

October 1, 1982

Docket No. 50-29
LS05-82-10-001

Mr. James A. Kay
Senior Engineer - Licensing
Yankee Atomic Electric Company
1671 Worcester Road
Framingham, Massachusetts 01701

Dear Mr. Kay:

SUBJECT: SUMMARY OF SEP TOPIC DIFFERENCES -
YANKEE NUCLEAR POWER STATION

On September 10, 1982, we forwarded to you a listing of the SEP topics for which Yankee did not meet the current licensing criteria. We also enclosed a summary description for each of the topic differences, except for Topics II-4.E, "Dam Integrity," and III-6, "Seismic Considerations."

The Federal Energy Regulatory Commission (FERC) is currently reviewing Harriman Dam as part of their periodic safety assessment program for power dams. When the FERC review is complete, a management meeting of FERC and NRC personnel will take place to discuss the final evaluation for Harriman Dam and Yankee. We expect to issue the safety evaluation report for Topic II-4.E shortly after that meeting.

Enclosed is the topic difference summary for Topic III-6. Since YAEC has not yet completed the seismic reevaluation of Yankee, the deviations that have been identified could be revised, should new information be presented in the final YAEC seismic report.

The difference summaries for Topics V-10.B, V-11.B, VII-3, and IX-3 have been updated (see enclosure). Please use the enclosure to this letter to update the September 10, 1982 topic difference letter.

Sincerely,

Original signed by:

Ralph Caruso, Project Manager
Operating Reactors Branch #5
Division of Licensing

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PDR ADOCK 05000029
P PDR

Enclosure:
As stated

*SEE PREVIOUS TISSUE FOR CONCURRENCE.

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FMiraglia*
9/30/82

SEOY
DSU USE(11)
ADD:
G. Staley

OFFICE	cc w/enclosure: See next page	SEPB:DL	SEPB:DL	SEPB:DL	ORB#5:PM	ORB#5:BC
SURNAME		MBoyle:dk*	CGrimes*	WRussell*	RCaruso	DCrutchfield
DATE		9/28/82	9/28/82	9/28/82	10/1/82	10/1/82

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The Federal Energy Regulatory Commission (FERC) is currently reviewing Harriman Dam as part of their periodic safety assessment program for power dams. FERC is currently scheduled to complete this review in the next few weeks. When the FERC review is complete, a management meeting of FERC and NRC personnel will take place to discuss the final evaluation for Harriman Dam and Yankee. We expect to issue the safety evaluation report for Topic II-4.E by mid-November.

Enclosed is the topic difference summary for Topic III-6. Since YAEC has not yet completed the seismic reevaluation of Yankee, the deviations that have been identified could be revised, should new information be presented in the final YAEC seismic report.

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Ralph Caruso, Project Manager
 Operating Reactors Branch #5
 Division of Licensing

[Signature]
 AD DL
 FM 10/82
 9/29/82

Enclosure:

As stated

cc w/enclosure:
 See next page

SEPB:DL *MLB*

MBoyle:dk

9/15/82

SEBP:DL *CG*

CGrimes

9/28/82

SEPB:DL *WTR*

WRussell

9/28/82

ORB#5:PM

RCaruso

9/28/82

ORB#5:BC

Dutchfield

9/29/82

Mr. James A. Kay

cc

Mr. James E. Tribble, President
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1671 Worcester Road
Framingham, Massachusetts 01701

Chairman
Board of Selectmen
Town of Rowe
Rowe, Massachusetts 01367

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Boston, Massachusetts 02108

U. S. Environmental Protection
Agency
Region I Office
ATTN: Regional Radiation Representative
JFK Federal Building
Boston, Massachusetts 02203

Resident Inspector
Yankee Rowe Nuclear Power Station
c/o U.S. NRC
Post Office Box 28
Monroe Bridge, Massachusetts 01350

Ronald C. Haynes, Regional Administrator
Nuclear Regulatory Commission, Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

TOPIC NO.

TITLE

III-6

Seismic Design Considerations

10 CFR 50 (GDC 2), as implemented by SRP Sections 2.5, 3.7, 3.8, 3.9, and 3.10 and SEP review criteria (NUREG/CR-0098, "Development of Criteria for Seismic Review of Selected Nuclear Power Plants"), requires that structures, systems and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes. The following differences were identified:

Since YAEC has not yet completed the seismic reevaluation of Yankee, the staff's review was based on preliminary analyses. Therefore, the deviations identified here could be revised, should new information be presented in the YAEC final seismic report.

1. YAEC has evaluated the hot shutdown piping systems to the NRC site specific spectra and the balance of piping systems for cold shutdown and accident mitigation to the Yankee composite spectra. YAEC intends to add a "dedicated hot shutdown system" to the plant and not upgrade the balance of piping systems for cold shutdown and accident mitigation where modifications to restore design allowables have been identified.
2. Structures - The staff has concluded that all safety-related structures are considered capable of withstanding the postulated seismic loads, except for the steel bracing in the turbine and primary auxiliary buildings and for some columns in the diesel generator building. Some masonry walls in proximity to hot shutdown systems have been identified as requiring upgrading.
3. Major Mechanical Equipment and Their Supports - The evaluations for component nozzle integrity and the treatment of major mechanical equipment is not acceptable.
4. Electrical and Other Mechanical Equipment - The equipment similarity and earthquake experience approach is not acceptable by itself.

In order for the staff to complete its evaluation of this topic, the outstanding requested analyses and results should be provided to the staff.

OPIC NO.TITLE

V-10.B RHR System Reliability
V-11.B RHR Interlock Requirements (Systems)
VII-3 Systems Required for Safe Shutdown

10 CFR 50 (GDC 34), as implemented by SRP 5.4.7 and Branch Technical Position RSB 5-1, requires, in part, that a system to remove residual heat be provided with suitable redundancy to assure that for onsite electric power system operation the system safety function can be accomplished, assuming a single failure. 10 CFR 50 (GDC 34) requires, in part, that a system to remove residual heat be provided with suitable location capabilities to assure the safety system function can be accomplished, assuming a single failure.

Yankee meets the acceptance criteria for these topics, except for the following items:

1. The staff concludes that the auxiliary feedwater system does not meet the functional requirements of BTP RSB 5-1, but that proposed modifications would satisfy the functional requirements of BTP RSB 5-1, except that the electrical components are not automatically powered from diesel-supplied electrical buses, although they can be manually connected. TMI Task Action Item II.E.1.1 is further evaluating the reliability of the auxiliary feedwater system.
2. The staff concludes that the shutdown cooling system (SCS), the component cooling water system (CCWS), the service water system (SWS), and the chemical and volume control system (CVCS) satisfy the functional requirements of BTP RSB 5-1, except that the electrical components are not powered from diesel-supplied electrical buses.
3. The staff defers evaluation of the adequacy of the pressure control and relief system to satisfy BTP RSB 5-1 pending resolution of current staff reviews of applicable TMI-2 action items and fire protection requirements.
4. The staff concludes that the control air system does not satisfy the functional requirements of BTP RSB 5-1 in that a reliable source of control air is not available and significant operator action outside the control room would, therefore, be required to effect a safe shutdown.
5. The amount of operator action required to perform the cooldown to cold shutdown is not compatible with the intent of the topic criteria.
6. Due to the potential severity of SCS overpressurization, the staff recommends the following:
 - (a) interlocks to prevent opening of SCS isolation valves until the main coolant system pressure is below SCS design pressure; and
 - (b) valve position indication for the isolation valves in the control room.

The staff has determined that the installation of automatic closure interlocks would not be desirable since two of the three low temperature overpressure protection (LTOP) relief valves are on the SCS, and automatic isolation of the SCS from the reactor coolant system (RCS) would render the LTOP system inoperable. However, in the SEP Integrated Assessment the staff will evaluate the potential need for additional measures, such as control room valve indications, to prevent RCS startup and pressurization with any SCS isolation valves in the open position.

TOPIC NO.

TITLE

IX-3

Station Service and Cooling Water Systems

10 CFR 50 (GDC 44, 45 and 46), as implemented by SRP Sections 9.2.1 and 9.2.2, requires that a cooling water system be provided, inspected and tested, and that the system be capable of transferring heat from structures, systems and components important to safety to the ultimate heat sink.

The staff has determined that the design of the service and cooling water systems is adequate, except for the following:

1. Component Cooling System - The licensee should verify that adequate procedures exist to ensure that emergency power is provided to this system in the event of an accident.

The need for system modification to eliminate potential passive single failures will be evaluated during the integrated assessment.

2. Service Water System - The licensee should verify the existence of procedures which would ensure that system flow requirements are balanced.