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

April 23, 1980

Docket No. 50-29

Mr. James A. Kay
Senior Engineer-Licensing
Yankee Atomic Electric Company
25 Research Drive
Westborough, Massachusetts 01581

Dear Mr. Kay:

We have reviewed your submittals dated July 2, October 9 and November 13, 1979, relating to the incomplete fire protection program items for Yankee-Rowe, identified in our Safety Evaluation (SER) dated March 15, 1979.

Based on our review, the status of the incomplete items is presented in Enclosure 1. As indicated in Enclosure 1 we find the water suppression system for the auxiliary boiler room to be acceptable. Enclosure 1 also identifies specific items for which we need additional information. We advised you of this need by telephone. Enclosure 2 summarizes our requirements to resolve the open issues relating to specific SER, 3.1 items. Our consultant, Brookhaven National Laboratory (BNL) has assisted us in the review. BNL's March 24, 1980, letter with their Yankee-Rowe Fire Protection Review report are included as Enclosure 3.

You are requested, within 30 days from receipt of this letter, to provide the needed information indicated in Enclosure 1 and to respond regarding your intentions to meet our requirements identified in Enclosure 2.

Sincerely,
Dennis L. Ziemann
Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosures: As stated

THIS DOCUMENT CONTAINS
POOR QUALITY PAGES

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STATUS OF RESOLUTION OF INCOMPLETE ITEMSFIRE PROTECTION PROGRAM FORYANKEE-ROWE

<u>SER Item</u>	<u>Staff Evaluation</u>	<u>Licensee Response Due</u>
3.1.1 Fire Detection Systems (c) Containment	Requirement*	30 days
3.1.5 Water Suppression Systems (b) Diesel Generator Room	Requirement	30 days
(c) Hydrogen Seal Oil Unit	Requirement	30 days
(d) Turbine Building	Requirement	30 days
(e) Auxiliary Boiler Room	Complete	
3.1.6 Foam Suppression System	Information	30 days
3.1.7 Gas Suppression System	Requirement	30 days
3.1.12 Control of Combustibles (c) Diesel Fuel Line	Requirement	30 days
(d) Structural Steel Beams	Requirement	30 days
3.2.1 Smoke Detection Systems Tests (1) In-Situ	Deferred to BNL**	
(2) Bench Tests	Information	30 days
3.2.2 Fire Water Supply	Information	30 days
3.2.3 Shutdown Capability	Deferred to SEP	

* All requirements are summarized in Enclosure 2.

** Criteria being developed by BNL.

SUMMARY OF REQUIREMENTS TO RESOLVE SER 3.1 ITEMS
OF FIRE PROTECTION PROGRAM FOR
YANKEE-ROWE

3.1.1 Fire Detection Systems

(c) Containment

1. We will require early warning fire detection capability to be provided over in-situ and transient combustibles.

3.1.5 Water Suppression Systems

(b) Diesel Generator Room Sprinkler System

1. We will require the use of 1/4 turn fire protection valves for use with the reach rods for remote actuation capability on the fire protection valves.

(c) Hydrogen Seal Oil Unit

1. We will require that the special hazards system be supplied from a separate connection to the looped plant fire protection header and that appropriate isolation valves be provided to assure that a single failure will not impair both the special hazard and turbine building sprinkler system.

(d) Turbine Building

1. In reviewing the drawings submitted by the licensee, we were not able to determine whether there was a cross connection between the special hazards system and the turbine building sprinkler system. Therefore, we will require that the special hazard system (column water sprays and hydrogen seal and turbine oil cooler deluge system) be isolated from the turbine building sprinkler systems by removal of any cross connections to the zone 1 sprinkler system and by providing an independent connection to the looped fire protection supply header, with adequate valves installed to isolate the connection from the sprinkler system connection.
2. We will require that the standpipe hose stations be supplied from an independent connection to the looped fire protection supply header and valves added so that a single failure of the fire protection system will not impair both sprinklers and standpipe hose stations.
3. We will require that the turbine building sprinkler systems be expanded to provide complete area protection for the area under the turbine building operating floor.

3.1.12 Control of Combustibles

(c) Diesel Fuel Oil Line

- (1) We will require that the diesel fuel oil line outside the diesel generator rooms be rerouted to preclude exposure of the 480V switchgear and the high and low pressure safety injection pumps.

(d) Diesel Generator Rooms

- (1) We will require a one-hour rated fire retardant coating in accordance with the provisions of ASTM E-119 for the structural steel beams in the diesel generator rooms.

3.1.17 Gas Suppression System

- (1) We will require that the detection system be of the early warning type, i.e. ionization or photoelectric. Actuation of the Halon System shall be either a cross-zoned or matrix pattern, but in either case no more than two detector alarms shall be required for system actuation.

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.

Upton, New York 11973

Department of Nuclear Energy

(516) 345- 2144

March 24, 1980

Mr. Robert L. Ferguson
Plant Systems Branch
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Yankee Rowe, Fire Protection Review, Items 3.1.5 and 3.1.12(d).

Dear Bob:

Enclosed are items 3.1.5, Water Suppression Systems, and 3.1.12(d), Control of Combustibles (d - exposed structural steel D.G. room).

We do not have sufficient information on items 3.1.1, 3.1.6, 3.1.7, 3.1.12(c), 3.2.1, or 3.2.3. Item 3.2.3 is not assigned to us.

This completes the present Brookhaven National Laboratory input to Yankee Rowe.

Sincerely yours,

Robert E. Hall
Robert E. Hall, Group Leader
Reactor Engineering Analysis

REH:EAM:sd
enclosure

cc.: L. Denderian
D. Eisenhut
W. Kato wo/enc.
M. Levine "
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