

MAY 20 1975

Docket No. 50-29

Yankee Atomic Electric Company  
ATTN: Mr. G. Carl Andognini, Assistant  
to the Vice President  
20 Turnpike Road  
Westboro, Massachusetts 01581

Gentlemen:

This is in reference to the proposed new format Technical Specifications and the Final Hazards Summary Report (FHSR) rewritten in the Final Safety Analysis Report (FSAR) for the Yankee Nuclear Power Station (Yankee-Rowe) which you submitted with your letter dated January 4, 1974.

In the course of our ongoing review of your submittal, we have found that we need additional information identified in the enclosures to this letter. This initial request for additional information covers our review of your proposed Technical Specifications through Section 16.4.8. We will send to you in the near future requests for other additional information including matters relating to the remaining Sections in your proposed Technical Specifications.

In addition to the specific information identified in the enclosures, we request that you update your proposed Technical Specification to reflect all changes to the existing Technical Specifications since January 4, 1975. Your submittal of replacement pages would be acceptable for this purpose. We also request that you list those requirements in the existing Technical Specifications that you have either modified or omitted from your proposed new format Technical Specifications and that you provide justification therefor.

With respect to the new FSAR we request that you identify all items of safety significance that are new or modified compared to such items included in the FHSR.

Please provide us with an estimate of when you will submit the requested information to us. Your estimate would aid us in planning our continuing review of your submittal.

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You should file the additional information in the usual manner as an amendment to your application. Please contact us if you desire additional discussion or clarification of the material requested.

Sincerely,

Original signed by:  
Robert A. Purple

Robert A. Purple, Chief  
Operating Reactors Branch #1  
Division of Reactor Licensing

Enclosures:

1. Request for Additional Information
2. PWR Technical Specifications

cc w/enclosures:

Mr. Donald G. Allen, President  
Yankee Atomic Electric Company  
20 Turnpike Road  
Westboro, Massachusetts 01581

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402 Main Street  
Greenfield, Massachusetts 01581

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REQUEST FOR ADDITIONAL INFORMATIONYANKEE NUCLEAR POWER STATION (YANKEE-ROWE)DOCKET NO. 50-29TEHCNICAL SPECIFICATIONS

1. Specification 16.2.3.A includes design features of the reactor core which are no longer applicable. Revise this Specification to reflect the design features of the operating reactor core that we have reviewed and approved.
2. Specification 16.2.3.B defines the design pressure and temperature of the reactor coolant system as 2500 psig and 650°F. In the Safety Analysis Report the design pressure and temperature of piping and fitting in the primary coolant system are given as 2,285 psig and 550°F, respectively. Explain this apparent discrepancy and revise this specification accordingly.
3. Specification 16.2.4.C sets forth the design features of the containment purge system for venting the containment atmosphere following a LOCA. This system includes an installed charcoal filter for which you have taken credit in the accident analysis. To ensure high confidence that this system will function reliably, when needed, at a degree of efficiency equal to or better than that assumed in the accident analysis, you should propose Limiting Conditions for Operation and Surveillance Requirements for this system to be incorporated in the Technical Specifications. Enclosed for your guidance are model specifications (and bases) for the containment purge system (see Enclosure II) which meet current requirements. Since these were not prepared explicitly for Yankee-Rowe, some editing may be necessary to adapt them to the Yankee-Rowe design and nomenclature.
4. Specification 16.3.1 relating to limiting safety system settings for the Yankee-Rowe reactor protection system should define the setpoints for the "Low Main Coolant Flow-Reactor Scram" in terms of parameters (current to the main coolant pumps) consistent with the existing loss-of-flow instrumentation. The proposed setpoint at 13 inches for the "Steam Generator Low Water Level" should be revised to 15 inches as given in the existing Technical Specification or you should justify this discrepancy. Present Technical Specifications include the setpoint (5.2 dec/minute/max) for the "High Startup Rate-Reactor Scram" which should also be included in your proposed new format Technical Specifications. Although you state in the basis that you have not taken credit for this trip in the accident analysis, it is our position that its functional capability at the presently specified setting is required to enhance the overall reliability of the reactor protection system. Our position would also apply to the nuclear overpower low setpoint and the turbine-generator trip for which trip setpoints should be included in the Technical Specifications.

5. The proposed "Safety Limits-Reactor Core" in Specification 16.3.2 are no longer applicable. Revise this specification and its associated basis to reflect the conditions analyzed by you and approved by us for the operating Yankee-Rowe core.
6. The proposed "Safety Limit-Reactor Coolant System Pressure" in Specification 16.3.3 is inconsistent with the concept of a safety limit as defined in the regulations, since you did not allow a necessary margin between the safety valve setting and the specified safety limit. Revise this specification, by either reducing the code safety valve settings to provide an acceptable margin, or propose an appropriate higher value for the safety limit, consistent with the provisions permitted by the applicable codes for higher than the design pressures for the reactor coolant system components (reactor vessel, piping, etc.). Revise the basis accordingly.
7. With respect to the incore instrumentation the existing Technical Specifications permit continued operation only with two leaking thimbles (incore detector pathways) isolated and out of service. All other incore instrumentation is required to be operable. The proposed LCO's in Specification 16.4.1 "Core Instrumentation" would allow continued operation with one moveable incore neutron detector operable in one of the hottest instrumented fuel assemblies and with ten radial thermocouple positions. Furthermore, continued operation would be allowed a definitely without the incore instrumentation operable provided the plant load and the nuclear overpower trip setpoint are reduced by 10%. To monitor power distribution and to verify that the total peaking factor ( $F_Q$ ) remains below the specified limit the Yankee-Rowe incore instrumentation has 26 thermocouple positions and 22 incore pathways for the neutron detectors. Please provide an evaluation that will show how you can accurately determine with the proposed small number of operable incore instrumentation that  $F_Q$  is below the allowable limit. You should also include information that will show that there will be assurance that the  $F_Q$  will remain below the allowable limit during operations not exceeding 90% of full power to justify continued operation at that lower power level without  $F_Q$  surveillance.
8. Specification 16.4.5 relating to LCO's for the "Chemical Shutdown and the Charging and the Volume Control System" requires operable components for boron injection to assure the capability for boron injection at a rate in excess of 132,000 ppm-gal/min. Provide an explicit basis for this specified minimum rate of boron injection into the reactor coolant. The exception to the requirement to have two operable flow paths for boron injection when the reactor is critical, would permit operation with but one flow path when one reactor coolant loop is isolated. Propose a time limit for this mode of operation consistent with the required use of the loop fill header and the charging pump, to reduce the time operation is allowed in this mode to a minimum.



9. Specification 16.4.6 relating to LCO's for the "Emergency Core Cooling System" should be revised to be more closely consistent with the Maine-Yankee Technical Specification 3.6 as applicable to Yankee-Rowe. Specifically, components in the ECCS required for long-term recirculation cooling shall also be required to be operable.
10. The basis for Specification 16.4.7 "Minimum Volume and Boron Concentration Safety Injection Tank" state that the analysis of the loss-of-coolant incidents show that 77,000 gallons (to be transferred to the containment via core cooling before recirculation is normally established) will be sufficient to limit core temperatures and containment pressure for the spectrum of breaks. Provide an explicit reference for this basis.
11. Specification 16.4.8 "Reactor Core Energy Removal" includes requirements that the reactor shall not be at power unless a minimum steam relieving capacity of 1,000,000 lbs/hr is available above 10% of full rated power and a minimum steam relieving capacity of 1,900,000 lbs/hr is available above 75% full rated power. The number of on-line safety valves providing these steam relieving capacities should be specified. The explicit basis to show that these relieving capacities are adequate to maintain the pressure in the turbine cycle components within allowable limits of the ASME Code should be given.