

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
Rochester Gas and Electric Corporation) Docket No 50 244
(R. E. Ginna Nuclear Power Plant,)
Unit No. 1))

APPLICATION FOR AMENDMENT
TO OPERATING LICENSE

Pursuant to Section 50.90 of the regulations of the U.S. Nuclear Regulatory Commission (the "Commission"), Rochester Gas and Electric Corporation ("RG&E"), holder of Provisional Operating License No. DPR-18, hereby requests that Sections 3.1.4 and 4.1 be revised in the Technical Specifications set forth in Appendix A to that license. This request for a change in Technical Specifications is submitted in response to a letter dated September 24, 1981 from Mr. Dennis M. Crutchfield, Chief, Operating Reactors Branch No. 5 regarding reactor coolant system iodine activity

The proposed technical specification change is set forth in Attachment A to this Application. A safety evaluation is set forth in Attachment B. This evaluation also demonstrates that the proposed change does not involve a significant change in the types or a significant increase in the amounts of effluents or any change in the authorized power level of the facility. The proposed changes have been clearly identified as an NRC position in the NRC's Standard Technical Specifications for Westinghouse plants. Therefore a fee of \$4,000 is required.

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WHEREFORE, Applicant respectfully requests that Appendix
A to Provisional Operating License No. DPR-18 be amended in
the form attached here to as Attachment A.

Rochester Gas and Electric Corporation

By *L. D. White, Jr.*
L. D. White, Jr.
Executive Vice President

Subscribed and sworn to before me
on this 17 day of May, 1982.

Gary L. Reiss
GARY L. REISS
NOTARY PUBLIC, State of N. Y. Monroe Co.
My Commission Expires March 30, 1983

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Attachment A

1. Revise the Technical Specifications by replacing the following pages: 3.1-21; 3.1-22, 3.1-23, 3.1-24, 4.1-8, 4.1-9, 4.1-10.
2. Add page 4.1-12.

3.1.4 Maximum Coolant Activity

Specifications:

3.1.4.1 Whenever the reactor is critical or the reactor coolant average temperature is greater than 500°F:

- a. The total specific activity of the reactor coolant shall not exceed $84/\bar{E} \mu\text{Ci/gm}$, where \bar{E} is the average beta and gamma energies per disintegration in Mev.
- b. The I-131 equivalent of the iodine activity in the reactor coolant shall not exceed $1.0 \mu\text{Ci/gm}$.
- c. The I-131 equivalent of the iodine activity on the secondary side of a steam generator shall not exceed $0.1 \mu\text{Ci/gm}$.

3.1.4.2 If the limit of 3.1.4.1.a is exceeded, then be subcritical with reactor coolant average temperature less than 500°F within 8 hours.

3.1.4.3 a. If the I-131 equivalent activity in the reactor coolant exceeds the limit of 3.1.4.1.b but is less than the allowable limit shown on Figure 3.1.4-1, operation may continue for up to 48 hours provided that the cumulative operating time under these circumstances does not exceed 800 hours in any consecutive 12-month period. If the I-131 equivalent activity in the reactor coolant exceeds the limit of 3.1.4.1.b for more than 500 hours in any consecutive 6-month period,

then prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days indicating the number of hours above this limit. The reactor may be taken critical or reactor coolant average temperature may be increased above a 500°F with the I-131 equivalent activity greater than the limit of 3.1.4.1.b as long as the provisions of this paragraph are met.

- b. If the I-131 equivalent activity exceeds the limit of 3.1.4.1.b for more than 48 hours during one continuous time interval or exceeds the limit shown on Figure 3.1.4-1, be subcritical with reactor coolant average temperature less than 500°F within 8 hours.
- c. If the I-131 equivalent activity exceeds the limit of 3.1.4.1.b, then perform sampling and analysis as required by Table 4.1-4, item 4a, until the activity is reduced to less than the limit of 3.1.4.1.b.

3.1.4.4 If the limit of 3.1.4.1:c is exceeded, then be at hot shutdown within 8 hours and in cold shutdown within the following 32 hours.

Basis:

The total activity limit for the primary system corresponds to operation with the plant design basis of 1% fuel defects.⁽¹⁾ Radiation shielding and the radioactive waste disposal systems

were designed for operation with 1% defects⁽²⁾. The limit for secondary iodine activity is conservatively established with respect to the limits on primary system iodine activity and primary-to-secondary leakage (Specification 3.1.5.2). If the activity should exceed the specified limits following a power transient the major concern would be whether additional fuel defects had developed bringing the total to above 1% defects. Appropriate action to be taken to bring the activity within specification include one or more of the following: gradual decrease in power to a lower base power, increase in letdown flow rate, and venting of the volume control tank gases to the gas decay tanks.

The specified activity limits provide protection to the public against the potential release of reactor coolant activity to the atmosphere, as demonstrated by the analysis of a steam generator tube rupture accident.⁽³⁾

The 500°F temperature in the specification corresponds at saturation to 681 psia, which is below the set point of the secondary side relief valves. Therefore, potential primary to secondary leakage at a temperature below 500°F can be contained by closing the steam line isolation valves.

References:

- (1) FSAR Table 9.2-5
- (2) FSAR Section 11.1.3
- (3) Letter dated September 24, 1981 from Dennis M. Crutchfield, USNRC, to John E. Maier, RG&E.

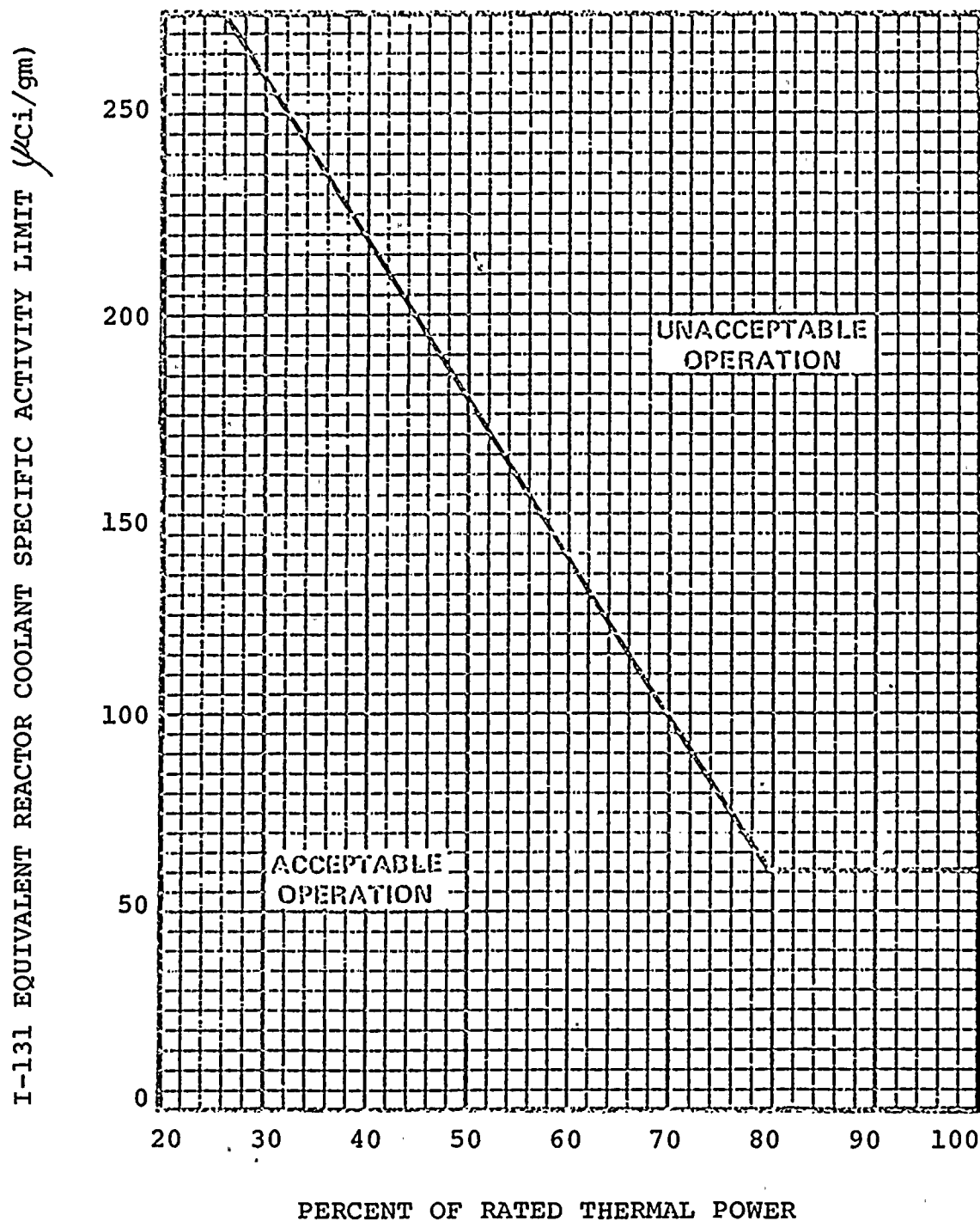


Figure 3.1.4-1

I-131 Equivalent Reactor Coolant Specific Activity Limit Versus Percent of Rated Thermal Power with the Reactor Coolant Specific Activity $1.0 \mu\text{Ci/gram}$ I-131 Equivalent

TABLE 4.1-2

MINIMUM FREQUENCIES FOR EQUIPMENT AND SAMPLING TESTSFSAR
Section
Reference

	<u>Test</u>	<u>Frequency</u>	
1. Reactor Coolant Chemistry Samples	Chloride and Fluoride Oxygen	3 times/week and at least every third day 5 times/week and at least every second day except when below 250°F	
2. Reactor Coolant Boron	Boron concentration	Weekly	
3. Refueling Water Storage Tank Water Sample	Boron concentration	Weekly	
4. Boric Acid Tank	Boron concentration	Twice/week	
5. Control Rods	Rod drop times of all full length rods	After vessel head removal and at least once per 18 months (1)	7
6. Full Length Control Rod	Movement of at least 10 steps in any one direction for any rod not fully inserted	Monthly	7
7. Pressurizer Safety Valves	Set point	Each Refueling shutdown	4
8. Main Steam Safety Valves	Set point	Each Refueling shutdown	10
9. Containment Isolation Trip	Functioning	Each Refueling Shutdown	5
10. Refueling System Interlocks	Functioning	Prior to Refueling Operations	9.4.5
11. Service Water System	Functioning	Each Refueling Shutdown	9.5.5
12. Fire Protection Pump and Power Supply	Functioning	Monthly	9.5.5

FSAR
Section
Reference

	<u>Test</u>	<u>Frequency</u>	
13. Spray Additive Tank	NaOH Concent.	Monthly	7
14. Accumulator	Boron Concentration	Bi-Monthly	6
15. Primary System Leakage	Evaluate	Daily	4
16. Diesel Fuel Supply	Fuel Inventory	Daily	8.2.3
17. Spent Fuel Pit	Boron Concentration	Monthly	9.5.5
18. Secondary Coolant Samples	Gross activity	72 hours (2)(3)	
19. Circulating Water Flood Protection Equipment	Calibrate	Each Refueling Shutdown	

Notes:

- (1) Also required for specifically affected individual rods following any maintenance on or modification to the control rod drive system which could affect the drop time of those specific rods.
- (2) Not required during a cold or refueling shutdown.
- (3) An isotopic analysis for I-131 equivalent activity is required at least monthly whenever the gross activity determination indicates iodine concentration greater than 10% of the allowable limit but only once per 6 months whenever the gross activity determination indicates iodine concentration below 10% of the allowable limit.

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Attachment B

The Technical Specification limits for reactor coolant system I-131 equivalent activity and for coolant activity sampling have been revised to be consistent with the NRC's Standard Technical Specifications for Westinghouse-designed plants. The activity limits are conservative with respect to the assumptions used in the NRC's analysis of a steam generator tube rupture event which was provided to RG&E by letter dated September 24, 1981.

TABLE 4.1-4

REACTOR COOLANT SPECIFIC ACTIVITY SAMPLE
AND ANALYSIS PROGRAM

<u>TYPE OF MEASUREMENT AND ANALYSIS</u>	<u>SAMPLE AND ANALYSIS FREQUENCY</u>	<u>MODES IN WHICH SAMPLE AND ANALYSIS REQUIRED</u>
1. Gross Activity Determination (beta-gamma) (1)	At least once per 72 hours	Above cold shutdown
2. Isotopic Analysis for Dose Equivalent I-131 Concentration	1 per 14 days	Above 5% reactor power
3. Radiochemical for \bar{E} Determination (2)	1 per 6 months (3)	Above 5% reactor power
4. Isotopic Analysis for Iodine Including I-131, I-133, and I-135	a) Once per 4 hours, whenever the I-131 equivalent activity exceeds the limit of 3.1.4.1.b b) One sample between 2 and 6 hours following a reactor power change exceeding 15 percent within a 1-hour period	As required by Specification 3.1.4.3.c* Hot shutdown or above

- (1) A gross radioactivity analysis shall consist of the quantitative measurement of the total radioactivity of the primary coolant in units $\mu\text{Ci/gm}$. The total primary coolant activity shall be the sum of the degassed beta-gamma activity and the total of all identified gaseous activities 15 minutes after the primary system is sampled.
- (2) A radiochemical analysis shall consist of the quantitative measurement of the activity for each radionuclide which is identified in the primary coolant 15 minutes after the primary system is sampled. The activities for the individual isotopes shall be used in the determination of \bar{E} .
- (3) Sample to be taken after a minimum of 2 EFPD and 20 days of power operation have elapsed since reactor was last subcritical for 48 hours or longer.

* Except at refueling shutdown, sampling shall be continued until the activity of the reactor coolant system is restored to within its limits.

