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SUBJECT: Responds to NRC request for addl info re 881027 application for amend to Licenses NPF-14 & NPF-22. Info supports conclusion that changing channel functional test frequencies for certain instruments to quarterly.

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MAR 20 1991

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Director of Nuclear Reactor Regulation
Attention: Dr. W. R. Butler, Project Director
Project Directorate I-2
Division of Reactor Projects
U.S. Nuclear Regulatory Commission

SUSQUEHANNA STEAM ELECTRIC STATION
SUPPLEMENTAL DRIFT INFORMATION IN
SUPPORT OF PROPOSED AMENDMENTS 116
TO NPF-14 AND 66 TO NPF-22:
RPS STIS AND AOTS
PLA-3428 FILES A17-2/R41-2

Docket Nos. 50-387
50-388

Reference: PLA-3102, H. W. Keiser to W. R. Butler, "Proposed Amendments 116 to License No. NPF-14 and 66 to License No. NPF-22: Revision to RPS AOTS and STIS", dated October 27, 1988.

Dear Dr. Butler:

At the request of Mr. Sang Rhow of the NRC staff, PP&L has recently completed a review of Reactor Protection System (RPS) surveillance test results. The purpose of this review was to ensure that actual in-plant data would substantiate the conclusion in the referenced proposal that changing channel functional test frequencies for certain instruments to quarterly would not result in unacceptable drift.

Our method was to review several years of pertinent RPS surveillance data for 4 of the 12 RPS functions. We searched for cases which met the following two criteria:

1. an indication of possible setpoint drift was noted during the performance of a channel functional test, and

2. a channel calibration performed as a result of that indication determined that the setpoint was less conservative than the Technical Specification Allowable Value.

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The instruments associated with 3 of the 4 functions had "clean" records: in no case was an Allowable Value violation discovered as a result of channel functional test indications. This provides direct evidence that, under normal operating conditions, setpoint drift has not been detected during monthly channel functional testing. PP&L does not therefore expect to detect any significant drift on a quarterly frequency; certainly not enough to exceed the Allowable Value.

For the fourth function, Reactor Vessel Water Level - Low Level 3, an anomaly was found. Although the Technical Specifications allow these particular level switches to be calibrated on an 18 month frequency (i.e., "R"), PP&L has been performing them quarterly ("Q"). This frequency was chosen for two reasons:

1. The level instruments providing RPS trips also provide other Technical Specification (but non-RPS) trips which are required to be calibrated quarterly. Both functions provided by these instruments are tested under the same procedure. Therefore, both RPS and non-RPS Technical Specification functions are tested quarterly.

2. Surveillance test data indicates that with a channel functional test frequency of monthly ("M"), quarterly is the maximum acceptable interval between channel calibrations to ensure that Allowable Value violations due to drift are minimized for these switches. Our analysis of the data for these switches results in a conservatively estimated maximum value for monthly setpoint drift of 25% of the margin between the "as-left" setpoint and the Technical Specification Allowable Value. On a quarterly basis, therefore, we expect the average setpoint drift to be no more than 75% of this margin.

Based on this information, PP&L has chosen to make two revisions to the referenced proposal. Both are bounded by the No Significant Hazards Considerations already provided. Marked-up copies of the affected pages are attached.

The first proposed revision is that the channel calibration frequency for the RPS Level 3 switches be changed from "R" to "Q". As stated above, the instruments are already being calibrated on this frequency, all other switches of the same type are already required to be calibrated on this frequency, and test data supports this frequency. The second proposal is to the channel functional test frequencies for the instruments providing the RPS level trips. The referenced proposal changed them from

"M" to "Q". Because the channel calibration by definition must and does include the channel functional test, and the channel calibration is proposed to be changed from "R" to "Q", we are proposing that the channel functional test frequency be changed from "M" to "NA". We do not believe, however, that any possible reduction in drift warrants a calibration interval longer than quarterly at this time.

Based on the discovery of the need for these changes to our original proposal, PP&L has gone back and determined that no other RPS instruments have been tested on a more frequent basis than required by the Technical Specifications for other than short-term troubleshooting purposes. Our conclusion is that the one set of RPS level switches was an isolated problem that is corrected by this proposal.

The above information is sufficient to show that the RPS instrumentation at Susquehanna will not drift unacceptably over the proposed quarterly interval. Any questions on this supplemental response should be directed to Mr. R. Sgarro at (215) 770-7916.

Very truly yours,

H. W. Keiser

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector
Mr. J. J. Raleigh, NRC Project Manager