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REGULATORY DOCKET FILE COPY

March 5, 1976

Mr. Benard C. Rusche, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555



Subject: Dresden Station Units 2 and 3  
Proposed Modification to Appendix A  
Technical Specifications of Facility  
Licenses DPR-19 and DPR-25  
NRC Docket Nos. 50-237 and 50-249

- Reference (a): Byron Lee, Jr., letter to Dr. Peter Morris  
of January 18, 1971
- (b): Dr. Peter Morris letter to Byron Lee, Jr.,  
of February 6, 1971

Dear Mr. Rusche:

Pursuant to 10 CFR 50.59, Commonwealth Edison proposes to amend DPR-19 and DPR-25 by deletion of Section 4.3.C.3 of Appendix A of the Technical Specifications. The changes are indicated on the enclosed pages 58, 59, and 64 of the Technical Specifications.

The proposed change eliminates the requirement to conduct 25 rod scram tests following outages greater than 72 hours.

This surveillance was intended to indicate trends of increasing scram times due to plugging of the internal control rod drive filters. Modifications to the filter design described in reference (a) and approved by reference (b) solved the problem early in plant operation.

Enclosures 1 and 2 show the average 90% scram insertion times have never approached the limit of 3.5 seconds during 94 separate scram surveillances for Dresden Units 2 and 3.

In addition, General Electric Service Information Letter 139 of January 30, 1976, indicates their test results show the expected lifetime of control rod drives in which collet cracking has already initiated is related to the number of hot scram cycles imposed.

Mr. Benard C. Rüsche

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Unit capacity factors will be improved by the change because of the low power levels (less than 50%) at which the surveillance is conducted.

It is concluded that the probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased. The surveillance has adequately demonstrated the effectiveness of the filter modifications described in reference (a) and serves no further useful purpose, whereas continued scram testing may induce collet housing failures. The half core scram testing is sufficient to detect potential control rod drive problems.

The possibility for an accident or malfunction of a different type other than previously evaluated in the Final Safety Analysis Report is not created because deletion of this surveillance returns scram testing to the original program which was determined to be adequate.

The margin of safety is not reduced because the surveillance eliminated is no longer necessary and is probably contributing to the problem of cracked collet housings. In addition, the limiting conditions for operations are unchanged.

In view of the reactor safety and economic impact of this change, a timely review is requested.

The proposed changes have received Onsite and Offsite approval.

Three (3) signed originals and 37 copies are enclosed for your use.

Please contact this office if you have additional questions.

SUBSCRIBED and SWORN to  
before me this 11<sup>th</sup> day  
of March, 1976.

Nancy M. Hollingworth  
Notary Public

My Commission Expires September 24, 1978

Very truly yours,



R. L. Bolger  
Assistant Vice President

- Enclosure (1): Dresden Station Unit 2 Scram Testing History  
(2): Dresden Station Unit 3 Scram Testing History

### 3.3 LIMITING CONDITION FOR OPERATION

#### C. Scram Insertion Times

1. The average scram insertion time, based on the de-energization of the scram pilot valve solenoids as time zero, of all operable control rods in the reactor power operation condition shall be no greater than:

<u>% Inserted From Fully Withdrawn</u>	<u>Avg. Scram Insertion Times (sec)</u>
5	0.375
20	0.900
50	2.00
90	3.50

The average of the scram insertion times for the three fastest control rods of all groups of four control rods in a two by two array shall be no greater than:

<u>% Inserted From Fully Withdrawn</u>	<u>Avg. Scram Insertion Times (sec)</u>
5	0.398
20	0.954
50	2.120
90	3.800

2. The maximum scram insertion time for 90% insertion of any operable control rod shall not exceed 7.00 seconds.

### 4.3 SURVEILLANCE REQUIREMENT

#### C. Scram Insertion Times

1. After each refueling outage and prior to power operation with reactor pressure above 800 psig, all control rods shall be subject to scram-time tests from the fully withdrawn position. The scram times shall be measured without reliance on the control rod drive pumps.
2. At 16 week intervals, 50% of the control rod drives shall be tested as in 4.3.C.1 so that every 32 weeks all of the control rods shall have been tested. Whenever 50% of the control rod drives have been scram tested, an evaluation shall be made to provide reasonable assurance that proper control rod drive performance is being maintained.

### 3.3 LIMITING CONDITION FOR OPERATION

#### D. Control Rod Accumulators

At all reactor operating pressures, a rod accumulator may be inoperable provided that no other control rod in the nine-rod square array around this rod has a:

1. Inoperable accumulator,
2. Directional control valve electrically disarmed while in a non-fully inserted position.
3. Scram insertion greater than maximum permissible insertion time.

If a control rod with an inoperable accumulator is inserted "full-in" and its directional control valves are electrically disarmed, it shall not be considered to have an inoperable accumulator and the rod block associated with that inoperable accumulator may be bypassed.

### 4.3 SURVEILLANCE REQUIREMENT

#### D. Control Rod Accumulators

Once a shift check the status of the pressure and level alarms for each accumulator.

Approximately 70 milliseconds after neutron flux reaches the trip point, the pilot scram valve solenoid de-energizes. Approximately 200 milliseconds later, control rod motion begins. The time to de-energize the pilot valve scram solenoids is measured during the calibration tests required by Specification 4.1. The 200 milliseconds are included in the allowable scram insertion times specified in Specification 3.3.C.

The scram times for all control rods will be determined at the time of each refueling outage.

Fifty percent of the control rods will be checked every 16 weeks to verify the performance.

The history of drive performance accumulated to date indicates that the 90% insertion times of new and overhauled drives approximate a normal distribution about the mean which tends to become skewed toward longer scram times as operating time is accumulated. The probability of a drive not exceeding the mean 90% insertion time by 0.75 seconds is greater than 0.999 for a normal distribution. The measurement of the scram performance of the drives surrounding a drive exceeding the expected range of

## DRESDEN NUCLEAR POWER STATION UNIT 2

## SCRAM TESTING HISTORY

<u>Date</u>	<u>Test</u>	<u>90% Ave.</u>	<u>Date</u>	<u>Test</u>	<u>90% Ave.</u>
10/18/75	25 Rod	2.83	01/14/73	25 Rod	2.87
09/07/75	1/2 Core	2.74	01/02/73	25 Rod	2.78
08/24/75	25 Rod	2.68			
07/04/75	25 Rod	2.70	12/16/72	1/2 Core	2.79
06/10/75	25 Rod	2.82	12/09/72	25 Rod	2.74
05/29/75	25 Rod	2.79	11/15/72	25 Rod	2.72
			11/07/72	25 Rod	2.75
10/23/74	25 Rod	3.01	10/08/72	25 Rod	2.85
10/07/74	25 Rod	3.00	09/25/72	25 Rod	2.79
10/07/74	1/2 Core	3.00	08/31/72	1/2 Core	2.79
09/01/74	25 Rod	2.90	08/31/72	25 Rod	2.80
08/18/74	25 Rod	2.94	08/03/72	25 Rod	2.85
08/03/74	25 Rod	2.94	07/22/72	25 Rod	2.81
07/04/74	25 Rod	2.89	06/14/72	25 Rod	2.83
06/22/74	25 Rod	2.87	05/20/72	25 Rod	2.76
06/02/74	25 Rod	2.93			
06/02/74	1/2 Core	2.89	10/19/71	25 Rod	2.64
04/07/74	25 Rod	2.79	10/16/71	25 Rod	2.64
3/14/74	25 Rod	2.84	10/05/71	25 Rod	2.59
3/04/74	25 Rod	2.85	09/02/71	1/2 Core	2.68
2/10/74	25 Rod	2.82	08/03/71	25 Rod	2.69
2/10/74	1/2 Core	2.85	07/03/71	25 Rod	2.62
			06/19/71	25 Rod	2.68
11/03/73	25 Rod	2.85	06/01/71	25 Rod	2.61
11/03/73	1/2 Core	2.79	02/09/71	25 Rod	2.63
09/29/73	25 Rod	2.81	02/02/71	25 Rod	2.84
09/02/73	25 Rod	2.77	01/27/71	25 Rod	2.66
08/19/73	25 Rod	2.75	01/14/71	25 Rod	2.62
07/25/73	25 Rod	2.71	01/06/71	25 Rod	2.60
07/01/73	25 Rod	2.75			
05/09/73	25 Rod	2.77			
04/15/73	25 Rod	2.84			
04/04/73	25 Rod	2.84			
04/04/73	1/2 Core	2.84			
02/11/73	25 Rod	2.84			

Enclosure (1)

## DRESDEN NUCLEAR POWER STATION UNIT 3

## SCRAM TESTING HISTORY

<u>Date</u>	<u>Test</u>	<u>90% Ave.</u>	<u>Date</u>	<u>Test</u>	<u>90% Ave.</u>
10/19/75	25 Rod	2.50	12/07/72	25 Rod	2.58
10/02/75	25 Rod	2.55	11/23/72	25 Rod	2.59
09/20/75	25 Rod	2.52	11/14/72	1/2 Core	2.59
04/14/75	25 Rod	2.74	08/05/72	1/2 Core	2.57
03/16/75	25 Rod	2.84	06/18/72	25 Rod	2.58
01/10/75	25 Rod	2.65	05/23/72	25 Rod	2.45
			05/09/72	25 Rod	2.49
12/19/74	25 Rod	2.66	04/24/72	1/2 Core	2.57
11/17/74	25 Rod	2.68	03/28/72	25 Rod	2.62
10/20/74	25 Rod	2.60	02/04/72	25 Rod	2.60
10/06/74	25 Rod	2.59			
09/08/74	1/2 Core	2.59	12/29/71	25 Rod	2.59
08/24/74	25 Rod	2.48	11/30/71	25 Rod	2.47
07/30/74	25 Rod	2.53	11/13/71	25 Rod	2.51
07/16/74	25 Rod	2.49	10/28/71	25 Rod	2.52
07/05/74	25 Rod	2.53	10/15/71	25 Rod	2.44
06/12/74	25 Rod	2.56	10/01/71	25 Rod	2.38
02/22/74	25 Rod	2.59	09/18/71	25 Rod	2.48
01/24/74	25 Rod	2.57	07/28/71	25 Rod	2.50
12/16/73	25 Rod	2.54			
11/18/73	25 Rod	2.54			
11/02/73	25 Rod	2.60			
10/07/73	1/2 Core	2.53			
09/23/73	25 Rod	2.49			
08/26/73	25 Rod	2.49			
08/11/73	25 Rod	2.49			
07/18/73	25 Rod	2.48			
06/21/73	25 Rod	2.57			
06/07/73	25 Rod	2.63			
02/18/73	25 Rod	2.66			
01/23/73	25 Rod	2.62			
01/03/73	25 Rod	2.62			