CP&L
A Progress Energy Company

James Scarola
Vice President
Harris Nuclear Plant

SEP 1 2 2001

SERIAL: HNP-01-133
10CFR50.90

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
SUPPLEMENTAL INFORMATION REGARDING
REQUEST FOR LICENSE AMENDMENT
REVISION TO TECHNICAL SPECIFICATION 3/4.8.1 – A.C. SOURCES-OPERATING

Dear Sir or Madam:

By letter dated December 14, 2000, Carolina Power & Light Company (CP&L) submitted a proposed license amendment for a revision to the Technical Specifications (TS) for the Harris Nuclear Plant (HNP). The proposed amendment revises the TS concerning the Emergency Diesel Generator (EDG) found in TS 3/4.8.1. Specifically, HNP proposes to revise Surveillance Requirement (SR) 4.8.1.1.2.f.7, the 24-hour EDG endurance run, by removing the restriction to perform the test during shutdown conditions. The purpose of the proposed change is to provide HNP with greater flexibility in optimizing outage schedules and the use of resources while still protecting the health and safety of the public and station personnel. Approval of this proposed amendment has the potential for reducing outage critical path time, resulting in significant cost savings.

By letter dated August 16, 2001, CP&L provided a response to the NRC staff's request for additional information. Enclosure 1 to this letter provides supplemental information to support the EDG 24-hour run license amendment request for HNP.

This additional information does not affect the conclusions of either the 10 CFR 50.92 evaluation or the Environmental Considerations submitted as part of CP&L's December 14, 2000 letter.

CP&L requests that the proposed amendment be issued by October 15, 2001 to support Refueling Outage 10, which is scheduled to commence on September 22, 2001. CP&L further requests that the proposed amendment be issued such that implementation will occur within 60 days of issuance to allow time for orderly incorporation into copies of the Technical Specifications.

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A001

Please refer any questions regarding this submittal to Mr. John Caves at (919) 362-3137.

Sincerely,

James Scarola

James Scarola

ONW/onw

Enclosure

James Scarola, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief, and the sources of his information are employees, contractors, and agents of Carolina Power & Light Company.

Lisa M. Randall
Notary (Seal)

My commission expires: 6-7-2003

LISA M. RANDALL NOTARY PUBLIC WAKE COUNTY, N.C.

c: Mr. J. B. Brady, NRC Sr. Resident Inspector
Mr. Mel Fry, Director, N.C. DENR
Mr. N. Kalyanam, NRC Project Manager
Mr. B. S. Mallett, NRC Regional Administrator (Acting)

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BACKGROUND

By letter dated December 14, 2000, Carolina Power & Light Company (CP&L) submitted a proposed license amendment for a revision to the Technical Specifications (TS) for the Harris Nuclear Plant (HNP). The proposed amendment revises the TS concerning the Emergency Diesel Generator (EDG) found in TS 3/4.8.1. Specifically, HNP proposes to revise Surveillance Requirement (SR) 4.8.1.1.2.f.7, the 24-hour EDG endurance run, by removing the restriction to perform the test during shutdown conditions. The purpose of the proposed change is to provide HNP with greater flexibility in optimizing outage schedules and the use of resources while still protecting the health and safety of the public and station personnel. Approval of this proposed amendment has the potential for reducing outage critical path time, resulting in significant cost savings.

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RISK IMPACT

The risk incurred by moving the performance of the EDG 24-hour run from a shutdown condition to performing online can be bounded by the risk of completely removing the EDG from service, e.g. making it unavailable, for a 24-hour period.

The following results are based on removing both EDGs from service for a 24-hour period (at separate times):

Annualized Delta CDF = 4.0E-7 per reactor-year
Annualized Delta LERF = 4.0E-9 per reactor-year
ICCDP = 2.88E-7
ICLERP = 3.84E-10

These results fall below the Acceptance Guidelines for TS Changes contained in Regulatory Guides 1.174 and 1.177; therefore, the risk of performing the EDG 24-hour run while on-line has only a small quantitative impact on plant risk.

HNP PROBABILISTIC SAFETY ANALYSIS (PSA)

In response to Generic Letter (GL) 88-20, "Individual Plant Examination for Severe Accident Vulnerabilities" the Harris Plant Individual Plant Examination (IPE) was submitted to the NRC by letter dated August 20, 1993, with subsequent supplements. The staff SER for the IPE concluded that the study fully met the intent of the Generic Letter 88-20. The IPE is a level 2 probabilistic risk assessment and was a joint utility-contractor effort, with SAIC, SAROS, and GKA being the principle contractors.

The quality of the HNP PSA model used in performing the risk assessments for HNP is shown by the following: 1) Level of detail in PSA, 2) Maintenance of the PSA, and 3) Comprehensive Critical Review.

The HNP PSA modeling is detailed, including a variety of initiating events, modeled systems, operator actions, and common cause events. The HNP at-power PSA reflects the as-built and as-operated plant, and explicitly models a number of internal initiating events:

- General transients
- LOCAs
- Support system failures
- Internal Flooding events

The HNP at-power PSA explicitly models a number of frontline and support systems that are credited in the accident sequence analyses. A number of support system initiating events are modeled with fault trees and linked directly into the PSA models.

The HNP at-power PSA explicitly models a number of operator actions including, Pre-Initiator actions, Post-Initiator actions, Recovery Actions, and Dependent Human Actions. Over 60 post-initiators are explicitly modeled. The human error probabilities for the actions are modeled with accepted industry HRA techniques and include input based on discussion with plant operators, trainers, and other cognizant personnel. With regard to dependent actions, the human reliability analysis facet of the HNP PSA explicitly considers the dependent effects of individual modeled actions.

The HNP at-power PSA explicitly models a large number of common cause component failures.

The HNP model of record (MOR) is an internal events model and includes the contribution from internal flooding. It utilizes a fault tree linking approach with small functional event trees and detailed, linked fault trees. The origin of the current model of record is the HNP individual plant examination (IPE). Since the submittal of the IPE, the HNP model has been updated to reflect changes in plant configuration and to address changes in key plant component performance. The PSA is periodically updated in accordance with requirements set forth in CP&L procedure ADM-NGGC-0004 to incorporate any PSA-significant plant modifications, to update the plant initiating event frequency and to incorporate component operating history for major components

into the failure rate database. The Harris IPE model of 1993 was updated in 1995, 1997, 1998, and 2000 to reflect the changes made to the plant since the development of the submittal. A review of these updates has identified the following significant changes to the model:

- LOCA initiating event frequencies, based on work developed by EPRI (EPRI TR-102266, "Pipe Failure Study Update") plant specific parameters, were incorporated into the HNP PSA Methodology.
- The transient initiating event frequencies were updated to reflect the most recent operating experience through year 1995.
- The LOOP initiating event analysis was updated as part of the transient event update by using EPRI TR-106306.
- Plant specific data for major pumps and diesels were updated through a review of the control operator logbooks and work tickets though October 1995.
- Added system fault trees for Demineralized Water and Main Feedwater/Condensate.
- Removed dependency of RWST make-up (Demin. Water) for small break LOCAs in May 1998 update.
- Incorporated new operator recovery actions including the alignment of offsite ac breakers, alignment and restoration of MFW after trip, alignment of alternative fuel oil supplies for the EDGs, alignment of swing standby pumps for CCW and HHSI, and operator actuation of the ESW system on failure of NSW return valves.
- Incorporated air compressor system modification and developed Instrument Air Initiating Event fault tree.
- Changes due to plant modifications and procedure revisions through May 2000 have also been incorporated into the model.

The PSA models are continually implemented and studied by plant PSA personnel in the performance of their duties. Electronic copies of the models are maintained in a controlled read-only server location. Potential model modifications/enhancements are captured in the corrective action program, evaluated, and maintained for further investigation and subsequent implementation, if necessary.

Each supporting element of the HNP PSA is documented, typically in a stand-alone report. Each analysis element is reviewed by cognizant personnel and comments reconciled before final approval.

The Harris internal events PSA has not yet received a formal industry PRA Peer Review based on the NEI guidelines. The WOG Peer Review of the HNP PSA is scheduled for June 2002. However, ERIN Engineering and Research, Inc performed an independent documentation review of the Harris PSA in October 2000 based on the NEI PSA Peer Review Process Guidance. The review assessed the quality, scope, and technical adequacy of the existing PSA model to support PSA applications. The review concluded "the Harris PSA is viewed as capable of supporting risk-informed applications."