



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127
License No. DPR-19

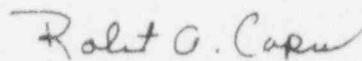
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated March 26, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter 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 Operating License No. DPR-19 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Capra, Director
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 16, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 127

FACILITY OPERATING LICENSE NO. DPR-19

DOCKET NO. 50-237

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

<u>REMOVE</u>	<u>INSERT</u>
viii	viii
3/4.6-13	3/4.6-13
3/4.6-14	3/4.6-14
3/4.6-15	3/4.6-15
3/4.6-16	3/4.6-16
3/4.6-24	3/4.6-24
B 3/4.6-36	B 3/4.6-36
B 3/4.6-37	B 3/4.6-37

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Table 3.12-2	Deleted
Table 3.12-3	Deleted
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DRESDEN II
Amendment No. 127 DPR-19

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3/4.6-14

DRESDEN II DPR-19
Amendment No. 127

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3.6 LIMITING CONDITION FOR OPERATION
(Cont'd.)

3. During Single Loop Operation for more than 24 hours, the following restrictions are required:
 - a. The recirculation pump in the idle loop shall be electrically prohibited from starting except to permit testing in preparation for returning to service.
 - b. The flow biased RBM Rod Block LSSS shall be reduced by 4.0% (Specification 3.2.C.1);
 - c. The flow biased APRM Rod Block LSSS shall be reduced by 3.5% (Specification 2.1.B);
 - d. The flow biased APRM scram LSSS shall be reduced by 3.5% (Specification 2.1.A.1);
 - e. The MCPR Safety Limit shall be increased by 0.01 (Specification 1.1.A);
 - f. The rated flow MCPR Operating Limit shall be increased by 0.01 (Specification 3.5.L.2);

4.6 SURVEILLANCE REQUIREMENT
(Cont'd.)

3. Deleted

3.6 LIMITING CONDITION FOR OPERATION
(Cont'd.)

- g. The MAPLHGR Operating Limit shall be reduced by the appropriate multiplicative factor from the Core Operating Limits Report (Specification 3.5.I). If, concurrently, one Automatic Pressure Relief Subsystem relief valve is out-of-service, the MAPLHGR Operating Limit shall be reduced by the appropriate multiplicative factor from the Core Operating Limits Report.

4. With no reactor coolant system recirculation loops in operation, reduce core thermal power to less than 25% of rated within 2 hours and place the unit in hot shutdown within the following 12 hours.

5. Idle Recirculation Loop Startup

An idle recirculation pump shall not be started unless the temperature differential between the reactor vessel steam space coolant and the bottom head drain line coolant is less than or equal to 145°F*, and:

- a. When both pumps have been idle, unless the temperature differential between the reactor coolant within the idle loop to be started up and the coolant in the reactor pressure vessel is less than or equal to 50°F, or
- b. When only one loop has been idle, unless the temperature differential between the reactor coolant within the idle and operating recirculation loops is less than or equal to 50°F and the speed of the operating pump is less than or equal to 43% of rated pump speed.

I. Snubbers (Shock Suppressors)

4.6 SURVEILLANCE REQUIREMENT
(Cont'd.)

5. Idle Recirculation Loop Startup

The temperature differentials and flow rates shall be determined to be within the limits within 15 minutes prior to startup of an idle recirculation loop.

I. Snubbers (Shock Suppressors)

The following surveillance requirements apply to safety related snubbers.

*Only applicable with reactor pressure vessel steam space pressure \geq 25 psig.

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3.6 LIMITING CONDITION FOR OPERATION BASES (Cont'd.)

The decrease of the MAPLHGR Operating Limit by the multiplicative factor specified in the Core Operating Limits Report accounts for the more rapid loss of core flow during Single Loop Operation than during Dual Loop Operation.

The more conservative MAPLHGR reduction factors in the Core Operating Limits Report are applied if one relief and one recirculation loop are inoperable at the same time. The small break LOCA is the concern for one relief valve out-of-service; the large break LOCA is the concern for Single Loop Operation. Selecting the more conservative MAPLHGR multipliers will cover both the relief valve out-of-service and Single Loop Operation.

In order to prevent undue stress on the vessel nozzles and bottom head region, the recirculation loop temperature shall be within 50°F of each other prior to startup of an idle loop. The loop temperature must also be within 50°F of the reactor pressure vessel steam space coolant temperature to prevent thermal shock to the recirculation pump and recirculation nozzles. Since the coolant in the bottom of the vessel is at a lower temperature than the coolant in the upper regions of the core, undue stress on the vessel would result if the temperature difference were greater than 145°F. Additionally, asymmetric speed operation of recirculation pumps during idle loop startup induces levels of jet pump riser vibration that are higher than normal. The specific limitation of 43% of rated pump speed for the operating recirculation pump prior to the start of the idle recirculation pump ensures that the recirculation pump speed mismatch requirements presented in Specification 3.6.H.1 as well as the margin to the MCPFR Fuel Integrity Safety Limit are maintained.

I. Snubbers (Shock Suppressors)

Snubbers are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of a seismic or other event initiating dynamic loads. It is therefore required that all snubbers required to protect the primary coolant system or any other safety system or component be operable during reactor operation.

Because the snubber protection is required only during low probability events, a period of 72 hours is allowed for repairs or replacements. In case a shutdown is required, the allowance of 36 hours to reach a cold shutdown condition will permit an orderly shutdown consistent with standard operating procedures. Since plant startup should not commence with knowingly defective safety-related equipment, Specification 3.6.I.4 prohibits startup with inoperable snubbers.

When a snubber is found inoperable, a review shall be performed to determine the snubber mode of failure. Results of the review shall be used to determine if an engineering evaluation of the safety-related system or component is necessary. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the support component or system.

All safety-related hydraulic snubbers are visually inspected for overall integrity and operability. The inspection will include verification of proper orientation, adequate hydraulic fluid level and proper attachment of snubber to piping and structures.

All safety-related mechanical snubbers are visually inspected for overall integrity and operability. The inspection will include verification of proper orientation and attachments to the piping and anchor for indication of damage or impaired operability.

3.6 LIMITING CONDITION FOR OPERATION BASES (Cont'd.)

In addition, during the start-up of Dresden, Unit 2, it was found that a flow mismatch between the two sets of jet pumps caused by a difference in recirculation loops could set up a vibration until a mismatch in speed of 27% occurred. The 10% and 15% speed mismatch restrictions provide additional margin before a pump vibration problem will occur.

Analyses have been performed which support indefinite operation in single loop provided the restrictions discussed in Specification 3.6.H.3 are implemented within 24 hours.

The LSSSs are corrected to account for backflow through the idle jet pumps above 20-40% of rated recirculation pump speed. This assures that the original drive flow biased rod block and scram trip settings are preserved during Single Loop Operation.

The MCPR safety limit has been increased by 0.01 to account for core flow and TIP reading uncertainties which are used in the statistical analysis of the safety limit. In addition, the rated flow MCPR Operating Limit has also been increased by 0.01 to maintain the same margin to the safety limit as during Dual Loop Operation.

During single loop operation for greater than 24 hours, the idle recirculation pump is electrically prohibited from starting until ready to resume two loop operation. This is done to prevent a cold water injection transient caused by an inadvertent pump startup.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20565-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 121
License No. DPR-25

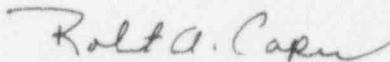
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated March 26, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter 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 3.B. of Facility Operating License No. DPR-25 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 121, 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



Robert A. Capra, Director
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 16, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 121

FACILITY OPERATING LICENSE NO. DPR-25

DOCKET NO. 50-249

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

viii
3/4.6-13
3/4.6-14
3/4.6-15
3/4.6-16
3/4.6-24
B 3/4.6-36
B 3/4.6-37

INSERT

viii
3/4.6-13
3/4.6-14
3/4.6-15
3/4.6-16
3/4.6-24
B 3/4.6-36
B 3/4.6-37

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Table 3.12-3 Deleted	
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Figure 3.6.2 Deleted	3/4.6-24
Figure 4.6.1 Minimum Reactor Pressurization Temperature	B 3/4.6-29
Figure 4.6.2 Chloride Stress Corrosion Test Results at 500°F	B 3/4.6-31
Figure 4.8.1 Owner Controlled/Unrestricted Area Boundary	B 3/4.8-38
Figure 4.8.2 Detail of Central Complex	B 3/4.8-39
Figure 6.1-1 Offsite Organization - Deleted	
Figure 6.1-2 Station Organization - Deleted	

DRESDEN III DPR-25
Amendment No. 121

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3.6 LIMITING CONDITION FOR OPERATION
(Cont'd.)

4.6 SURVEILLANCE REQUIREMENT
(Cont'd.)

3. During Single Loop Operation for more than 24 hours, the following restrictions are required:
 - a. The recirculation pump in the idle loop shall be electrically prohibited from starting except to permit testing in preparation for returning to service.
 - b. The flow biased RBM Rod Block LSSS shall be reduced by 4.0% (Specification 3.2.C.1);
 - c. The flow biased APRM Rod Block LSSS shall be reduced by 3.5% (Specification 2.1.B);
 - d. The flow biased APRM scram LSSS shall be reduced by 3.5% (Specification 2.1.A.1);
 - e. The MCPR Safety Limit shall be increased by 0.01 (Specification 1.1.A);
 - f. The rated flow MCPR Operating Limit shall be increased by 0.01 (Specification 3.5.L.2);

3. Deleted

3.6 LIMITING CONDITION FOR OPERATION
(Cont'd.)

- g. The MAPLHGR Operating Limit shall be reduced by the appropriate multiplicative factor from the Core Operating Limits Report (Specification 3.5.I). If, concurrently, one Automatic Pressure Relief Subsystem relief valve is out-of-service, the MAPLHGR Operating Limit shall be reduced by the appropriate multiplicative factor from the Core Operating Limits Report.

4. With no reactor coolant system recirculation loops in operation, reduce core thermal power to less than 25% of rated within 2 hours and place the unit in hot shutdown within the following 12 hours.

5. Idle Recirculation Loop Startup

An idle recirculation pump shall not be started unless the temperature differential between the reactor vessel steam space coolant and the bottom head drain line coolant is less than or equal to 145°F*, and:

- a. When both pumps have been idle, unless the temperature differential between the reactor coolant within the idle loop to be started up and the coolant in the reactor pressure vessel is less than or equal to 50°F, or
- b. When only one loop has been idle, unless the temperature differential between the reactor coolant within the idle and operating recirculation loops is less than or equal to 50°F and the speed of the operating pump is less than or equal to 43% of rated pump speed.

I. Snubbers (Shock Suppressors)

4.6 SURVEILLANCE REQUIREMENT
(Cont'd.)

5. Idle Recirculation Loop Startup

The temperature differentials and flow rates shall be determined to be within the limits within 15 minutes prior to startup of an idle recirculation loop.

I. Snubbers (Shock Suppressors)

The following surveillance requirements apply to safety related snubbers.

*Only applicable with reactor pressure vessel steam space pressure \geq 25 psig.

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3.6 LIMITING CONDITION FOR OPERATION BASES (Cont'd.)

In addition, during the start-up of Dresden, Unit 2, it was found that a flow mismatch between the two sets of jet pumps caused by a difference in recirculation loops could set up a vibration until a mismatch in speed of 27% occurred. The 10% and 15% speed mismatch restrictions provide additional margin before a pump vibration problem will occur.

Analyses have been performed which support indefinite operation in single loop provided the restrictions discussed in Specification 3.6.H.3 are implemented within 24 hours.

The LSSSs are corrected to account for backflow through the idle jet pumps above 20-40% of rated recirculation pump speed. This assures that the original drive flow biased rod block and scram trip settings are preserved during Single Loop Operation.

The MCPR safety limit has been increased by 0.01 to account for core flow and TIP reading uncertainties which are used in the statistical analysis of the safety limit. In addition, the rated flow MCPR Operating Limit has also been increased by 0.01 to maintain the same margin to the safety limit as during Dual Loop Operation.

During single loop operation for greater than 24 hours, the idle recirculation pump is electrically prohibited from starting until ready to resume two loop operation. This is done to prevent a cold water injection transient caused by an inadvertent pump startup.

3.6 LIMITING CONDITION FOR OPERATION BASES (Cont'd.)

The decrease of the MAPLHGR Operating Limit by the multiplicative factor specified in the Core Operating Limits Report accounts for the more rapid loss of core flow during Single Loop Operation than during Dual Loop Operation.

The more conservative MAPLHGR reduction factors in the Core Operating Limits Report are applied if one relief and one recirculation loop are inoperable at the same time. The small break LOCA is the concern for one relief valve out-of-service; the large break LOCA is the concern for Single Loop Operation. Selecting the more conservative MAPLHGR multipliers will cover both the relief valve out-of-service and Single Loop Operation.

In order to prevent undue stress on the vessel nozzles and bottom head region, the recirculation loop temperature shall be within 50°F of each other prior to startup of an idle loop. The loop temperature must also be within 50°F of the reactor pressure vessel steam space coolant temperature to prevent thermal shock to the recirculation pump and recirculation nozzles. Since the coolant in the bottom of the vessel is at a lower temperature than the coolant in the upper regions of the core, undue stress on the vessel would result if the temperature difference were greater than 145°F. Additionally, asymmetric speed operation of recirculation pumps during idle loop startup induces levels of jet pump riser vibration that are higher than normal. The specific limitation of 43% of rated pump speed for the operating recirculation pump prior to the start of the idle recirculation pump ensures that the recirculation pump speed mismatch requirements presented in Specification 3.6.H.1 as well as the margin to the MCPR Fuel Integrity Safety Limit are maintained.

I. Snubbers (Shock Suppressors)

Snubbers are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of a seismic or other event initiating dynamic loads. It is therefore required that all snubbers required to protect the primary coolant system or any other safety system or component be operable during reactor operation.

Because the snubber protection is required only during low probability events, a period of 72 hours is allowed for repairs or replacements. In case a shutdown is required, the allowance of 36 hours to reach a cold shutdown condition will permit an orderly shutdown consistent with standard operating procedures. Since plant startup should not commence with knowingly defective safety-related equipment, Specification 3.6.I.4 prohibits startup with inoperable snubbers.

When a snubber is found inoperable, a review shall be performed to determine the snubber mode of failure. Results of the review shall be used to determine if an engineering evaluation of the safety-related system or component is necessary. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the support component or system.

All safety-related hydraulic snubbers are visually inspected for overall integrity and operability. The inspection will include verification of proper orientation, adequate hydraulic fluid level and proper attachment of snubber to piping and structures.

All safety-related mechanical snubbers are visually inspected for overall integrity and operability. The inspection will include verification of proper orientation and attachments to the piping and anchor for indication of damage or impaired operability.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-254

QUAD CITIES NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 147
License No. DPR-29

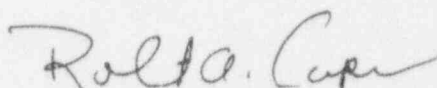
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 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted 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 3.B. of Facility Operating License No. DPR-29 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 147, 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



Robert A. Capra, Director
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 16, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 147

FACILITY OPERATING LICENSE NO. DPR-29

DOCKET NO. 50-254

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

1.1/2.1-3

3.6/4.6-11

3.6/4.6-12

-

3.6/4.6-24

-

INSERT

1.1/2.1-3

3.6/4.6-11

3.6/4.6-12

3.6/4.6-12a

3.6/4.6-24

3.6/4.6-24a

QUAD CITIES
DPR-29

3. IRM Flux Scram Trip Setting

The IRM flux scram setting shall be set at less than or equal to 120/125 of full scale.

B. Core Thermal Power Limit (Reactor Pressure \leq 800 psig)

When the reactor pressure \leq 800 psig or core flow is less than 10% of rated, the core thermal power shall not exceed 25% of rated thermal power.

B. APRM Rod Block Setting

The APRM rod block setting shall be shown in Figure 2.1-1 and shall be:

$$S \leq (.58W_0 + 50)$$

The definitions used above for the APRM scram trip apply. In the event of operation with a maximum fraction limiting power density (MFLPD) greater than the fraction of rated power (FRP), the setting shall be modified as follows:

$$S \leq (.58W_0 + 50) \frac{FRP}{MFLPD}$$

The definitions used above for the APRM scram trip apply.

The ratio of FRP to MFLPD shall be set equal to 1.0 unless the actual operating value is less than 1.0, in which case the actual operating value will be used.

This may also be performed by increasing the APRM gain by the inverse ratio, MFLPD/FRP, which accomplishes the same degree of protection as reducing the trip setting by FRP/MFLPD.

QUAD CITIES
DPR-29

H. Recirculation Pump Flow Limitations

1. Whenever both recirculation pumps are in operation, pump speeds shall be maintained within 10% of each other when power level is greater than 80% and within 15% of each other when power level is less than 80%.
2. If Specification 3.6.H.1 cannot be met, one recirculation pump shall be tripped.
3. During Single Loop Operation for more than 24 hours, the following restrictions are required:
 - a. The MCPR Safety Limit shall be increased by 0.01 (T.S. 1.1A);
 - b. The MCPR Operating Limit, as specified in the CORE OPERATING LIMITS REPORT, shall be increased by 0.01 (T.S. 3.5.K);
 - c. The flow biased APRM Scram and Rod Block Setpoints shall be reduced by 3.5% to read as follows:

T.S. 2.1.A.1;
 $S \leq .58WD + 58.5$

T.S. 2.1.A.1;*
 $S \leq (.58WD + 58.5) \text{ FRP/MFLPD}$

T.S. 2.1.B;
 $S \leq .58WD + 46.5$

T.S. 2.1.B;*
 $S \leq (.58WD + 46.5) \text{ FRP/MFLPD}$

i.S. 3.2.C
(Table 3.2-3);*
APRM Upscale $\leq (.58WD + 46.5)$
FRP/MFLPD

*In the event that MFLPD exceeds FRP.

H. Recirculation Pump Flow Limitations

Recirculation pumps speed shall be checked daily for mismatch.

- d. The flow biased RBM Rod Block setpoints, as specified in the CORE OPERATING LIMITS REPORT, shall be reduced by 4.0%.
 - e. The recirculation pump in the idle loop shall be electrically prohibited from starting except to permit testing in preparation for returning to service.
4. With no reactor coolant system recirculation loops in operation, reduce core thermal power to less than 25% of rated within 2 hours and place the unit in hot shutdown within the following 12 hours.
5. Idle Recirculation Loop Startup
- An idle recirculation pump shall not be started unless the temperature differential between the reactor vessel steam space coolant and the bottom head drain line coolant is less than or equal to 145°F*, and:
- a. When both pumps have been idle, unless the temperature differential between the reactor coolant within the idle loop to be started up and the coolant in the reactor pressure vessel is less than or equal to 50°F, or
 - b. When only one loop has been idle, unless the temperature differential between the reactor coolant within the idle and operating recirculation loops is less than or equal to 50°F and the speed of the operating pumps is less than or equal to 45% of rated pump speed.
5. Idle Recirculation Loop Startup
- The temperature differentials and flow rates shall be determined to be within the limits within 15 minutes prior to startup of an idle recirculation loop.

*Only applicable with reactor pressure vessel steam space pressure \geq 25 psig.

QUAD CITIES
DPR-29

I. Shock Suppressors (Snubbers)

1. During all modes of operation except Shutdown and Refuel, all snubbers on safety-related piping systems shall be operable except as noted in 3.6.I.2 following.

I. Shock Suppressors (Snubbers)

The following surveillance requirements apply to all snubbers on safety-related piping systems.

1. Visual inspections shall be performed in accordance with the following schedule utilizing the acceptance criteria given by Specification 4.6.I.2.

Number of Snubbers Found Inoperable During Inspection or During Inspection Interval	Next Required Inspection Interval
0	18 months ±25%
1	12 months ±25%
2	6 months ±25%
3,4	124 days ±25%
5,6,7	62 days ±25%
≥8	31 days ±25%

The required inspection interval shall not be lengthened more than one step at a time.

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H. Recirculation Pump Flow Limitations

The LPCI loop selection logic is described in the SAR, Section 6.2.4.2.5. For some limited low probability accidents with the recirculation loop operating with large speed differences, it is possible for the logic to select the wrong loop for injection. For these limited conditions, the core spray itself is adequate to prevent fuel temperatures from exceeding allowable limits. However, to limit the probability even further, a procedural limitation has been placed on the allowable variation in speed between the recirculation pumps.

The licensee's analyses indicate that above 80% power the loop select logic could not be expected to function at a speed differential of 15%. Below 80% power, the loop select logic would not be expected to function at a speed differential of 20%. This specification provides a margin of 5% in pump speed differential before a problem could arise. If the reactor is operating on one pump, the loop select logic trips that pump before making the loop selection.

Analyses have been performed which support indefinite single loop operation provided the appropriate restrictions are implemented within 24 hours. The MCPR Safety Limit has been increased by 0.01 to account for core flow and TIP reading uncertainties which are used in the statistical analysis of the safety limit. The MCPR Operating Limit, as specified in the CORE OPERATING LIMITS REPORT, has also been increased by 0.01 to maintain the same margin to the safety limit as during Dual Loop operation.

The flow biased scram and rod block setpoints are reduced to account for uncertainties associated with backflow through the idle jet pumps when the operating recirculation pump is above 20-40% of rated speed. This assures that the flow biased trips and blocks occur at conservative neutron flux levels for a given core flow.

In order to prevent undue stress on the vessel nozzles and bottom head region, the recirculation loop temperature shall be within 50 °F of each other prior to startup of an idle loop. The loop temperature must also be within 50 °F of the reactor pressure vessel steam space coolant temperature to prevent thermal shock to the recirculation pump and recirculation nozzles. Since the coolant in the bottom of the vessel is at a lower temperature than the coolant in the upper regions of the core, undue stress on the vessel would result if the temperature difference were greater than 145 °F. Additionally, asymmetric speed operation of recirculation pumps during idle loop startup induces levels of jet pump riser vibration that are higher than normal. The specific limitation of 45% of rated pump speed for the operating recirculation pump prior to the start of the idle recirculation pump ensures that the recirculation pump speed mismatch requirements presented in Specification 3.6.H.1 are maintained.

I. Snubbers

All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection

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program are those installed on non-safety-related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety-related system.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20655-0001

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 143
License No. DPR-30

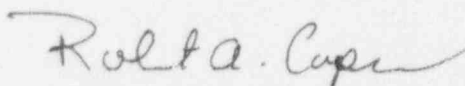
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 26, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter 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 3.B. of Facility Operating License No. DPR-30 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 143, 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



Robert A. Capra, Director
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 16, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 143

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

1.1/2.1-2

3.6/4.6-5b

-

3.6/4.6-13a

INSERT

1.1/2.1-2

3.6/4.6-5b

3.6/4.6-5b(i)

3.6/4.6-13a

D. Reactor Water Level (Shutdown Condition)

Whenever the reactor is in the shutdown condition with irradiated fuel in the reactor vessel, the water level shall not be less than that corresponding to 12 inches above the top of the active fuel* when it is seated in the core.

* Top of active fuel is defined to be 360 inches above vessel zero (See Bases 3.2).

Where:

FRP = fraction of rated thermal power (2511 MWt)

MFLPD = maximum fraction of limiting power density where the limiting power density for each bundle is the design linear heat generation rate for that bundle.

The ratio of FRP/MFLPD shall be set equal to 1.0 unless the actual operating value is less than 1.0 in which case the actual operating value will be used. This adjustment may also be performed by increasing the APRM gain by the inverse ratio, MFLPD/FRP, which accomplishes the same degree of protection as reducing the trip setting by FRP/MFLPD.

2. APRM Flux Scram Trip Setting (Refueling or Startup and Hot Standby Mode)

When the reactor mode switch is in the Refuel or Startup Hot Standby position, the APRM scram shall be set at less than or equal to 15% of rated neutron flux.

3. IRM Flux Scram Trip Setting

The IRM flux scram setting shall be set at less than or equal to 120/125 of full scale.

B. APRM Rod Block Setting

The APRM rod block setting shall be as shown in Figure 2.1-1 and shall be:

$$S \leq (0.58W_D + 50)$$

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3. During Single Loop Operation for more than 24 hours, the following restrictions are required:

- a. The MCPR Safety Limit shall be increased by 0.01 (T.S. 1.1A);
- b. The MCPR Operating Limit, as specified in the CORE OPERATING LIMITS REPORT, shall be increased by 0.01 (T.S. 3.5.K);
- c. The flow biased APRM Scram and Rod Block Setpoints shall be reduced by 3.5% to read as follows:

T.S. 2.1.A.1;
 $S \leq .58 \text{ WD} + 58.5$

T.S. 2.1.A.1;*
 $S \leq (.58 \text{ WD} + 58.5) \text{ FRP/MFLPD}$

T.S. 2.1.B;
 $S \leq .58 \text{ WD} + 46.5$

T.S. 2.1.B; *
 $S \leq (.58 \text{ WD} + 46.5) \text{ FRP/MFLPD}$

T.S. 3.2.C (Table 2.1-3);*
APRM upscale $\leq (.58 \text{ WD} + 46.5)$
FRP/MFLPD

* In the event that MFLPD exceeds FRP.

- d. The flow biased RBM Rod Block setpoints, as specified in the CORE OPERATING LIMITS REPORT, shall be reduced by 4.0%.
- e. The recirculation pump in the idle loop shall be electrically prohibited from starting except to permit testing in preparation for returning to service.

4. With no reactor coolant system recirculation loops in operation, reduce core thermal power to less than 25% of rated within 2 hours and place the unit in hot shutdown within the following 12 hours.

5. Idle Recirculation Loop Startup

An idle recirculation pump shall not be started unless the temperature differential between the reactor vessel steam space coolant and the bottom head drain line coolant is less than or equal to 145°F*, and:

- a. When both pumps have been idle, unless the temperature differential between the reactor coolant within the idle loop to be started up and the coolant in the reactor pressure vessel is less than or equal to 50°F, or
- b. When only one loop has been idle, unless the temperature differential between the reactor coolant within the idle and operating recirculation loops is less than or equal to 50°F and the speed of the operating pumps is less than or equal to 45% of rated pump speed.

5. Idle Recirculation Loop Startup

The temperature differentials and flow rates shall be determined to be within the limits within 15 minutes prior to startup of an idle recirculation loop.

*Only applicable with reactor pressure vessel steam space pressure \geq 25 psig.

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H. Recirculation Pump Flow Limitations

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