May 2011 (ADAMS Accession No. ML100910008), describes an acceptable risk-informed approach for assessing proposed permanent TS changes in AOTs. In addition, this RG provides risk acceptance guidelines for evaluating the results of such assessments.

As noted in RG 1.174, Revision 3, and RG 1.177, Revision 1, a risk-informed application should be evaluated to ensure the proposed changes meet the following five key principles:

- The proposed change meets the current regulations, unless it explicitly relates to a requested exemption or rule change.
- The proposed change is consistent with the defense-in-depth philosophy.
- The proposed change maintains sufficient safety margins.
- When proposed changes result in an increase in core damage frequency (CDF) or risk, the increase(s) should be small and consistent with the intent of the Commission's Safety Goal Policy Statement.
- The impact of the proposed change should be monitored using performance measurement strategies.

RG 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," dated March 2009 (ADAMS Accession No. ML090410014), describes an acceptable approach for determining whether the quality of the PRA models, in total, or the parts that are used to support an application, are sufficient to provide confidence in the results such that the PRA models can be used in regulatory decisionmaking for light-water reactors.

NRC Regulatory Issue Summary 2007-06, "Regulatory Guide 1.200 Implementation," dated March 22, 2007 (ADAMS Accession No. ML070650428), describes how the NRC will implement its technical adequacy review of plant-specific PRAs used to support risk-informed licensing actions after the issuance of RG 1.200.

2.3 Proposed TS Change

The current TS 3.8.3.1 LCO requires, in part, four channels of 120 VAC power distribution system to be energized in operational modes 1, 2, and 3. Each of the four channels includes two 120 VAC distribution panels and associated inverters.

- Channel A 120 VAC distribution panels 1AJ481/1AJ482 and inverters AD481/AD482
- Channel B 120 VAC distribution panels 1BJ481/1BJ482 and inverters BD481/BD482
- Channel C 120 VAC distribution panels 1CJ481/1CJ482 and inverters CD481/CD482
- Channel D 120 VAC distribution panels 1DJ481/1DJ482 and inverters DD481/DD482

The proposed change would extend the AOT of one or both inverters in one channel from 24 hours to 7 days.

Current TS 3.8.3.1.d states:

> With one or both inverters in one channel inoperable, energize the associated 120 volt A.C. distribution panel(s) within 8 hours, and restore the inverter(s) to OPERABLE status within 24 hours; or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours."

Revised TS 3.8.3.1.d would state:

> With one or both inverters in one channel inoperable, energize the associated 120 volt A.C. distribution panel(s) within 8 hours, and restore the inverter(s) to OPERABLE status within 7 days; or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

3.0 TECHNICAL EVALUATION

3.1 Traditional Engineering Evaluation

The licensee has requested an increased completion time of 7 days versus the current 24 hours for Required Action d of TS 3.8.3.1 for one or two inoperable inverter(s) in a channel. In Section 2.0 of the LAR, the licensee stated that the existing 24-hour AOT could be insufficient in certain instances to support online troubleshooting, corrective maintenance, and post-maintenance testing in response to emergent issues. The Hope Creek operating experience instances provided to support the 7-day AOT extension show that the inoperable inverter was restored within the existing 24-hour AOT. The NRC staff requested a technical justification for the proposed inverter 7-day AOT extension. In its letter dated October 17, 2018 (ADAMS Accession No. ML18291B053), the licensee provided a timeline of 116 hours for the restoration of a Class 1E inverter [A-D]D48[1/2] after a severe failure that would require complex troubleshooting, extensive corrective maintenance actions, and post-maintenance testing. The NRC staff reviewed the licensee's response and determined that the restoration of an inverter can take up to 7 days, given a severe inverter failure involving complex maintenance actions. Therefore, the NRC staff finds the proposed 7-day AOT duration for inoperable inverter(s) in TS 3.8.3.1.d acceptable, since it would provide Hope Creek a reasonable amount of time to perform adequate troubleshooting, corrective maintenance actions, and post-maintenance testing to restore a Class 1E inverter.

In Section 2.0 of the LAR, the licensee provided the following effects of the loss of power from an inverter and the offsite power system on the 120 VAC distribution panels:

> With the [A-D]481 UPS inverter inoperable, the associated 120 VAC distribution panel is energized from the associated backup Class 1E 480 VAC MCC via the voltage regulator. In the event of a loss of offsite power (LO[O]P), the affected distribution panel will experience a momentary loss of power until the associated emergency diesel generator (EDG) re-energizes the backup 480 VAC MCC.
>
> With the [A-D]482 UPS inverter inoperable, the associated 120 VAC distribution panel is energized from the associated backup Class 1E 480 VAC MCC via the voltage regulator. In the event of a LO[O]P the affected distribution panel will experience a loss of power. The associated EDG would not automatically re-energize the backup 480 VAC MCC. The abnormal operating procedure for station blackout, LO[O]P, and EDG malfunctions provides operational direction to start the EDG from the remote panel or the local control panel if needed.

The licensee also provided a summary of the plant response to the loss of power to each 120 VAC distribution panel and the effects of this loss of power on plant controls and indications. The licensee stated that Hope Creek would use abnormal operating procedures that provide directions for operator actions required to support stable plant operation, reset

isolations, and restore system functions to address the abnormal condition of a loss of power to the 120 VAC distribution panel.

In Section 3.1, "Deterministic Assessment," of the LAR, the licensee stated that the following administrative controls would be implemented during the 7-day AOT, since power for the affected 120 VAC distribution panel(s) being energized from the associated backup Class 1E 480 VAC MCC would depend on the associated EDG following a LOOP event:

1. Entry into the extended inverter AOT will not be planned concurrent with EDG maintenance.

2. Entry into the extended inverter AOT will not be planned concurrent with planned maintenance on another ECCS/RCIC or isolation actuation instrumentation channel that could result in that channel being in a tripped condition.

In Section 3.1 of the LAR, the licensee stated that with both inverters in a channel being inoperable, the remaining three channels will supply the safety-related equipment required for the safe shutdown of the plant and the mitigation and control of accident conditions at the plant. The licensee further stated that if a redundant channel would fail or be taken out of service during the extended AOT (resulting in two inoperable channels), Hope Creek would enter TS 3.0.3, requiring a plant shutdown.

The NRC staff noted that if a redundant channel would fail (due to the failure of another inverter in the redundant channel) concurrent with a design-basis accident (DBA) and a LOOP during the extended AOT, Hope Creek would have less than the three channels of inverters required to mitigate the DBA. The NRC staff requested a discussion about the effects on the plant safety-related systems required to mitigate a design-basis event (e.g., DBA concurrent with LOOP) in case another inverter would fail in the redundant channel during the 7-day inverter AOT. In its letter dated October 17, 2018, the licensee stated that in the event of a DBA concurrent with a LOOP, the effects of another inverter failure in a redundant channel on the plant safety-related systems and their safety functions would depend upon which two inverters were inoperable. The licensee further stated that "any combination of inverter losses would be dealt with by their individual procedures on a priority basis." The NRC staff reviewed the information in Sections 2.0 and 3.1 of the LAR and the above licensee response, and determined that during the 7-day inverter AOT:

(1) The affected 120 VAC distribution panel(s) would remain energized from the backup Class 1E 480 VAC MCC(s), in addition to the remaining three channels of 120 VAC distribution panels to supply the Class 1E loads necessary to mitigate a DBA;

(2) If the DBA would coincide with a LOOP, the remaining three channels of 120 VAC distribution panels would remain energized from their respective inverters to supply the DBA mitigation loads, assuming no additional failure, while the affected 120 VAC distribution panel(s) would receive power from the associated EDG(s) after a time delay;

(3) If another inverter in a redundant channel would fail concurrently with a DBA and a LOOP, Hope Creek would use abnormal procedures to address the abnormal condition; and

(4) The above-mentioned administrative controls would provide additional assurance of the availability of the emergency power and safety systems required to mitigate the DBA.

Therefore, the NRC staff finds that Hope Creek will have the minimum channels of inverters and associated 120 VAC distribution panels necessary to mitigate a design-basis event during the proposed 7-day inverter AOT.

The NRC staff reviewed the proposed change to Hope Creek TS 3.8.3.1.d for inoperable AC inverters in one channel. The change would increase the AOT for restoring inoperable AC inverter(s) in one channel to operable status from 24 hours to 7 days. The NRC staff finds that the proposed change to TS 3.8.3.1.d is acceptable because (1) the 7-day AOT will allow a reasonable time for Hope Creek to implement the required remedial actions to restore the inoperable inverters until the LCO 3.8.3.1 is met, as required by 10 CFR 50.36(c)(2), and (2) there is reasonable assurance that Hope Creek will have the minimum channels of inverters necessary to mitigate a design basis event during the 7-day AOT. In addition, the NRC staff concludes that the proposed TS change provides reasonable assurance that the licensee will continue to comply with the requirements of 10 CFR Part 50, Appendix A, GDC 17, and 10 CFR 50.36(c)(2).

3.2 Risk Evaluation (Key Principle 4)

RG 1.177 outlines a three-tiered approach for evaluating the risk associated with a proposed change to a TS AOT:

- Tier 1 assesses the risk impact of the proposed change in accordance with acceptance guidelines consistent with the Commission's Safety Goal Policy Statement, as documented in RG 1.177. The Tier 1 assessment evaluates the impact of the proposed change on operational plant risk as represented by the change in core damage frequency (CDF or ΔCDF) and the change in large early release frequency (LERF or ΔLERF). In addition to operational plant risk, the Tier 1 assessment evaluates plant risk, while equipment covered by the AOT change is out of service, as represented by the incremental conditional core damage probability (ICCDP) and the incremental conditional large early release probability (ICLERP). The Tier 1 assessment also addresses the quality of the licensee's plant-specific PRA model used to assess the changes in risk.

- Tier 2 identifies and evaluates any potential risk-significant plant configurations that could result if any equipment, in addition to that associated with the proposed change, is taken out of service simultaneously, or if other risk-significant operational factors, such as concurrent system or equipment testing, are involved. The purpose of this evaluation is to ensure that there are appropriate restrictions on dominant risk-significant equipment configurations associated with the proposed change.

- Tier 3 addresses the licensee's overall configuration risk management program to ensure that the licensee has established adequate programs and procedures for identifying risk-significant plant configurations resulting from maintenance or other operational activities, and that appropriate compensatory measures are taken to avoid risk-significant configurations that may not have been considered in the Tier 2 evaluation. Compared with Tier 2, Tier 3 provides additional coverage to ensure that the licensee identifies, in a timely manner, any potentially risk-significant equipment outage configurations, and that the licensee evaluates appropriately the risk impact of out-of-service equipment prior to performing any maintenance activity over extended periods of plant operation.

3.2.1 Tier 1: PRA Quality and Insights

In accordance with Tier 1 of the three-tiered approach outlined in RG 1.177, the licensee should evaluate the change in plant risk resulting from the proposed TS AOT change as represented by the ΔCDF, ICCDP, ΔLERF, and ICLERP. To support this evaluation, two aspects should be considered: (1) the validity or quality of the PRA and (2) the PRA insights and findings. The licensee should demonstrate that its PRA is valid for assessing the proposed TS change and identify the impact of the TS change on plant risk.

3.2.1.1 PRA Quality

In accordance with Section 2.3 of RG 1.177, the quality of a PRA can be determined through an assessment of the scope of the PRA and the technical acceptability of the PRA, with particular attention given to PRA modeling and assumptions and sensitivity and uncertainty analyses.

3.2.1.1.1 Scope of the PRA

Section 2.3.2 of RG 1.177 states that, as a minimum, the licensee should perform evaluations of CDF and LERF to support any risk-informed changes to TSs. The scope of the analysis should include all hazard groups (i.e., internal events, internal flood, internal fires, seismic events, high winds, transportation events, and other external hazards). Section 2.3.1 of RG 1.174 states that a qualitative treatment of the missing modes and hazard groups may be sufficient when the licensee can demonstrate that those risk contributions would not affect the decision.

As stated in the LAR, the licensee performed a quantitative evaluation of the change in risk resulting from the proposed TS AOT change using the Hope Creek at-power internal events and internal flooding PRA model of record. The licensee provided evaluations of the change in risk for internal fires, seismic hazards, and external flooding using insights gained from the individual plant external events examination (IPEEE) and bounding analyses using the internal events PRA. The review of the technical acceptability of the internal events and internal flooding PRA models, and the acceptability of the qualitative and bounding analyses for internal fires, seismic hazards, and external flooding are contained in Sections 3.2.1.1.2 and 3.2.1.2 of this safety evaluation.

In its LAR, the licensee stated that Hope Creek, either screened out or found a negligible impact from the remaining external events indicated in NUREG 1407, "Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities, Final Report," published June 1991 (ADAMS Accession No. ML063550238). The IPEEE screening criteria, as contained in NUREG-1407, are bounded by the screening criteria contained in the American Society of Mechanical Engineers (ASME)/American Nuclear Society (ANS) RA-Sa–2009, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," which is endorsed with clarifications and exceptions by the NRC in RG 1.200, Revision 2.

Based on the review of the licensee's LAR, the NRC staff finds that, when compared to the guidance contained in RGs 1.174, 1.177, and 1.200, the licensee's risk assessment is of sufficient scope for use in this specific risk-informed application.

3.2.1.1.2 Technical Acceptability of the PRA

RG 1.200 describes one acceptable approach for determining whether the technical acceptability of a PRA is sufficient for use in regulatory decisionmaking for light-water reactors. The purpose of RG 1.200 is to (a) provide guidance to licensees for use in determining the technical acceptability of the base PRA used in a risk-informed regulatory activity and (b) endorse industry standards and peer-review guidance. In March 2009, the NRC issued Revision 2 of RG 1.200, which endorsed, with clarifications and exceptions, the industry consensus standards for PRAs for internal events, internal floods, fires, and other external events (i.e., seismic, external flooding, high winds, etc.) contained in ASME/ANS RA-Sa-2009. The NRC staff's position provided in NRC Regulatory Issue Summary 2007-06 allows a period of 1 year before the NRC expects a licensee to implement revisions to RG 1.200 in its PRA model that is used as a basis for risk-informed LARs.

Regulatory Position 2.1 of RG 1.200 states that if a licensee demonstrates that the parts of a PRA that are used to support an application comply with the ASME/ANS standard, when supplemented to account for the staff's regulatory positions contained in Appendix A of RG 1.200, the NRC would consider the PRA to be adequate to support the applicable risk-informed regulatory application. In general, the staff anticipates that current good practice (i.e., meeting Capability Category II for the supporting requirements (SRs) in the ASME/ANS standard) is the level of detail that is adequate for the majority of applications.

As discussed in Sections 3.2.1.1.2 and 3.2.1.2 of this safety evaluation, the scope of the licensee's evaluation should include an assessment of the change in risk for internal events, internal flooding, internal fires, and external events (e.g., seismic events, external flooding, high winds, etc.). The licensee provides a quantitative assessment of the change in risk using an internal events PRA model, which includes an assessment of internal flooding and a fire PRA model. For seismic hazards and external flooding, the licensee provides qualitative, and semi-quantitative assessments of the change in risk that are based on insights gained from the IPEEE, and additional bounding calculations based on insights from the internal events and flooding PRA model.

Internal Events and Internal Flooding Assessment

In its October 17, 2018, response to an NRC request for additional information (RAI) (ADAMS Accession No. ML18291B038), the licensee clarified that in October of 2008, the licensee completed a full-scope peer review of its then current base internal events and internal flooding PRA model against the industry PRA standard contained in ASME RA-Sc-2007, "Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications," dated August 2007. The PRA standard ASME RA-Sc-2007 did not contain changes to SRs or other technical items, rendering it functionally equivalent to the PRA standard ASME RA-Sb-2005, "Addenda to ASME RA-S-2002: Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications," dated December 2005, as endorsed by RG 1.200, Revision 1, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," dated January 2007 (ADAMS Accession No. ML070240001). A peer review assesses the PRA model and all applicable supporting documentation against the applicable high-level requirement (HLRs) and SRs indicated in the standard. The licensee's PRA peer review resulted in Facts and Observations (F&Os) that indicated SRs were categorized as "Not Met" for Capability Category II.

In December 2011, the licensee updated the Hope Creek PRA model and documentation to address F&Os from previous peer reviews and to reflect the current plant configuration, and to incorporate the accumulated additional plant operating history and component failure data. In August 2017, the licensee conducted an F&O closure review to resolve the open F&Os identified by the 2008 peer review. An independent assessment team performed the review in accordance with "NEI 05-04/07-12/12-06 Appendix X: Close Out of Facts and Observations (F&Os)" (ADAMS Accession No. ML17086A451), to Nuclear Energy Institute (NEI) 05-04, NEI 07-12, and NEI 12-13, as accepted by NRC letter dated May 3, 2017 (ADAMS Accession No. ML17079A427). This review compared the PRA model against the ASME/ANS PRA standard and assessed the resolutions to 15 findings, as well as one suggestion that the model had met only at Capability Category I. The independent assessment team concurred with all resolutions and closed out all 16 F&Os. In addition, the licensee stated that all SRs for the internal events PRA are now met at Capability Category II or better.

The licensee updated the Hope Creek PRA model and documentation in December 2017 to reflect the current plant configuration and to incorporate the accumulated additional plant operating history and component failure data. Following the update, the licensee completed a full-scope self-assessment of the Hope Creek internal events PRA model in accordance with NEI 05-04, Revision 2, "Process for Performing Internal Events PRA Peer Reviews Using the ASME/ANS PRA Standard," dated November 2008 (ADAMS Accession No. ML083430462), against the ASME/ANS RA-Sa-2009 PRA, as endorsed by RG 1.200, Revision 2. In its October 17, 2018, response to an NRC RAI (ADAMS Accession No. ML18291B038), the licensee provided the results of the gap assessment. Based on the review of the licensee's LAR, the NRC staff finds that the licensee, in accordance with RG 1.200, has identified and addressed all applicable differences between ASME/ANS RA-Sb-2005 and RA-Sa-2009 with the applicable regulatory positions contained in RG 1.200, Appendix A.

In accordance with Regulatory Position 2.1 of RG 1.200, the technical acceptability of the licensee's PRA for internal events and internal flooding, as described in the LAR, is sufficient for use in supporting this specific risk-informed regulatory application.

Fire PRA

In November 2010, the licensee completed a full-scope peer review of its then current base fire PRA. In its October 17, 2018, response to an NRC RAI, the licensee stated that it performed the full-scope peer review in accordance with the process defined in NEI 07-12, "Fire Probabilistic Risk Assessment (FPRA) Peer Review Process Guidelines," dated June 2010 (ADAMS Accession No. ML102230070), against the ASME/ANS RA-Sa-2009 PRA standard, as endorsed by RG 1.200, Revision 2. A peer review assesses the PRA model and all applicable supporting documentation against the applicable HLRs and SRs indicated in the standard. The PRA peer review resulted in F&Os that indicated SRs were categorized as "Not Met" for Capability Category II. In Table A-2 of Attachment 2 to the LAR, the licensee provides a summary assessment and resolution for the associated F&Os.

In the resolution to F&O 5-40, the licensee concluded that joint human error probabilities are not risk-significant for the inverters or the reported risk evaluation. In response to NRC RAI-3, the licensee stated that this conclusion was based on the analysts' review of the cutsets contributing to the risk increase. In addition, the licensee provided a quantitative sensitivity analysis that demonstrated that even assuming a large change in the values of the joint human error probabilities, the calculated values of ΔCDF_{AVE}/ICCDP and $\Delta LERF_{AVE}$/ICLERP are still far below the acceptance limits in RGs 1.174 and 1.177.

Based on the review of the licensee's LAR, the NRC staff finds that the F&Os for the fire PRA associated with SRs that did not meet at least Capability Category II of the ASME/ANS standard either did not have an impact on this application, or that the licensee dispositioned and/or resolved them sufficiently for use in this application.

In accordance with Regulatory Position 2.1 of RG 1.200, the technical acceptability of the licensee's PRA for fires, as described in the LAR, is sufficient for use in supporting this specific risk-informed regulatory application.

3.2.1.2 External Hazards Evaluation

In accordance with RGs 1.174 and 1.177, a licensee may qualitatively evaluate hazards, provided that the qualitative assessment is of sufficient quality to demonstrate that the contribution to the risk increase is insignificant enough that it would not affect the staff's decision. Per Section 3.2.3 of the licensee's LAR, Hope Creek does not have a separate PRA for seismic and external flooding events. Hope Creek completed an IPEEE in 1999, in accordance with NUREG-1407. However, Section 3.2.3.3 of the LAR notes that the IPEEE assessment was consistent with the state of the practice in the 1990s such that it cannot be used for quantitative PRA insights. Therefore, the licensee uses insights from the IPEEE, as well as bounding analyses using its internal events PRA, to evaluate the change in risk from seismic and external flooding events.

Seismic Evaluation

In Section 3.2.3.2 of its LAR, the licensee stated that a key insight from the IPEEE seismic model is that because equipment failure probabilities are calculated from factors assigned based on the assumed failure mode and location, similar equipment at similar locations have highly correlated failure probabilities. Therefore, a given seismic event that fails one inverter is highly likely to fail all the others as well. As a result, increasing the maintenance outage period of a single channel would have a minimal effect on plant seismic risk. However, the licensee performed a bounding estimate of the change in risk metrics due to seismic hazards using insights from its internal events PRA model of record. The bounding evaluation is discussed in Section 3.2.1.3 of this safety evaluation.

External Flooding Evaluation

In Section 3.2.3.3 of its LAR, the licensee stated that its IPEEE assessment found no vulnerability to any source of external flooding. In addition, as part of the licensee's response to the Fukushima Near-Term Task Force's Recommendation 2.3, the Hope Creek site's flood protection features were reviewed and demonstrated to show adequate margin above design-basis flood elevations. According to the Hope Creek Generating Station Flood Hazard Reevaluation, the exceedance probabilities for local intense precipitation and storm surge-based flooding events that produce water levels that challenge the plant's design-basis flood protection features remain below the IPEEE screening values of 1 E-6. In addition to the qualitative flooding evaluation, the licensee performed a bounding estimate of the change-in-risk metrics due to external flooding hazards using insights from its internal events PRA model of record. The bounding evaluation is discussed in Section 3.2.1.3 of this safety evaluation.

Based on the review of the licensee's LAR, the NRC staff finds that the qualitative assessment with the additional quantitative evaluations are of sufficient quality to demonstrate that the contribution to the risk increase from seismic events and external flooding events is insignificant

such that it would not affect the staff's decision. As such, in accordance with RGs 1.174 and 1.177, the licensee's assessment of the risk contribution from seismic events and external flooding events is sufficient for use in this specific risk-informed application.

3.2.1.3 PRA Insights

Based on the quantitative assessment of internal events, internal flooding, and internal fires provided in the LAR, and taking into account the consideration of compensatory measures as described in Section 3.2.5 of the LAR, the licensee calculated the ΔCDF, ΔLERF, ICCDP, and ICLERP for the proposed 7-day AOT. The Hope Creek at-power models of record were quantified for five cases – one base case and one for each channel's inverters set out of service. The licensee's calculations for ΔCDF/ICCDP and ΔLERF/ICLERP assume the inverter outage occurs once in a 12-month period. As a result, the value of ΔCDF will equal the ICCDP, and ΔLERF will equal the ICLERP, with ΔCDF/ΔLERF having units of per reactor-year (/rx-yr) and ICCDP/ICLERP being a unitless probability. The results of the quantitative evaluations are presented in the tables below and compared to the acceptance guidelines of RGs 1.174 and 1.177.

ΔCDF for 7-Day Unavailability of AC Inverters				
	Internal Events	Internal Fires	**Total**	Acceptance Criteria RG 1.174, Figure 4 Region II or III
Channel A Inverters	8.23E-08/rx-yr	2.30E-08/rx-yr	**1.05E-07/rx-yr**	Region III
Channel B Inverters	1.03E-07/rx-yr	3.64E-08/rx-yr	**1.40E-07/rx-yr**	Region III
Channel C Inverters	7.75E-08/rx-yr	1.53E-08/rx-yr	**9.28E-08/rx-yr**	Region III
Channel D Inverters	8.23E-08/rx-yr	3.84E-08/rx-yr	**8.61E-08/rx-yr**	Region III

ICCDP for 7-Day Unavailability of AC Inverters				
	Internal Events	Internal Fires	**Total**	Acceptance Criteria RG 1.177
Channel A Inverters	8.23E-08	2.30E-08	**1.05E-07**	< 1E-6
Channel B Inverters	1.03E-07	3.64E-08	**1.40E-07**	
Channel C Inverters	7.75E-08	1.53E-08	**9.28E-08**	
Channel D Inverters	8.23E-08	3.84E-08	**8.61E-08**	

ΔLERF for 7-Day Unavailability of AC Inverters				
	Internal Events	Internal Fires	**Total**	Acceptance Criteria RG 1.174, Figure 4 Region II or III
Channel A Inverters	4.97E-09/rx-yr	4.41E-09/rx-yr	**9.38E-09/rx-yr**	Region III
Channel B Inverters	8.02E-09/rx-yr	5.75E-10/rx-yr	**8.59E-09/rx-yr**	Region III
Channel C Inverters	5.18E-09/rx-yr	3.84E-09/rx-yr	**9.01E-09/rx-yr**	Region III
Channel D Inverters	5.77E-09/rx-yr	5.75E-10/rx-yr	**6.35E-09/rx-yr**	Region III

ICLERP for 7-Day Unavailability of AC Inverters				
	Internal Events	Internal Fires	**Total**	Acceptance Criteria RG 1.177
Channel A Inverters	4.97E-09	4.41E-09	**9.38E-09**	< 1E-6
Channel B Inverters	8.02E-09	5.75E-10	**8.59E-09**	
Channel C Inverters	5.18E-09	3.84E-09	**9.01E-09**	
Channel D Inverters	5.77E-09	5.75E-10	**6.35E-09**	

The risk values in the tables above for internal events and internal fires are well below RGs 1.174 and 1.177 acceptance guidelines for an acceptable change in risk (ΔCDF and ΔLERF) and incremental increase in risk (ICCDP and ICLERP).

The licensee addressed seismic hazards with a qualitative assessment based on insights from the Hope Creek IPEEE, as well as an upper bound estimate of seismic risk utilizing inputs from the full-power internal events PRA. The licensee developed an upper bound estimate of seismic risk using a seismic LOOP probability calculated from its Seismic Hazard and Screening Report, and a calculated LOOP CDF and LERF from its internal events PRA, to estimate the ICCDP and ICLERP. Since the licensee's assumption is that the inverter outage occurs once in a 12-month period, the value of ΔCDF will equal the ICCDP, and ΔLERF will equal the ICLERF, with ΔCDF/ΔLERF having units of per reactor-year and ICCDP/ICLERP being a unitless probability. The results of the evaluations are presented in the table below.

Estimated ΔCDF/ICCDP and ΔLERF/ICLERP for Seismic Hazards		
	ΔCDF/ICCDP	ΔLERF/ICLERP
Channel A Inverters	1.45E-10	1.97E-12
Channel B Inverters	1.39E-10	3.00E-12
Channel C Inverters	8.18E-10	1.95E-12
Channel D Inverters	1.13E-10	3.11E-12

The values in the table above for seismic risk are several orders of magnitude below RGs 1.174 and 1.177 acceptance guidelines for ΔCDF/ICCDP and ΔLERF/ICLERP. The results of the licensee's bounding estimate demonstrate that the risk impact associated with seismic hazards is small enough that changes to extend the AC inverters AOT, as proposed in the LAR, do not have a significant effect on the overall risk.

The licensee addressed external flooding hazards with a qualitative assessment based on insights from the Hope Creek IPEEE Screening and Revaluated Flood Hazard, as well as an upper bound estimate of external flooding risk utilizing inputs from the full-power internal events PRA. The licensee developed an upper bound estimate of external flooding risk using the severe weather related LOOP probability and a calculated LOOP CDF and LERF from its internal events PRA to estimate the ICCDP and ICLERP. Since the licensee's assumption is that the inverter outage occurs once in a 12-month period, the value of ΔCDF will equal the ICCDP, and ΔLERF will equal the ICLERF, with ΔCDF/ΔLERF having units of per reactor-year and ICCDP/ICLERP being a unitless probability. The results of the evaluations are presented in the table below.

Estimated ΔCDF/ICCDP and ΔLERF/ICLERP for External Flooding Hazards		
	ΔCDF/ICCDP	ΔLERF/ICLERP
Channel A Inverters	1.30E-08	1.77E-10
Channel B Inverters	1.25E-08	2.69E-10
Channel C Inverters	7.34E-09	1.74E-10
Channel D Inverters	1.02E-08	2.79E-10

The values in the table above for external flooding risk are several orders of magnitude below RGs 1.174 and 1.177 acceptance guidelines for ΔCDF/ICCDP and ΔLERF/ICLERP. The results of the licensee's bounding estimate demonstrate that the risk impact associated with external flooding hazards is small enough that changes to extend the AC inverters AOT, as proposed in the LAR, do not have a significant effect on the overall risk.

Based on the review of the licensee's quantitative, qualitative, and bounding assessments of the hazards applicable to Hope Creek provided in the LAR, the NRC staff finds that the licensee performed its Tier 1 risk evaluation in accordance with the guidance outlined in RG 1.177 and is acceptable for use in this specific risk-informed application.

3.2.2 Tier 2: Risk-Significant Plant Configurations

The avoidance of risk-significant plant configurations limits potentially high-risk configurations that could exist if equipment, in addition to that associated with the proposed TS change, is simultaneously removed from service or other risk-significant operational factors such as concurrent system or equipment testing are involved. Therefore, a licensee's Tier 2 evaluation is expected to ensure that appropriate restrictions are placed on dominant risk-significant configurations relevant to the proposed TS change.

The NRC staff reviewed the risk metrics calculated in Section 3.2.2.2 and the risk insights discussed in Section 3.2.2.3 of the LAR. The NRC staff determined that the licensee demonstrated that the Hope Creek current configuration is well within the acceptance criteria for the proposed inverter AOT extension and established that there are no equipment outages or plant configurations with extremely high risk contributions while an inverter is out of service.

The licensee concluded in Section 3.2.5 of the LAR that no plant configuration or equipment outage would require enhancements to TSs or plant procedures. However, the licensee provided a set of additional compensatory measures to improve the plant's defense in depth with one inverter in maintenance and further increase the available margin to the acceptance guidelines as described in Section 3.2.1.3 of this safety evaluation. Per Section 3.2.5 of the LAR, the following additional compensatory measures will be implemented:

1. Entry into the extended inverter AOT will not be planned concurrent with EDG maintenance.

2. Entry into the extended inverter AOT will not be planned concurrent with planned maintenance on another ECCS/RCIC or isolation actuation instrumentation channel that could result in that channel being in a tripped condition.

The licensee did not directly credit these additional compensatory actions in the risk metric calculations and the NRC staff finds that the compensatory actions are appropriate for use in the Hope Creek planned inverter outages.

Based on the review of the licensee's LAR, the NRC staff finds that the licensee performed its Tier 2 risk evaluation in accordance with the guidance outlined in RG 1.177 and is acceptable for use in this specific risk-informed application.

3.2.3 Tier 3: Risk-Informed Configuration Risk Management

Consistent with the principle that changes to TSs result in small increases in the risk to public health and safety (Key Principle 4), the licensee needs to utilize certain configuration controls. Tier 3 is the establishment of an overall configuration risk management program to ensure that other potentially lower probability but nonetheless risk-significant configurations resulting from maintenance and other operational activities are identified and compensated for.

The Tier 3 program (1) ensures that additional maintenance does not increase the likelihood of an initiating event intended to be mitigated by the out-of-service equipment such as redundant or associated systems or components, (2) evaluates the effects of additional equipment out of service during planned inverter maintenance activities that would adversely impact risk, and (3) evaluates the impact of maintenance on equipment or systems assumed to remain operable by the inverter AOT analysis.

Because the Maintenance Rule, as codified in 10 CFR 50.65(a)(4), requires licensees to assess and manage the potential increase in risk that may result from activities such as surveillance testing and corrective and preventive maintenance, a licensee may use its existing Maintenance Rule program to satisfy Tier 3.

Risk associated with unavailable plant equipment such as AC inverters is assessed at Hope Creek as required by 10 CFR 50.65(a)(4). The PSEG Nuclear LLC work management administrative procedure governs on-line risk assessments. The licensee describes the on-line risk assessment as a blended approach using qualitative or defense-in-depth considerations and quantifiable PRA risk insights, when available, to complement the qualitative assessment. The licensee communicates on-line plant risk using three risk tiers (GREEN, YELLOW, and RED).

The licensee's on-line risk assessment shows that the risk level for Hope Creek will remain GREEN for an outage of one or both inverters in one channel per the proposed 7-day AOT. At this level, risk is considered close to baseline, and compliance with TS requirements may be considered adequate risk management. In addition, the licensee's station protected equipment program requires protection of the remaining operable AC inverter channels if one inverter channel is unavailable. The PRA model of record directly accounts for this maintenance practice and reflects it in the quantitative analysis by excluding cutsets that contain unallowed maintenance combinations. Protecting equipment entails posting of signs and robust barriers to alert personnel not to approach the protected equipment, and work on protected equipment is generally disallowed. The licensee allows limited exceptions for activities such as inspections, security patrols, or emergency operations. Other exceptions may be authorized by the station shift manager in writing. If additional unplanned equipment unavailability occurs, station procedures direct that the risk be reevaluated, and if found to be unacceptable, compensatory actions are taken until such time as the risk is reduced to an acceptable level.

Based on the review of the licensee's LAR, the NRC staff finds that the licensee's Tier 3 configuration risk management program is in accordance with the guidance outlined in RG 1.177, and is acceptable for use in this specific risk-informed application.

The licensee's three-tiered approach, as described above, is in accordance with Regulatory Position 2.3 of RG 1.177, and is consistent with Key Principle 4 of RG 1.177.

3.3 Performance Monitoring (Key Principle 5)

As discussed in RG 1.177, to ensure that the extension of a TS AOT does not degrade operational safety over time, the licensee should ensure, as part of its Maintenance Rule program (10 CFR 50.65), that when equipment does not meet its performance criteria, the evaluation required under the Maintenance Rule includes prior related TS changes in its scope. If the licensee concludes that the performance or condition of TS equipment affected by a TS change does not meet established performance criteria, appropriate corrective action should be taken in accordance with the Maintenance Rule. Such corrective action could include consideration of another TS change to shorten the revised AOT, or imposition of a more restrictive administrative limit, if the licensee determines this to be an important factor in reversing the negative trend.

As described in Section 4.1 of the LAR, the licensee monitors the reliability and availability of the AC inverters using its Maintenance Rule program. If the pre-established reliability or availability performance criteria are not achieved for the inverters, the inverters are considered for actions specified in 10 CFR 50.65(a)(1), which requires increased management attention and goal setting in order to restore their performance to an acceptable level.

Based on the review of the licensee's LAR, the NRC staff finds that the implementation and monitoring program for the proposed TS change described by the licensee is consistent with Key Principle 5 of RG 1.177

3.4 Conclusion

The NRC staff has evaluated the licensee's proposed amendment to revise TS 3.8.3.1, "Distribution – Operating," which would increase the AC inverter AOT from 24 hours to 7 days. In accordance with the risk-informed considerations of RGs 1.174, 1.177, and 1.200, the NRC staff finds that the risk increase associated with the licensee's proposed change to TS 3.8.3.1 is small and consistent with the intent of the Commission's Safety Goal Policy Statement and that the licensee has performance measurement strategies in place to monitor the impact of the proposed change. Therefore, the NRC staff finds that the licensee's LAR meets the regulations and guidance specified in Section 2.2 of this safety evaluation and is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official was notified of the proposed issuance of the amendment on March 6, 2019. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (83 FR 28462; June 19, 2018). Accordingly, the amendment meets 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 amendment.

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

Principal Contributors: M. Levine
A. Foli

Date: March 27, 2019

SUBJECT: HOPE CREEK GENERATING STATION − ISSUANCE OF AMENDMENT NO. 215 RE: INVERTER ALLOWED OUTAGE TIME EXTENSION (EPID L-2018-LLA-0101) DATED MARCH 27, 2019

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OFFICE	NRR/DORL/LPL1/PM	NRR/DORL/LPL1/LA	NRR/DE/EEOB/BC(A)*
NAME	JKim	LRonewicz	EMiller
DATE	03/12/2019	03/12/2019	12/13/2018
OFFICE	NRR/DRA/APLA/BC(A)*	NRR/DSS/STSB/BC	OGC – NLO**
NAME	MWentzel	VCusumano	JWachutka
DATE	03/04/2019	03/18/2019	03/22/2019
OFFICE	NRR/DORL/LPL1/BC	NRR/DORL/LPL1/PM	
NAME	JDanna	JKim	
DATE	03/27/2019	03/27/2019	

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