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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 18 TO FACILITY LICENSE NO. DPR-3

CHANGE NO. 123 TO THE TECHNICAL SPECIFICATIONS

YANKEE ATOMIC ELECTRIC COMPANY

YANKEE NUCLEAR POWER STATION (YANKEE-ROWE)

DOCKET NO. 50-29

Introduction

By application dated August 13, 1975, and supplement dated November 3, 1975, Yankee Atomic Electric Company (the licensee) proposed certain modifications to the plant exhaust air systems including the installation of filters for removing radioactive particulates and iodine in the exhaust air. This proposal involves the replacement of descriptive pages in Section 209 "Radioactive Waste Disposal System," Section 216 "Vapor Container Atmosphere Control System," and Section 228 "Ventilation Systems" of the Final Hazards Summary Report which are incorporated in the Technical Specifications appended to License No. DPR-3 for the Yankee-Rowe reactor.

Discussion

Exhaust air from potentially contaminated areas in the primary auxiliary building, the waste disposal building, the spent fuel pool building and the vapor container at Yankee-Rowe are conveyed by the plant exhaust air systems to the primary vent stack for controlled release to the environs. Presently, these plant exhaust air systems do not include necessary provisions for filtering the exhaust air. In their August 13, 1975 submittal the licensee proposed to upgrade the plant exhaust air systems in an effort to reduce releases of activity in airborne effluent to the environs as low as practical. The modifications involve changes of the systems duct work and the installation of filter assemblies and fans for conveying the exhaust air through the new filter assemblies. Specifically, these modifications will provide the following features:

1. The air exhaust from the Waste Disposal Building (WDB) and the Spent Fuel Pool Building (SFPB) will be ducted to the Mechanical Equipment Room #3 where they are combined with the exhaust air from the Primary Auxiliary Building (PAB). The combined exhaust air stream will then be conveyed through a 23,000 cfm filter assembly consisting of

prefilters, high efficiency particulate air (HEPA) filter and charcoal adsorbers to remove radioactive particulates and radioiodines before it is discharged from the primary vent stack.

2. The vapor container ventilating and purge air exhaust streams will be handled and filtered by an identical filter system (filter assembly and associated fan) before it is being discharged from the primary vent stack. This filter system is also installed in the Mechanical Equipment Room #3.

3. The two new filter trains and the associated fans are identical and their suction ducts are cross-connected so that either train can be used to filter the PAB/WDB/SFPB or the containment air exhausts and either fan can be used in conjunction with either filter train. In addition both filter systems can be operated simultaneously.

4. Air and gaseous vents from the condenser air ejector. the waste disposal systems and the vapor container (ranging in size from one to four inches) will be repiped so that the vented gases are filtered before they are discharged from the primary vent stack.

Evaluation

We have reviewed the description and P&ID's provided by the licensee for the proposed addition of charcoal adsorption and high efficiency filter trains to the PAB/WDB/SFPB and the containment (purge) air exhaust systems. We find that the proposed modifications are consistent with current industry practices and state-of-the-art technology. These trains will reduce the radioactive particulate materials and radioiodines from the plant vent in air exhaust lines that previously were untreated. Flow rate, pressure drop and humidity instrumentation will be provided to advise the operator of the performance of each train unit. There are no bypass lines on the train units. The proposed modifications do not involve an unreviewed safety question.

Based on our review of the information submitted by the licensee, we find that the proposed modifications to the plant exhaust air systems, including the installation of filter trains, provide the necessary features that will significantly improve the capability to maintain routine releases of radioactivity in airborne effluent to the environs as low as practicable. We therefore conclude that modifications as proposed by the licensee in their August 13, 1975 submittal are acceptable. The modifications will be completed during the present outage for refueling Yankee-Rowe with Core XII. The modified plant exhaust air systems will be placed into service upon resumption of operation with Core XII.

Conclusion

We have concluded based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not invovle a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: NOV 1 2 1975