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SUBJECT: Forwards proposed Amends 158 & 111 to Licenses NPF-14 & NPF-22,respectively,changing leak detection sys,per GL 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping."

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APR 16 1993

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SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT 158 TO LICENSE NO. NPF-14
AND PROPOSED AMENDMENT 111 TO LICENSE NO. NPF-22:
CHANGES TO LEAKAGE DETECTION SYSTEMS IN
ACCORDANCE WITH THE GENERIC LETTER 88-01 **Docket Nos. 50-387**
PLA-3961 **FILES A17-2/R41-2** **and 50-388**

Reference: PLA-3937, H. W. Keiser to USNRC, "Amended Response to Generic Letter 88-01: Anticipated Schedule for Completion", dated 3/11/93.

Dear Mr. Miller:

The purpose of this letter is to propose changes to the Susquehanna SES Unit 1 and 2 Technical Specifications. Specifically, these changes respond to NRC requested actions in Generic Letter 88-01 ("NRC Position On IGSCC in BWR Austenitic Stainless Steel Piping"), relating to allowed rate of Unidentified Leakage, allowed outage time of leakage measurement instrumentation and the ACTION times associated with the Leakage Detection System.

BACKGROUND

On January 25, 1988 the NRC issued Generic Letter (GL) 88-01, requesting Boiling Water Reactor (BWR) licensees and construction permit holders to furnish plans relating to pipe replacement, inspection, repair, and leakage detection in order to reduce the potential for pipe cracking and minimize the need for augmented inspection resulting from Intergranular Stress Corrosion Cracking (IGSCC). In addition, GL 88-01 requested licensees to submit Technical Specification changes to include a statement in the section on Inservice Inspection (ISI) that the ISI Program for piping covered by the scope of GL 88-01 be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in the Generic Letter. Further, licensees were requested to confirm that the Technical Specifications related to leakage detection are also in conformance with the Staff's Position.

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On February 4, 1992 the NRC issued Supplement 1 to this Generic Letter which provided acceptable alternative staff positions. These alternatives deal with the inspection of the reactor water cleanup (RWCU) system piping outboard of the containment isolation valves and the leak detection requirement pertaining to the operability of leakage measurement instruments and the frequency of monitoring leakage rates. However, the staff position on the unidentified leakage limit remained unchanged from the original Generic Letter at a 2 gpm increase within any 24 hour period.

PP&L submitted its response to the Generic Letter opposing the decrease in the Unidentified Leakage rate and supported industry (BWROG) efforts to justify the current leakage limit of 2 gpm in a 4 hour period. This industry effort was not successful in relaxing the requested leakage limit, but did introduce an extended time period in which to determine the source of this leakage.

DESCRIPTION OF PROPOSED CHANGE

PP&L is proposing the following changes (attached marked-up pages) for both the Unit 1 and Unit 2 Technical Specifications:

Incorporate proposed subsection f. to Surveillance Requirement 4.0.5 to include the Generic Letter verbiage relating to the ISI Program for IGSCC piping and the staff position on schedule, methods, personnel, and sample selection.

Delete the outdated footnote within this same section from the Unit 2 Tech Spec (page 3/4 0-2).

LCO 3.4.3.1, ACTION a. is proposed to be revised in accordance with guidance provided in Supplement 1 of the GL to allow continued operation for 30 days with the floor drain sump level monitoring (instrument) system being inoperable provided an alternate means of monitoring this sump's flow rate is available.

SR 4.4.3.2.1.b. is proposed to be revised to extend the intervals for monitoring the drywell floor drain sump levels from once per 4 hours to once per 12 hours.

LCO 3.4.3.2.e. is proposed to be modified as required by the Generic Letter and decrease the unidentified leakage rate limit to a 2 gpm increase within any 24 hour period. However, this leakage rate limit is to be measured relative to the steady state value and is only applicable in Operational Condition 1 when operating pressures and temperatures have been established. Additionally, ACTION Statement e. is also proposed to be revised to allow up to 12 hours to identify the source of the leakage increase as not IGSCC related. Associated Bases are also proposed to be changed to reference GL 88-01.

SAFETY ANALYSIS

The Reactor Coolant System (RCS) Leakage Detection System is provided to monitor and detect leakage from the reactor coolant pressure boundary (RCPB). Limits on leakage from the RCPB are required so that appropriate actions can be taken prior to the integrity of the RCPB becoming impaired. These limits had been based on the predicted and experimentally observed behavior of cracks in pipes.

Since the discovery of significant numbers of cracked weldments in operating BWRs, a substantial amount of research has been undertaken by both the industry and the NRC. This research has focused on the study of crack development and growth (IGSCC) in RCS piping resulting in the NRC establishing new limits which have been delineated in Generic Letter 88-01.

Of main concern to PP&L regarding these new limits is the decrease in allowable Unidentified Leakage Rate which has the potential of increasing drywell entries and radiation exposures. To minimize this concern, the applicability of this proposed requirement is being limited to Operational Condition 1 upon reaching steady state pressure and temperature conditions (consistent with NUREG 1433). It is believed that for Operational Conditions 2 and 3 the major source of leakage will be from known sources such as valve packing and pump seal weeping. If leakage is identified during these operational conditions, activities are continued until steady state conditions are established, thus allowing the leakage rate requirement to be limited to Operational Conditional 1 only. The 5 gpm requirement remains applicable in Operational Conditions 1, 2, and 3. In addition to this reduced leakage rate, the allowable time to determine the source of this leakage has been increased from 4 hours to 12 hours based on a more realistic approach for initiating this investigation due to operational procedure constraints , thus providing sufficient time for valve cycling and other investigative efforts.

As for the ISI Program, PP&L's Inservice Inspection Program is documented in each of the Unit specific Inservice Inspection Manuals and is in full compliance with the NRC's Staff Position for schedule, methods, personnel and sample expansion. As for the Unit 2 footnote, it is outdated and therefore is no longer necessary.

Finally, changes to the monitoring of the floor drain sump level have been proposed based on the unnecessary administrative hardships for plant operators of monitoring this level every 4 hours. It has been concluded based on extensive operating experience, that RCS leakage measurements can be effectively taken at least once per shift, recognizing a 12 hour shift and not cause any decrease in safety. Additionally, Supplement 1 is allowing alternate means (manually pumping the sump or measuring the differences in sump level) of measuring sump level for 30 days should the primary means of measuring this level become inoperable. These alternate means will allow sufficient time for restoring the inoperable sump level monitoring.

Susquehanna has the capability of manually pumping both drywell sumps to determine leakage rate and sump levels.

These proposed changes follow the requested actions of this Generic Letter and its Supplement, and incorporate subsequent NRC/Industry agreements. No safety impacts to the operation of Susquehanna have been identified since it is the intent of these requested actions to improve safety and provide for earlier detection.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

The proposed change does not:

1. **Involve a significant increase in the probability or consequences of an accident previously evaluated.**

   Incorporation of the more restrictive leakage limit is intended to improve the timeliness of detecting any RCS leakage and to allow for any required action to occur earlier. Limiting the applicability of this leakage rate along with increasing the time allowed for determining its source is intended to prevent any unnecessary plant shutdowns and subsequent equipment transients. Additionally, changes to the monitoring of this leakage level are proposed to reduce operator burden and further enhance overall plant operation, thus decreasing the probability of previously evaluated events. The consequences of those events are not changed by this proposal. The administrative correction to delete the outdated footnote has no safety impact.

2. **Create the possibility of a new or different kind of accident from any accident previously evaluated.**

   As stated above these proposed changes are intended to improve the early detection of RCS leakage while enhancing operator availability for determining this source of leakage by the elimination of unnecessary burdens. Limiting of the Applicability to Operational Condition 1 will assure that steady state conditions have been established, while increasing the time to conduct thorough investigations. Therefore these changes will not create the possibility of a new or different kind of event.

3. **Involve a significant reduction in a margin of safety.**

   The motivation for proposing these changes is to improve the detection capabilities of the operator by incorporating stricter limits and eliminating some unnecessary burdens, thus increasing, not decreasing the margin of safety.

ENVIRONMENTAL CONSEQUENCES

No change to the design basis of Susquehanna is being proposed by this change. Therefore, no environmental consequences that have not been considered previously are anticipated.

IMPLEMENTATION

It is requested that approval of this change be conditioned to become effective 90 days after issuance to provide time for necessary procedure changes.

Questions regarding this request should be directed to Mr. A. K. Maron at (215) 774-7852.

Very truly yours,

R. G. Byram

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector
Mr. R. J. Clark, NRC Sr. Project Manager
Mr. W. P. Dornsife, Pa Dept. of Environmental Resources