



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

YANKEE ATOMIC ELECTRIC COMPANY

DOCKET NO. 50-029

YANKEE NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127
License No. DPR-3

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment filed by Yankee Atomic Electric Company (the licensee) dated July 24, 1989 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter 1;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter 1;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-3 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 127, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Richard H. Wessman

Richard H. Wessman, Director
Project Directorate 1-3
Division of Reactor Projects 1/11
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 27, 1989

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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Richard H. Wessman, Director
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 27, 1989

OFC	: PDI-3/LA	: PDI-3/PM	: SRXB	: OGC	: PDI-3/D	:
NAME	: MR. Brook	: PM Sears	: B. Jones	: B. M. B.	: R. Wessman	:
DATE	: 10/16/89	: 10/10/89	: 10/10/89	: 10/13/89	: 10/27/89	:

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*Subject to
changes as
marked*

ATTACHMENT TO LICENSE AMENDMENT NO. 127

FACILITY OPERATING LICENSE NO. DPR-3

DOCKET NO. 50-029

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove

3/4 2-12
3/4 2-13
B 3/4 2-3
B 3/4 2-4

Insert

3/4 2-12
3/4 2-13
B 3/4 2-3
B 3/4 2-4

Power Distribution Limits

DNB Parameters

Limiting Condition for Operation

3.2.4 The following DNB related parameters shall be maintained within the limits shown on Table 3.2-1:

- a. Highest Operating Loop Average Temperature
- b. Main Coolant System Pressure
- c. Main Coolant System Total Flow Rate

Applicability: Mode 1

Action

With any of the above parameters exceeding its limit, restore the parameter to within its limit within 2 hours or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 4 hours.

Surveillance Requirements

4.2.4.1 Each of the parameters of Table 3.2-1 shall be verified to be within their limits at least once per 12 hours.

4.2.4.2 The Main Coolant System total flow rate shall be determined to be within its limit by measurement at least once per 18 months.

TABLE 3.2-1

DNB Parameters

<u>Parameter</u>	<u>Limits</u> <u>4 Loops in Operation</u>
Operating Loop Average Temperature	$\leq 542^{\circ}\text{F}$ for $P \geq 0.5$ $\leq 536^{\circ}\text{F} + [(12)(P)]$ for $P < 0.5$
Main Coolant System Pressure	≥ 1950 psig*
Main Coolant System Total Flow Rate	$\geq 38.3 \times 10^6$ lb/hr

Where $P = \frac{\text{THERMAL POWER}}{\text{RATED THERMAL POWER}}$

*Limit not applicable during either a THERMAL POWER ramp increase in excess of 5% RATED THERMAL POWER per minute or a THERMAL POWER step increase in excess of 10% RATED THERMAL POWER.

3/4.2 POWER DISTRIBUTION LIMITS

BASES (Continued)

- a. Control rods in a single group move together with no individual rod insertion differing by more than ± 8 inches from any other rod in the group.
- b. Control rod groups are sequenced with overlapping groups as described in Specification 3.1.3.5.
- c. The control rod insertion limits of Specification 3.1.3.5 is maintained.

The relaxation in $F_{\Delta H}^y$ as a function of THERMAL POWER allows changes in the radial power shape for all permissible rod insertion limits. $F_{\Delta H}^y$ will be maintained with its limits provided Conditions a through c above are maintained.

When an $F_{\Delta H}^y$ measurement is taken, experimental error, engineering tolerance and fuel densification must be allowed for. 5% is the appropriate allowance for a full core map taken with the incore detection system, 4% is the appropriate allowance for engineering tolerance and 3% is the appropriate allowance for fuel densification.

When $F_{\Delta H}^y$ is measured, experimental error must be allowed for and 5% is the appropriate allowance for a full core map taken with the incore detection system.

3/4.2.4 DNE PARAMETERS

The limits on the DNE related parameters assure that each of the parameters are maintained within the normal steady state envelope of operation assumed in the transient and accident analyses. The limits are consistent with the accident analysis assumptions and have been analytically demonstrated adequately to maintain a minimum DNBR of 1.30 throughout each analyzed transient. The cold leg temperature assumed in the analysis is based on the loop average temperature limit and design MCS operating conditions. This results in a cold leg temperature of 520°F at full power, increasing linearly to 531°F at 50% power. Below 50% power, the cold leg temperature increases linearly to 536°F at zero power. The cold leg temperature assumed in the analysis is conservatively 4°F in excess of the value determined from the average temperature limit to allow for uncertainty in plant measurement. The drop in the average temperature limit below 50% power ensures acceptable results for low power main steam line breaks. The Main Coolant System pressure assumed in the analysis is 1925 psig, conservatively 25 psig less than the limit to allow for uncertainty in plant measurement. The assumed operating deadband of ± 50 psig is applied to the nominal 2000 psig limit, yielding a minimum operation limit of 1950 psig.

3/4.2.4 DNB PARAMETERS

BASES (Continued)

The 12-hour periodic surveillance of these parameters through instrument readout is sufficient to ensure that the parameters are restored within their limits following load changes and other expected transient operation. The 18 month periodic measurement of the Main Coolant System total flow rate is adequate to detect flow degradation and ensure correlation of the flow indication channels with measured flow such that the indicated percent flow will provide sufficient verification of flow rate on a 12-hour basis.

A 34% DNBR credit is needed to offset the full-closure rod bow penalty for the fuel in Yankee Rowe. The full-closure penalty was previously approved (D. Ross and D. Eisenhut memorandum of December 12, 1976) for Yankee Rowe since a gap closure model was not available. Generic credits (D. Edwards letter to NRC dated February 9, 1977) equivalent to 13.2% DNBR margin were approved for Yankee Rowe. The limiting transient for Yankee Rowe with respect to DNB is the 2 of 4 pump loss of flow. Based on design conditions, this event results on a minimum DNBR in excess of 1.82. Thus, 27.8% margin to a DNBR of 1.3 exists for this limiting event, which is applied to the remaining 20.8% margin required by the rod-bow penalty.