

October 9, 1987

Posted
Amatt. 91
to DPR-25

Docket Nos. 50-237
and 50-249

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Mr. L. D. Butterfield, Jr.
Nuclear Licensing Manager
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dear Mr. Butterfield:

SUBJECT: REVISED TECHNICAL SPECIFICATIONS FOR 4-KV CROSS-TIE OPERABILTIY
(TACS 61591 AND 61592)

Re: Dresden Nuclear Power Station, Unit Nos. 2 and 3

The Commission has issued the enclosed Amendment No. 96 to Provisional Operating License No. DPR-19 for Dresden Unit 2 and Amendment No. 91 to Facility Operating License No. DPR-25 for Dresden Unit 3. The amendments are in response to your application dated May 14, 1986.

The amendments change the Technical Specifications to impose 4-KV cross-tie operability requirements.

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

Sincerely,

Original Signed by/

Marshall Grotenhuis, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects - III,
IV, V and Special Projects

Enclosures:

1. Amendment No. 96 to License No. DPR-19
2. Amendment No. 91 to License No. DPR-25
3. Safety Evaluation

cc w/enclosures:
See next page

22
PD III-2:LA
LLuther
6/9/87

91
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10/18/87

Mr. L. D. Butterfield, Jr.
Commonwealth Edison Company

Dresden Nuclear Power Station
Units 2 and 3

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION, UNIT NO. 2

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 96
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 14, 1986, 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.

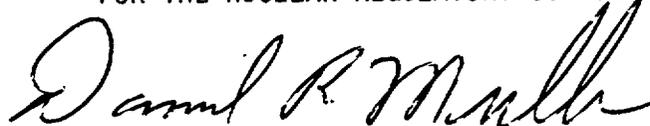
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 3.B. of Provisional Operating License No. DPR-19 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 96, 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



Daniel R. Muller, Director
Project Directorate III-2
Division of Reactor Projects - III,
IV, V and Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 9, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 96

PROVISIONAL OPERATING LICENSE DPR-19

DOCKET NO. 50-237

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

<u>REMOVE</u>	<u>INSERT</u>
3/4 9-1	3/4 9-1
3/4 9-2	3/4 9-2
3/4 9-3	3/4 9-3
3/4 9-4	3/4 9-4
B 3/4 9-7	B 3/4 9-7

3.9 LIMITING CONDITION FOR OPERATION

AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the auxiliary electrical power system.

Objective:

To assure an adequate supply of electrical power during plant operation.

Specification:

- A. The reactor shall not be made critical unless all the following requirements are satisfied:
1. One 138 KV line, associated switchgear, and the reserve auxiliary power transformer capable of carrying power to Unit 2 shall be available.
 2. The Dresden 2 diesel generator and the Unit 2/3 diesel generator shall be operable.
 3. One 345 KV line from Unit 3 capable of carrying auxiliary power to an essential electrical bus of Unit 2 through the 4160 volt bus tie shall be available.

4.9 SURVEILLANCE REQUIREMENT

AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the periodic testing requirements of the auxiliary electrical system.

Objective:

Verify the operability of the auxiliary electrical system.

Specification:

- A. Station Batteries
1. Every week the specific gravity, voltage and temperature of the pilot cell and overall battery voltage shall be measured.
 2. Every three months the measurements shall be made of voltage of each cell to nearest 0.01 volt, specific gravity of each cell, and temperature of every fifth cell.
 3. Every refueling outage, the unit's batteries shall be subjected to a rated load discharge test. Determine specific gravity and voltage of each cell after the discharge.

3.9 LIMITING CONDITION FOR OPERATION.
(Cont'd.)

4.9 SURVEILLANCE REQUIREMENT
(Cont'd.)

If this specification has been complied with for a particular battery for Dresden Unit 3, it shall not be required for Dresden Unit 2.

- 4. (a) 4160 volt buses
23-1 and 24-1 are energized.
- (b) 480 volt buses
28 and 29 are energized.
- 5. The unit 24/48 volt batteries, the two station 125 volt batteries and the two station 250 volt batteries and a battery charger for each required battery are operable.

B. Except when the reactor is in the Cold Shutdown or Refueling modes with the head off, the availability of electric power shall be as specified in 3.9.A, except as specified in 3.9.B.1, 3.9.B.2, and 3.9.B.3.

B. N/A

- 1. From and after the date that incoming power is available from only one of the lines specified in 3.9.A reactor operation is

3.9 LIMITING CONDITION FOR OPERATION
(Cont'd.)

4.9 SURVEILLANCE REQUIREMENT
(Cont'd.)

permissible only during the succeeding seven days unless the second line is sooner placed in service providing both the Unit 2 and Unit 2/3 emergency diesel generators are operable. From and after the date that incoming power is not available from any line, reactor operation is permissible providing both the Unit 2 and Unit 2/3 emergency diesel generators are operating and all core and containment cooling systems are operable and the NRC is notified within 24 hours of the situation, the precautions to be taken during this situation, and the plans for prompt restoration of incoming power.

2. From and after the date that one of the diesel generators and/or its associated bus is made or found to be inoperable for any reason, reactor operation is permissible according to Specification 3.5/4.5F and 3.9D only during the succeeding seven days unless such diesel generator and/or bus is sooner made

3.9 LIMITING CONDITION FOR OPERATION
(Cont'd.)

4.9 SURVEILLANCE REQUIREMENT
(Cont'd.)

operable, provided that during such seven days the operable diesel generator shall be demonstrated to be operable at least once each day and two off-site lines as specified in 3.9.A. are available.

The specified 7 day outage period will apply except for spring of 1986, at which time an additional 7 days (14 total) will be allowed, on a one time only basis, to complete 10CFR 50 Appendix R modifications to the 2/3 Diesel Generator.

3. From and after the date that one of the two 125 or 250V battery systems is made or found to be inoperable, except as specified in 3.9.B.4a or b, Unit shutdown shall be initiated within 2 hours and the unit shall be in cold shutdown in 24 hours unless the failed battery can be sooner made operable.
4. a. Each 125 or 250 volt battery may be inoperable for a maximum of 7 days per operating cycle for maintenance and testing.
- b. If it is determined that a battery need be replaced as a result of maintenance or testing, a specific battery may be inoperable for an additional 7 days per operating cycle.

3.9 LIMITING CONDITION FOR OPERATION BASES

- A. The general objective of this Specification is to assure an adequate source of electrical power to operate the auxiliaries during plant operation, to operate facilities to cool and lubricate the plant during shutdown, and to operate the engineered safeguards following an accident. There are three sources of electrical energy available; namely, the 138 KV transmission system, the diesel generators, and the 345 KV transmission system through the 4160 volt bus tie.

The d-c supply is required for control and motive power for switchgear and engineered safety features. The electrical power required provides for the maximum availability of power; i.e., one active off-site source and a back-up source of off-site power and the maximum amount of on-site sources.

- B. Auxiliary power for Unit 2 is supplied from two sources, either the Unit 2 auxiliary transformer or the Unit 2 reserve auxiliary transformer. Both of these transformers are sized to carry 100% of the auxiliary load. If the reserve auxiliary transformer is lost, the unit can continue to run for 7 days since the unit auxiliary transformer is available and both diesel generators are operational. A reduced period is provided since if an accident occurs during this period, the unit would trip and power to the unit auxiliary transformer would be lost and the diesels would be the only source of power.

In the normal mode of operation the 138 KV system is operating and two diesel generators are operational. One diesel generator may be allowed out of service based on the availability of power to the 138 KV switchyard, a source of power available from the 345 KV system through a 4160 volt bus tie and the fact that one diesel carries sufficient engineered safeguards equipment to cover all breaks. Off-site power is quite reliable. In the last 25 years there has only been one instance in which all off-site power was lost at a Commonwealth Edison generating station.

Two battery chargers are supplied for each of the 125 volt batteries, while for the 250 volt system a battery charger is supplied for each battery and a third battery charger acts as a shared unit. Thus, on loss of a battery charger, another battery charger is available. Since an alternate charger is available, one battery charger per unit for the 125 volt and one battery charger overall for the 250 volt battery system can be out of service for thirty days. The system becomes inoperable whenever there is a loss of the battery or loss of both chargers for that system and a battery voltage of 105 volts for the 125 or 210 volts for the 250 volt batteries.

B 3/4.9-7



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 91
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 14, 1986, 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.

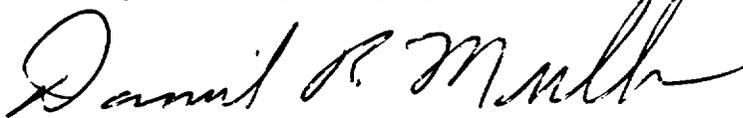
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 3.B. of Facility Operating License No. DPR-25 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 91, 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



Daniel R. Muller, Director
Project Directorate III-2
Division of Reactor Projects - III,
IV, V and Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 9, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 91

FACILITY OPERATING LICENSE DPR-25

DOCKET NO. 50-249

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

<u>REMOVE</u>	<u>INSERT</u>
3/4 9-1	3/4 9-1
3/4 9-2	3/4 9-2
3/4 9-3	3-4 9-3
3/4 9-4	3/4 9-4
B 3/4 9-7	B 3/4 9-7

3.9 LIMITING CONDITION FOR OPERATION

AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the auxiliary electrical power system.

Objective:

To assure an adequate supply of electrical power during plant operation.

Specification:

- A. The reactor shall not be made critical unless all the following requirements are satisfied:
1. One 345 KV line, associated switchgear, and the reserve auxiliary power transformer capable of carrying power to Unit 3 shall be available.
 2. The Dresden 3 diesel generator and the Unit 2/3 diesel generator shall be operable.
 3. One 138 KV line from Unit 2 capable of carrying auxiliary power to an essential electrical bus of Unit 3 through the 4160 volt bus tie shall be available.

4.9 SURVEILLANCE REQUIREMENT

AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the periodic testing requirements of the auxiliary electrical system.

Objective:

Verify the operability of the auxiliary electrical system.

Specification:

A. Station Batteries

1. Every week the specific gravity; voltage and temperature of the pilot cell and overall battery voltage shall be measured.
2. Every three months the measurements shall be made of voltage of each cell to nearest 0.01 volt, specific gravity of each cell, and temperature of every fifth cell.
3. Every refueling outage, the unit's batteries shall be subjected to a rated load discharge test. Determine specific gravity and voltage of each cell after the discharge.

3.9 LIMITING CONDITION FOR OPERATION
(Cont'd.)

4.9 SURVEILLANCE REQUIREMENT
(Cont'd.)

4. (a) 4160 volt buses
33-1 and 34-1 are
energized.

(b) 480 volt buses
38 and 39 are
energized.

5. The unit 24/48 volt
batteries, the two
station 125 volt
batteries and the two
station 250 volt
batteries and a battery
charger for each
required battery are
operable.

B. Except when the reactor
is in the Cold Shutdown or
Refueling modes with the
head off, the availability
of electric power shall be
as specified in 3.9.A,
except as specified in
3.9.B.1, 3.9.B.2, and
3.9.B.3.

B. N/A

1. From and after the date
that incoming power is
available from only one
of the lines specified
in 3.9.A., reactor
operation is

3.9 LIMITING CONDITION FOR OPERATION
(Cont'd.)

4.9 SURVEILLANCE REQUIREMENT
(Cont'd.)

permissible only during the succeeding seven days unless the second line is sooner placed in service providing both the Unit 3 and Unit 2/3 emergency diesel generators are operable. From and after the date that incoming power is not available from any line, reactor operation is permissible providing both the Unit 3 and Unit 2/3 emergency diesel generators are operating and all core and containment cooling systems are operable and the NRC is notified within 24 hours of the situation, the precautions to be taken during this situation, and the plans for prompt restoration of incoming power.

2. From and after the date that one of the diesel generators and/or its associated bus is made or found to be inoperable for any reason, reactor operation is permissible according to Specification 3.5/4.5F and 3.9D only during the succeeding seven days unless such diesel generator and/or bus is sooner made

3.9 LIMITING CONDITION FOR OPERATION
(Cont'd.)

4.9 SURVEILLANCE REQUIREMENT
(Cont'd.)

operable, provided that during such seven days the operable diesel generator shall be demonstrated to be operable at least once each day and two off-site lines as specified in 3.9.A. are available.

3. From and after the date that one of the two 125 or 250V battery systems is made or found to be inoperable, except as specified in 3.9.B.4.a or b, Unit shutdown shall be initiated within 2 hours and the unit shall be in cold shutdown in 24 hours unless the failed battery can be sooner made operable.
4. a. Each 125 or 250 volt battery may be inoperable for a maximum of 7 days per operating cycle for maintenance and testing.
- b. If it is determined that a battery need be replaced as a result of maintenance or testing, a specific battery may be inoperable for an additional 7 days per operating cycle.

3.9 LIMITING CONDITION FOR OPERATION BASES

- A. The general objective of this Specification is to assure an adequate source of electrical power to operate the auxiliaries during plant operation, to operate facilities to cool and lubricate the plant during shutdown, and to operate the engineered safeguards following an accident. There are three sources of electrical energy available; namely, the 345 KV transmission system, the diesel generators, and the 138 KV transmission system through the 4160 volt bus tie.

The d-c supply is required for control and motive power for switchgear and engineered safety features. The electrical power required provides for the maximum availability of power; i.e., one active off-site source and a back-up source of off-site power and the maximum amount of on-site sources.

- B. Auxiliary power for Unit 3 is supplied from two sources, either the Unit 3 auxiliary transformer or the Unit 3 reserve auxiliary transformer. Both of these transformers are sized to carry 100% of the auxiliary load. If the reserve auxiliary transformer is lost, the unit can continue to run for 7 days since the unit auxiliary transformer is available and both diesel generators are operational. A reduced period is provided since if an accident occurs during this period, the unit would trip and power to the unit auxiliary transformer would be lost and the diesels would be the only source of power.

In the normal mode of operation the 345 KV system is operating and two diesel generators are operational. One diesel generator may be allowed out of service based on the availability of power to the 345 KV switchyard, a source of power available from the 138 KV system through a 4160 volt bus tie and the fact that one diesel carries sufficient engineered safeguards equipment to cover all breaks. Off-site power is quite reliable. In the last 25 years there has only been one instance in which all off-site power was lost at a Commonwealth Edison generating station.

Two battery chargers are supplied for each of the 125 volt batteries, while for the 250 volt system a battery charger is supplied for each battery and a third battery charger acts as a shared unit. Thus, on loss of a battery charger, another battery charger is available. Since an alternate charger is available, one battery charger per unit for the 125 volt and one battery charger overall for the 250 volt battery system can be out of service for thirty days. The system becomes inoperable whenever there is a loss of the battery or loss of both chargers for that system and a battery voltage of 105 volts for the 125 or 210 volts for the 250 volt batteries.

B 3/4.9-7



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 96 TO PROVISIONAL OPERATING LICENSE NO. DPR-19
AND AMENDMENT NO. 91 TO FACILITY OPERATING LICENSE NO. DPR-25

COMMONWEALTH EDISON COMPANY

DRESDEN NUCLEAR POWER STATION, UNIT NOS. 2 AND 3

DOCKET NOS. 50-237 AND 249

1.0 INTRODUCTION

By letter dated May 14, 1986, the Commonwealth Edison Company (CECo, the licensee) proposed to amend Provisional Operating License No. DPR-19 and Facility Operating License No. DPR-25 for Dresden Nuclear Power Station, Unit Nos. 2 and 3. The proposed amendments would impose 4-KV cross-tie operability requirements.

On August 16, 1985, normal offsite AC power was lost to Dresden Unit 2. The licensee provided a report dated December 13, 1985, which responded to NRC staff concerns over the event. During the August 16, 1985, Dresden 2 event, normal offsite AC power was lost due to tripping of the Reserve Auxiliary Transformer (RAT) which is fed by 138-KV switchyard. Due to transfer circuit deficiency, the two auxiliary power buses normally fed by this transformer failed to automatically transfer to the Unit Auxiliary Transformer (UAT) which is the second normal supply of AC power. This failure to transfer ultimately led to a reactor scram and loss of AC power feed to UAT. This constituted a complete loss of offsite AC power. As designed, both diesel generators automatically started providing AC power to the essential equipment. During this time, another independent source of offsite power, which is a Unit 2/3 4-KV cross-tie, was available but not utilized. By letter dated May 14, 1986, the licensee requested a revision to the Technical Specification for the 4-KV cross-tie operability.

2.0 EVALUATION

GDC 17 of Appendix A 10 CFR 50 requires that the electrical power from the transmission network to the onsite electric distribution system shall be supplied by two physically independent circuits. By letter dated December 13, 1985, the licensee stated that the RAT of the other unit is the second offsite source through a bus tie provided between corresponding safety-related buses of the two units. Although this specific back-up source of offsite power is not automatically transferred, it could be aligned quickly from the control room. Furthermore, offsite power capability via the cross-tie has been designed with sufficient capacity to operate one plant's total auxiliary loads during normal operation, while supplying adequate power to safely shutdown the other plant and also support all necessary engineered safeguards during an accident.

However, existing TS 3.9.A only requires the 4-KV cross-tie, for Dresden 2 and 3 to be available if normal offsite power to one of the two units is lost. In a response dated December 13, 1985, to address concerns raised by the staff about compliance with GDC 17, the licensee committed to amend TS 3.9 for Dresden. Subsequently by letter dated May 14, 1986, the licensee proposed changes to TS 3.9 which would establish operability and surveillance requirements for the common unit 4-KV cross-tie and, thereby, assure an alternative source of offsite AC power would be available. This line will only be connected manually after the detection of loss of power condition to the buses.

3.0 SUMMARY

The staff has reviewed the proposed TS and considers them acceptable requirements for ensuring availability of a second independent back-up source of offsite power via the 4 KV bus cross-tie that is consistent with GDC 17.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes to 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. The 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these 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 nor environmental assessment need be prepared in connection with the issuance of these amendments.

5.0 CONCLUSION

The staff 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, and (2) 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 nor to the health and safety of the public.

Principal Contributor: N. Trehan

Dated: October 9, 1987