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RECIP.NAME RECIPIENT AFFILIATION
SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards proposed Amends 40 & 5 to Licenses NPF-14 & NPF-22, per 840315 commitment to provide resolution to BWR core thermal hydraulic stability issue discussed in 840210 Rev 1 to GE Svc Info Ltr 380.Fee encl.

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MAY 15 1984

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT 40 TO LICENSE NO. NPF-14 AND
PROPOSED AMENDMENT 5 TO LICENSE NO. NPF-22
ER 100450 FILE 841-8 Docket Nos. 50-387
PLA-2198 50-388

Reference: Letter, PLA-2134, N. W. Curtis to A. Schwencer, dated March 15, 1984.

Dear Mr. Schwencer:

In response to a request from the NRC staff, PP&L, in the referenced letter, committed to provide you with a proposed resolution to the BWR Core Thermal Hydraulic Stability issue discussed in General Electric Service Information Letter No. 380, Revision 1, dated February 10, 1984.

Accordingly, attached are proposed changes to the Susquehanna SES Unit 1 and Unit 2 Technical Specifications specifically designed to address the concerns outlined in the GE SIL. General Electric has reviewed a draft form of this proposal and given the following assessment:

> "Our review of your draft technical specification concludes that the material is consistent with the intent of the stability operator recommendations, SIL-380, Rev. 1. The changes ensure adequate monitoring of APRM and LPRM noise levels in the low flow regions (specifically delineated as 1 and 2 in SIL-380). Implementation of the broader recommendations of SIL-380, Rev. 1, such as general alertness to increased flux noise over the entire operating map, as well as response to LPRM upscale alarms can be adequately addressed procedurally or by operator training and does not, in our view, need to be specifically addressed in the technical specifications."

Changes made to the draft since the assessment have been wholly administrative in nature and therefore have no affect on its conclusions.

General Electric also provided PP&L with justification for the flow range over which baselining will be performed pursuant to the proposed surveillance 4.4.1.1.4:

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"Typically, neutron flux noise levels show a gradual increase in magnitude as core flow is increased with two reactor recirculation loops in operation. Therefore, the baseline neutron flux noise level at a specific core flow can be applied to a range of core flows. To maintain a reasonable variation between the low flow and high flow ends of the flow range, the range that a specific baseline is applied to should not exceed 20% of total core flow with two reactor recirculation loops in operation. Data from tests and operating plants indicate that a range of 20% of rated core flow will result in less than a 50% increase in neutron flux noise level during operation with two reactor recirculation loops.",

and for the three times established baseline neutron flux noise levels used to trigger other requirements in proposed ACTION statement C3:

"BWR cores typically operate with neutron flux noise caused by random boiling and flow noise. Typical neutron flux noise levels of 1-12% of rated power (peak-to-peak) have been reported for the range of low to high recirculation pump speed during both single and dual loop operation. Neutron flux noise levels which significantly bound these levels are considered in the thermal/mechanical design of the GE BWR fuel and are found to be of negligible consequence (NEDE-22277-P). In addition, stability tests at operating BWRs have demonstrated that when stability-related power oscillations occur they result in limit cycles with peak-to-peak neutron flux signals 5-10 times the typical values. Therefore, actions taken to reduce neutron flux noise levels exceeding three (3) times the typical values are sufficient to assure operation within acceptable fuel design limits and to assure detection of abnormal conditions."

Based upon the discussion provided above and the fact that these proposed changes can be categorized as an example given in paragraph (ii) of 48FR14870, (i.e. "an additional limitation restriction, or control not presently included in the technical specifications") these changes involve no significant hazards.

Changes to Special Test Exception 3.10.4 are proposed in order to avoid possible future confusion due to the proposed changes to the LCO in Specification 3.4.1.1. Changes to the Bases for each unit have been added for future reference. Each of these proposed changes can be categorized as examples given in paragraph (i) of 48FR14870, (i.e. "a purely administrative change ... to achieve consistency throughout the technical specifications") and therefore they involve no significant hazards.

This proposal provides a complete response to the commitments made in the referenced letter. Should you have any questions on this matter, please

contact Mr. R. Sgarro at (215) 770-7855. Pursuant to 10CFR170.22, the appropriate fees are enclosed for a Class I and a Class III Amendment.

Very truly yours,

N. W. Curtis
Vice President-Engineering & Construction-Nuclear

Attachments

cc: R. L. Perch - USNRC
R. H. Jacobs - USNRC
D. R. Hoffman - USNRC
G. Schwenk - USNRC

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