

October 8 1998

Mr. Oliver D. Kingsley, President  
Nuclear Generation Group  
Commonwealth Edison Company  
Executive Towers West III  
1400 Opus Place, Suite 500  
Downers Grove, IL 60515

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. MA1937, MA1938, MA1966,  
AND MA1967)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 169 to Facility Operating License No. DPR-19 and Amendment No. 164 to Facility Operating License No. DPR-25 for Dresden Nuclear Power Station, Units 2 and 3, and Amendment No. 181 to Facility Operating License No. DPR-29 and Amendment No. 179 to Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2, respectively. The amendments are in response to your application dated May 18, 1998.

The amendments will change several Technical Specification (TS) values to reflect design values. These TS values affect (1) 125/250 volts direct current (Vdc) electrolyte temperature; (2) control rod drive accumulator pressure; (3) standby liquid control solution temperature; (4) ultimate heat sink minimum water level; (5) shutdown suppression chamber level (Quad Cities only); and (6) a degraded voltage setpoint (Quad Cities only).

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

ORIG. SIGNED BY  
Robert M. Pulsifer, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249, 50-254, 50-265

Enclosures:

1. Amendment No. 169 to DPR-19
2. Amendment No. 164 to DPR-25
3. Amendment No. 181 to DPR-29
4. Amendment No. 179 to DPR-30
5. Safety Evaluation

cc w/encls: See next page

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 M. Ring, RIII OGC, O15B18 JCalvo TMarsh TCollins

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PDR ADOCK 05000237  
P PDR

Handwritten initials and numbers: #117, 8788, 9/2/98

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Commonwealth Edison Company

cc:

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Dresden Station Manager  
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Units 2 and 3  
Quad Cities Nuclear Power Station  
Units 1 and 2

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U.S. NRC, Region III  
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Office of Nuclear Facility Safety  
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O. Kingsley  
Commonwealth Edison Company

- 2 -

Dresden Nuclear Power Station  
Units 2 and 3  
Quad Cities Nuclear Power Station  
Units 1 and 2

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Ms. Irene Johnson, Licensing Director  
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22710 206th Avenue N.  
Cordova, Illinois 61242-9740



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

October 8, 1998

Mr. Oliver D. Kingsley, President  
Nuclear Generation Group  
Commonwealth Edison Company  
Executive Towers West III  
1400 Opus Place, Suite 500  
Downers Grove, IL 60515

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. MA1937, MA1938, MA1966,  
AND MA1967)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 169 to Facility Operating License No. DPR-19 and Amendment No. 164 to Facility Operating License No. DPR-25 for Dresden Nuclear Power Station, Units 2 and 3, and Amendment No. 181 to Facility Operating License No. DPR-29 and Amendment No. 179 to Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2, respectively. The amendments are in response to your application dated May 18, 1998.

The amendments will change several Technical Specification (TS) values to reflect design values. These TS values affect (1) 125/250 volts direct current (Vdc) electrolyte temperature; (2) control rod drive accumulator pressure; (3) standby liquid control solution temperature; (4) ultimate heat sink minimum water level; (5) shutdown suppression chamber level (Quad Cities only); and (6) a d. graded voltage setpoint (Quad Cities only).

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert M. Pulsifer".

Robert M. Pulsifer, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249, 50-254, 50-265

Enclosures:

1. Amendment No. 169 to DPR-19
2. Amendment No. 164 to DPR-25
3. Amendment No. 181 to DPR-29
4. Amendment No. 179 to DPR-30
5. Safety Evaluation

cc w/encls: See next page



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. 169  
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 May 18, 1998, 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:

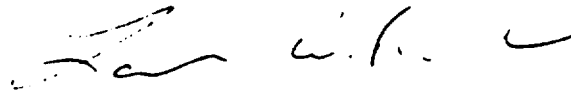
9810150180 981008  
PDR ADOCK 05000237  
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 169, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lawrence W. Rossbach, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 8, 1998



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 164  
License No. DPR-25

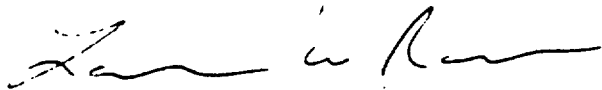
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated May 18, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules 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. 164, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lawrence W. Rossbach, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 8, 1998



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. 169  
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 May 18, 1998, 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:

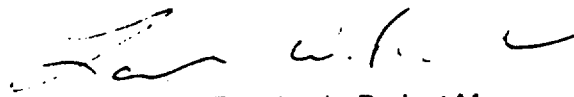
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(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 169, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lawrence W. Rossbach, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 8, 1998



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 164  
License No. DPR-25

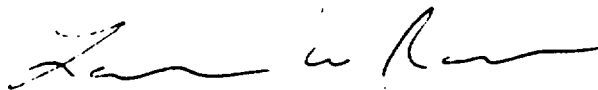
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated May 18, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules 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. 164, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lawrence W. Rossbach, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 8, 1998

ATTACHMENT TO LICENSE AMENDMENT NOS. 169 AND 164

FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25

DOCKET NOS. 50-237 AND 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

3/4.3-9  
3/4.4-3  
3/4.8-5  
3/4.9-13

INSERT

3/4.3-9  
3/4.4-3  
3/4.8-5  
3/4.9-13

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 169, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lawrence W. Rossbach, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 8, 1998



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 164  
License No. DPR-25

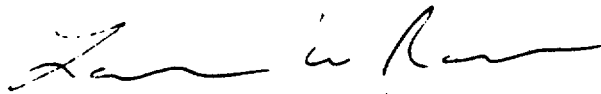
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated May 18, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules 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. 164, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lawrence W. Rossbach, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 8, 1998

ATTACHMENT TO LICENSE AMENDMENT NOS. 169 AND 164

FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25

DOCKET NOS. 50-237 AND 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

3/4.3-9  
3/4.4-3  
3/4.8-5  
3/4.9-13

INSERT

3/4.3-9  
3/4.4-3  
3/4.8-5  
3/4.9-13

3.3 - LIMITING CONDITIONS FOR OPERATION

G. Control Rod Scram Accumulators

All control rod scram accumulators shall be OPERABLE.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2 and 5<sup>(a)</sup>.

ACTION:

1. In OPERATIONAL MODE 1 or 2:
  - a. With one control rod scram accumulator inoperable, within 8 hours:
    - 1) Restore the inoperable accumulator to OPERABLE status, or
    - 2) Declare the control rod associated with the inoperable accumulator inoperable.
  - b. With the provisions of ACTION 1.a above not met, be in at least HOT SHUTDOWN within the next 12 hours.
  - c. With more than one control rod scram accumulator inoperable, declare the associated control rods inoperable and:

4.3 - SURVEILLANCE REQUIREMENTS

G. Control Rod Scram Accumulators

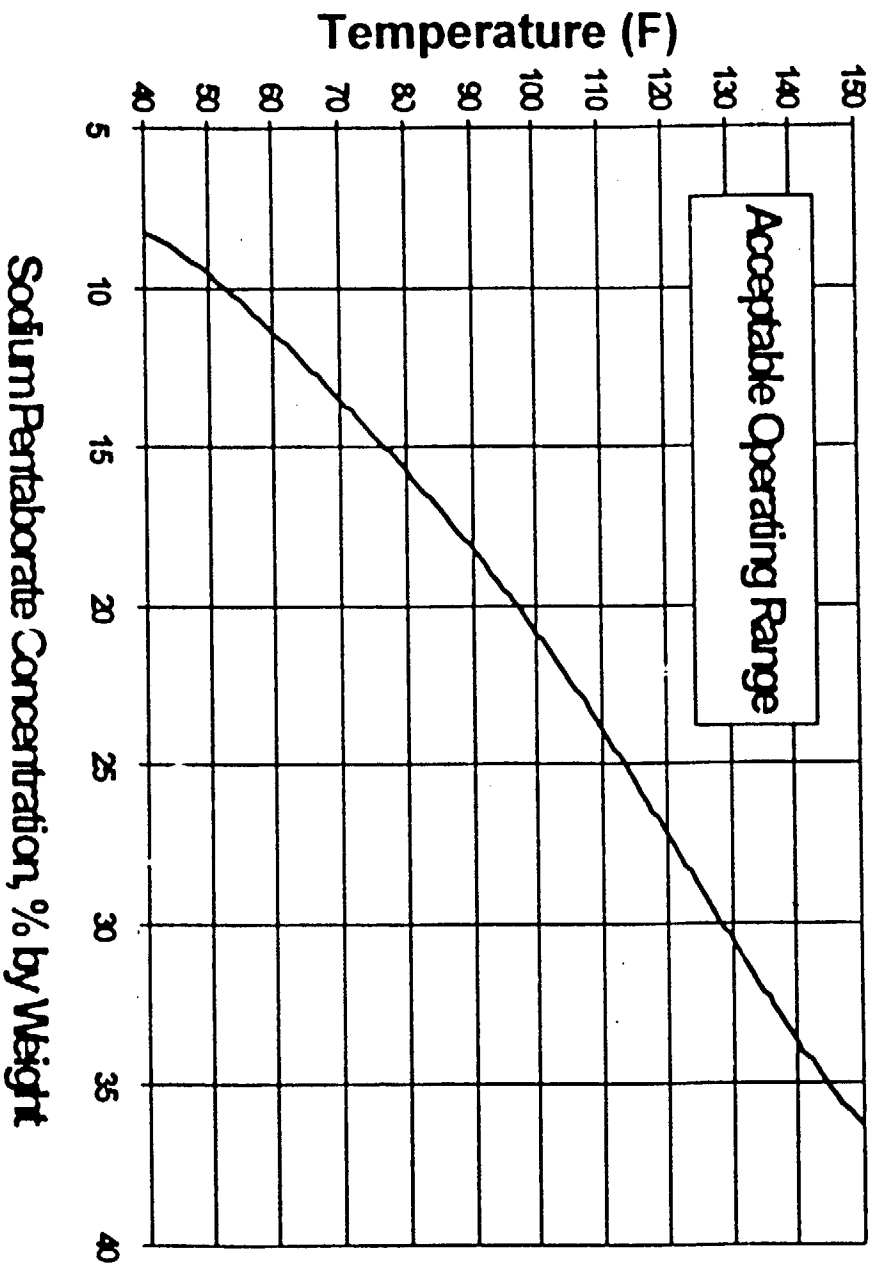
Each control rod scram accumulator shall be determined OPERABLE at least once per 7 days by verifying that the indicated pressure is  $\geq 940$  psig unless the control rod is fully inserted and disarmed, or scrambled.

---

<sup>a</sup> In OPERATIONAL MODE 5, this Specification is applicable for the accumulators associated with each withdrawn control rod and is not applicable to control rods removed per Specification 3.10.I or 3.10.J.

FIGURE 3.4.A-1

SODIUM PENTABORATE SOLUTION TEMPERATURE REQUIREMENTS



3.8 - LIMITING CONDITIONS FOR OPERATION

## C. Ultimate Heat Sink

The ultimate heat sink shall be OPERABLE with:

1. A minimum water level at or above elevation 501 ft 6 in. Mean Sea Level, and
2. An average water temperature of  $\leq 95^{\circ}\text{F}$ .

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, 4, 5 and \*.

ACTION:

With the requirements of the above specification not satisfied:

1. In OPERATIONAL MODE(s) 1, 2 or 3, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
2. In OPERATIONAL MODE(s) 4 or 5 declare the diesel generator cooling water system inoperable and take the ACTION required by Specification 3.8.B.
3. In OPERATIONAL MODE \*, declare the diesel generator cooling water system inoperable and take the ACTION required by Specification 3.8.B. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

## C. Ultimate Heat Sink

The ultimate heat sink shall be determined OPERABLE at least once per 24 hours by verifying the average water temperature and water level to be within their limits.

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\* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential to drain the reactor vessel.

## 3.9 - LIMITING CONDITIONS FOR OPERATION

2. With one of the above required 125 volt station batteries and/or chargers inoperable, within 2 hours<sup>(c)</sup>, either restore the inoperable equipment to OPERABLE status, or place an OPERABLE corresponding alternate 125 volt battery (with an OPERABLE full capacity charger) in service.
3. With the provisions of either ACTION 1 or 2 above not met, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
4. With any Category A parameter(s) outside the limit(s) shown in Table 4.9.C-1, the battery may be considered OPERABLE provided that its associated charger is OPERABLE, and within 24 hours all the category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 6 days.
5. With any Category B parameter(s) outside the limit(s) shown in Table 4.9.C-1, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within the limit(s) within 7 days.

## 4.9 - SURVEILLANCE REQUIREMENTS

- c. The average electrolyte temperature of all connected cells is above 65°F.
3. At least every 18 months by verifying that:
  - a. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
  - b. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.
  - c. The resistance of each cell-to-cell and terminal connection is  $\leq 150 \times 10^{-6}$  ohms or  $\leq 20\%$  above baseline connection resistance, whichever is higher.
  - d. The battery chargers will supply a load equal to the manufacturer's rating for at least 4 hours.
4. At least every 18 months, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for design duty cycle when the battery is subjected to a battery service test.

- 
- c With Unit 2 and 3 in OPERATIONAL MODE(s) 1, 2 or 3, each 125 volt battery may be inoperable for up to a maximum of seven days per operating cycle for maintenance or testing provided the alternate 125 volt battery is placed into service and is OPERABLE. If it is determined that a 125 volt battery need be replaced as a result of maintenance or testing, a specific battery may be inoperable for an additional seven days provided the alternate 125 volt battery is placed into service and is OPERABLE. With the other Unit in MODE(s) 4 or 5, operations may continue with one of the two 125 volt battery systems inoperable provided the alternate 125 volt battery is placed into service and is OPERABLE.



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

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-254

QUAD CITIES NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 181  
License No. DPR-29

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Commonwealth Edison Company (the licensee) dated May 18, 1998, 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-29 is hereby amended to read as follows:

9810150183 981008  
PDR ADOCK 05000237  
P PDR

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 181 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert M. Pulsifer, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 8, 1998



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

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 179  
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 May 18, 1998, 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. 179, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert M. Pulsifer, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
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ATTACHMENT TO LICENSE AMENDMENT NOS. 181 AND 179

FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30

DOCKET NOS. 50-254 AND 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

3/4.2-15  
3/4.3-9  
3/4.4-3  
3/4.5-8  
B3/4.5-3  
3/4.8-5  
3/4.9-12

INSERT

3/4.2-15  
3/4.3-9  
3/4.4-3  
3/4.5-8  
B3/4.5-3  
3/4.8-5  
3/4.9-12

TABLE 3.2.B-1 (Continued)  
ECCS ACTUATION INSTRUMENTATION

Functional Unit	Trip Setpoint <sup>(n)</sup>	Minimum CHANNEL(s) per Trip Function <sup>(d)</sup>	Applicable OPERATIONAL MODE(s)	ACTION
<b>5. AUTOMATIC DEPRESSURIZATION SYSTEM - TRIP SYSTEM 'B' <sup>(d)</sup></b>				
a. Reactor Vessel Water Level - Low Low	≥ 84 inches	2	1, 2, 3	30
b. Drywell Pressure - High <sup>(n)</sup>	≤ 2.5 psig	2	1, 2, 3	30
c. Initiation Timer	≤ 120 sec	1	1, 2, 3	31
d. Low Low Level Timer	≤ 9.0 min	1	1, 2, 3	31
e. CS Pump Discharge Pressure - High (Permissive)	≥ 100 psig & ≤ 150 psig	1/pump	1, 2, 3	31
f. LPCI Pump Discharge Pressure - High (Permissive)	≥ 100 psig & ≤ 150 psig	1/pump	1, 2, 3	31
	<b>Trip Setpoint</b>	<b>Minimum CHANNEL(s) per Trip Function</b>	<b>Applicable OPERATIONAL MODE(s)</b>	<b>ACTION</b>
<b>6. LOSS OF POWER</b>				
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	3045 ± 152 volts decreasing voltage	2/bus	1, 2, 3, 4 <sup>(d)</sup> , 5 <sup>(d)</sup>	36
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	≥ 3845 volts (Unit 1) <sup>(d)(j)</sup> ≥ 3845 volts (Unit 2) <sup>(d)(j)</sup>	2/bus	1, 2, 3, 4 <sup>(d)</sup> , 5 <sup>(d)</sup>	36

3.3 - LIMITING CONDITIONS FOR OPERATION

## G. Control Rod Scram Accumulators

All control rod scram accumulators shall be OPERABLE.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2 and 5<sup>(a)</sup>.

ACTION:

## 1. In OPERATIONAL MODE 1 or 2:

- a. With one control rod scram accumulator inoperable, within 8 hours:
  - 1) Restore the inoperable accumulator to OPERABLE status, or
  - 2) Declare the control rod associated with the inoperable accumulator inoperable.
- b. With the provisions of ACTION 1.a above not met, be in at least HOT SHUTDOWN within the next 12 hours.
- c. With more than one control rod scram accumulator inoperable, declare the associated control rods inoperable and:

4.3 - SURVEILLANCE REQUIREMENTS

## G. Control Rod Scram Accumulators

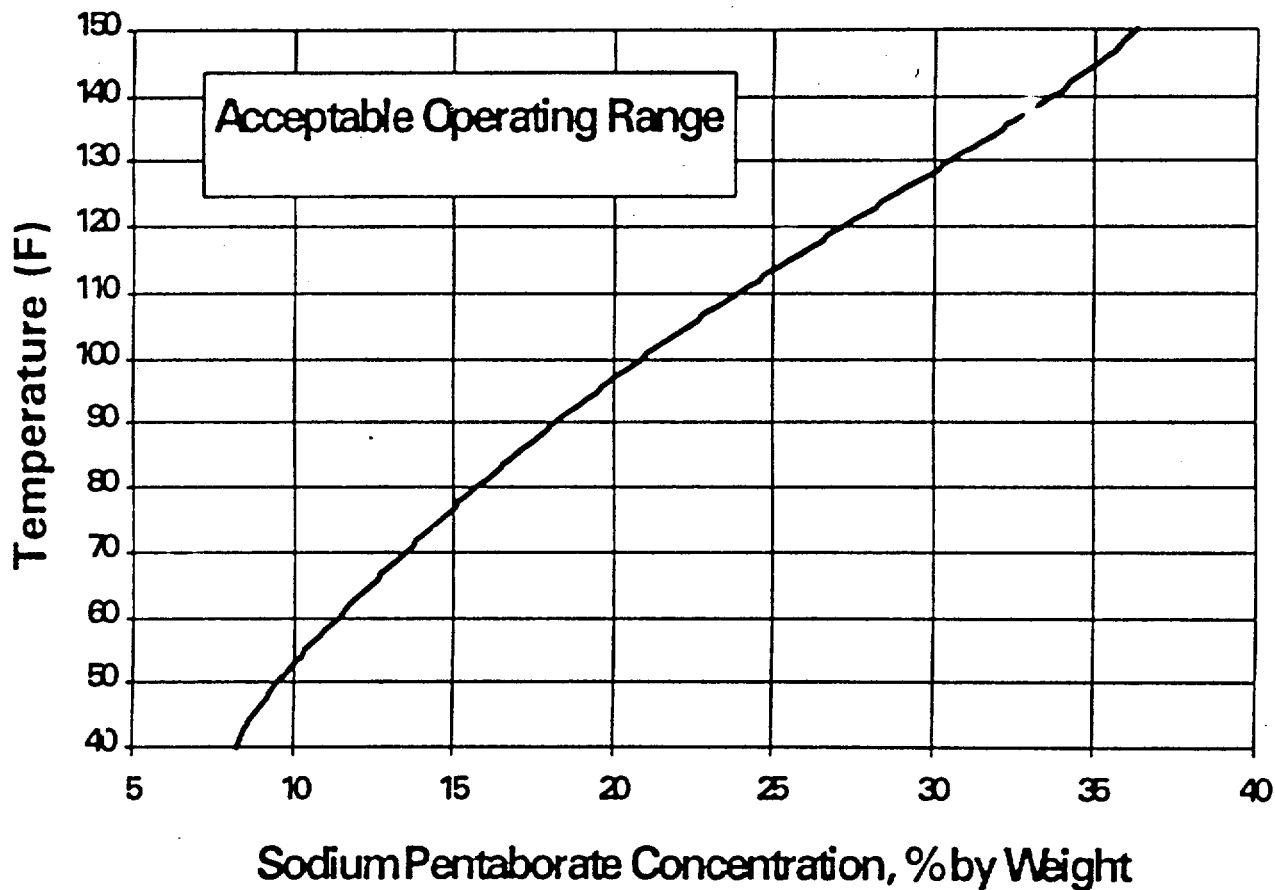
Each control rod scram accumulator shall be determined OPERABLE at least once per 7 days by verifying that the indicated pressure is  $\geq 940$  psig unless the control rod is fully inserted and disarmed, or scrambled.

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a In OPERATIONAL MODE 5, this Specification is applicable for the accumulators associated with each withdrawn control rod and is not applicable to control rods removed per Specification 3.10.I or 3.10.J.

FIGURE 3.4.A-1

SODIUM PENTABORATE SOLUTION TEMPERATURE REQUIREMENTS



3.5 - LIMITING CONDITIONS FOR OPERATION

C. Suppression Chamber

The suppression chamber shall be OPERABLE:

1. In OPERATIONAL MODE(s) 1, 2, and 3 with a contained water volume equivalent to a water level of  $\geq 14' 1''$  above the bottom of the suppression chamber.
2. In OPERATIONAL MODE(s) 4 and 5<sup>(a)</sup> with a contained volume equivalent to a water level of  $\geq 8.5'$  above the bottom of the suppression chamber, except that the suppression chamber level may be less than the limit provided that:
  - a. No operations are performed that have a potential for draining the reactor vessel,
  - b. The reactor mode switch is locked in the Shutdown or Refuel position,
  - c. The condensate storage tank contains  $\geq 140,000$  available gallons of water, and
  - d. The ECCS systems are OPERABLE per Specification 3.5.B.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, 4 and 5<sup>(a)</sup>.

4.5 - SURVEILLANCE REQUIREMENTS

C. Suppression Chamber

The suppression chamber shall be determined OPERABLE by verifying:

1. For OPERATIONAL MODE(s) 1, 2 and 3, at least once per 24 hours, the water level to be  $\geq 14' 1''$ .
2. For OPERATIONAL MODE(s) 4 or 5<sup>(a)</sup>, at least once per 12 hours:
  - a. The water level to be  $\geq 8.5'$ , or
  - b. Verify the alternate conditions of Specification 3.5.C.2, or the conditions of footnote (a), to be satisfied.

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a The suppression chamber is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded or being flooded from the suppression pool, the spent fuel pool gates are removed when the cavity is flooded and the water level is maintained within the limits of Specification 3.10.G and 3.10.H.

BASES3/4.5.C      Suppression Chamber

The suppression chamber is required to be OPERABLE as part of the ECCS to ensure that a sufficient supply of water is available to the HPCI and CS systems and the LPCI subsystem in the event of a LOCA. This limit on suppression chamber minimum water volume ensures that sufficient water is available to permit recirculation cooling flow to the core. The OPERABILITY of the suppression chamber in OPERATIONAL MODE(s) 1, 2 or 3 is also required by Specification 3.7.K.

Repair work might require making the suppression chamber inoperable. This specification will permit those repairs to be made and concurrently provide assurance that the irradiated fuel has an adequate cooling water supply when the suppression chamber must be made inoperable, including draining, in OPERATIONAL MODE(s) 4 or 5.

In OPERATIONAL MODE(s) 4 and 5 the suppression chamber minimum required water volume is reduced because the reactor coolant is maintained at or below 212°F. Since pressure suppression is not required below 212°F, the minimum water volume is based on net positive suction head (NPSH), recirculation volume and vortex prevention plus a safety margin for conservatism. With the suppression chamber water level less than the required limit, all ECCS subsystems are inoperable unless they are aligned to an OPERABLE condensate storage tank. When the suppression chamber level is less than 8.5 feet, the CS system or the LPCI subsystem is considered OPERABLE only if it can take suction from the condensate storage tank, and the condensate storage tank water level is sufficient to provide the required NPSH for the CS or LPCI pumps. Therefore, a verification that either the suppression chamber water level is greater than or equal to 8.5 feet or that CS or LPCI is aligned to take suction from the condensate storage tank and the condensate storage tank contains greater than or equal to 140,000 gallons of make-up water, available to the reactor pressure vessel.

3/4.5.D      Reactor Core Isolation Cooling

The Reactor Core Isolation Cooling (RCIC) system is provided to supply continuous makeup water to the reactor core when the feedwater system is isolated from the turbine and when the feedwater system is not available. Under these conditions, the pumping capacity of the RCIC system is sufficient to maintain the water level above the core without any other water system in operation. If the water level in the reactor vessel decreases to the RCIC initiation level, the system automatically starts. The system may also be manually initiated at any time. The RCIC system is conservatively required to be OPERABLE whenever reactor pressure exceeds 150 psig even though the LPCI mode of the residual heat removal (RHR) system provides adequate core cooling up to 350 psig.

The RCIC system specifications are applicable during OPERATIONAL MODE(s) 1, 2 and 3 when reactor vessel pressure exceeds 150 psig because RCIC is the primary non-ECCS source of core cooling when the reactor is pressurized.

3.8 - LIMITING CONDITIONS FOR OPERATION

## C. Ultimate Heat Sink

The ultimate heat sink shall be OPERABLE with:

1. A minimum water level at or above elevation 568 ft Mean Sea Level, and
2. An average water temperature of  $\pm 95^{\circ}\text{F}$ .

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, 4, 5 and \*.

ACTION:

With the requirements of the above specification not satisfied:

1. In OPERATIONAL MODE(s) 1, 2 or 3, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
2. In OPERATIONAL MODE(s) 4 or 5 declare the RHRSW system and the diesel generator cooling water system inoperable and take the ACTION(s) required by Specifications 3.8.A and 3.8.B.
3. In OPERATIONAL MODE \*, declare the diesel generator cooling water system inoperable and take the ACTION(s) required by Specification 3.8.B. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

## C. Ultimate Heat Sink

The ultimate heat sink shall be determined OPERABLE at least once per 24 hours by verifying the average water temperature and water level to be within their limits.

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\* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

## ELECTRICAL POWER SYSTEMS

D.C. Sources - Operating 3/4.9.C

### 3.9 - LIMITING CONDITIONS FOR OPERATION

#### C. D.C. Sources - Operating

As a minimum, the following D.C. electrical power sources shall be OPERABLE with the identified parameters within the limits specified in Table 4.9.C-1:

1. Two station 250 volt batteries, each with a full capacity charger.
2. Two station 125 volt batteries, each with a full capacity charger.

#### APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, and 3.

#### ACTION:

1. With one of the above required 250 volt station batteries and/or chargers inoperable, restore the inoperable equipment to OPERABLE status within 72 hours.

### 4.9 - SURVEILLANCE REQUIREMENTS

#### C. D.C. Sources - Operating

Each of the required 125 volt and 250 volt batteries and chargers shall be demonstrated OPERABLE<sup>(a)</sup>:

1. At least once per 7 days by verifying that:
  - a. The parameters in Table 4.9.C-1 meet Category A limits, and
  - b. There is correct breaker alignment to the battery chargers and total battery terminal voltage is  $\geq 125.9$  or  $\geq 260.4$  volts, as applicable, on float charge.
2. At least once per 92 days and within 7 days after a battery discharge with a battery terminal voltage below 105 or 210 volts, as applicable, or battery overcharge with battery terminal voltage above 150 or 300 volts, as applicable, by verifying that:
  - a. The parameters in Table 4.9.C-1 meet the Category B limits,
  - b. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is  $\leq 150 \times 10^{-6}$  ohms or  $\leq 20\%$  above baseline connection resistance, whichever is higher, and
  - c. The average electrolyte temperature of all connected cells is above 65°F.

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a An alternate 125 volt battery shall adhere to these same Surveillance Requirements to be considered OPERABLE.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 169 TO FACILITY OPERATING LICENSE NO. DPR-19,  
AMENDMENT NO. 164 TO FACILITY OPERATING LICENSE NO. DPR-25,  
AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-29  
AND AMENDMENT NO. 179 TO FACILITY OPERATING LICENSE NO. DPR-30  
COMMONWEALTH EDISON COMPANY  
AND  
MIDAMERICAN ENERGY COMPANY  
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3, AND  
QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2  
DOCKET NOS. 50-237, 50-249, 50-254 AND 50-265

1.0 INTRODUCTION

By letter dated May 18, 1998, Commonwealth Edison Company (ComEd, the licensee) proposed changes to revise certain Technical Specification (TS) requirements to reflect design values. These TS requirements affect 125/250 volts direct current (Vdc) electrolyte temperature, control rod drive (CRD) accumulator pressure, standby liquid control (SBLC) solution temperature, ultimate heat sink level, shutdown suppression chamber level (Quad Cities only), and degraded voltage setpoint (Quad Cities, Unit 2, only). The proposed changes will correct the current TS to reflect the current design basis.

2.0 EVALUATION

A. TS 4.9.C.2.c, 125/250 Vdc electrolyte temperature

The TSs for both Dresden and Quad Cities stations currently provide surveillance requirements (SR), TS 4.9.C, to confirm OPERABILITY of the 125/250 Vdc battery systems. The 125/250 Vdc batteries provide power to various safety-related functions including; breaker control power, logic circuits, and power to selected safety-related equipment. The battery systems are sized to start and carry the normal dc loads plus all dc loads required for safe shutdown of one unit, and the operational loads required to limit the consequences of a design-basis event on the other unit, for a period of 4 hours following the loss of all alternating current (ac) sources.

One of the requirements of the surveillance, TS 4.9.C.2.c, is to verify the average electrolyte temperature of all of the connected battery cells is above 60 degrees Fahrenheit. ComEd has determined that the sizing calculations performed for the Dresden and Quad Cities battery

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systems used a minimum average electrolyte temperature of 65 degrees Fahrenheit. The licensee has proposed changing the average electrolyte temperature from 60 degrees Fahrenheit to 65 degrees Fahrenheit in TS 4.9.C.2.c to reflect the actual minimum temperature used in the sizing calculations.

Because this change reflects the actual design calculations and a more conservative value this change is acceptable for Dresden and Quad Cities.

#### B. TS 4.3.G, Control Rod Drive Accumulator Pressure

The accumulators located on the hydraulic control units (HCU) in the CRD system for Dresden and Quad Cities help provide the motive force for the CRDs during a scram. SR 4.3.G verifies that the indicated pressure of the accumulators is sufficient to ensure that the scram performance requirements of TS 3.3 are satisfied. These accumulators are required to ensure that adequate scram insertion capability exists over the entire range of reactor pressure. The licensee stated that the original equipment specifications required the pressure setting to be 940-970 psig and the equipment manufacturer performed a confirmatory evaluation that concludes that the minimum HCU accumulator pressure should be maintained at or above 940 psig to assure compliance with the TS scram time requirements. The licensee proposes to change the current TS pressure requirement for Dresden and Quad Cities of  $\geq 800$  psig to  $\geq 940$  psig. This change is acceptable because the  $\geq 940$  psig is more conservative than the current value of  $\geq 800$  psig and that it meets the original equipment manufacturers specifications.

#### C. TS Figure 3.4.A-1, Sodium Pentaborate Solution Temperature Requirements

The SBLC system may be used as an alternative method of achieving reactor shutdown. The SBLC systems at Dresden and Quad Cities contain a volume of sodium pentaborate at a minimum concentration of 14 percent (by weight) and the temperature is controlled to ensure the boron remains in solution. Figure 3.4.A-1 and SR 4.4.A.1.a is provided in the TS to indicate the acceptable operating range of the SBLC system. The design basis for the SBLC requires the sodium pentaborate solution temperature to be maintained above the minimum saturation temperature as defined by the TS. As stated in Updated Final Safety Analysis Report (UFSAR), Section 9.3.5.2, "The ambient temperature of the solution is maintained above the minimum saturation temperature as defined by TS by the immersion heater in the solution tank." This requirement is implemented via TS 4.4.A by verifying, at least once per 24 hours, that the sodium pentaborate solution temperature is greater than the limits specified in Figure 3.4.A-1. The bases for TS 3/4.4.A state: "A 10°F margin is included in Figure 3.4.A-1 above saturation temperature to guard against boron precipitation."

ComEd had determined that the minimum temperature limit specified in the current TS Figure 3.4.A-1 for Dresden and Quad Cities does not ensure a 10 degrees Fahrenheit margin to the solubility temperature for an aqueous solution of sodium pentaborate.

The use of the solubility curve as protection against precipitation is conservative as follows. The solubility curve assures that for a given concentration and temperature, the solute will stay dissolved in the solvent. This is because the precipitation of sodium pentaborate involves an endothermic chemical reaction; therefore, the temperature of precipitation will occur at a lower temperature than the solubility temperature. The TS provide additional margin by maintaining the

sodium pentaborate solution 10 degrees Fahrenheit above the saturation temperature. For these reasons, the proposed TS Figure 3.4.A-1, restores the 10 degrees Fahrenheit margin from the theoretical solubility curve for sodium pentaborate which is based on sodium pentaborate solubility temperature, is adequate to prevent boron precipitation; therefore, this change is acceptable.

#### D. TS 3.8.C.1 Ultimate Heat Sink Minimum Water Level

The Ultimate Heat Sink (UHS) provides sufficient cooling water capacity for both normal cooldown loads or to mitigate the effects of an accident condition. ComEd has determined that the current UHS water level limits in current TS 3.8.C.1 for both Dresden and Quad Cities are not sufficient to ensure the UHS will perform in accordance with design basis requirements for the Containment Cooling Service Water Pumps (CCSW) for Dresden and the Residual Heat Removal Service Water Pumps (RHRSW) and Diesel Generator Cooling Water Pumps for Quad Cities.

During the review of the design basis for Dresden the licensee determined that there were no formal calculations that supported the current TS UHS minimum water level at or above 500 ft. Mean Sea Level (MSL). For the Design Basis Initiative the licensee did generate new calculations considering both the available Net Positive Suction Head (NPSH) and the margin to pump vortexing at the pump intake bay. It was determined through these new calculations that an UHS water level of 501 ft. 6 in. MSL is required to ensure adequate NPSH to the CCSW pumps and to avoid air entrainment from the effects of vortexing. The new UHS minimum water level meets the CCSW pump requirements and ensures the availability of the UHS; therefore, this change is acceptable for Dresden.

The current TS 3.8.C.1 for Quad Cities states that the minimum water level must be at or above 561 ft. MSL for the UHS to be OPERABLE. This 561 ft. MSL water level is based on the normal water level downstream of Lock and Dam No. 14 which is downstream of the plant on the Mississippi River. Lock and Dam No. 14 maintains the normal level of the river near the plant at 572 ft MSL. The licensee has determined, however, that there is a sand bar located near the intake which isolates the UHS from the Mississippi River at 565 ft MSL. Therefore, should there be a failure at Lock and Dam No. 14, the water level would drop to 561 ft. MSL. Therefore, the current TS level of 561 ft MSL does not provide sufficient margin of cooling water capacity. The licensee proposes to increase the TS UHS minimum water level to 568 ft. MSL to ensure sufficient water flow is maintained over the sand bar to meet the UHS requirements. The proposed changes restores the UHS required margin to provide sufficient cooling water capacity for both normal cooldown loads or to mitigate the effects of an accident condition. Therefore, this change is acceptable for Quad Cities.

#### E. TS 3/4.5.C.2, Suppression Chamber (Quad Cities Units 1 and 2 Only) BASES 3/4.5.C, Suppression Chamber (Quad Cities Units 1 and 2 Only)

TS 3.5.C.2 currently requires that the suppression chamber level be maintained at or above 7 ft in MODES 4 and 5 for it to be OPERABLE. There is an exception for MODE 5 where the suppression chamber is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded or being flooded from the suppression pool, the spent fuel pool

gates are removed when the cavity is flooded, and the water level is maintained within the limits of Specification 3.10.G, "Water Level - Reactor Vessel" and 3.10.H, "Water Level - Spent Fuel Storage Pool." The licensee has determined that this 7 ft level was based on providing adequate NPSH for a single Emergency Core Cooling System (ECCS) pump start. Even though one pump is sufficient to ensure adequate core coverage and two pumps are required to be OPERABLE in MODE(s) 4 and 5, there is a potential that all six ECCS pumps could start. The current TS value of 7 ft may not provide adequate NPSH required for all six pumps. The minimum water level for MODE(s) 4 and 5 is based on NPSH, recirculation volume and vortex prevention, and some added margin. The licensee has determined that the proper suppression chamber water level in MODE(s) 4 and 5 should be  $\geq 8.5$  ft. The proposed change in the TS and Bases provides for an adequate NPSH margin and is more conservative than the current suppression chamber level value to ensure the ECCS pumps would be available when required, therefore, this change is acceptable.

#### F. TS Table 3.2.B-1, ECCS Actuation Instrumentation (Quad Cities Unit 2 Only)

The ECCS instrumentation generates signals to automatically actuate those safety systems which provide adequate core cooling in the event of a design basis transient or accident. Table 3.2.B-1 provides the trip setpoints that are used to actuate particular ECCS systems. The licensee performed degraded voltage calculations in accordance with the criteria and staff positions in NRC letter dated June 3, 1977, regarding the susceptibility of electrical equipment to degraded voltage conditions and found that the current TS value of  $\geq 3833$  Volts is not conservative. The licensee proposes to change the setpoint for Item 6.b, "4.16kv Emergency Bus Undervoltage (Degraded Voltage)" on Table 3.2.B-1 for Quad Cities, Unit 2 from  $\geq 3833$  Volts to  $\geq 3845$  Volts. This setpoint is for relays designed to detect a sustained degraded voltage condition and to initiate protective measures such as emergency diesel generator start and load shedding. The value of  $\geq 3845$  Volts matches the comparable value for the 4.16 kv Emergency Bus Undervoltage setpoint for Unit 1. This change reflects the degraded voltage calculations, is more conservative than the current TS, and is consistent with Unit 1. Therefore, this change is acceptable for Quad Cities, Unit 2.

The licensee stated that the original values for each of these revised TS sections were non-conservative with respect to the current design basis of Dresden and Quad Cities. Administrative controls had been established at Dresden and Quad Cities to ensure that the design basis is enforced during this amendment request review.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change SRs. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation

exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (63 FR 33105). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

#### 5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Robert M. Pulsifer

Date: October 8, 1998