

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 109 TO FACILITY OPERATING LICENSE NO. DPR-61 CONNECTICUT YANKEE ATOMIC POWER COMPANY HADDAM NECK PLANT

DOCKET NO. 50-213

INTRODUCTION

Pursuant to 10 CFR 50.90, Connecticut Yankee Atomic Power Company (CYAPCO) proposes to amend the Operating License No. DPR-61 for the Haddam Neck Plant. By letter dated September 13, 1988, CYAPCO proposed to incorporate a new section of sprinkler protection in the turbine building into Technical Specification Section 3.226., "Spray and/or Sprinkler Systems" and to reduce the number of smoke detectors available in the containment from 23 to 22 as delineated in Table 3.22-2, "Fire Detection Instruments."

DISCUSSION

Spray and/or Sprinkler Systems

The proposed change to the Haddam Neck Technical Specification Section 3.22G., "Spray and/or Sprinkler Systems," incorporates a new section of sprinkler protection in the turbine building from column lines C and D between column numbers 8 and 12 under the 59' 6" elevation. The structural steel located between column lines C and D and column numbers 8 and 12 supports the control room which is an area containing redundant safe shutdown equipment. In addition to the rew section of sprinkler protection in the turbine building, CYAPCO is upgrading the fire watch patrol requirement from a roving patrol to a continuous fire watch should the sprinkler system in the area be declared inoperable. The upgrading of the fire watch requirement is consistent with fire watch requirements in other areas of the plant where redundant safe shutdown components could be damaged.

Fire Detection Instruments

The proposed change to Table 3.22-2 reduces the number of smoke detectors in the containment from 23 to 22. CYAPCO has evaluated the detection system which was installed as part of the original plant design and determined that the detector located behind the service elevator is not required. The original design of the outer annulus (lower level) detection system consisted of 19 Pyrotronics detectors located around the annulus area. This included one detector behind the service elevator. Four additional detectors were

8812090218 881206 PDR ADOCK 05000213 installed in the upper level of the annulus as part of the BTP 9.5-1, Appendix A modifications, bringing the total number of detectors to 23. The intent of this system is to provide fire detection for the cable trays located in the area.

EVALUATION

Spray and/or Sprinkler Systems

CYAPCO has provided additional sprinkler system coverage in the turbine huilding under the control room. The capability to control and/or extinguish postulated fires in this area will preclude the development of a fire of sufficient magnitude to damage the structural steel supporting the control room and enclosed redundant safe shutdown components. Should the sprinkler system be declared inoperable, a continuous fire watch will be maintained for the area under the control room. The current requirement for a roving fire watch in all other areas of the turbine building remains unchanged should the sprinkler system in those areas be declared inoperable. The change constitutes an additional control not presently included in the Technical Specifications. In addition, the fire watch requirement for this area (continuous fire watch) is more restrictive than the present fire watch requirement for this area.

Fire Detection Instruments

CYAPCO proposed to remove detector #5 from the containment. Detector #5 was noted on the original design drawings to be located on the ceiling within a small confined area behind the service elevator in the lower annulus area. This area is bounded by a steel column at column line 17 to the east and by steel plates attached to the elevator wall on the west. The back wall of the elevator sits out approximately 18" from the containment liner, thereby creating a small, inaccessible, confined area. There are no exposed cable runs or other in-situ combustibles located in this area. Due to the inaccessibility of the area, CYAPCO determined that transient combustibles are not a concern. Detector #6 is located adjacent to this area (between column lines 17 and 18) and provides general area coverage for transient combustibles in the area and the area in front of the service elevator. Therefore, detector #5 serves no effective purpose and can be eliminated. Moreover, the coverage provided by detector #6 tor the area behind the elevator is in accordance with NFPA 72E, Standard on Automatic Fire Detectors.

Summary

Based on the considerations discussed above, we have concluded that the addition of the new sprinkler section provides more restrictive operability requirements and the proposed change will result in added assurance that fire suppression and detection will be available. In addition, we have determined that the deletion of detector #5 from containment is warranted as it provides no additional fire detection than that provided by detector #6.

ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Fart 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR §51.22(c)(9). Pursuant to 10 CFR §51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be encangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Cated: December 6, 1988

Principal Contributor Alan B. Wang