

DATE	SURNAME	OFFICE
10-22-75	RMD:gs:ah	DNL:ORB-2
10- -75	RSilver	RT:ORB-2
10- -75		OELD
10- -75	DZiemann	DNL:ORB-2

See Docket 52-037 for comments

*[Handwritten signature]*

- 1. Federal Register Office
- 2. Proposed Amendments w/Response
- 3. Technical Specifications

Copy 7

Division of Reactor Licensing  
 Operating Section, Room 42  
 Dennis L. Ziemann, Chief  
 Dennis L. Ziemann

Original Signed by:

Sincerely,

copies of our proposed license amendments with proposed changes to the technical specifications also are enclosed. A copy of our letter and letter dated September 4, 1975.

These amendments would revise the technical specifications to (1) add requirements that would limit the period of time operation can be continued with excessive control rods that could have control rod drive mechanism collector housing failures and (2) require increased control rod surveillance when the reactivity of a control rod drive mechanism collector housing failure exists.

The Director has requested the Federal Register to publish the enclosed notice of proposed amendments to Facility License No. III-19 and III-21 for the Dresden Nuclear Power Station Units 2 and 3. The proposed amendments include a change to the technical specifications based on our letter to you dated September 4, 1975. It is our understanding that the change proposed in our letter of September 4, 1975, is acceptable to you.

- KGoller
- SKarl
- BScharrf (15)
- EP LA
- EP PM
- TCarter
- PCollins
- SVarga
- AEStein
- DEisenhut
- ACRS (16)
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- RMD:gs
- ~~WOL:gs~~
- RDSilver
- DZiemann

Commissioner Edison Company  
 JOHN: Mr. E. L. Belter  
 Assistant Vice President  
 Post Office Box 767  
 Chicago, Illinois 60601

NOV 07 1975

52-148  
Docket No. 52-037

NOV 07 1975

cc w/enclosures:

John W. Rowe, Esquire  
Isham, Lincoln & Beale  
Counselors at Law  
One First National Plaza  
Chicago, Illinois 60670

Anthony Z. Roisman, Esquire  
Berlin, Roisman and Kessler  
1712 N Street, N. W.  
Washington, D. C. 20036

Morris Public Library  
604 Liberty Street  
Morris, Illinois 60451

cc w/enclosures & cy of NRC 9/4/75  
Ltr. to CEC & SER:

Mr. William Waters  
Chairman, Board of Supervisors  
of Grundy County  
Grundy County Courthouse  
Morris, Illinois 60450

Mr. Leroy Stratton  
Bureau of Radiological Health  
Illinois Department of Public Health  
Springfield, Illinois 62706

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-237 AND 50-249

COMMONWEALTH EDISON COMPANY

NOTICE OF PROPOSED ISSUANCE OF AMENDMENTS  
TO FACILITY OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. DPR-19 and DPR-25 issued to Commonwealth Edison Company (the licensee) for operation of the Dresden Nuclear Power Station Units 2 and 3 (the facilities) located in Grundy County, Illinois.

These amendments would revise the Technical Specifications to (1) add requirements that would limit the period of time operation can be continued with immovable control rods that could have control rod drive mechanism collet housing failures and (2) require increased control rod surveillance when the possibility of a control rod drive mechanism collet housing failure exists.

Prior to issuance of the proposed license amendments, the Commission will have made the findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations.

By DEC 17 1975, the licensee may file a request for a hearing and any person whose interest may be affected by this proceeding may file a request for a hearing in the form of a petition for leave to intervene

with respect to the issuance of these amendments to the subject facility operating licenses. Petitions for leave to intervene must be filed under oath or affirmation in accordance with the provisions of Section 2.714 of 10 CFR Part 2 of the Commission's regulations. A petition for leave to intervene must set forth the interest of the petitioner in the proceeding, how that interest may be affected by the results of the proceeding, and the petitioner's contentions with respect to the proposed licensing action. Such petitions must be filed in accordance with the provisions of this FEDERAL REGISTER notice and Section 2.714, and must be filed with the Secretary of the Commission, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Docketing and Service Section, by the above date. A copy of the petition and/or request for a hearing should be sent to the Executive Legal Director, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, and to Mr. John W. Rowe, Esquire, Isham, Lincoln and Beale, Counselors at Law, One First National Plaza, Chicago, Illinois 60670, the attorney for the licensee.

A petition for leave to intervene must be accompanied by a supporting affidavit which identifies the specific aspect or aspects of the proceeding as to which intervention is desired and specifies with particularity the facts on which the petitioner relies as to both his interest and his contentions with regard to each aspect on which intervention is requested. Petitions stating contentions relating only to matters outside the Commission's jurisdiction will be denied.

All petitions will be acted upon by the Commission or licensing board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel. Timely petitions will be considered to determine whether a hearing should be noticed or another appropriate order issued regarding the disposition of the petitions.

In the event that a hearing is held and a person is permitted to intervene, he becomes a party to the proceeding and has a right to participate fully in the conduct of the hearing. For example, he may present evidence and examine and cross-examine witnesses.

For further details with respect to these actions, see the Commission's letter to Commonwealth Edison Company dated September 4, 1975, and the attached proposed Technical Specifications and the Safety Evaluation by the Commission's staff dated September 4, 1975, which 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 60451. These license amendments and the Safety Evaluation may be inspected at the above locations and a copy may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, *this 9th day of November, 1975*

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by:  
Dennis L. Ziemann

Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Reactor Licensing

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION UNIT 2

PROPOSED AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.  
License No. DPR-19

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. 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; and
  - B. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B of Facility License No. DPR-19 is hereby amended to read as follows:
  - "B. Technical Specifications  
The Technical Specifications contained in Appendix A, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. ."
3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Karl R. Goller, Assistant Director  
for Operating Reactors  
Division of Reactor Licensing

Attachment:  
Change No.     to the  
Technical Specifications

Date of Issuance:

ATTACHMENT TO PROPOSED LICENSE AMENDMENT

PROPOSED CHANGE TO THE TECHNICAL SPECIFICATIONS

PROVISIONAL OPERATING LICENSE NO. DPR-19

DOCKET NO. 50-237

Delete existing pages 54 and 62 of the Technical Specifications and insert the attached revised pages 54 and 62. The changed areas on the revised pages are shown by marginal lines.

### 3.3 LIMITING CONDITION FOR OPERATION

#### REACTIVITY CONTROL

##### Applicability:

Applies to the operational status of the control rod system.

##### Objective:

To assure the ability of the control rod system to control reactivity.

##### Specification:

#### A. Reactivity Limitations

##### 1. Reactivity margin - core loading

The core loading shall be limited to that which can be made subcritical in the most reactive condition during the operating cycle with the strongest operable control rod in its full-out position and all other operable rods fully inserted.

##### 2. Reactivity margin - inoperable control rods

- a. Control rod drives which cannot be moved with control rod drive pressure shall be considered inoperable. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure the reactor shall be brought to a shutdown condition within 48 hours unless investigation demonstrates that the cause of the failure is not due to a failed control rod drive mechanism collet housing.

### 4.3 SURVEILLANCE REQUIREMENT

#### 4.3 REACTIVITY CONTROL

##### Applicability:

Applies to the surveillance requirements of the control rod system.

##### Objective:

To verify the ability of the control rod system to control reactivity.

##### Specification:

#### A. Reactivity Limitations

##### 1. Reactivity margin - core loading

Sufficient control rods shall be withdrawn following a refueling outage when core alterations were performed to demonstrate with a margin of 0.25 percent  $\Delta k$  that the core can be made subcritical at any time in the subsequent fuel cycle with the strongest operable control rod fully withdrawn and all other operable rods fully inserted.

##### 2. Reactivity margin - inoperable control rods

Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week. This test shall be performed at least once per 24 hours in the event power operation is continuing with three or more inoperable control rods or in the event power operation is continuing with one fully or partially withdrawn rod which cannot be moved and for which control rod drive mechanism damage has not been ruled out. The surveillance need not be completed within 24 hours if the number of inoperable rods has been reduced to less than three and if it has been demonstrated that control rod drive mechanism collet housing failure is not the cause of an immovable control rod.

indicative of a generic control rod drive problem and the reactor will be shutdown. Also if damage within the control rod drive mechanism and in particular, cracks in drive internal housings, cannot be ruled out, then a generic problem affecting a number of drives cannot be ruled out. Circumferential cracks resulting from stress assisted intergranular corrosion have occurred in the collet housing of drives at several BWRs. This type of cracking could occur in a number of drives and if the cracks propagated until severance of the collet housing occurred, scram could be prevented in the affected rods. Limiting the period of operation with a potentially severed collet housing and requiring increased surveillance after detecting one stuck rod will assure that the reactor will not be operated with a large number of rods with failed collet housings.

## B. Control Rod Withdrawal

1. Control rod dropout accidents as discussed in the SAR can lead to significant core damage. If coupling integrity is maintained, the possibility of a rod dropout accident is eliminated. The overtravel position feature provides a positive check as only uncoupled drives may reach this position. Neutron instrumentation response to rod movement provides a verification that the rod is following its drive. Absence of such response to drive movement would indicate an uncoupled condition.
2. The control rod housing support restricts the outward movement of a control rod to less than 3 inches in the extremely remote event of a housing failure. The amount of reactivity which could be added by this

small amount of rod withdrawal, which is less than a normal single withdrawal increment, will not contribute to any damage to the primary coolant system. The design basis is given in Section 6.6.1 of the SAR, and the design evaluation is given in Section 6.6.3. This support is not required if the reactor coolant system is at atmospheric pressure since there would then be no driving force to rapidly eject a drive housing. Additionally, the support is not required if all control rods are fully inserted and if an adequate shutdown margin with one control rod withdrawn has been demonstrated since the reactor would remain subcritical even in the event of complete ejection of the strongest control rod.

3. Control rod withdrawal and insertion sequences are established to assure that the maximum insequence individual control rod or control rod segments which are withdrawn could not be worth enough to cause the core to be more than 0.013 delta K supercritical if they were to drop out of the core in the manner defined for the Rod Drop Accident.<sup>(3)</sup> These sequences are developed prior to initial operation of the unit following any refueling outage and the requirement that an operator follow these sequences is backed up by the operation of the RWM. This 0.013 delta K limit, together with the integral rod velocity limiters and the action of the control rod drive system, limit potential reactivity insertion such that the results of a control rod drop accident will not exceed a maximum fuel energy content of 280 cal/gm. The peak fuel enthalpy of 280 cal/gm is below the energy content at which rapid fuel dispersal and primary system damage have been found to occur based on experimental data as is discussed in Reference 1.

The analysis of the control rod drop accident was originally presented in Sections 7.9.3, 14.2.1.2 and 14.2.1.4 of the Safety Analysis Report. Improvements in analytical capability have allowed a more refined analysis of the control rod drop accident.

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION UNIT 3

PROPOSED AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.  
License No. DPR-25

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. 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; and
  - B. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B of Facility License No. DPR-25 is hereby amended to read as follows:

"B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. ."
3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Karl R. Goller, Assistant Director  
for Operating Reactors  
Division of Reactor Licensing

Attachment:  
Change No.     to the  
Technical Specifications

Date of Issuance:

ATTACHMENT TO PROPOSED LICENSE AMENDMENT

PROPOSED CHANGE TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-25

DOCKET NO. 50-249

Delete existing pages 54 and 62 of the Technical Specifications and insert the attached revised pages 54 and 62. The changed areas on the revised pages are shown by marginal lines.

### 3.3 .LIMITING CONDITION FOR OPERATION

#### REACTIVITY CONTROL

##### Applicability:

Applies to the operational status of the control rod system.

##### Objective:

To assure the ability of the control rod system to control reactivity.

##### Specification:

#### A. Reactivity Limitations

##### 1. Reactivity margin - core loading

The core loading shall be limited to that which can be made subcritical in the most reactive condition during the operating cycle with the strongest operable control rod in its full-out position and all other operable rods fully inserted.

##### 2. Reactivity margin - inoperable control rods

- a. Control rod drives which cannot be moved with control rod drive pressure shall be considered inoperable. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure the reactor shall be brought to a shutdown condition within 48 hours unless investigation demonstrates that the cause of the failure is not due to a failed control rod drive mechanism collet housing.

### 4.3 SURVEILLANCE REQUIREMENT

#### 4.3 REACTIVITY CONTROL

##### Applicability:

Applies to the surveillance requirements of the control rod system.

##### Objective:

To verify the ability of the control rod system to control reactivity.

##### Specification:

#### A. Reactivity Limitations

##### 1. Reactivity margin - core loading

Sufficient control rods shall be withdrawn following a refueling outage when core alterations were performed to demonstrate with a margin of 0.25 percent  $\Delta k$  that the core can be made subcritical at any time in the subsequent fuel cycle with the strongest operable control rod fully withdrawn and all other operable rods fully inserted.

##### 2. Reactivity margin - inoperable control rods

Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week. This test shall be performed at least once per 24 hours in the event power operation is continuing with three or more inoperable control rods or in the event power operation is continuing with one fully or partially withdrawn rod which cannot be moved and for which control rod drive mechanism damage has not been ruled out. The surveillance need not be completed within 24 hours if the number of inoperable rods has been reduced to less than three and if it has been demonstrated that control rod drive mechanism collet housing failure is not the cause of an immovable control rod.

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1. Control rod dropout accidents as discussed in the SAR can lead to significant core damage. If coupling integrity is maintained, the possibility of a rod dropout accident is eliminated. The overtravel position feature provides a positive check as only uncoupled drives may reach this position. Neutron instrumentation response to rod movement provides a verification that the rod is following its drive. Absence of such response to drive movement would indicate an uncoupled condition.
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