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 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylvania
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 RECIP. NAME: SCHWENCER, A. RECIPIENT AFFILIATION: Licensing Branch 2

DOCKET #
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SUBJECT: Forwards application for amends to Licenses NPF-14 & NPF-22, changing min/critical power ratio for operating limits. Fee paid.

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GENERAL INVESTIGATION OF THE ECONOMIC EFFECTS OF THE AGRICULTURAL ADJUSTMENT ACT OF 1933
PART I. THE AGRICULTURAL ADJUSTMENT ACT OF 1933
CHAPTER I. THE AGRICULTURAL ADJUSTMENT ACT OF 1933

CHAPTER II. THE AGRICULTURAL ADJUSTMENT ACT OF 1933
SECTION 1. THE AGRICULTURAL ADJUSTMENT ACT OF 1933

SECTION 2. THE AGRICULTURAL ADJUSTMENT ACT OF 1933

SECTION 3. THE AGRICULTURAL ADJUSTMENT ACT OF 1933

| YEAR | TOTAL | PERCENT | CATTLE | | PORK | | WHEAT | |
|------|-------|---------|--------|------|------|------|-------|------|
| | | | 1933 | 1934 | 1933 | 1934 | 1933 | 1934 |
| 1933 | 1 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1934 | 1 | 100 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1935 | 1 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1936 | 1 | 100 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1937 | 1 | 100 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1938 | 5 | 500 | 5 | 5 | 5 | 5 | 5 | 5 |
| 1939 | 1 | 100 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1940 | 1 | 100 | 1 | 1 | 1 | 1 | 1 | 1 |



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SEP 06 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 AMENDMENTS 45 TO LICENSE NPF-14
AND 7 TO LICENSE NPF-22
ER 100450
PLA-2291

FILE 841-8

Docket Nos. 50-387
50-388

Dear Mr. Schwencer:

The purpose of this letter is to propose several changes to the Susquehanna SES Units 1 and 2 Technical Specifications as indicated below. The proposed changes are provided as Attachments A1 and A2 to this letter.

ITEM 1: Specification 3/4.2.3, Table 3.3.6-2, Bases

AFFECTED UNIT(S): Units 1 and 2

PROPOSED CHANGE: Revise per Attachments A1 (9 pages; Unit 1) and A2 (8 pages; Unit 2)

JUSTIFICATION FOR CHANGE: Via Proposed Amendment 19 to License No. NPF-14, dated February 3, 1983, PP&L proposed changes to the APRM flow biased Scram and APRM rod block trip setpoints based on the information contained in NEDO-22128, "General Electric Boiling Water Reactor Expanded Load Line Limit Analysis for Susquehanna Steam Electric Station Unit 1." These changes were subsequently approved in License Amendment 17. Since that time, G.E. has performed an analysis of the Rod Block Monitor (RBM) Line setpoints that is applicable to both Units 1 and 2. This analysis resulted in the portion of the MCPR operating limit based on the Rod Withdrawal Error (the only design basis event affected by the Rod Block Monitor) being increased by +.05 CPR units in order to assure adequate margin to the MCPR Safety Limit with the relaxed RBM setpoints. The actual results of the analysis are as follows:

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ROD WITHDRAWAL ERROR (RWE) TRANSIENT
CHANGE IN MCPR AS A FUNCTION OF THE RBM SETPOINT

| | | |
|------------------------------|------|------|
| RBM setpoint (%) | 106 | 108 |
| MCPR at the start of the RWE | 1.30 | 1.30 |
| MCPR at Rod Block | 1.12 | 1.07 |
| Δ MCPR | 0.18 | 0.23 |
| Rod Block Distance (Feet) | 5.0 | 6.0 |

Raising the RBM setpoint to 108% allows additional operating flexibility within the expanded region of the power flow map, but can only be justified with the corresponding increase in Δ CPR. Therefore, in order to achieve both maximum flexibility and optimum MCPR margins, PP&L is proposing a "dual" RBM setpoint technical specification in order to allow the use of the 108% setpoint during evolutions such as startups and rod sequence exchanges, with the current 106% setpoint used for the rest of the cycle. An alternative would be to use the 106% RBM for periods of expected low Δ CPR margin during the cycle and the 108% setpoint for the rest of the cycle. In any case (or combinations thereof), the setpoints are justified as long as the corresponding MCPR limits are adhered to. With respect to the Attachments, the following should be noted:

A1:

- o page 3/4 2-7: except for the "clouded" addition at the bottom, the changes reflect a previous request - Proposed Amendment 42.
- o Figures 3.2.3-1a and b: these curves have been revised to also include changes described under items 2 and 3 below.
- o page B 3/4 2-4: the changes in paragraphs 4 and 5 are typographical corrections.
- o page B 3/4 2-5: the change in paragraph 2 is a typographical correction.

A2:

- o Figure 3.2.3-1a: changed per item 3 below only.
- o Figure 3.2.3-1b: these curves reflect the change described in items 1 and 3 below only.
- o pages B 3/4.2-4, 2-5: same as above for A1.

ITEM 2: Figures 3.2.3-1a and 3.2.3-1b.

AFFECTED UNIT(S): Unit 1 only.

PROPOSED CHANGE: Revise per Attachment A1.

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JUSTIFICATION FOR CHANGE: During Startup Test ST27.2, "High Power Generator Load Rejection", a failure of the recirculation pump flow coastdown acceptance criteria occurred. During the first one second of the coastdown, the test curve is slower than (above) the maximum allowable curve. Since the coastdown rate was too slow, the Technical Specification operating limit MCPR for EOC-RPT inoperable was input into the process computer to permit continued operation.

This justification discusses the impact of the recirculation pump coastdown on the following FSAR analyses: LOCA, overpressurization, recirculation pump trip, generator load rejection, and feedwater controller failure. All other events which result in pump coastdown are affected in a similar manner but are less severe than those listed above.

In the LOCA analysis it is assumed that the MG set trips due to the loss of AC power. FSAR Section 6.3.3.7.2 states that a slow coastdown results in a higher core flow which delays boiling transition. Therefore, a slower coastdown results in a lower peak clad temperature during a LOCA.

Table 5.2-9 and Figure 5.2-1 of the FSAR show that the analysis of the most severe overpressurization transient (ie, MSIV closure) does not take credit for the recirculation pump trip. Therefore, the pump coastdown characteristics do not affect the overpressurization analysis.

The recirculation pump trip transient is less severe with a slower coastdown. Therefore, the one and two pump trip transients are still bounded by the FSAR analysis.

In the analysis of the generator load rejection and feedwater controller failure (which results in a turbine trip) transient, the recirculation pump trip offsets the effects of the pressure increase by reducing core flow which increases the void fraction and adds negative reactivity to the core. Therefore, a slower coastdown results in a more severe transient. GE has reanalyzed these two limiting events using the actual pump coastdown characteristics and determined the required operating limit MCPR per ODN. The actual change in the MCPR limit due to this item can be seen by comparing Figure 3.2.3-1a in Attachment A1 to Figure 3.2.3-1a in Attachment A2. Since this Technical Specification change revises the MCPR operating limits to be consistent with the latest GE analyses, the margin of safety is not reduced as a result of the proposed Technical Specification changes.

ITEM 3: Figures 3.2.3-1a and 3.2.3-1b.

AFFECTED UNIT(S): Units 1 and 2.

PROPOSED CHANGES: Revise labels per Attachments A1 and A2.

JUSTIFICATION FOR CHANGE: It was recently noted that confusion existed with respect to the labels provided for the curves in each figure. In order to mitigate future problems, explicit labels have been provided for greater



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clarity. This editorial change will enhance safety by ensuring that the subject limits are utilized in a manner consistent with their design basis.


NO SIGNIFICANT HAZARDS CONSIDERATIONS

- I. None of the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated. As described in the justification for Item 1, a MCPR penalty offsets any loss of margin of safety due to relaxed RBM setpoints. Item 2 also involves a MCPR penalty to offset an inability to meet Startup Test acceptance criteria and maintain adequate safety margin as described above. Item 3 is purely administrative in nature.
- II. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated. Item 1 involves setpoint changes that will not change hardware design but simply relax the condition required to actuate a control rod block. Item 2 makes the MCPR limits more restrictive; this cannot create a new or different kind of accident. Item 3 is purely administrative in nature.
- III. The proposed changes do not result in a significant reduction in a margin of safety. Items 1 and 2 are covered in this area by the MCPR limit changes described in their justifications. The change in Item 3 is purely administrative in nature.

Upon approval of these proposed changes, which we request be issued simultaneously, we will need time for procedure updates, etc. We therefore request that your approval be conditioned to become effective 30 days after issuance of the License Amendment.

If you have any questions regarding the proposed changes, please contact Mr. R. Sgarro at (215) 770-7855. Pursuant to 10CFR170.22, the appropriate fees are enclosed.

Very truly yours,



N. W. Curtis

Vice President-Engineering & Construction-Nuclear

Attachments

cc: R. L. Perch - USNRC
D. R. Hoffman - USNRC

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