



Commonwealth Edison
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April 14, 1987

Mr. Harold R. Denton
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, DC. 20555

Subject: Dresden Station Units 2 & 3
Additional Information Pertaining to 10CFR 50 Appendix R
Work Status Report
NRC Docket Nos. 50-237 and 50-249

References: (a) Letter dated August 18, 1986 from
J.R. Wojnarowski to H.R. Denton
(b) Letter dated January 30, 1987 from
I.M. Johnson to H.R. Denton

Dear Mr. Denton:

Commonwealth Edison, at the request of your staff, has provided periodically status reports depicting progress on Appendix R work at Dresden Station. These most recent updates were provided to you in References (a) and (b).

We are now providing the most current information regarding our Appendix R exemption requests (technical and scheduler) which are under review by your staff. This letter also transmits our revised schedule for completing outstanding Appendix R modifications for which we are seeking scheduler exemption pursuant to 10CFR50.12. This letter supercedes the above referenced letters. These changes have been discussed with your staff on various occasions. We will use the same Interim Compensatory Measures that were previously approved by your staff.

Attached, please find the following documents:

1. Attachment A: Appendix R Fire Protection Modification Dresden Station Units 2, 3, + 2/3 New Modifications, Revised 4/14/87

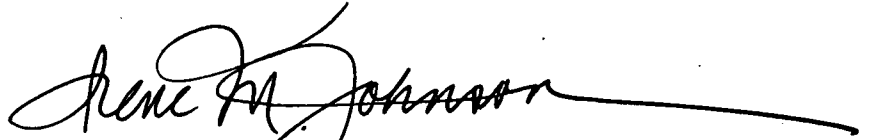
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2. Attachment B: Appendix R Fire Protection Modification Dresden Station Units 2, 3, + 2/3 Original Modifications, Revised 4/14/87
3. Attachment C: Clarification on CECO Position on Alternate Feeds to Reactor Pressure and Level Transmitter
4. Attachment D: Basis for Technical and Scheduler Exemption Pursuant to 10CFR50.12
5. Attachment E: Revised Fire Loads for Dresden Station

We will continue to keep you informed on progress toward achieving this schedule.

Please direct any questions you may have regarding this matter to this office.



I. M. Johnson
Nuclear Licensing Administrator

/klj
cc: J. Stang-NRR
M. Grotenhuis-NRR
Resident Inspector-Dresden

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ATTACHMENT A

Appendix R Fire Protection Modifications

Dresden Station Unit 2

New Modifications

<u>Modification</u>	<u>Completion Date</u>	<u>Remarks</u>
Fire Dampers	Current refueling Outage	See Note 1
Installation of Fire Doors	9-01-85	See Note 1
Alternate Feeds to Reactor Pressure and Level Transmitters		See Attachment C
Access to Cold Shutdown Motor Operated Valves	9-1-86	See Note 1
HPCI Room Curbs	6-1-86	See Note 1
Alternate Access to Iso. Condenser Pipe Chase	Unit 2-Fall '84 Outage	See Note 1

ATTACHMENT A

Appendix R Fire Protection Modifications

Dresden Station Unit 3

New Modifications

<u>Modification</u>	<u>Completion Date</u>	<u>Remarks</u>
Fire Dampers	Current Unit 2 refueling outage	See Note 2
Relocate Local Control Station for MCC 38-1 & 38-4	Fall '85 Outage	See Note 1
Installation of Fire Doors	9-01-85	See Note 1
Alternate Feeds to Reactor Pressure and Level Transmitters		See Attachment C
Access to Cold Shutdown Motor Operated Valves	9-1-86	See Note 1
HPCI Room Curbs	6-1-86	See Note 1
Alternate Access to Iso. Condenser Pipe Chase	Unit 3-Fall '85 Outage	See Note 1

ATTACHMENT A

Appendix R Fire Protection Modifications

Dresden Station Unit 2/3

New Modifications

<u>Modification</u>	<u>Completion Date</u>	<u>Remarks</u>
Fire Detection and Suppression	Current Unit 2 refueling Outage	See Notes 2 & 3
Fire Barrier Pipe and Conduit Penetration	Current Unit 2 refueling Outage	See Note 5
Transfer Switch for DG 2/3 Cooling Water Pump	Current Unit 2 refueling Outage	See Note 1
Emergency Lighting	Current Unit 2 refueling Outage	See Note 6
Fire Wrap of Conduit	Current Unit 2 refueling Outage	See Notes 3 & 4
Curbing in the Cribhouse	8-1-85	See Note 1

ATTACHMENT B

Appendix R Fire Protection Modifications

Dresden Station Unit 2

Original Modifications

<u>Modification</u>	<u>NRC Commitment</u>	<u>Remarks</u>
Alternate Feed to Inboard Iso. Condenser Valves	Next Refueling Outage	See Note 1
Access to Outboard Iso. Condenser Valves	Unit 2 - Fall '86 Outage	See Note 1
Auxiliary Cooling Water Supply to the CRD Pumps	Unit 2 - Fall '84 Outage	See Note 1
Local Reactor Pressure Indication	Unit 2 - Fall '84 Outage	See Note 1

ATTACHMENT B

Appendix R Fire Protection Modifications

Dresden Station Unit 3

Original Modifications

<u>Modification</u>	<u>NRC Commitment</u>	<u>Remarks</u>
Alternate Feed to Inboard Iso. Condenser Valves	Unit 3 - Fall '85 Outage	See Note 1
Access to Outboard Iso. Condenser Valves	Unit 3 - Fall '85 Outage	See Note 1
Auxiliary Cooling Water Supply to the CRD Pumps	Unit 3 - Fall '85 Outage	See Note 1
Local Control and Isolation of DG 3 Fuel Oil Transfer Pump	Fall '83 Outage	See Note 1
Local Reactor Pressure Indication	Unit 3 - Fall '83 Outage	See Note 1

ATTACHMENT B

Appendix R Fire Protection Modifications

Dresden Station Units 2/3

Original Modifications

<u>Modification</u>	<u>NRC Commitment</u>	<u>Remarks</u>
Installation of Fire Doors	4-1-84	See Note 1
CRD Pump Crosstie	Fall '84 Outage	See Note 1
Service Water Pump Local Control and Isolation	2-1-84	See Note 1
DG 2/3 Modifications	Next Unit 2 Refueling Outage	See Note 1
Fire Detection Suppression	1-1-85	See Note 1

NOTES

For Attachments A and B

- Note 1: Installation, inspection, and acceptance by Station is complete.
- Note 2: Installation and inspection are complete. Documentation being reviewed for acceptance by Station and will be completed by 4-30-87.
- Note 3: Cable tray fire wrap work in the Turbine Building corridor will be finished by August 1, 1987. In order to facilitate this fire wrap work it was necessary to remove suppression system piping immediately below the cable tray. The suppression system piping will be reinstalled as soon as the fire wrap work is complete. It is intended that this fire wrap work and suppression piping reinstallation will be complete by August 1, 1987.
- Note 4: Installation of fire wrap is complete except that noted above in Note 3. However, inspection and documentation review for acceptance by the Station will not be complete until 4-30-87.
- Note 5: All penetrations identified in our original Appendix R walkdown as requiring a seal have been sealed. A verification inspection will begin on April 20, 1987 to assure all penetrations have been identified and sealed. If any unsealed penetrations are found immediate action will be started to have them sealed. This work will be complete by August 1, 1987.
- Note 6: All items are complete, with the exception of one handheld fluorescent light fixture for the access hatchway to the Iso-Condensor Valve Room. Completion is expected by June 1, 1987.

ATTACHMENT C

Clarification of Commonwealth Edison (CECo)
Position on Alternate Feeds to
Reactor Pressure and Level Transmitter

Dresden Station has submitted requests for schedular relief from the requirements of 10CFR50.48 pertaining to the installation of plant modifications necessary to fulfill the requirements of Section III.G of 10CFR50 Appendix R. In the July 28, 1986 schedular exemption submittal, our latest estimated completion date was tied to the next Unit 3 refueling outage which is scheduled to start in the Fall of 1987. This date was associated with one modification, the installation of additional Unit 3 reactor level and pressure transmitters. A similar modification is planned for Unit 2.

Based on the clarifications and positions stated in Generic Letter 86-10, CECo believes that the spatial separation between redundant instrument racks located in both Fire Zone 1.1.1.2 (Elevation 517'6") and Fire Zone 1.1.1.3 (Elevation 545'6") provides adequate assurance that local reactor pressure and level instrumentation is available. CECo is still providing additional reactor pressure and level indication in the control room per the requirements of Reg. Guide 1.97. This additional instrumentation supplements the local indication available in the reactor building and may be used for most reactor building fire scenarios. Section 4.5 of the September 1985 revision to the August 10, 1984 Exemption Request submittal contains the fire hazards analysis and justifications for the acceptability of the spatial separation of the local instrumentation.

Upon your concurrence of the adequacy of the spatial separation for the Units 2 and 3 local reactor pressure and level instrumentation, CECo will no longer consider the installation of additional Unit 2 and 3 reactor pressure and level transmitters necessary to comply with the requirements of 10CFR50 Appendix R.

ATTACHMENT D
Basis for Technical and Scheduler Exemption
Pursuant to 10CFR50.12

- References: (a) Letter from J.R. Wojnarowski to H.R. Denton dated March 12, 1986
- (b) Letter from J.R. Wojnarowski to H.R. Denton dated March 20, 1986
- (c) Letter from B. Rybak to H.R. Denton dated August 10, 1984

The referenced letters (a) and (b) documented compliance to our 10CFR50 Appendix R exemption request with the 10CFR50.12 criteria. This attachment restates our compliance.

Technical Exemptions

As stated in reference (b), achieving literal compliance with Appendix R would require excessive modifications to the plant which are unwarranted considering that the underlying intent of Appendix R has been met. The following items illustrate the scope of work which would be required.

- * Engineering and installation of piping, sprinkler heads and support structures to expand or add suppression systems throughout the Reactor and Turbine buildings.
- * Engineering and installation of additional detection systems.
- * Cost associated with increased surveillance and maintenance on the above new or expanded detection and suppression systems.
- * Potential need for additional fire pump capability to support additional suppression systems.
- * Engineering and installation of additional fire barriers and upgrading of existing barriers

- * Potential need for additional ventilation equipment (duct work, dampers) as a result of the above added fire barriers.
- * Substantial rerouting of power cabling and associated conduit, ducts and supports to achieve requested separation.
- * Potential impact on future plant operation, maintenance and modifications due to interference with additional fire barriers (particularly in the vicinity of hatchways) and detection/suppression systems

The fire hazards analyses submitted in support of our exemption requests demonstrate that existing and planned fire protection features achieve an equivalent level of protection and meet the intent of Appendix R requirements. As such, the financial and human resource expenditure associated with the above work scope is unnecessary and unwarranted.

The original criteria to which Dresden was designed substantially pre-dated Appendix R. As a result, many aspects of the plant design do not conform to Appendix R criteria. To achieve literal compliance with Appendix R would require a major re-design effort and extensive modifications to provide additional suppression systems, detection systems and fire barriers beyond those currently being provided. The expenditure of engineering, construction and financial resources to achieve literal compliance would represent an unwarranted burden on Commonwealth Edison and its customers since our current program achieves an equivalent level of protection and complies with the underlying purpose and intent of Appendix R. Therefore, our exemption requests are appropriate and consistent with the criteria in 10CFR50.12(2)(2)(ii) and (iii). For specific supporting details, refer to the Fire Hazards Analyses which accompanied our technical exemption requests.

Schedular Exemptions

In the letter from B. Rybak to H.R. Denton dated March 1, 1985, Commonwealth Edison requested schedular exemption to the requirements of 10CFR50.48 for specific modifications. In the letter from J.R. Wojnarowski to H.R. Denton dated December 4, 1985 Commonwealth Edison supplemented our request by providing an updated schedule. These schedules reflect the original modifications for which we had previously requested schedular exemptions as well as new modifications resulting from our re-verification effort. Both old and new modifications were described in Enclosure II to reference (c), which also documented compensatory measures instituted until the modifications are complete.

Since the issuance of Appendix R, Commonwealth Edison has maintained an aggressive program to ensure that compliance with the applicable requirements is achieved in a thorough and expeditious manner. As described in Enclosure I to reference (a), we made a series of submittals documenting our efforts to comply with the rule which culminated in the issuance of the NRC Safety Evaluation Report in early 1983. However, as a result of industry-wide concerns regarding the proper interpretation of Appendix R requirements, Generic Letter 83-33 was issued to provide clarification. Commonwealth Edison participated in a number of meetings and workshops and in late 1983, initiated a major re-verification effort to assure compliance with the recently clarified intent of Appendix R. This effort resulted in additional modifications and exemption requests, both technical and schedular. It is largely this situation which, in spite of our best efforts, prevented Commonwealth Edison, as well as many other utilities, from achieving compliance with the schedular requirements of 10CFR50.48.

We believe the circumstances described above resulted from an industry-wide misunderstanding of the NRC's intent regarding Appendix R and were therefore beyond our direct control. As additional guidance became available, we reacted promptly to re-evaluate our compliance and initiate additional modifications as needed. Our current schedule represents our best effort to complete all required work as soon as possible considering the extensive scope of work involved. Our commitment to expeditiously achieve compliance is demonstrated by our track record of completing the modifications on schedule and, in some cases, ahead of schedule. As previously stated, interim compensatory measures are in effect for those modifications not yet completed. As such, we feel our requested schedule exemption complies with the criterion in 10CFR50.12(a)(21)(v).

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ATTACHMENT E
REVISED FIRE LOADS FOR DRESDEN STATION

<u>FIRE ZONE</u>	<u>Btu/ft²</u> <u>1984 SUBMITTAL</u>	<u>Btu/ft²</u> <u>PRESENT</u>	<u>ASTM E-119</u> <u>FIRE SEVERITY</u> <u>(MIN)</u>	<u>FIRE SEVERITY</u> <u>INCREASE</u> <u>(MIN)</u>
1.1.2.5.A	1,000	1,000	<1	0
1.3.2	19,000	21,000	15.75	1.5
1.1.2.1	1,000	1,000	<1	0
1.1.2.2	21,000	25,000	18.75	3.0
1.1.2.3	17,000	20,000	15.0	2.25
1.1.2.4	5,000	7,000	5.25	1.5
1.1.2.5.D	2,000	2,000	1.5	0
1.1.2.6/1.1.1.6	1,000	1,000	<1	0
11.2.1	22,000	25,000	18.75	2.25
11.2.2	15,000	17,000	12.75	1.5
1.1.1.5.A	1,000	1,000	<1	0
1.4.1	5,000	7,000	5.25	1.5
1.1.1.1	1,000	1,000	<1	0
1.1.1.2	23,000	27,000	20.25	3
1.1.1.3	16,000	18,000	13.5	1.5
1.1.1.4	8,000	10,000	7.5	1.5
1.1.1.5.D	1,000	2,000	1.5	.75
1.3.1	15,000	17,000	12.75	1.5
11.1.1	17,000	20,000	15.0	2.25
11.1.2	16,000	20,000	15.0	3.0
7.0.A	51,000	60,000	45.0	6.75
8.1	4.64 x 10 ⁶	4.64 x 10 ⁶	---	0
8.2.1.A	5,000	5,000	3.75	0
8.2.2.A	14,000	16,000	12.0	1.5

ATTACHMENT E
REVISED FIRE LOADS FOR DRESDEN STATION

<u>FIRE ZONE</u>	<u>Btu/ft²</u> <u>1984 SUBMITTAL</u>	<u>Btu/ft²</u> <u>PRESENT</u>	<u>ASTM E-119</u> <u>FIRE SEVERITY</u> <u>(MIN)</u>	<u>FIRE SEVERITY</u> <u>INCREASE</u> <u>(MIN)</u>
8.2.5.A	33,000	40,000	30.0	5.25
8.2.5.B	2,000	2,000	1.5	0
8.2.6.A	66,000	75,000	56.25	6.75
8.2.6.B	19,000	23,000	17.25	3.0
8.2.7	60,000	65,000	48.75	3.75
9.0.A	185,000	185,000	---	0
8.2.5.C	18,000	20,000	15.0	1.5
8.2.6.C	328,000	328,000	246	0
8.2.6.C*	16,000	18,000	13.5	1.5
6.1	23,000	25,000	18.75	1.5
7.0.B	54,000	56,000	42.0	1.5
8.2.1.B	4,000	5,000	3.75	.75
8.2.2.B	12,000	15,000	11.25	2.25
8.2.5.D	1,000	1,000	<1	0
8.2.5.E	23,000	25,000	18.75	1.5
8.2.6.D	18,000	22,000	16.5	3.0
8.2.6.E	17,000	20,000	15.0	2.25
9.0.B	162,000	162,000	---	0
2.0	41,500	45,000	33.75	2.63
6.2	118,000	135,000	101.25	12.75
11.3 Upper Level	13,000	13,000	9.75	0
Lower Level	10,000	15,000	11.25	3.75

*Excluding Turbine Oil Reservoirs