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 50-287 OCONEE NUCLEAR STATION, UNIT 3, DUKE POWER CO. 05000287

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 DENTON, H. R. OFFICE OF NUCLEAR REACTOR REGULATION
 REID, R. W. OPERATING REACTORS BRANCH 4

SUBJECT: FORWARDS PROPOSED AMEND TO OL TECH SEPCS CHANGING SETPOINTS
 OF PRESSURIZER ELECTROMAGNETIC RELIEF VALVE & REACTOR
 COOLANT SYS HIGH PRESSURE TRIP IN RESPONSE TO IE BULLETIN
 79-05B.

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DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

May 21, 1979

TELEPHONE: AREA 704
373-4083

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. R. W. Reid, Chief
Operating Reactors Branch #4

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

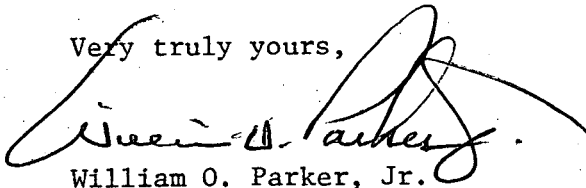
Dear Sir:

Pursuant to 10CFR50, §50.90 and in response to IE Bulletin 79.05B, Item 7, please find attached a proposed amendment to the Oconee Nuclear Station Facility Operating License. This request revises Oconee Nuclear Station Technical Specification 2.2, Safety Limit-Reactor Coolant System Pressure, and Specification 2.3, Limiting Safety System Settings, Protective Instrumentation.

This proposed revision reflects recent changes to the setpoints of the pressurizer electromatic relief valve and the reactor coolant system high pressure trip made in response to IE Bulletin 79-05B.

Inasmuch as this proposal is being submitted at the request of the NRC, and it involves minor changes to the Technical Specifications, and pursuant 10CFR170, §170.22 (Note 2), no license fees are provided with this submittal.

Very truly yours,



William O. Parker, Jr.

RLG:scs
Attachment

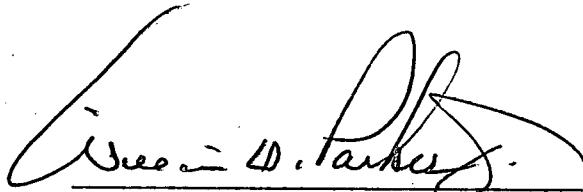
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Mr. Harold R. Denton
Page 2
May 21, 1979

WILLIAM O. PARKER, JR., being duly sworn, states that he is Vice President of Duke Power Company; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38, DPR-47 and DPR-55; and that all statements and matters set forth therein are true and correct to the best of his knowledge.



William O. Parker, Jr., Vice President

Subscribed and sworn to before me this 21st day of May, 1979.



Notary Public

My Commission Expires:

February 15, 1982

OCONEE NUCLEAR STATION
PROPOSED TECHNICAL SPECIFICATION REVISION

Pages

2.2-1
2.3-3
2.3-5
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2.3-13

2.2 SAFETY LIMITS - REACTOR COOLANT SYSTEM PRESSURE

Applicability

Applies to the limit on reactor coolant system pressure.

Objective

To maintain the integrity of the reactor coolant system and to prevent the release of significant amounts of fission product activity.

Specification

- 2.2.1 The reactor coolant system pressure shall not exceed 2750 psig when there are fuel assemblies in the reactor vessel.
- 2.2.2 The setpoint of the pressurizer code safety valves shall be in accordance with ASME, Boiler and Pressurizer Vessel Code, Section III, Article 9, Summer 1967.

Bases

The reactor coolant system ⁽¹⁾ serves as a barrier to prevent radionuclides in the reactor coolant from reaching the atmosphere. In the event of a fuel cladding failure, the reactor coolant system is a barrier against the release of fission products. Establishing a system pressure limit helps to assure the integrity of the reactor coolant system. The maximum transient pressure allowable in the reactor coolant system pressure vessel under the ASME code, Section III, is 110% of design pressure. ⁽²⁾ The maximum transient pressure allowable in the reactor coolant system piping, valves, and fittings under USAS Section B31.7 is 110% of design pressure. Thus, the safety limit ⁽²⁾ of 2750 psig (110% of the 2500 psig design pressure) has been established. The settings, the reactor ⁽³⁾ high pressure trip (2300 psig) and the pressurizer safety valves (2500 psig) ⁽³⁾ have been established to assure never reaching the reactor coolant system pressure safety limit. The initial hydrostatic test was conducted at 3125 psig (125% of design pressure) to verify the integrity of the reactor coolant system. Additional assurance that the Reactor Coolant pressure does not exceed the safety limit is provided by setting the pressurizer electromatic relief valve at 2450 psig.

REFERENCES

- (1) FSAR, Section 4
- (2) FSAR, Section 4.3.10.1
- (3) FSAR, Section 4.2.4

level trip and associated reactor power/reactor power-imbalance boundaries by 1.055% - Unit 1 for 1% flow reduction.

1.055% - Unit 2

1.08% - Unit 3

Pump Monitors

The pump monitors prevent the minimum core DNBR from decreasing below 1.3 by tripping the reactor due to the loss of reactor coolant pump(s). The circuitry monitoring pump operational status provides redundant trip protection for DNB by tripping the reactor on a signal diverse from that of the power-to-flow ratio. The pump monitors also restrict the power level for the number of pumps in operation.

Reactor Coolant System Pressure

During a startup accident from low power or a slow rod withdrawal from high power, the system high pressure set point is reached before the nuclear over-power trip set point. The trip setting limit shown in Figure 2.3-1A - Unit 1

2.3-1B - Unit 2

2.3-1C - Unit 3

for high reactor coolant system pressure (2300 psig) has been established to maintain the system pressure below the safety limit (2750 psig) for any design transient. (1)

The low pressure (1800) psig and variable low pressure (11.14 T_{out}-4706) trip
(1800) psig (11.14 T_{out}-4706)
(1800) psig (11.14 T_{out}-4706)

setpoints shown in Figure 2.3-1A have been established to maintain the DNB

2.3-1B

2.3-1C

ratio greater than or equal to 1.3 for those design accidents that result in a pressure reduction. (2,3)

Due to the calibration and instrumentation errors the safety analysis used a variable low reactor coolant system pressure trip value of (11.14 T_{out} - 4746)
(11.14 T_{out} - 4746)
(11.14 T_{out} - 4746)

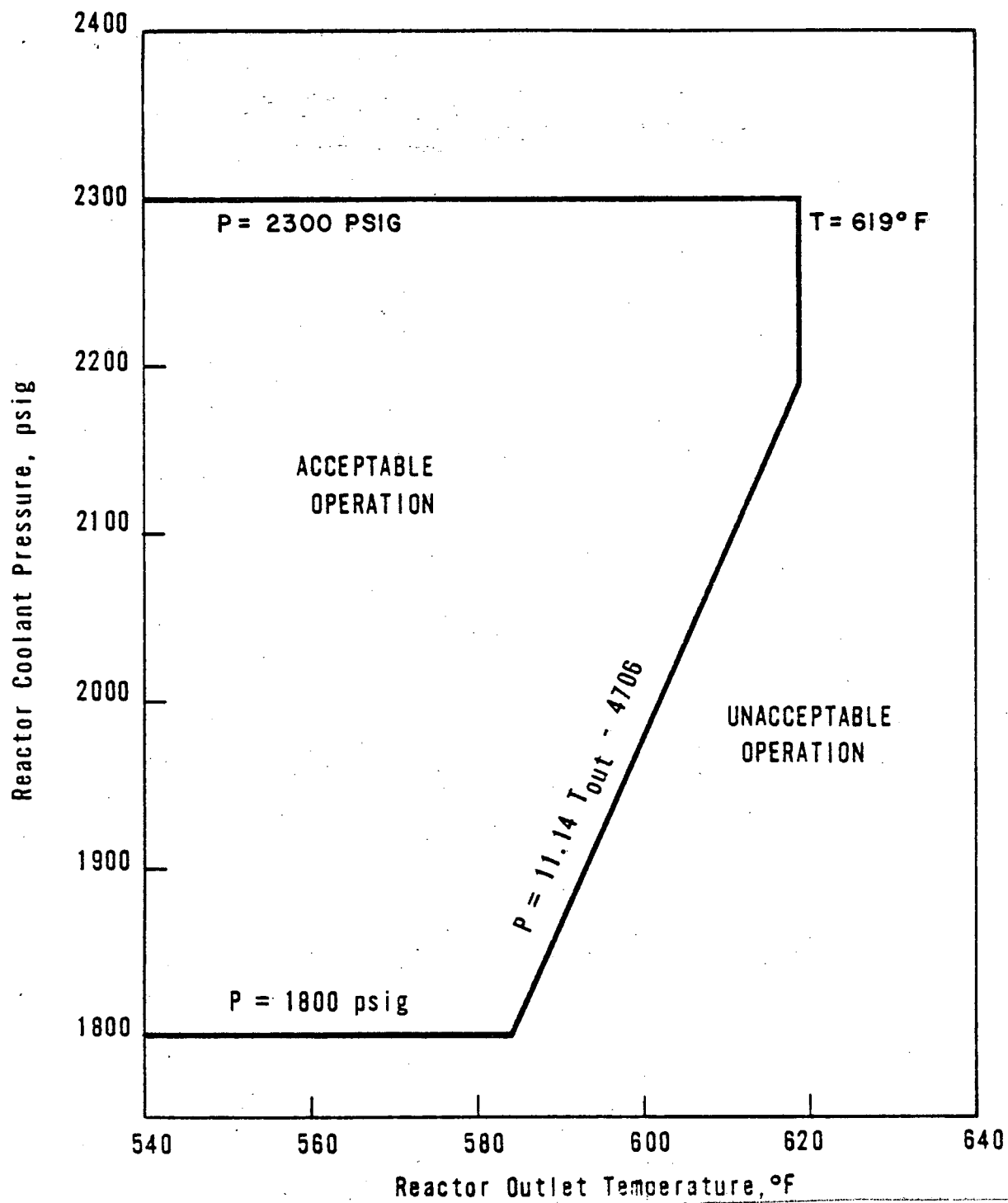
Coolant Outlet Temperature

The high reactor coolant outlet temperature trip setting limit (619°F) shown in Figure 2.3-1A has been established to prevent excessive core coolant

2.3-1B

2.3-1C

temperatures in the operating range. Due to calibration and instrumentation errors, the safety analysis used a trip setpoint of 620°F.

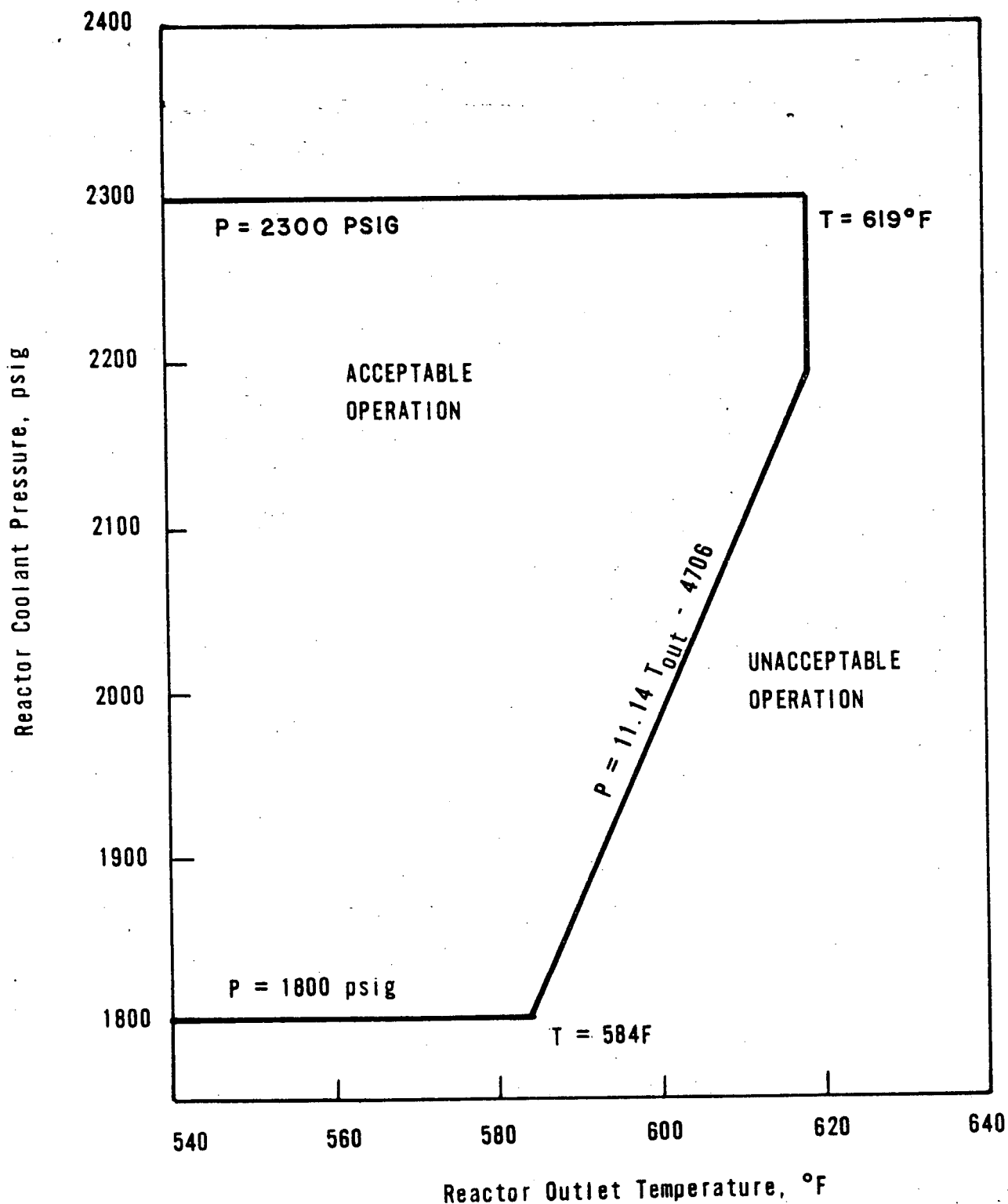


PROTECTIVE SYSTEM MAXIMUM
ALLOWABLE SETPOINTS
UNIT 1



OCONEE NUCLEAR STATION

Figure 2.3-1A

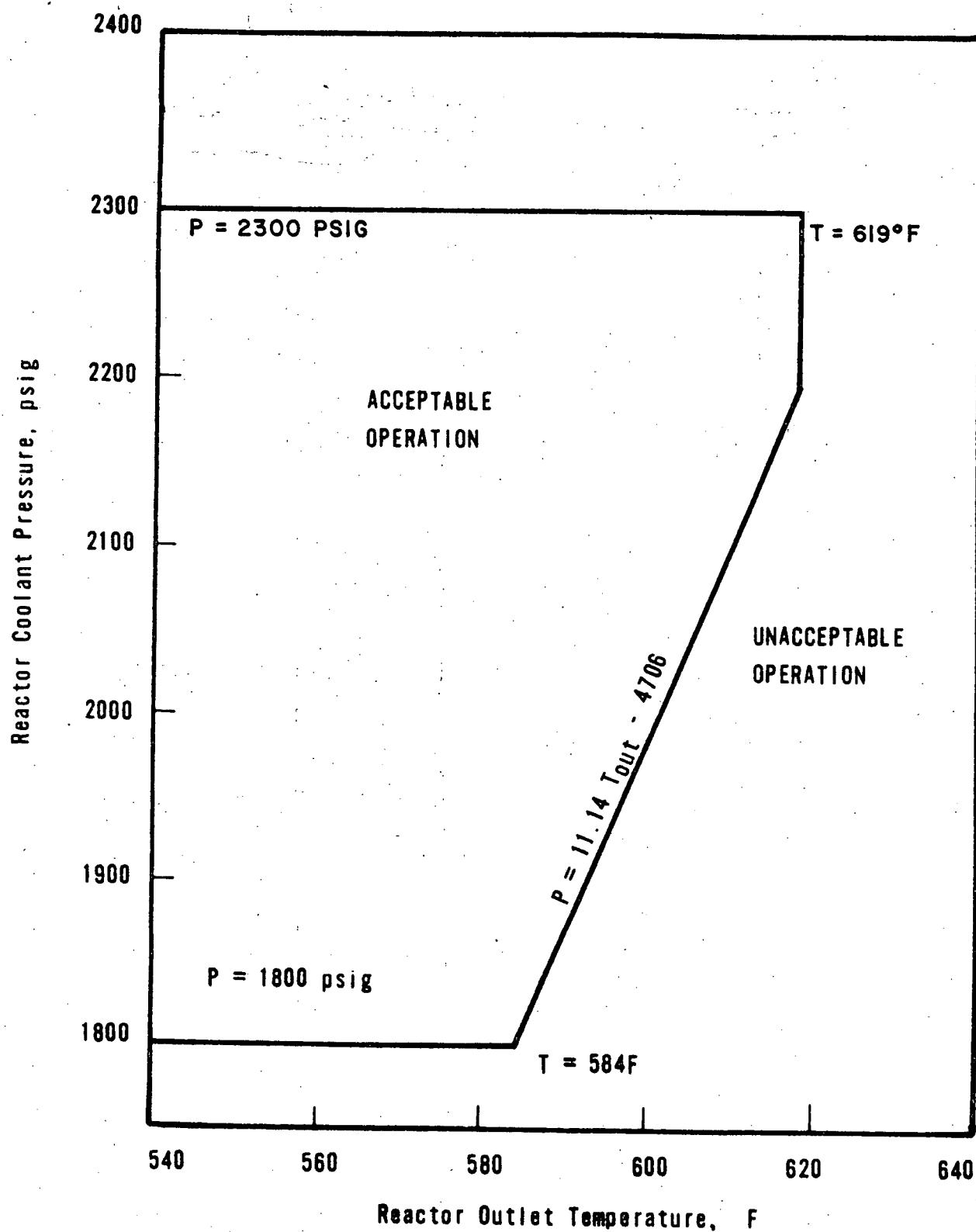


PROTECTIVE SYSTEM MAXIMUM
ALLOWABLE SETPOINTS
UNIT 2



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Figure 2.3-1B



2.3-7



PROTECTIVE SYSTEM MAXIMUM
ALLOWABLE SETPOINTS
UNIT 3

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Figure 2.3-1C

Table 2.3-1A
Unit 1

Reactor Protective System Trip Setting Limits

<u>RPS Segment</u>	<u>Four Reactor Coolant Pumps Operating (Operating Power 100% Rated)</u>	<u>Three Reactor Coolant Pumps Operating (Operating Power -75% Rated)</u>	<u>One Reactor Coolant Pump Operating In Each Loop (Operating Power -49% Rated)</u>	<u>Shutdown Bypass</u>
1. Nuclear Power Max. (% Rated)	105.5	105.5	105.5	5.0 ⁽³⁾
2. Nuclear Power Max. Based on Flow (2) and Imbalance, (% Rated)	1.055 times flow minus reduction due to imbalance	1.055 times flow minus reduction due to imbalance	1.055 times flow minus reduction due to imbalance	Bypassed
3. Nuclear Power Max. Based on Pump Monitors, (% Rated)	NA	NA	55%	Bypassed
4. High Reactor Coolant System Pressure, psig, Max.	2300	2300	2300	1720 ⁽⁴⁾
5. Low Reactor Coolant System Pressure, psig, Min.	1800	1800	1800	Bypassed
6. Variable Low Reactor Coolant System Pressure psig, Min.	$(11.14T_{out} - 4706)^{(1)}$	$(11.14T_{out} - 4706)^{(1)}$	$(11.14T_{out} - 4706)^{(1)}$	Bypassed
7. Reactor Coolant Temp. F., Max.	619	619	619	619
8. High Reactor Building Pressure, psig, Max.	4	4	4	4

(1) T_{out} is in degrees Fahrenheit (°F).

(2) Reactor Coolant System Flow, %.

(3) Administratively controlled reduction set
only during reactor shutdown.

(4) Automatically set when other segments of
the RPS are bypassed.

Table 2.3-1B
Unit 2

Reactor Protective System Trip Setting Limits

<u>RPS Segment</u>	<u>Four Reactor Coolant Pumps Operating (Operating Power -100% Rated)</u>	<u>Three Reactor Coolant Pumps Operating (Operating Power -75% Rated)</u>	<u>One Reactor Coolant Pump Operating in Each Loop (Operating -49% Rated)</u>	<u>Shutdown Bypass</u>
1. Nuclear Power Max. (% Rated)	105.5	105.5	105.5	5.0 ⁽³⁾
2. Nuclear Power Max. Based on Flow (2) and Imbalance, (% Rated)	1.055 times flow minus reduction due to imbalance	1.055 times flow minus reduction due to imbalance	1.055 times flow minus reduction due to imbalance	Bypassed
3. Nuclear Power Max. Based on Pump Monitors, (% Rated)	NA	NA	55%	Bypassed
4. High Reactor Coolant System Pressure, psig, Max.	2300	2300	2300	1720 ⁽⁴⁾
5. Low Reactor Coolant System Pressure, psig, Min.	1800	1800	1800	Bypassed
6. Variable Low Reactor Coolant System Pressure psig, Min.	(11.14T _{out} - 4706) ⁽¹⁾	(11.14T _{out} - 4706) ⁽¹⁾	(11.14T _{out} - 4706) ⁽¹⁾	Bypassed
7. Reactor Coolant Temp. F., Max.	619	619	619	619
8. High Reactor Building Pressure, psig, Max	4	4	4	4

(1) T_{out} is in degrees Fahrenheit (°F).

(2) Reactor Coolant System Flow, %.

(3) Administratively controlled reduction set
only during reactor shutdown.

(4) Automatically set when other segments of
the RPS are bypassed.

Table 2.3-1C
Unit 3

Reactor Protective System Trip Setting Limits

RPS Segment	Four Reactor Coolant Pumps Operating (Operating Power -100% Rated)	Three Reactor Coolant Pumps Operating (Operating Power -75% Rated)	One Reactor Coolant Pump Operating in Each Loop (Operating -49% Rated)	Shutdown Bypass
1. Nuclear Power Max. (% Rated)	105.5	105.5	105.5	5.0 ⁽³⁾
2. Nuclear Power Max. Based on Flow (2) and Imbalance, (% Rated)	1.08 times flow minus reduction due to imbalance	1.08 times flow minus reduction due to imbalance	1.08 times flow minus reduction due to imbalance	Bypassed
3. Nuclear Power Max. Based on Pump Monitors, (% Rated)	NA	NA	55%	Bypassed
4. High Reactor Coolant System Pressure, psig, Max.	2300	2300	2300	1720 ⁽⁴⁾
5. Low Reactor Coolant System Pressure, psig, Min.	1800	1800	1800	Bypassed
6. Variable Low Reactor Coolant System Pressure, psig, Min.	(11.14 T _{out} -4706) ⁽¹⁾	(11.14 T _{out} -4706) ⁽¹⁾	(11.14 T _{out} -4706) ⁽¹⁾	Bypassed
7. Reactor Coolant Temp. F., Max.	619	619	619	619
8. High Reactor Building Pressure, psig, Max.	4	4	4	4

(1) T_{out} is in degrees Fahrenheit (°F).

(2) Reactor Coolant System Flow, %.

(3) Administratively controlled reduction set
only during reactor shutdown.

(4) Automatically set when other segments of
the RPS are bypassed.