FEBRUARY 1 1980

Distribution
Docket
ORB #3
NRC PDR
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NRR Reading
DEisenhut
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WGammill
LShao
JMiller
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SSheppard
RBevan
Atty, OELD
OI&E (5)
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BScharf (10)
STS Group
ACRS (16)
OPA (CMiles)
RDiggs
HDenton
TERA
JRBuchanan

Docket No. 50-237
and 50-249

Mr. D. Louis Peoples
Director of Nuclear Licensing
Commonwealth Edison Company
P. O. Box 767
Chicago, Illinois 60690

Dear Mr. Peoples:

The Commission has issued the enclosed Amendment No. 47 to Provisional Operating License DPR-19 and Amendment No. 41 to Facility Operating License DPR-25 for the Dresden Nuclear Power Station, Units Nos. 2 and 3. These amendments are in response to your letter dated January 4, 1980.

The amendments allow the ECCS ring header snubbers to be inoperable in groups of up to three pairs at the same time until September 1, 1980, so that the installation of Mark I torus support modifications can be accomplished.

As we stated in telephone discussions with your staff on January 9, 1980, the long term Mark I ECCS ring header analysis should be performed for the Dresden Units 2 and 3 as expeditiously as possible so that the capability of the header to withstand the torus hydrodynamic loading can be substantiated.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

W. Gammill

for Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Amendment No. 47 to DPR-19
2. Amendment No. 41 to DPR-25
3. Safety Evaluation
4. Notice

E.B. Dkt 1/31/80

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cc w/enclosures: See next page

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SURNAME	SSheppard	RBevan:mjf	WGammill		TIppolito	DZiemann
DATE	1/30/80	1/30/80	2/1/80	2/1/80	2/1/80	1/31/80

cc:

Mr. John W. Rowe
Isham, Lincoln & Beale
Counselors at Law
One First National Plaza, 42nd Floor
Chicago, Illinois 60603

Mr. B. B. Stephenson
Plant Superintendent
Dresden Nuclear Power Station
Rural Route #1
Morris, Illinois 60450

Anthony Z. Roisman
Natural Resources Defense Council
917 15th Street, N. W.
Washington, D. C. 20005

Morris Public Library
604 Liberty Street
Morris, Illinois 60451

Jimmy L. Barker
U. S. Nuclear Regulatory Commission
P. O. Box 706
Morris, Illinois 60450

Susan N. Sekuler
Assistant Attorney General
Environmental Control Division
188 W. Randolph Street
Suite 2315
Chicago, Illinois 60601

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-237

DRESDEN STATION UNIT NO. 2

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 47
License No. DPR-19

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated January 4, 1980, 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 Provisional Operating License No. DPR-19 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 47, 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

W. P. Hammill

for Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 1, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 47

PROVISIONAL OPERATING LICENSE NO. DPR-19

DOCKET NO. 50-237

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages.

Remove	Insert
91b	91b
99a	99a

3.6 LIMITING CONDITION FOR OPERATION

I. Shock Suppressors (Snubbers)

1. During all modes of operation except cold shutdown and refuel, all safety-related snubbers listed in Table 3.6.1 shall be operable except as noted in Specification 3.6.I.2 through 3.6.I.4.

2. From and after the time that a snubber is determined to be inoperable, continued reactor operation is permissible only during the succeeding 72 hours unless the snubber is sooner made operable or replaced. Torus ring header snubbers may be inoperable in groups of up to three (3) pairs until September 1, 1980, to facilitate the installation of Mark I Torus Support Modifications.

3. If the requirements of 3.6.I.1 and 3.6.I.2 can not be met, an orderly shutdown shall be initiated and the reactor shall be in cold shutdown or refuel condition within 36 hours.

4. If a snubber is determined to be inoperable while the reactor is in the cold shutdown or refuel mode, the snubber shall be made operable or replaced prior to reactor startup. This requirement does not apply to torus ring header snubbers for the period identified in paragraph 3.6.1.2 above.

5. Snubbers may be added to safety related systems without prior license amendment to Table 3.6.1 provided that a revision to Table 3.6.1 is included with the next license amendment request.

Amendment No. 47

4.6 SURVEILLANCE REQUIREMENT

I. Shock Suppressors (Snubbers)

The following surveillance requirements apply to all hydraulic snubbers listed in Table 3.6.1.

1. All hydraulic snubbers whose seal material has been demonstrated by operating experience, lab testing or analysis to be compatible with the operating environment shall be visually inspected. This inspection shall include, but not necessarily be limited to inspection of the hydraulic fluid reservoir, fluid connections, and linkage connection to the piping and anchor to verify snubber operability in accordance with the following schedule:

No. of Snubbers Found Inoperable 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.

H. Recirculation Pump Flow Mismatch

The LPCI loop selection logic has been described in the Dresden Nuclear Power Station Units 2 and 3 FSAR, Amendments 7 and 8. 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.

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.

ECCS performance during reactor operation with one recirculation loop out of service has not been analyzed. Therefore, sustained reactor operation under such conditions is not permitted.

Amendment No. 47

I. Shock Suppressors (Snubbers)

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 hydraulic snubbers required to protect the primary coolant system or any oth(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.

A re-analysis of the ring header design based upon acceleration response spectra derived from the original suction header analysis report demonstrates that for normal operation plus OBE, neither the hea(nor the torus penetrations are over-stressed with al. snubbers inoperable. The limitation of a maximum of thr pairs inoperable out of six pairs is considered conserva Since the analysis shows that the plant can operate safe indefinitely with no snubbers on the ring header, the limitation on operation and startup with three inoperabl pairs until September 1, 1980 is justified. This time frame is adequate to allow completion of Mark I external structural work.

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.

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN STATION UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 41
License No. DPR-25

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated January 4, 1979, 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. 41 , 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

W. P. Hammill

for Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 1, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 41

FACILITY OPERATING LICENSE NO. DPR-25

DOCKET NO. 50-249

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages.

Remove	Insert
91b	91b
99a	99a

3.6 LIMITING CONDITION FOR OPERATION

I. Shock Suppressors (Snubbers)

1. During all modes of operation except cold shutdown and refuel, all safety-related snubbers listed in Table 3.6.1 shall be operable except as noted in Specification 3.6.I.2 through 3.6.I.4.

2. From and after the time that a snubber is determined to be inoperable, continued reactor operation is permissible only during the succeeding 72 hours unless the snubber is sooner made operable or replaced. Torus ring header snubbers may be inoperable in groups of up to three (3) units until September 1, 1980, to facilitate the installation of Mark I Torus Support Modifications.

3. If the requirements of 3.6.I.1 and 3.6.I.2 can not be met, an orderly shutdown shall be initiated and the reactor shall be in cold shutdown or refuel condition within 36 hours.

4. If a snubber is determined to be inoperable while the reactor is in the cold shutdown or refuel mode, the snubber shall be made operable or replaced prior to reactor startup. This requirement does not apply to torus ring header snubbers for the period identified in paragraph 3.6.1.2 above.

5. Snubbers may be added to safety related systems without prior license amendment to Table 3.6.1 provided that a revision to Table 3.6.1 is included with the next license amendment request.

Amendment No. 41

4.6 SURVEILLANCE REQUIREMENT

I. Shock Suppressors (Snubbers)

The following surveillance requirements apply to all hydraulic snubbers listed in Table 3.6.1.

1. All hydraulic snubbers whose seal material has been demonstrated by operating experience, lab testing or analysis to be compatible with the operating environment shall be visually inspected. This inspection shall include, but not necessarily be limited to inspection of the hydraulic fluid reservoir, fluid connections, and linkage connection to the piping and anchor to verify snubber operability in accordance with the following schedule:

No. of Snubbers Found Inoperable During Inspection Interval	Next Required Inspection Interval
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3, 4	124 days ± 25%
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≥8	31 days ± 25%

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

H. Recirculation Pump Flow Mismatch

The LPCI loop selection logic has been described in the Dresden Nuclear Power Station Units 2 and 3 FSAR, Amendments 7 and 8. 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.

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.

ECCS performance during reactor operation with one recirculation loop out of service has not been analyzed. Therefore, sustained reactor operation under such conditions is not permitted.

Amendment No. 41

I. Shock Suppressors (Snubbers)

Shubbers 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 hydraulic 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.

A re-analysis of the ring header design based upon acceleration response spectra derived from the original suction header analysis report demonstrates that for normal operation plus ODE, neither the head nor the torus penetrations are over-stressed with all snubbers inoperable. The limitation of a maximum of three pairs inoperable out of six pairs is considered conservat Since the analysis shows that the plant can operate safel indefinitely with no snubbers on the ring header, the limitation on operation and startup with three inoperable pairs until September 1, 1980 is justified. This time frame is adequate to allow completion of Mark I external structural work.

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

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 47 TO PROVISIONAL OPERATING LICENSE NO. DPR-19

AND AMENDMENT NO. 41 TO FACILITY OPERATING LICENSE NO. DPR-25

COMMONWEALTH EDISON COMPANY

DRESDEN NUCLEAR POWER STATION, UNIT NOS. 2 AND 3

DOCKET NOS. 50-237 AND 50-249

Introduction

By letter dated January 4, 1980, Commonwealth Edison Company (CECo) proposed changes to the Technical Specifications for Dresden Units 2 and 3. The proposed changes would allow the ECCS ring header snubbers to be inoperable in groups of up to three pairs at the same time until September 1, 1980, so that the installation of suppression chamber support modifications can be accomplished.

Discussion and Evaluation

There are six pairs of snubbers in the ECCS ring header support systems for Dresden Units 2 and 3. The snubbers mitigate the effects of seismic motion of the torus ring header. Plant modifications to the external support system for the suppression chamber (torus) now underway require that the ECCS ring header snubber attachments to the torus be removed in order to install torus external support saddles. An analysis has been performed to demonstrate the effect of removal of the snubbers on the response of the ring header for seismic events. Using acceleration response spectra derived from the original ring header analysis, the new analysis demonstrates that, for normal operation plus operating basis earthquake (OBE) loading, stresses remain below code allowable stresses even with all six pairs of snubbers inoperable. Therefore, the requirement that at least three pairs of snubbers be operable at all times is conservative with respect to the more severe analyzed condition of all snubbers inoperable. Removing the snubbers from operability in the manner described does not encroach upon margin provided by the code. The proposed temporary reduction of the required number of operable snubbers for the purpose of performing necessary plant improvements is acceptable.

Environmental Considerations

We have determined that these amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that these amendments involve an action which is insignificant from the standpoint of environmental impact, and pursuant to 10 CFR Section

51.5(d)(4) that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: February 1, 1980

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-237 AND 50-249

COMMONWEALTH EDISON COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 47 to Provisional Operating License No. DPR-19, and Amendment No. 41 to Facility Operating License No. DPR-25 issued to Commonwealth Edison Company, which revised the Technical Specifications for operation of the Dresden Nuclear Power Station, Units Nos. 2 and 3, located in Grundy County, Illinois. The amendments are effective as of the date of issuance.

The amendments allow the ECCS ring header snubbers to be inoperable in groups of up to three pairs at the same time until September 1, 1980, so that the installation of Mark I torus support modifications can be accomplished.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR Section 51.5(d)(4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated January 4, 1980, (2) Amendment No. 47 to License No. DPR-19, and Amendment No. 41 to License No. DPR-25, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Morris Public Library, 604 Liberty Street, Morris, Illinois. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 1st day of February 1980

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors