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 BYRAM, R.G. Pennsylvania Power & Light Co.
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SUBJECT: Forwards Proposed Amends 193 & 148 to Licenses NPF-14 & NPF-22, respectively, deleting remaining chlorine detection requirements from TS.

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MAY 31 1996

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**SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 193 TO LICENSE NPF-14 AND
PROPOSED AMENDMENT NO. 148 TO LICENSE NPF-22:
DELETION OF REMAINING CHLORINE DETECTION
REQUIREMENTS FROM TECHNICAL SPECIFICATIONS
PLA-4409 FILE R41-2**

Docket Nos. 50-387
and 50-388

- References:
- 1) PLA-4212 from Mr. R. G. Byram to USNRC, "Proposed Amendment No. 174 to License NPF-14 and Proposed Amendment No. 128 to License NPF-22: Deletion Of Chlorine Detection Requirements And Associated Bases From Technical Specifications," dated October 28, 1994.
 - 2) PLA-4305 from R. G. Byram to USNRC, "Request for Additional Information On SSES Technical Specification Change Deleting Chlorine Detection Requirements And Bases," dated April 18, 1995.
 - 3) USNRC to Mr. R. G. Byram, "Amendment No. 147 To Facility Operating License NPF-14, Amendment No. 117 To Facility Operating License NPF-22, And Safety Evaluation," dated June 19, 1995.
 - 4) PLA-4345 from Mr. R. G. Byram to USNRC, "Proposed Correction To Amendment On Chlorine Detection Requirements," dated August 1, 1995.

This purpose of this letter is to forward a proposed amendment to the Susquehanna SES Unit 1 and Unit 2 Technical Specifications. The proposed change deletes the remaining surveillance requirements for chlorine detection found in Technical Specification Control Room Emergency Outside Air Supply System (CREOASS), Surveillance Requirement 4.7.2.d.2. that were inadvertently omitted from our original proposal in the above referenced PLA-4212. As previously discussed with Mr. C. Poslusny, the deletions noted on the attached pages are bounded by the 'Safety Assessment' and 'No Significant Hazards Considerations' provided in PLA-4212, as well as the additional information regarding probability of hazardous off-site chlorine release provided in the above referenced PLA-4305. The 'Safety Assessment' and 'No Significant Hazards Considerations' attached to this letter are similar to those referenced above

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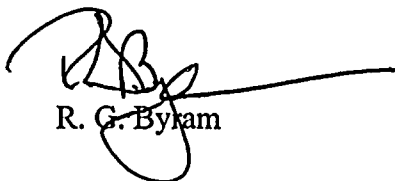
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with appropriate revisions made to account for the present proposed change. Also the attached 'Safety Assessment' and 'No Significant Hazards Considerations' state the acceptability of the biocide currently being used to control the growth of microorganisms in open cooling water systems.

If you have any questions, please contact Mr. R. D. Kichline at (610) 774-7705.

Very truly yours,



R. G. Byram

Attachments

copy: NRC Region I
Ms. M. Banerjee, NRC Sr. Resident Inspector - SSES
Mr. C. Poslusny, Jr., NRC Sr. Project Manager - Rockville
Mr. W. P. Dornsife, Pa. DEP



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SAFETY ASSESSMENT***DELETION OF CHLORINE DETECTION SURVEILLANCE REQUIREMENTS
FROM TECHNICAL SPECIFICATIONS***

BACKGROUND

In the past, bulk quantities of gaseous chlorine were used at Susquehanna SES to control the growth of microorganisms in the open cooling water systems (circulating water and service water) to prevent the fouling of heat exchangers and cooling tower fill with biomass. The chlorine detection system is designed to automatically shut off all isolation dampers and related fans and close off the outside air intake of the control structure HVAC systems in the event of a chlorine release. With the removal of the bulk quantity of gaseous chlorine from Susquehanna SES, replaced by an oxidizing biocide with non-gaseous/non-volatile properties, this automatic function is no longer required. In addition, there no longer exists the need to perform the Control Room Emergency Outside Air Supply System (CREOASS) surveillance requirements per Technical Specification 4.7.2.d.2.

DESCRIPTION OF CHANGE

This proposed change deletes Technical Specification 4.7.2.d.2. CREOASS Surveillance Requirement.

Refer to the attached marked-up Technical Specifications.

SAFETY ANALYSIS

Deletion of the chlorine detection system requirements from Technical Specifications does not adversely impact the integrity, function, or performance of any plant safety related system, function, or equipment. Elimination of gaseous chlorine for use as a biocide and the low probability of an offsite chlorine release also obviates the need to meet the requirements of Reg. Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release", January, 1977.

As mentioned above, with the removal of the bulk quantity of gaseous chlorine from Susquehanna SES, automatic shut off of isolation dampers and related fans and isolation of the outside air supply to the control structure in the event of a chlorine release is no longer required. However, control room isolation may still be manually controlled by operators to mitigate the consequences of an improbable off-site release of chlorine. In addition, self contained breathing apparatus is available for use.

Since gaseous chlorine is no longer used for circulating water/service water treatment at Susquehanna SES and since the biocide currently used does not pose the same personnel inhalation threat as gaseous chlorine, safety margin has actually increased. The removal from Technical Specifications of the heretofore required surveillance does not reduce the margin of safety.

In a study to investigate the risk of a hazardous off-site chlorine release, the risk frequency of such a release is shown to be less than the Standard Review Plan lower radioactivity release frequency limit of $1E-7$ /year. Our study concluded that the current chlorine shipping frequency is less than the minimum considered significant in Reg. Guide 1.78, "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release", June, 1974. Thus, off-site chlorine release is judged to be insignificant for radiological impact on the safety and health of the public. Further, because of the amount of chlorine released, any "puff" is expected to pass the station in minutes. Self contained breathing apparatus and manual control room isolation are available to mitigate the on-site consequences of off-site chlorine release.

Deletion of the Technical Specification surveillance requirement 4.7.2.d.2. will have no impact on operator performance. As stated above, given the unlikely release of chlorine at Susquehanna SES from an off-site source, self contained breathing apparatus and manual control room isolation are available to mitigate the on-site consequences. Therefore, the proposed Technical Specification change would not result in a reduction in performance of or protection for control room operators.

Based on the above, the proposed change would maintain a level of plant safety equivalent to that when the original technical specification for chlorine detection systems became part of the Susquehanna SES operating license.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

- I. *This proposal does not involve a significant increase in the probability or consequences of an accident previously evaluated.*

Review of the various design basis accidents identified in Chapter 15 of the Susquehanna SES Final Safety Analysis Report (FSAR) concluded that none of these accidents are affected by deletion of the chlorine detection surveillance requirement from Technical Specifications. With the elimination of bulk quantities of gaseous chlorine from use at Susquehanna SES the probability of control room inhabitability due to a gaseous chlorine release has actually decreased. Therefore, this proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

- II. *This proposal does not create the possibility of a new or different kind of accident from any accident previously evaluated.*

The proposed change involves only the deletion of the chlorine detection system Technical Specifications based upon a plant modification to remove gaseous chlorine as a biocide from Susquehanna SES and replace it with an oxidizing biocide with non-gaseous/non-volatile properties. The release of chlorine from an off-site source is bounded by Reg. Guide 1.95 in that manual isolation capability for the control room ventilation system is acceptable. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- III. *This change does not involve a significant reduction in a margin of safety.*

The proposed change would not alter the margins of safety provided in the existing FSAR analysis (Sections 2.2.3.1.3 and 6.4) for chlorine release events since the basis for the existing margin of safety, which are the Reg. Guide 1.95 requirements, are not altered by the change. As stated above, since gaseous chlorine is no longer used for open cooling water treatment at Susquehanna SES and since the biocide currently used does not pose the same personnel inhalation threat as gaseous chlorine, safety margin has actually increased. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed Technical Specification change does not involve a significant hazards consideration.

IMPLEMENTATION

Pennsylvania Power & Light Company requests that this change be approved by May 15, 1996 in order to avoid unnecessary surveillances.