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JUNE 22 1978

Docket No. 50-298

Nebraska Public Power District
ATTN: Mr. J. M. Pilant, Director
Licensing & Quality Assurance
P. O. Box 499
Columbus, Nebraska 68601

Gentlemen:

The Commission has issued the enclosed Amendment No. 48 to Facility License No. DPR-46 for the Cooper Nuclear Station. This amendment consists of changes to the Technical Specifications in response to your request dated March 22, 1978, as supplemented May 11, 1978.

The amendment provides new limiting conditions of operation for the reactor vessel in accordance with 10 CFR 50, Appendix G.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Original signed by

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Amendment No. 48 to DPR-46
2. Safety Evaluation
3. Notice

cc w/enclosures:
see next page

Concur

OFFICE	ORB#3	ORB#3	OELD	ORB#3		
SURNAME	SSheppard	VRooney:acr	V. Harding	TIppolito		
DATE	6/12/78	6/17/78	6/19/78	6/21/78		

cc w/enclosures:
Mr. G. D. Watson, General Counsel
Nebraska Public Power District
P. O. Box 499
Columbus, Nebraska 68601

Mr. Arthur C. Gehr, Attorney
Snell & Wilmer
3100 Valley Center
Phoenix, Arizona 85073

Cooper Nuclear Station
ATTN: Mr. L. Lessor
Station Superintendent
P. O. Box 98
Brownville, Nebraska 68321

Auburn Public Library
118 - 15th Street
Auburn, Nebraska 68305

Director
Nebraska Dept. of Environmental Control
P. O. Box 94877, State House Station
Lincoln, Nebraska 68509

Mr. William Siebert, Commissioner
Nemaha County Board of Commissioners
Nemaha County Courthouse
Auburn, Nebraska 68305

Chief, Energy Systems Analyses
Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
401 M Street, S. W.
Washington, D. C. 20460

U. S. Environmental Protection Agency
Region VII
ATTN: EIS COORDINATOR
1735 Baltimore Avenue
Kansas City, Missouri 64108

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

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 48
License No. DPR-46

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Nebraska Public Power District dated March 22, 1978, as supplemented May 11, 1978, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and requlations set forth in 10 CFR Chapter I;

   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;

   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 License No. DPR-46 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 48, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 22, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 48

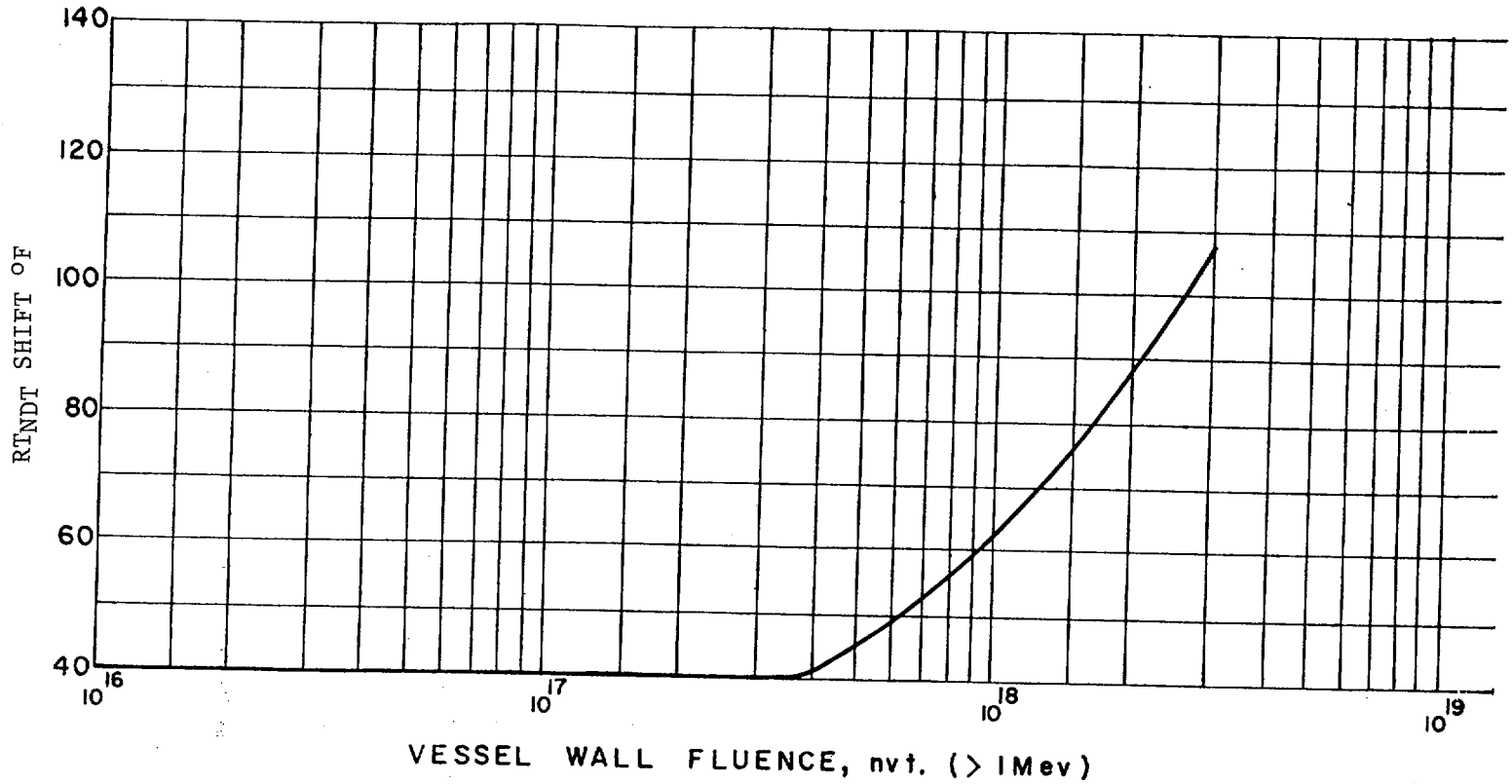
FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Technical Specifications contained in Appendix A of the above indicated license with the attached pages bearing the same numbers.

Remove	Insert
132	132
154	154
155	155
156	156
157	157

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.6 Primary System Boundary	4.6 Primary System Boundary
Applicability:	Applicability:
Applies to the operating status of the reactor coolant system.	Applies to the periodic examination and testing requirements for the reactor cooling system.
Objective:	Objective:
To assure the integrity and safe operation of the reactor coolant system.	To determine the condition of the reactor coolant system and the operation of the safety devices related to it.
Specification:	Specification:
A. Thermal and Pressurization Limitations	A. Thermal and Pressurization Limitations
1. The average rate of reactor coolant temperature change during normal heatup or cooldown shall not exceed 100°F/hr when average over a one-hour period.	1. During heatups and cooldowns, the following temperatures shall be permanently logged at least every 15 minutes until the difference between any two readings taken over a 45 minute period is less than 50°F.
	a. Bottom head drain.
	b. Recirculation loops A and B.
2. During operation where the core is critical or during heatup by non-nuclear means, the reactor vessel metal and fluid temperatures shall be at or above the temperatures shown on the limiting curves of Figures 3.6.1.a or 3.6.1.b where the curve for the beltline is increased by the expected shift in RT_{NDT} from Figure 3.6.1.	2. Reactor vessel temperature and reactor coolant pressure shall be permanently logged at least every 15 minutes whenever the shell temperature is below 220°F and the reactor vessel is not vented.
3. The reactor vessel metal temperatures during inservice hydrostatic or leak testing shall be at or above the temperatures shown on the limiting curves of Figure 3.6.2 where the curve for the beltline is increased by the expected shift in RT_{NDT} from Figure 3.6.1.	3. Test specimens of the reactor vessel base, weld and heat affected zone metal subjected to the highest fluence of greater than 1 Mev neutrons shall be installed in the reactor vessel adjacent to the vessel wall at the core midplane level. The specimens and sample program shall conform to ASTM E 185-73 to the degree possible. Selected neutron flux specimens shall be removed during the first refueling



ESTIMATED SERVICE YEARS (40 YEARS = 2.5×10^{18} nvt)
INITIAL RT_{NDT} = 40° F

Note: Estimated service year is equal to 2.5×10^{18} nvt times $\frac{y}{40}$ where y is equal to the service year of interest.

REVISION	1/	2/	3/	4/	5/	6/	DRAWN GLS	DATE 3-22-78	Nebraska Public Power District
NO.							CHECKED	DATE	COOPER NUCLEAR STATION
							APPROVED	DATE	
							FILMED	NA	REVISION

RT_{NDT} SHIFT V/S VESSEL WALL FLUENCE

FIGURE 3. 6. 1

STANDARDBLUE, OMAHA 068475

Amendment No. 48

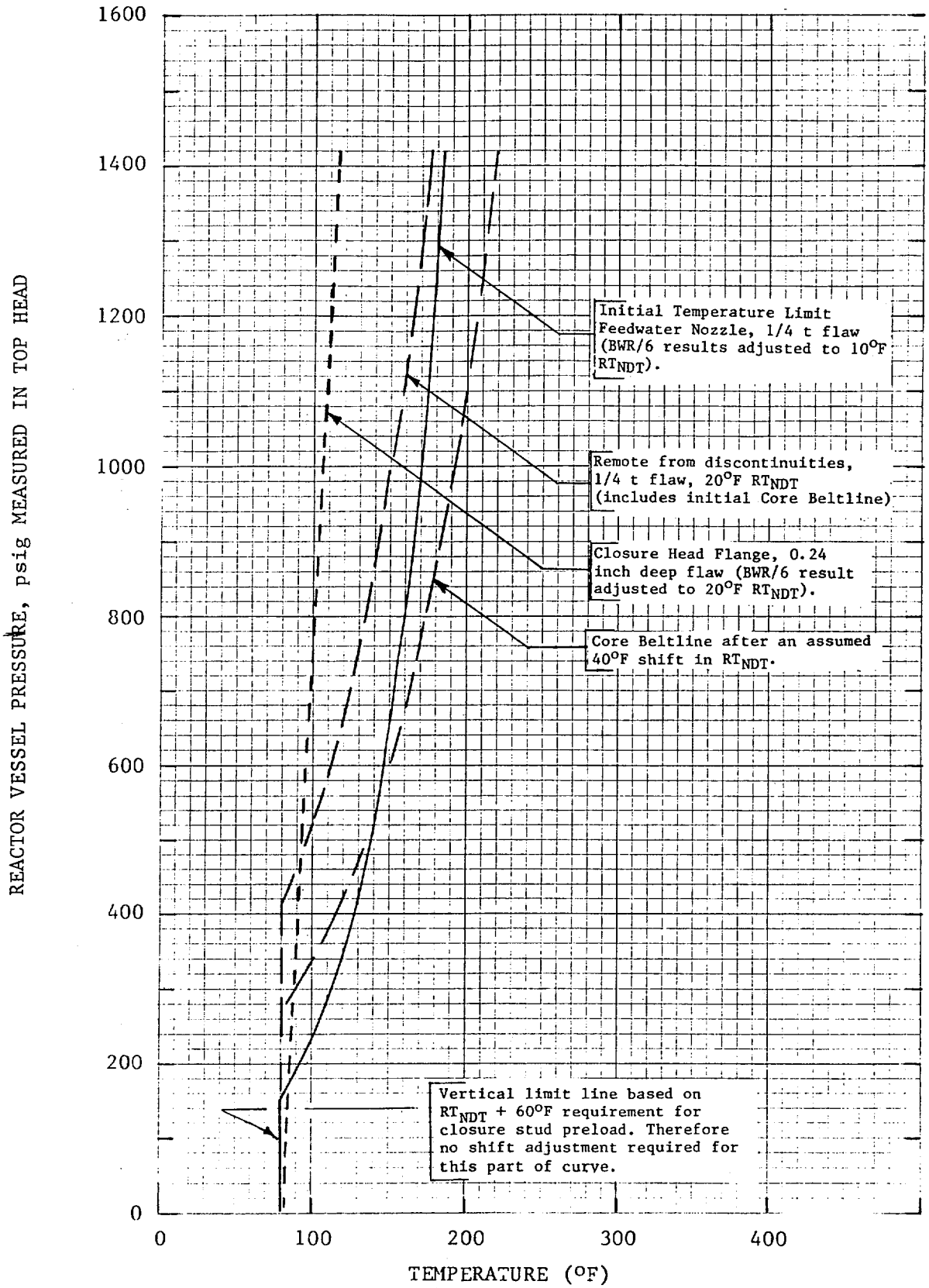


Figure 3.6.1.a Minimum Temperature for Non-nuclear Heatup or Core Cooldown Following Nuclear Shutdown.

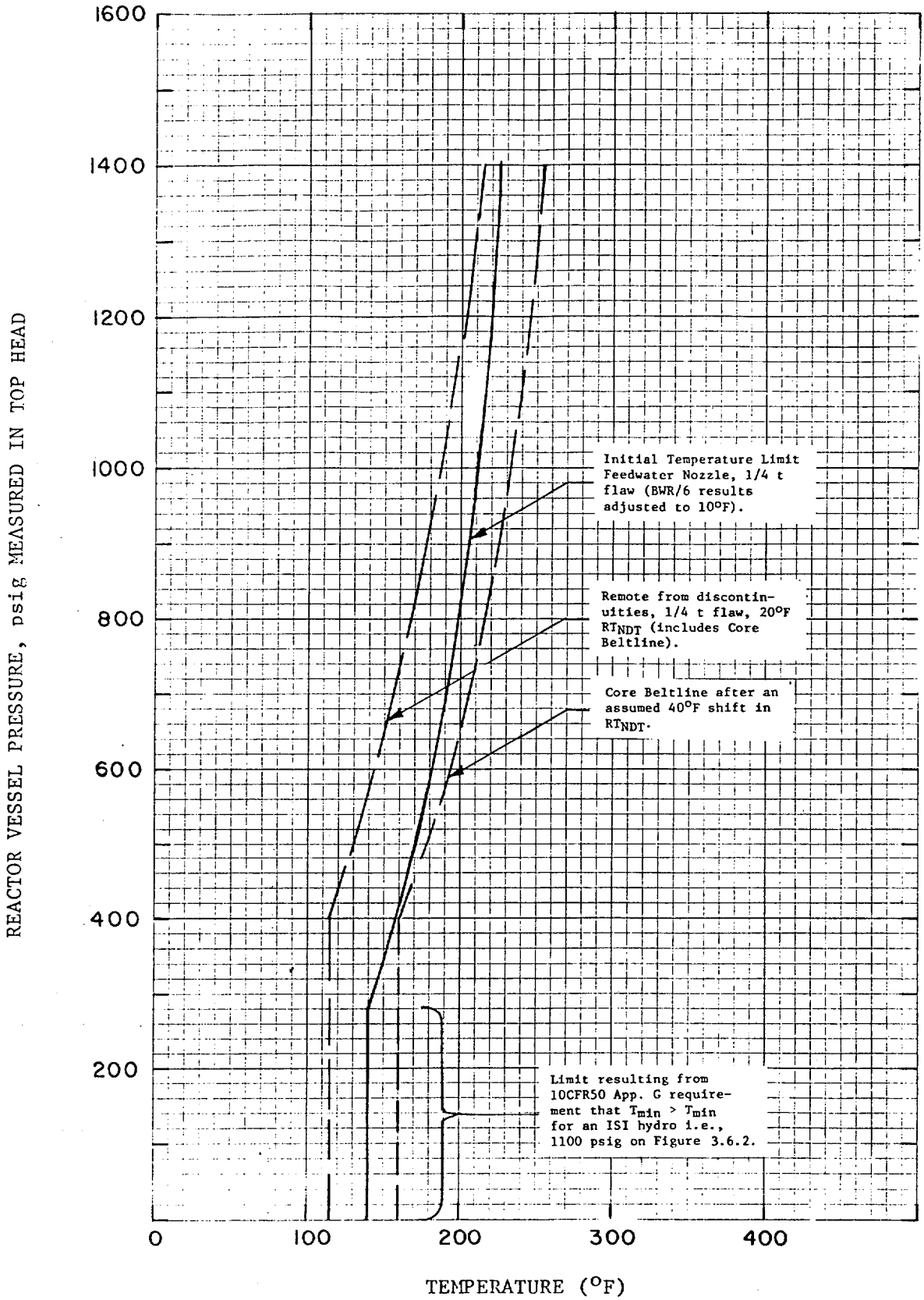


Figure 3.6.1.b COOPER - Minimum Temperature for Core Operation (Criticality) - Includes 40°F Margin Required by 10CFR50 Appendix G.

Amendment No. 48

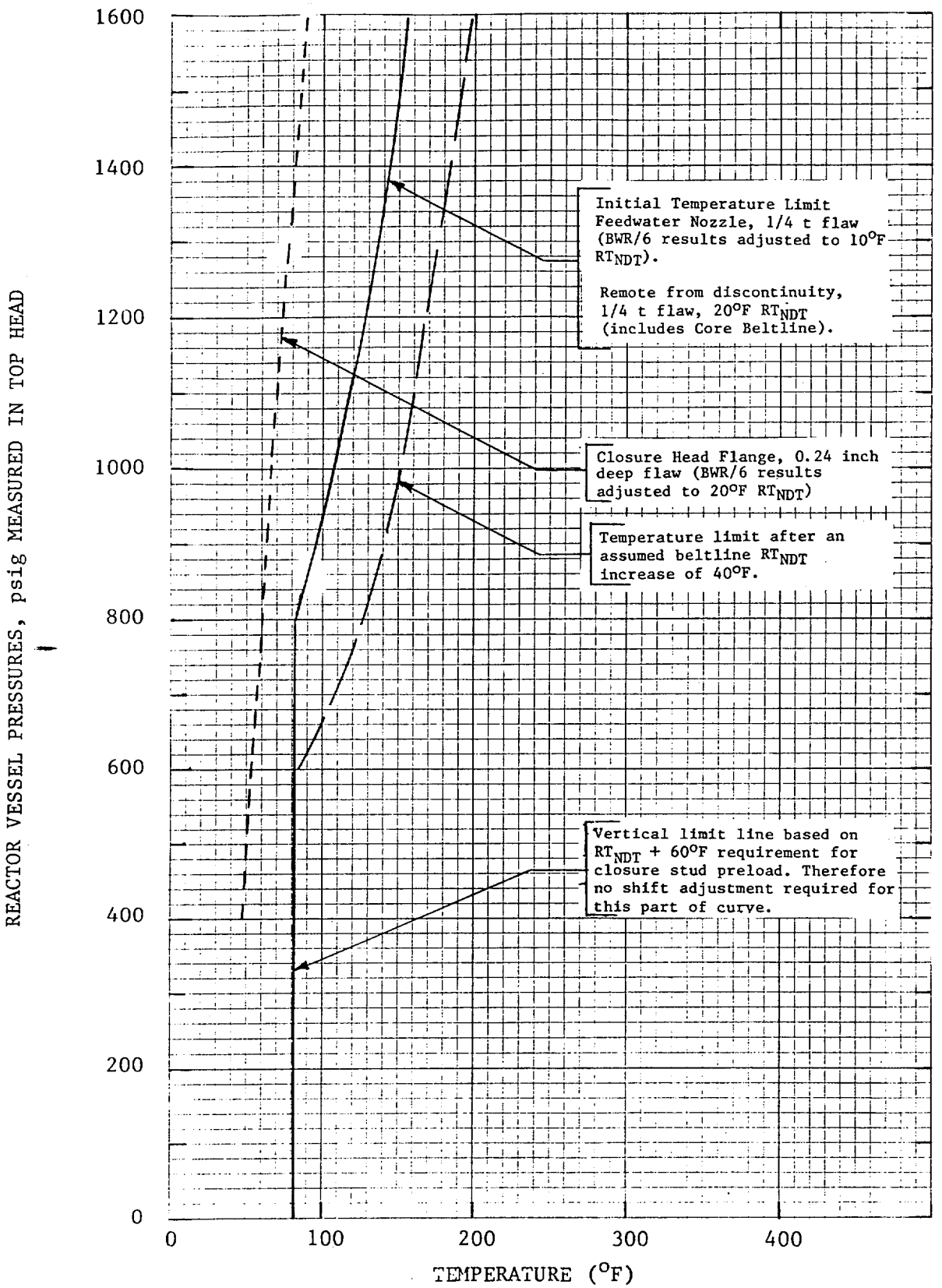


Figure 3.6.2 Minimum Temperature for Pressure Tests such as Required by Section XI.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

Introduction

By letter dated March 22, 1978, supplemented by letter dated May 11, 1978, Nebraska Public Power District (NPPD - the licensee) requested an amendment to Facility Operating License No. DPR-46 for the Cooper Nuclear Station (CNS). The amendment authorizes operation of CNS with new limiting conditions of operation for the pressure/temperature limit curves for the reactor vessel.

Evaluation

Information on which our review was based was contained in the licensee's letter dated August 27, 1977 as well as the two letters proposing the Technical Specification change (March 22 and May 11, 1978).

The proposed pressure/temperature operating limit curves were based on the BWR/6 251 calculations. These calculations were adjusted for material properties and design differences between the Cooper and BWR/6 251 reactor vessels. During service the beltline materials will show an increase in RT_{NDT} due to irradiation. The increase in RT_{NDT} for Cooper is based on an end of life fluence on the vessel wall of 2.5×10^{18} nvt and the RT_{NDT} shift versus fluence predicted in Figure 3.6.1. This increase in RT_{NDT} will be added to the required operating temperatures in Figures 3.6.1.a, b and c.

We have reviewed these proposed operating limits and conclude that they are acceptable and in conformance with Appendix G, 10 CFR Part 50. We also are in agreement with the value of 2.5×10^{18} nvt for the end of life fluence. In the present Technical Specifications, radiation damage is based on an end of life fluence of 8.5×10^{17} nvt. For this reason the new limits are more conservative than the existing limits. Compliance with Appendix G in establishing safe operating limitations will ensure adequate safety margins during operation, testing, maintenance and postulated accident conditions and constitute an acceptable basis for satisfying the requirements of NRC General Design Criterion 31, Appendix A, 10 CFR Part 50.

Environmental Considerations

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment 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.

Dated: June 22, 1978

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-298

NEBRASKA PUBLIC POWER DISTRICT

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 48 to Facility Operating License No. DPR-46, issued to the Nebraska Public Power District (the licensee), which revised the Technical Specifications for operation of the Cooper Nuclear Station (the facility) located in Nemaha County, Nebraska. The amendment is effective as of its date of issuance.

The amendment provides new limiting conditions of operation for the reactor vessel in accordance with 10 CFR 50, Appendix G.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated March 22, 1978 and supplement dated May 11, 1978, (2) Amendment No. 48 to License No. DPR-46, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Auburn Public Library, 118 - 15th Street, Auburn, Nebraska 68305. A single copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 22 day of June 1978.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors