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

May 4, 2010

Mr. Thomas Joyce
President and Chief Nuclear Officer
PSEG Nuclear
P.O. Box 236, N09
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION - SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING ACTION RE: AMENDMENT REQUEST REGARDING EMERGENCY DIESEL GENERATOR ALLOWED OUTAGE TIME EXTENSION (TAC NO. ME3597)

Dear Mr. Joyce:

By letter dated March 29, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100900458), PSEG Nuclear LLC (PSEG) submitted a license amendment request for Hope Creek Generating Station (HCGS). The proposed amendment would revise the HCGS Technical Specifications to extend the Allowed Outage Time for the "A" and "B" Emergency Diesel Generators from 72 hours to 14 days. The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

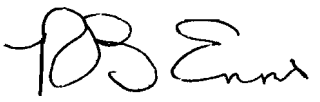
The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that PSEG supplement the application to address the information requested in the enclosure by June 1, 2010. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review actives associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter was discussed with Mr. Jeff Keenan of your staff on May 4, 2010.

If you have any questions, please contact me at (301) 415-1420.

Sincerely,



Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosure:
As stated

cc w/encl: Distribution via Listserv

SUPPLEMENTAL INFORMATION NEEDED

AMENDMENT REQUEST REGARDING

EMERGENCY DIESEL GENERATOR ALLOWED OUTAGE TIME EXTENSION

PSEG NUCLEAR LLC

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

By letter dated March 29, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100900458), PSEG Nuclear LLC (PSEG, the licensee) submitted a license amendment request for Hope Creek Generating Station (HCGS). The proposed amendment would revise the HCGS Technical Specifications (TSs) to extend the Allowed Outage Time (AOT) for the "A" and "B" Emergency Diesel Generators (EDGs) from 72 hours to 14 days. The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the amendment request and has concluded that the information delineated below is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed license amendment in terms of regulatory requirements and the protection of public health and safety and the environment.

1. PSEG's letter dated March 29, 2010, states that the risk evaluation and deterministic engineering analysis supporting the proposed change have been developed in accordance with the guidelines established in Regulatory Guide (RG) 1.177, "An Approach for Plant-Specific Risk-Informed Decision-making: Technical Specifications," and RG 1.174, "An Approach for using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis." As discussed in both of these RG's, in implementing risk-informed decision-making, proposed licensing basis changes are expected to meet a set of key principles. One of these principles is that the proposed change is consistent with the defense-in-depth philosophy.

   As discussed on page 9 of Attachment 1 to PSEG's letter dated March 29, 2010:

   > To ensure that the risk associated with extending the AOT for an EDG is minimized, and consistent with the philosophy of maintaining defense in depth, compensatory measures will be applied when removing an EDG from service as described in Section 4.5.1. These measures will ensure the risks associated with removing an EDG from service are managed to minimize the increase in risk during the out of service time.

   The compensatory measures shown in Section 4.5.1 of Attachment 1 of the letter dated March 29, 2010, consist of a number of regulatory commitments to perform various administrative controls to minimize the risk during the extended 14-day AOT. As discussed in Regulatory Position 2.2.1, "Defense in Depth" in RG 1.177, consistency with the defense-in-depth philosophy is maintained, in part, by avoiding over-reliance on programmatic activities to compensate for weaknesses in plant design. The NRC staff

believes that the proposed amendment relies too heavily on the compensatory measures in light of the fact that the HCGS design does not credit an alternate alternating current (AAC) source for station blackout (SBO) as discussed in Section 3.2, of Attachment 1 to PSEG's letter dated March 29, 2010.

The licensee should modify the proposed amendment to reduce over-reliance on programmatic activities. One approach would be to enhance defense-in-depth by crediting an AAC source, with the capability of handling SBO and loss-of-offsite power loads, to supplement the existing EDGs during the extended 14-day AOT.

The NRC staff notes that the 4 precedent license amendments cited in Section 5.3 of Attachment 1 to PSEG's letter dated March 29, 2010, all included AAC sources as part of the basis for accepting the EDG AOT extension.

2. The licensee discussion of its updated Individual Plant Examination for External Events (IPEEE) external events risk assessments (Appendix A to Attachment 4 to PSEG's letter dated March 29, 2010) does not appear to address the high level attributes of fire and seismic probabilistic risk assessment (PRA) models identified in Sections 1.2.4 and 1.2.6 of RG 1.200. In the absence of a licensee assessment using the endorsed standards, this information is critical to the NRC staff review of the technical adequacy of these PRA models, and will need to be provided.

3. The submittal makes commitments to Tier 2 equipment restrictions (reference Appendix D to Attachment 4 to PSEG's letter dated March 29, 2010). It is not clear if these are credited in the risk analyses. The proposed amendment would incorporate these restrictions into plant procedures and the TS bases, but not into the TS action requirements. There are no sensitivity analyses provided to allow the NRC staff to determine which, if any, of these restrictions are critical to the acceptance of this change. The licensee will need to provide appropriate sensitivity analyses to permit staff review of the acceptability of these restrictions and their control in procedures and TS bases rather than in the TS actions.

4. The risk analyses are dependent upon the once per 2 year use of the extended AOT. The licensee proposes no administrative control for voluntary use of the AOT to once per 2 years. Emergent repairs may result in additional use of the extended AOT, but the risk analyses do not address this. The licensee will need to provide a technical justification for this assumption, and will need to provide sensitivity studies to address emergent repair use of the extended AOT considering the increased probability of common cause failures (consistent with Appendix A to RG 1.177).

Although not an acceptance review issue, it should be noted that the licensee is using its IPEEE fire risk analysis, with some updates, to perform the risk evaluation of an EDG outage. The licensee has chosen not to perform any peer review of the fire PRA against industry consensus standards as per RG 1.200. Since fire risk is more than 70% of the baseline core damage frequency (reference Table 3.5-1 in Attachment 4 to PSEG's letter dated March 29, 2010), the NRC staff anticipates it will conduct a detailed review of the baseline fire PRA in order to determine its technical adequacy to support this application. This will involve a substantial NRC staff resource commitment and will require the licensee to have available documentation of its IPEEE fire PRA, including any changes made since the IPEEE submittal. Significant additional

information on the fire PRA will be required, and it is likely that a site audit will be conducted to facilitate the review. The staff will use existing industry consensus standards to assess elements of the IPEEE fire PRA, and will identify request for additional information questions to disposition any deficiencies in meeting those standards.

The information requested and associated time frame in this letter was discussed with Mr. Jeff Keenan of your staff on May 4, 2010.

If you have any questions, please contact me at (301) 415-1420.

Sincerely,
/RA/
Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosure:
As stated

cc w/encl: Distribution via Listserv

DISTRIBUTION
PUBLIC
LPL1-2 R/F
RidsNrrDorlLpl1-2 Resource
RidsNrrLAABaxter Resource
RidsNrrPMHopeCreek Resource
RidsNrrDorlDpr Resource
VGoel, NRR/EEEB
RidsOgcRp Resource
RidsAcrsAcnw_MailCTR Resource
RidsNrrDeEeeb Resource
RidsNrrDraApla Resource
RidsNrrDorl Resource
RidsRgn1MailCenter Resource
AHowe, NRR/APLA

ADAMS Accession No.: ML101200075 *Via e-mail

OFFICE	LPL1-2/PM	LPL1-2/LA	EEEB/BC	APLA/BC	LPL1-2/BC
NAME	REnnis	ABaxter*	GWilson	DHarrison SDinsmore for	HChernoff
DATE	5/4/10	4/30/10	5/3/10	5/3/10	5/4/10

OFFICIAL RECORD COPY