



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 127

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

INTRODUCTION

By applications for license amendments dated December 23, 1987 and February 3, 1988, Northeast Nuclear Energy Company (the licensee/NNECO) requested changes to the Technical Specifications (TS). The changes would revise the TS to delete the chlorine detection system from Technical Specification (TS) 3/4.3.3.6. In addition, the proposed changes would revise TS Table 3.9-1, "Access Doors to Spent Fuel Pool Area," to reflect the installation of a new access door to the spent fuel pool area.

DISCUSSION AND EVALUATION

The chlorine detection system was placed in the Control Room Ventilation System to assure the habitability of the control room in the event of an on-site chlorine release or an off-site chlorine release with potential on-site consequences. The chlorine of concern was 55 tons, stored in a railroad tank car, for use in water treatment. The chlorination systems of Millstone Units 1, 2 and 3 have been modified to use sodium hypochlorite solution instead of gaseous chlorine. Therefore, the on-site storage of liquid chlorine has been eliminated.

Chlorine rail traffic on the Amtrack right-of-way through Northeast Utilities property was a concern because of the close proximity to Millstone Unit No. 2 (1700 feet) and the large quantity of chlorine contained in a rail tank car (typically 55 tons). NNECO contracted Providence and Worcester Railroad (P&W) to perform a Millstone Nuclear Power Station Chlorine Rail Traffic Study. The results of this study indicated that there was no chlorine rail traffic on this right-of-way in 1986 and for the years 1983 through 1985 the average chlorine rail traffic was two carloads per year. Based upon the data obtained for the years 1983-1986, NNECO does not anticipate any increase in the chlorine rail traffic in the vicinity of the Millstone Station. However, in order to monitor any future changes, NNECO has contracted with P&W to provide NNECO with annual updates to the Millstone Nuclear Power Station Chlorine Rail Traffic Study through the year 1991. NNECO determined that shipments of liquid chlorine by barge or truck will have no adverse impact on the safety of the Millstone Station, due to the decreasing use of Long Island Sound as a shipping channel and the four mile distance of the nearest interstate highway from the site.

Regulatory Guide 1.78 specifies that only infrequently shipped hazardous chemicals need to be addressed in the plant design. Frequent shipments are defined in Regulatory Guide 1.78 as exceeding 10 per year for truck shipments, 30 per year for rail shipments, and 50 per year for barge shipments. The chlorine shipments identified above are below these thresholds.

NNECO has evaluated the potential effect of chlorine released from an off-site chlorine bulk storage facility and has determined that no hazard exists. The New London Water Treatment Facility was identified as a bulk storage facility of chlorine which utilizes two ton cylinders and is located four miles from Millstone Unit No. 2. Based on the small containers utilized and the four mile distance, the New London Water Treatment Facility does not represent a credible hazard to the Millstone Unit No. 2 Control Room (as per Regulatory Guide 1.78).

The Pfizer Pharmaceutical Company was also identified as a bulk storage facility of chlorine. This facility utilizes rail tank cars for chlorine storage and is located five miles from Millstone Unit No. 2. Regulatory Guide 1.78 states that "chemicals stored at distances greater than five miles from the facility need not be considered because if a release occurs at such a distance, atmospheric dispersion will dilute and disperse the incoming plume to such a degree that there should be sufficient time for the Control Room operators to take appropriate action." Based on this principle, the Pfizer Pharmaceutical Company storage facility was evaluated and determined not to be a hazard to Millstone Unit No. 2.

In summary, based upon the elimination of on-site chlorine bulk storage, verification of low chlorine rail frequency, and the absence of potentially hazardous off-site chlorine bulk storage facilities, the elimination of the Millstone Unit No. 2 Technical Specification requirements for Control Room Ventilation System Chlorine Detectors in TS 3/4.3.3.6 is acceptable.

With regard to the spent fuel pool access door, Table 3.9-1 of the TS contains a list of access doors to the spent fuel pool area which are subject to the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) of TS 3/4.9.14, "Storage Pool Area Ventilation System - Fuel Movement." The licensee proposes to amend the list of doors in TS Table 3.9-1 by adding Door 274 which is a single door located in the area below the mezzanine in the auxiliary building.

Door 274 was installed in a manner which maintains the structural integrity of the auxiliary building walls. In addition, Door 274 is of the same design, including provisions for fire protection, as doors already incorporated in TS Table 3.9-1.

During fuel movement, or movement of loads over the spent fuel pool, TS 3.9.14 requires the access doors in TS Table 3.9-1 to be closed and the Enclosure Building Filtration System, operating in the auxiliary exhaust mode, to be in operation. Thus, in the event of a fuel or heavy load accident in the spent fuel pool, any air leakage due to Door 274 would be into the spent fuel pool area thus preventing an unfiltered release. In addition, Door 274 was designed and installed so as to retain the original structural design margins for the auxiliary building and provide an equivalent level of fire resistance to that provided by other access doors to the spent fuel pool area.

Based upon the above, the proposed change to TS Table 3.9-1 is acceptable.

#### ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. 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 endangered 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.

Dated: March 28, 1988

Principal Contributor: D. H. Jaffe