March 31, 199

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. MA4480 AND MA4481)

Dear Mr. Kingsley:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 187 to Facility Operating License No. DPR-29 and Amendment No. 184 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 January 21, 1999.

The amendments revise Technical Specification (TS) Section 3/4.6, "Primary System Boundary" of Appendix A and associated bases to relocate the reactor coolant chemistry requirements to the Updated Final Safety Analysis Report (UFSAR) and applicable plant procedures.

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

Sincerely,
Original signed by
Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and 50-265

Enclosures:
1. Amendment No187to DPR-29
2. Amendment No184to DPR-30
3. Safety Evaluation

cc w/encl: See next page

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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. 187
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 January 21, 1999, 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:

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B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 187 , 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Anthony Mendiola, Section Chief
Project Directorate III-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 31, 1999

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

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. 184
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 January 21, 1999, 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. 184 , 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Anthony Mendiola, Section Chief
Project Directorate III-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 31, 1999

ATTACHMENT TO LICENSE AMENDMENT NOS. 187 AND 184

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	INSERT
VIII	VIII
XXI	XXI
3/4.6-13	3/4.6-13
3/4.6-14	3/4.6-14
3/4.6-15	3/4.6-15
B 3/4.6-4	B 3/4.6-4

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

SECTION		PAGE
3/4.6	PRIMARY SYSTEM BOUNDARY	
3/4.6.A	Recirculation Loops	3/4.6-1
3/4.6.B	Jet Pumps	3/4.6-3
3/4.6.C	Recirculation Pumps	3/4.6-5
3/4.6.D	Idle Recirculation Loop Startup	3/4.6-6
3/4.6.E	Safety Valves	3/4.6-7
3/4.6.F	Relief Valves	3/4.6-8
3/4.6.G	Leakage Detection Systems	3/4.6-10
3/4.6.H	Operational Leakage	3/4.6-11
3/4.6.I	DELETED	3/4.6-13
3/4.6.J	Specific Activity	3/4.6-16
3/4.6.K	Pressure/Temperature Limits	3/4.6-19
	Figure 3.6.K-1, Pressure-Temperature Limits for Pressure Testing - Valid to 18 EFPY	
	Figure 3.6.K-2, Pressure-Temperature Limits for Pressure Testing - Valid to 20 EFPY	
	Figure 3.6.K-3, Pressure-Temperature Limits for Pressure Testing - Valid to 22 EFPY	
	Figure 3.6.K-4, Pressure-Temperature Limits for Non-Nuclear Heatup/Cooldown - Valid to 22 EFPY	
	Figure 3.6.K-5, Pressure-Temperature Limits for Critical Core Operations - Valid to 22 EFPY	
3/4.6.L	Reactor Steam Dome Pressure	3/4.6-22
3/4.6.M	Main Steam Line Isolation Valves	3/4.6-23
3/4.6.N	Structural Integrity	3/4.6-24
3/4.6.O	Residual Heat Removal - HOT SHUTDOWN	3/4.6-25
3/4.6.P	Residual Heat Removal - COLD SHUTDOWN	3/4.6-27

BASES

SECTION		PAGE
3/4.6	PRIMARY SYSTEM BOUNDARY	
3/4.6.A	Recirculation Loops	B 3/4.6-1
3/4.6.B	Jet Pumps	B 3/4.6-1
3/4.6.C	Recirculation Pumps	B 3/4.6-1
3/4.6.D	Idle Recirculation Loop Startup	B 3/4.6-1
3/4.6.E	Safety Valves	B 3/4.6-3
3/4.6.F	Relief Valves	B 3/4.6-3
3/4.6.G	Leakage Detection Systems	B 3/4.6-3
3/4.6.H	Operational Leakage	B 3/4.6-4
3/4.6.I	DELETED	B 3/4.6-4
3/4.6.J	Specific Activity	B 3/4.6-5
3/4.6.K	Pressure/Temperature Limits	B 3/4.6-5
3/4.6.L	Reactor Steam Dome Pressure	B 3/4.6-8
3/4.6.M	Main Steam Line Isolation Valves	B 3/4.6-8
3/4.6.N	Structural Integrity	B 3/4.6-8
3/4.6.O	Residual Heat Removal - HOT SHUTDOWN	B 3/4.6-8
3/4.6.P	Residual Heat Removal - COLD SHUTDOWN	B 3/4.6-8

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BASES

Leakage from the reactor coolant pressure boundary inside the drywell is detected by at least one or two independently monitored variables, such as sump level changes and drywell atmosphere radioactivity levels. The means of quantifying leakage in the drywell is the drywell floor drain sump pumps. With the drywell floor drain sump pump system inoperable, no other form of monitoring can provide the equivalent information. However, primary containment atmosphere sampling for radioactivity can provide indication of changes in leakage rates.

3/4.6.H Operational Leakage

The allowable leakage rates from the reactor coolant system have been based on the predicted and experimentally observed behavior of cracks in pipes. The normally expected background leakage due to equipment design and the detection capability of the instrumentation for determining system leakage was also considered. The evidence obtained from experiments suggests that for leakage somewhat greater than that specified for UNIDENTIFIED LEAKAGE the probability is small that the imperfection or crack associated with such leakage would grow rapidly. However, in all cases, if the leakage rates exceed the values specified or the leakage is located and known to be PRESSURE BOUNDARY LEAKAGE, the reactor will be shutdown to allow further investigation and corrective action.

An UNIDENTIFIED LEAKAGE increase of more than 2 gpm within a 24 hour period is an indication of a potential flaw in the reactor coolant pressure boundary and must be quickly evaluated. Although the increase does not necessarily violate the absolute UNIDENTIFIED LEAKAGE limit, IGSCC susceptible components must be determined not to be the source of the leakage within the required completion time.

3/4.6.I

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-29

AND AMENDMENT NO. 184 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

1.0 INTRODUCTION

By letter dated January 21, 1999, the Commonwealth Edison Company (ComEd or the licensee) proposed changes to the Quad Cities Nuclear Power Station, Units 1 and 2, Technical Specifications (TSs). The requested changes will relocate TS 3/4.6.I, "Primary System Boundary- Chemistry" from the TSs to the Updated Final Safety Analysis Report (UFSAR) and to applicable plant procedures controlled by the 10 CFR 50.59 process.

The licensee has made this request to support activities associated with an injection of noble metal compounds into the Unit 1 reactor vessel during a planned early April 1999, mid-cycle outage. The licensee states that this injection will help prevent crack initiation and to mitigate any existing crack growth due to Intergranular Stress Corrosion Cracking (IGSCC) on internal components and piping. This noble metal injection, which has been previously approved by the NRC at other facilities, will be performed in MODE 3 and will temporarily cause reactor coolant conductivity and pH levels to increase. The reactor cleanup system will reduce the conductivity and pH levels to normal levels following the injection. This amendment change could prevent an unnecessary cycling of the plant.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act (the "Act") requires applicants for nuclear power plant operating licenses to state the TSs to be included as part of the license. The Commission's regulatory requirements related to the content of the TSs are set forth in 10 CFR 50.36. That regulation requires the TSs include items in five specific categories, including (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation;

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(3) surveillance requirements; (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in a plant's TSs.

The four criteria defined in 10 CFR 50.36 to be used in determining whether a particular matter is required to be included in the TSs, are as follows:

(1) installed instrumentation that is used to detect, and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary;

(2) a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;

(3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; and

(4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

As a result, existing TS requirements which fall within or satisfy any of the criteria in the Final Policy Statement must be retained in the TSs, while those TS requirements that do not fall within or satisfy these criteria may be relocated to other licensee controlled documents.

3. 0 EVALUATION

The licensee has proposed relocating TS 3/4.6.I, "Primary System Boundary-Chemistry," to the UFSAR and to applicable plant procedures. This TS contains requirements for reactor coolant conductivity, chloride concentration, and pH. The amendment will relocate the conductivity, chloride, and pH requirements and associated bases to the UFSAR and applicable plant procedures.

The reactor coolant chemistry limits as specified in TS 3/4.6.I are not used to detect and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary as stated in criteria (1) of 10 CFR 50.36. The conductivity, chloride, and pH portion of the reactor coolant chemistry TS provides limits on particular chemical properties of the primary coolant, and surveillance practices to monitor those properties, to ensure that degradation of the reactor coolant pressure boundary is not exacerbated by poor chemistry conditions. However, degradation of the reactor coolant pressure boundary is a long-term process, and there are other, direct means to monitor and correct the degradation of the reactor coolant pressure boundary which are controlled by regulations and TSs; for example, in-service inspection and primary coolant leakage limits. Therefore, requirements related to the chemistry program do not constitute initial conditions that are assumed in any design basis accident or transient related to the Reactor Coolant System (RCS) integrity as stated in criteria (2). Nor does the reactor coolant chemistry TS for conductivity, chloride concentration, and pH

constitute a primary success path and which functions or actuates to mitigate a design basis accident or transient as stated in criteria (3). Also these limits do not constitute a risk-significant safety function warranting TS requirements under the criteria (4) of 10 CFR 50.36.

The licensee states that the reactor coolant chemistry requirements for conductivity, chloride concentration, and pH will be maintained in the UFSAR and applicable plant procedures. Any changes to these chemistry requirements would be evaluated in accordance with 10 CFR 50.59 and if any changes are determined to involve an unreviewed safety question, the licensee must obtain prior NRC review and approval.

The relocation of the Primary System Boundary-Chemistry section from the TS to the UFSAR, and plant procedures will continue to provide adequate assurance that concentrations in excess of the limits will be detected. This is also consistent with NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4."

In conclusion, the above relocated requirements relating to the Primary System Boundary-Chemistry section are not required to be in the TS under 10 CFR 50.36 or §182a of the Atomic Energy Act, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public heath and safety. Further, they do not fall within any of the four criteria set forth in 10 CFR 50.36. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 to assure continued protection of the public health and safety.

Accordingly, the staff has concluded that these requirements may be relocated from the TS to the licensee's UFSAR and applicable plant procedures.

4.0 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.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. 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 (64 FR 9186). 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.

6.0 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: R. Pulsifer

Date: March 31, 1999