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SUBJECT: Forwards Proposed Amends 174 & 128 to Licenses NPF-14 & NPF-22, respectively, deleting chlorine detection requirements & associated bases from TS as result of removal of bulk quantities of gaseous chlorine from SSES.

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U.S. Nuclear Regulatory Commission
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**SUSQUEHANNA STEAM ELECTRIC STATION
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
PLA-4212 FILE R41-2**

Docket Nos. 50-387
and 50-388

Dear Sir:

The 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 requirements for chlorine detection and the associated Bases from Technical Specifications as a result of removal of bulk quantities of gaseous chlorine from Susquehanna SES.

If you have any questions, please contact Mr. J. B. Wesner at (610) 774-7911.

Very truly yours,


R. G. Byram

Attachments

cc: 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. DER

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SAFETY ASSESSMENT

*DELETION OF DETECTION REQUIREMENTS AND
ASSOCIATED BASES 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 a nonoxidizing biocide, this automatic function is no longer required. In addition, there no longer exists the need to perform the surveillance requirements per Technical Specification 4.3.6.7 or to comply with the action statement of Technical Specification 3.3.7.8 associated with the storage and/or use of gaseous chlorine on site.

DESCRIPTION OF CHANGE

This proposed change deletes Technical Specification 3.3.7.8, "Chlorine Detection System" and the associated Surveillance Requirements in 4.3.7.8. This proposed change also deletes Technical Specification Bases 3/4.3.7.8, "Chlorine Detection System".

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 nonoxidizing biocide is relatively nontoxic to humans, safety margin has actually increased. The removal from Technical Specifications of the heretofore required surveillances and action statements 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.

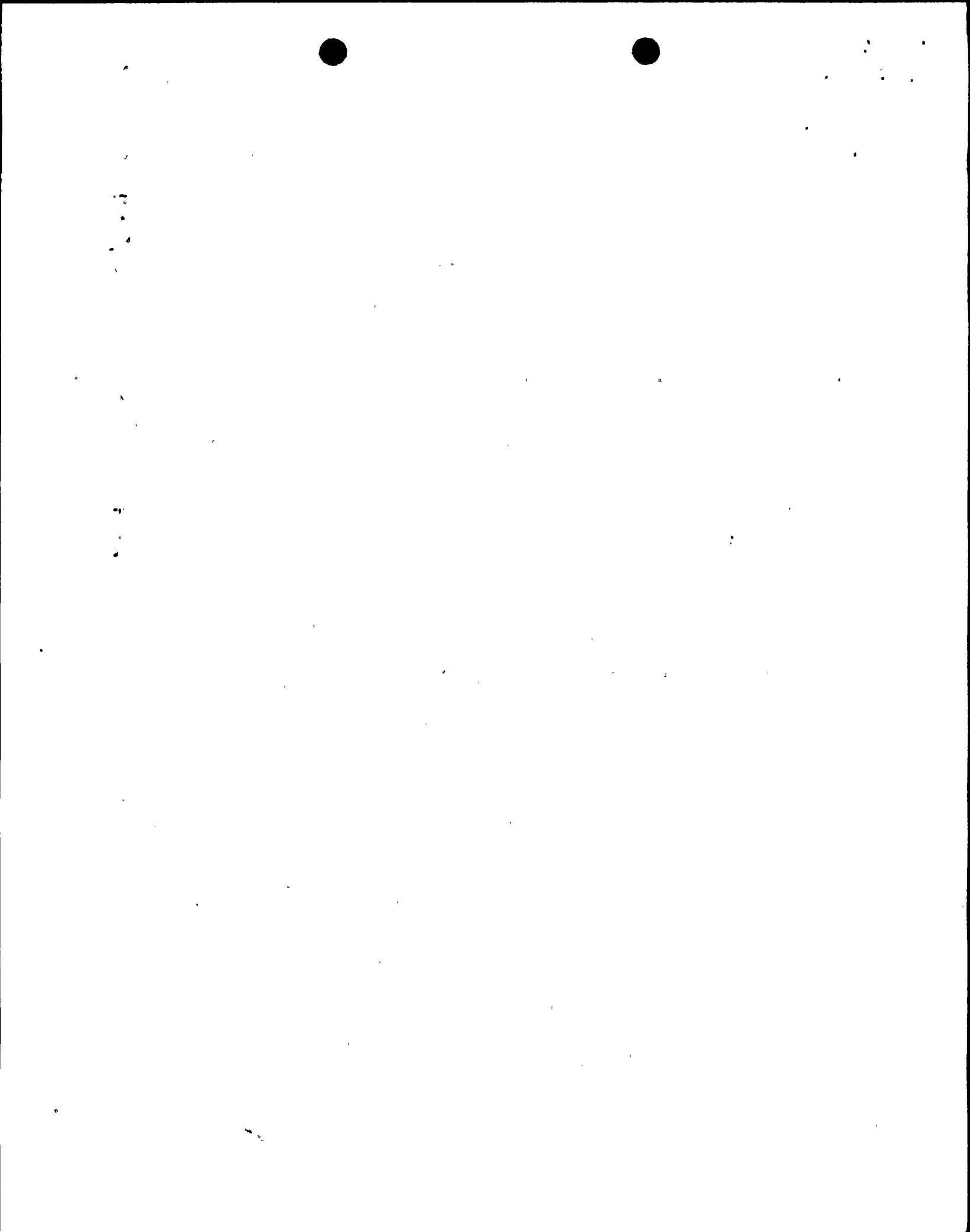
Deletion of the Technical Specification surveillance requirements and action statements will have no impact on operator performance. As stated above, given the unlikely release of chlorine at Susquehanna SES from an off-site source, self contained breathing apparatus and manual control room isolation are available to mitigate the on-site consequences. Therefore, the proposed Technical Specification change to delete the chlorine detection system applicability requirement 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 requirements 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 a nonoxidizing biocide. 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 nonoxidizing biocide is relatively nontoxic to humans, 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 March 15, 1994 in order to avoid unnecessary surveillances.