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CUTTER,A.B. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
VARGA,S.A. Operating Reactors Branch 1

SUBJECT: Application for amend to License DPR-23,revising Tech Specs to conform to Generic Ltr 83-87, "NUREG-0737 Tech Specs."

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Carolina Power & Light Company

JAN 31 1985

SERIAL: NLS-85-028

Director of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
REQUEST FOR LICENSE AMENDMENT
NUREG-0737 TECHNICAL SPECIFICATIONS
GENERIC LETTER NO. 83-37

Dear Mr. Varga:

SUMMARY

Carolina Power & Light Company (CP&L) hereby requests revisions to the Technical Specifications (TS) for the H. B. Robinson Steam Electric Plant Unit No. 2 (HBR2) in accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101. These revisions are in response to Generic Letter No. 83-37 (GL 83-37), "NUREG-0737 Technical Specifications."

DETAILS

Technical Specification change requests regarding Generic Letter No. 83-37 were submitted in two previous transmittals dated February 7, 1984 and July 20, 1984. Our staffs met on August 29, 1984 to discuss concerns which were raised concerning these submittals. We subsequently met with your staff on December 20, 1984 to discuss mutually acceptable TS. The enclosures to this letter provide TS and justifications consistent with our discussions. The present submittal supersedes the February and July requests.

Carolina Power & Light Company has reviewed this request and has determined that the proposed TS revision involves no significant hazards considerations because the proposed changes add requirements not currently included in the TS. The Commission has provided guidance concerning the application of its standards set forth in 10CFR50.92 for no significant hazards considerations by providing certain examples published in the Federal Register on April 6, 1983 (48 FR 14864). One of the examples of an amendment which will likely be found to involve no significant hazards considerations is a change that constitutes an additional limitation, restriction, or control not presently included in the TS; for example, a more stringent surveillance requirement. The enclosed proposed changes fall within the Commission's example (ii) of changes not likely to involve a significant hazards consideration.

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

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ADMINISTRATIVE

A check in the amount of one hundred and fifty dollars ($150) in payment of a license amendment application fee was submitted with our July 20, 1984 application. No additional fee is remitted with this revision.

The affected TS pages are included for your use. Changes are denoted by vertical bars in the right margin.

Questions regarding this matter may be referred to Mr. Sherwood R. Zimmerman at (919) 836-6242.

Yours very truly,

A. B. Cutter - Vice President
Nuclear Engineering & Licensing

JSK/ccc (748NLU)

Enclosures

cc: Mr. J. P. O'Reilly (NRC-RII)
Mr. G. Requa (NRC)
Mr. Heyward G. Shealy (SC)
Mr. Harold Krug (NRC-HBR)
Attorney General (SC)

A. B. Cutter, 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 officers, employees, contractors, and agents of Carolina Power & Light Company.

Lisa M. Randall
Notary (Seal)

My commission expires: 5/18/88

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

JUSTIFICATIONS FOR PROPOSED
NUREG-0737 TECHNICAL SPECIFICATIONS

(1) Reactor Coolant System (RCS) Vents (II.B.1)

Proposed TS for RCS vents are included in Enclosure 2. This system is currently functional at HBR2. The proposed TS are consistent with existing specifications for similar equipment.

The attached proposed TS for the HBR2 head vent system differ slightly from the NRC's example. One difference is that a unit shutdown is not required should the pressurizer vent path become inoperable. Alternate methods of venting the pressurizer, such as the pressurizer PORVs or steam space sample connections, justify this exception. In addition, manual valves in the RCS vent system are not mentioned in the plant-specific specification. The definition of "operable" in the HBR2 TS covers the manual valves in that the plant would consider the vent path inoperable if a manual valve in the path was shut. Additionally, our proposed TS require that MOVs RC-567, 568, 569, and 570 be closed with power removed from the valve actuators. This condition is required by Appendix R considerations.

Affected Page Attached: 3.1-2a

(2) Post-Accident Sampling (II.B.3)

Proposed TS for Post-Accident Sampling (NUREG-0737, Item II.B.3) have been combined with that for Iodine Particulate Sampling (NUREG-0737, Item II.F.1.2) per the guidance of Generic Letter 83-37 and included as Section 3.G.(4) of the operating license. The existing TS 4.17, Systems Integrity, and 4.18, Iodine Monitoring, have been removed from Section 4 of the TS and have likewise been inserted as Sections 3.G.(2) and 3.G.(3) respectively, into the operating license. This change is proposed in the recognition that program requirements such as these are, strictly speaking, not appropriate for inclusion in Section 4 (Surveillance Requirements) of the TS. These actions will help to make the TS a more workable operating document.

(3) Long Term Auxiliary Feedwater System Evaluation (II.E.1.1)

Technical Specifications for the Auxiliary Feedwater System (AFWS) are already included in the HBR2 TS in Sections 3.4 and 4.8.

(4) Noble Gas Effluent Monitors (II.F.1.1)

Technical Specifications for the Noble Gas Effluent Monitors are included in the Radiological Effluent TS for HBR2 in Tables 3.5-7 and 4.18-2 and in the attached Tables 3.5-5 and 4.1-1.

It should be noted that the Noble Gas Effluent Monitors at HBR2 are of two types: GM and CaF_2 Scintillators. These monitors will be calibrated with a Cs-137 source as opposed to the Xe-133 or Sr-90 source recommended in NUREG-0737. Both types of detector systems will have a complete electronic calibration. The detector systems will be removed from their normal location

and calibrated in the on-site calibration facility. A three point source calibration will be performed. The check source will be activated and the indications will be recorded prior to returning the GM detectors to their normal locations. The check sources will again be activated following installation of the GM detectors and the indications will be recorded. If the non-insitu and insitu indications vary by less than 20 percent, the GM detector systems are considered properly calibrated.

Prior to returning the CaF_2 Scintillators to their normal locations, they will be exposed to a portable check source and the indications recorded. They will be again exposed to the portable check source following installation of the scintillators and the indications will be recorded. If the non-insitu and insitu indications vary by less than 40 percent, the scintillator detector systems are considered properly calibrated.

These two detector types will also have a continuous display in mR/hr as opposed to equivalent Xe-133 concentrations or as opposed to μCi/cc of noble gas. However, curves are used which convert mR/hr to noble gas concentrations in μCi/cc.

The TEST surveillance interval is being proposed as quarterly rather than monthly as recommended by the guidance of Generic Letter 83-37. This is to maintain consistency with the surveillance interval for Noble Gas Monitors included in the Radioactive Effluent Technical Specifications previously issued.

Affected Pages Attached: 3.5-18, 3.5-19
4.1-9

(5) Sampling and Analysis of Plant Effluents (II.F.1.2)

See Item (2), above.

(6) Containment High-Range Radiation Monitor (II.F.1.3)

The proposed TS for the Containment High-Range Radiation Monitor are included in Enclosure 2.

Affected Pages Attached: 3.5-18, 3.5-19, 3.5-19a
4.1-9

(7) Containment Pressure Monitor (II.F.1.4)

The proposed TS for the Containment Pressure Monitor are included in Enclosure 2.

The original containment pressure indicating system provides back-up to the new post-accident system. The original system consists of six pressure transmitters with a range of -5 to +75 psig. All six transmitters have separate indications on the control board, provide inputs to the plant computer, and are part of the engineered safety features initiation instrumentation. Three of the six provide an input to automatic safety injection initiation and one-half of the logic for containment spray initiation. The other three provide the other one-half of the logic for

containment spray initiation. (These transmitters have other automatic initiation functions which are related to safety injection or containment spray initiation but are not described here.) These transmitters have minimum channels operable and minimum degree of redundancy requirements (per HBR2 TS Table 3.5-3) which require the unit to be placed in cold shutdown if not met.

In comparison, the two post-accident containment pressure transmitters have a range of -5 to +135 psig. The HBR2 containment post-accident design pressure is 42 psig. Thus, the original containment pressure transmitters have a range of almost twice the post-accident design pressure and over half the range of the post-accident transmitters. The post-TMI requirement was to have containment pressure indication capability of three times the design pressure. The original transmitters provide approximately 60% of that capability.

The location of the original containment pressure transmitters is outside the containment in an easily accessible area in the Auxiliary Building. A local maximum pressure gauge could be relatively easily installed if necessary. This would not provide control room indication, but would provide retrievable information concerning maximum containment pressure should a hydrogen burn or a failure of all or most of the containment pressure reducing equipment (containment spray and air handling units) occur.

Therefore, requiring unit shutdown on loss of both post-accident containment pressure channels is not necessary due to the significant range of the original containment pressure channels and the ability to install local pressure monitoring capability if necessary.

Affected Pages: 3.5-18, 3.5-19, 3.5-19a
4.1-9

(8) Containment Water Level Monitor (II.F.1.5)

The proposed TS for the Containment Water Level Monitor are included in Enclosure 2.

The original containment water level indicating system backs up the new post-accident system. The original system consists of two sets of level switches. Both sets illuminate separate lights on the control board at 1/2 foot of water level in the containment sump. For higher water levels, indication starts just above the containment ground floor. One set of level switches provides indication from 1/2 foot above the ground floor to 6 1/2 feet above the ground floor in 1-foot increments. The other set provides indication from 1 foot above the ground floor to 7 feet above the ground floor in 1-foot increments. This system does not provide continuous containment water level indication (no indication between 1 foot in the sump and 1 foot above the containment ground floor). This system does, however, provide assurance in the event of an accident, that sufficient water inventory in the containment exists to support long-term core cooling using the residual heat removal system. This is because the suction for long-term core cooling is from the containment ground floor rather than the containment sump. In addition, the safety injection (SI) reset circuitry has been modified such that containment isolation valves not needed to mitigate the event will not reopen as soon as SI is reset. This prevents the containment isolation valves for the containment sump from reopening when SI is reset and prevents the

containment sump pumps from pumping water out of the containment. This allows reasonably accurate estimates of containment water level based on changes in refueling water storage tank (RWST) level or the condensate storage tank (CST) level. The RWST is the initial water source for the safety injection system. Water from the CST could enter the containment due to a steam line break in the containment. A plant curve exists to translate gallons to containment water level or water level to gallons. Also, a plant document exists which lists the elevations of components in the containment. This document can be used to confirm suspected containment water level by comparing components lost due to flooding. The plant curve of gallons versus containment level and the document listing the elevations of components in the containment were also NRC post-TMI accident requirements. Therefore, requiring unit shutdown on loss of both post-accident containment water level channels with the above described back-up methods available is not necessary.

Affected Pages Attached: 3.5-18, 3.5-19, 3.5-19a
4.1-9

(9) Containment Hydrogen Monitor (II.F.1.6)

Proposed TS for the Containment Hydrogen Monitor are provided in Enclosure 2.

The post-accident sampling system (PASS) backs up the post-accident containment hydrogen monitor. The PASS is a part of the new license condition included in this submittal (see item 2). Both the PASS and the containment hydrogen monitor are capable of measuring hydrogen in the range of 0 to 10%.

While the containment hydrogen monitors give a continuous indication of hydrogen concentration, a sample can be obtained and analyzed for hydrogen using the PASS within 4 hours. This delay is acceptable because HBR2 does not have a permanently installed hydrogen recombiner. Carolina Power & Light Company has a rental agreement with Duke Power Company to provide a hydrogen recombiner should the need arise. It will take approximately 3 to 5 days to ship, install (to pre-fabricated connections), and test the recombiner before containment hydrogen processing can commence. In comparison, per HBR2 Updated FSAR paragraphs 6.2.5.2.1.4 and 6.2.5.3, it takes approximately 54 days following a LOCA for hydrogen to build up to 3%. This is due to the large HBR2 containment. Thus, the hydrogen sampling capability of the PASS is consistent with the unit's ability to take action to reduce the concentration.

The original gas analyzer system has the capability to obtain containment atmosphere grab samples which could then be analyzed for hydrogen, although this system may not be useable post accident due to radiation exposure.

Therefore, requiring unit shutdown on loss of both post-accident containment hydrogen channels is not necessary due to the slow post-LOCA buildup of hydrogen in containment and the capability of the PASS to obtain samples at a rate which is consistent with the unit's ability to reduce the hydrogen concentration.

Affected Pages: 3.5-18, 3.5-19, 3.5-19a
4.1-9

(748NLU/ccc)

(10) Instrumentation for Detection of Inadequate Core Cooling (II.F.2)

Technical Specifications for the Reactor Coolant System Subcooling Monitor are already included in the HBR2 TS in Tables 3.5-5 and 4.1-1.

Technical Specifications for the Reactor Vessel Level Instrumentation System (RVLIS) and Core Exit Thermocouples will be submitted with our Inadequate Core Cooling Instrumentation implementation letter as requested in the Safety Evaluation Report issued on December 31, 1984.

(11) Control Room Habitability Requirements (II.D.3.4)

In our letter dated December 28, 1984, CP&L provided justification for not providing gas detectors for the control room based on a survey of anticipated hazards from nearby highways.

(748NLU/ccc)