

Docket No. 50-346

License No. NPF-3

Serial No. 1076

September 6, 1984



RICHARD P. CROUSE
Vice President
Nuclear
14191 259-5221

Director of Nuclear Reactor Regulation
Attention: Mr. John F. Stolz
Operating Reactor Branch No. 4
Division of Operating Reactors
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stolz:

On July 25-29, 1983, the Nuclear Regulatory Commission (NRC) conducted an audit of the Toledo Edison Company Davis-Besse Nuclear Power Station, Unit No. 1 (DB-1), with regard to the Station's compliance to Appendix R of Title 10, Part 50, of the Code of Federal Regulations.

Subsequent to the audit exit meeting held on July 29, 1983, Toledo Edison identified twenty-nine (29) deficiencies around which it developed a program of short and long term actions intended to adequately respond to each deficiency. The developed Audit Response Program (ARP) was submitted to your staff on September 13, 1983 (Serial No. 986).

Of the actions identified in the ARP, the results of four tasks (1, 2, 3, & 5) were specifically requested to be submitted to Nuclear Reactor Regulation (NRR) for review. This request for submittal to NRR transpired in the Restart Safety Evaluation issued on September 23, 1983 (Log No. 1375).

This letter formally transmits the Toledo Edison results achieved thus far for those four specific tasks. A restatement of the tasks as discussed in the referenced letter is included as Attachment 1. The methods utilized by Toledo Edison to accomplish the objectives of the tasks in Attachment 1 has deviated from the original task statement in some cases. The intent of addressing the specific audit deficiency, however, has been met or has been exceeded. Several meetings were held with the NRC since the audit, in order to keep your staff informed of and to obtain concurrence with the methodology utilized to perform each task. Those tasks identified by numbers 1, 2, 3, and 5 are renumbered here 1, 2, 3, and 4, respectively. The status of all other tasks and activities identified in the ARP submittal will be detailed in the Toledo Edison response to the July 25-29, 1983 Inspection Report.

The Toledo Edison response to the referenced tasks 1, 2, and 4 is included as the two volume enclosure entitled the "Appendix R Compliance Assessment Report" (CAR).

THE TOLEDO EDISON COMPANY EDISON PLAZA 300 MADISON AVENUE TOLEDO, OHIO 43652

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The CAR details the DB-1 compliance to the requirements of Sections III G, J, L, and O, of Appendix R to 10 CFR 50. Within the CAR, the level of compliance to the required sections of Appendix R is specified.

A table summarizing the compliance level of fire areas with Appendix R is in the CAR as Table 1-1, and included here as Attachment 2. Physical modification alternatives and procedural modifications are identified to address specific noncompliances. In certain fire areas, it has been technically evaluated that the existing fire protection features, while not meeting the letter of Appendix R, meet or exceed the intent of the specific requirement. For these areas, exemptions are requested from the requirement of concern. Table 1-2 of the CAR summarizes the exemptions requested from the specific requirements of Appendix R, and is included here as Attachment 3.

On April 16, 1984, Toledo Edison submitted a revised schedule for completing the tasks in the Audit Response Program (Serial No. 1042). The September 1, 1984 commitment for the discussed tasks was identified in that letter. Additionally, in that letter Toledo Edison attempted to convey to the NRC, its concern over the potential impact on the ARP of performing the various tasks without the guidance that would normally be provided in an inspection report. Toledo Edison received your August 30, 1984 letter (Log No. 1-1024) Inspection Report No. 50-346/83-16(DE) regarding the July 25-29, 1983 audit of compliance to Appendix R on September 5, 1984. Toledo Edison has had insufficient time to review the inspection report prior to this submittal and our actions have been based upon our understanding of the audit findings as verbally transmitted during the audit exit meeting.

With regard to Task No. 3, Toledo Edison has determined that a review of the written audit findings against the task methodology and results be performed prior to document submittal. This determination was made to ensure that Toledo Edison is responding to the specific audit findings.

The results of Task No. 3, therefore, will not be submitted at this time, however, they will be submitted in the Toledo Edison response to the audit inspection report.

Task #5 described in Serial #986 was to perform a review of the Engineering Inspection Team (EIT) walkdown performed during 1975-1976. The results of this task were to have been used to assess Davis-Besse compliance with Appendix R relative to associated circuits.

However, a complete re-analysis of safe shutdown and associated circuit channel separation was performed and is described in the attached CAR. Toledo Edison believes that the extensive circuit tracking (both safe shutdown and associated circuits) performed for the CAR meets the intent of the previously proposed Task #5. Therefore, the intent of this task is considered to be addressed by the attached report.

Scheduling

Toledo Edison intends to implement the fire protection modifications in accordance with procedures for the Integrated Living Schedule Program (ILSP). Toledo Edison has prepared a preliminary Summary Level Planning Worksheet (SLPW) for the fire protection project. This SLPW was prepared consistent with the Toledo Edison Integrated Living Schedule Program plan submitted on July 16, 1984, in Toledo Edison letter, Serial No. 1043.

In a parallel effort, Toledo Edison is developing a Davis-Besse specific fire risk analysis. The fire risk analysis will be used to arrive at a prioritized list (with respect to safety) of proposed fire related modifications. Toledo Edison intends to prioritize these modifications as a function of their impact on risk reduction at Davis-Besse and resource requirements (manpower and dollar).

In the first quarter of 1985, Toledo Edison plans to prioritize the proposed modifications and revise the SLPW to show a realistic schedule for completing the proposed modifications. Due to the number and cost of modifications proposed, it is anticipated that it will take approximately three refueling cycles to complete necessary fire protection modifications. Thus, a completion date for modifications should be approximately at the end of the 1989 refueling outage.

Compensatory Measures

Toledo Edison has taken specific steps to ensure that DB-1 can be operated in a manner to provide protection of plant equipment important to safe shutdown and with no adverse effects to the health and safety of the public. These steps are in addition to those taken in response to the audit findings as documented in the ARP submittal. NRC concurrence with the adequacy of those compensatory measures was received in the Restart Safety Evaluation dated September 23, 1983 (Log No. 1375). The additional measures taken are discussed below:

1. Upon identification that Appendix R noncompliances existed for a particular fire area, an hourly fire patrol was established. Guidance was provided to ensure the maximum effectiveness of the fire patrol's roving tours.
2. Until proposed plant modifications can be completed, noncompliances to Sections III.G and III.L of Appendix R, which currently exist at DB-1, will be addressed in plant safe shutdown procedures. Operator guidance necessary to address the potential fire damaged equipment for which plant modifications have not yet been implemented will be incorporated into Item 4. The procedures may be revised removing such guidance upon implementation of each modification.

3. An effort will be initiated to evaluate the seriousness of noncompliances associated with each fire area.

This is being done independent of the fire risk analysis discussed under Scheduling, in order to evaluate the adequacy of the interim measures taken. Factors being utilized in the evaluation include:

- combustible loading
- area (room) fire protection features (i.e. suppression, detection)
- frequency of plant tours through areas
- extent of noncompliance
- interim measures taken
- impact of noncompliance on safe shutdown capability

The results of this evaluation will determine if any additional compensatory measures are necessary for a specific fire area. Any such additional measures will be implemented as soon as possible.

4. Toledo Edison has dedicated the resources necessary to develop and implement all procedural actions identified in this submittal. This will result in more areas achieving compliance with the requirements of Appendix R. With the completion of this effort, a total of 21 areas will be in compliance with Section III G of Appendix R. These procedures will be in place prior to completion of the 1984 refueling outage.

Toledo Edison continues to place a high priority on attaining full compliance to the requirements of Appendix R. Toward this end, the effort to implement the discussed modifications has been initiated. Additionally, other tasks not yet completed, as identified in our previous correspondence in response to the Appendix R audit, are receiving dedicated attention.

With regard to the CAR, a long term Appendix R compliance program is evolving and is planned to be implemented in 1985. Upon implementation, a Revision 1 to this CAR is to be developed. The design documents utilized in the development of this submittal are current through March 1, 1984. The intent of the revision will be to ensure the performance of the Appendix R review on all implemented Facility Change Requests and drawing updates. This update of the Appendix R Compliance Assessment will automatically occur upon implementation of the long term program. This revision is tentatively planned for 12-18 months from issuance of this submittal.

As part of this revision process, the Fire Hazards Analysis will also be updated. All information concerning the description of fire areas, plant fire hazards, and fire protection features will be verified and consolidated into the FHAR. All information with regard to Appendix R and specifically the systems required to meet the rule will remain in the CAR.

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Through the development and performance of the Appendix R Compliance Assessment Program, Toledo Edison's intent has been to ensure the results of this review are accurate and well defined. It is understood, however, that the specific method utilized to eliminate an Appendix R noncompliance may be changed due to many different reasons. Toledo Edison will incorporate any such changes or final implementation decisions into Revision 1 to this report, which will be forwarded to your office.

Toledo Edison has determined that the nature of the noncompliances, when reviewed considering the low probability of the fire, the fire protection features existing in the plant, and the compensatory measures instituted or to be instituted, does not adversely effect the health and safety of the public. Toledo Edison will continue its aggressive effort to resolve this issue.

Attached is a check for \$4,350.00, for twenty-nine (29) exemptions at \$150 per exemption, per 10 CFR 170.12(c).

Very truly yours,

R P Crouse

RPC:JSH:nlf

encl. (37 copies of CAR and check)

cc: DB-1 NRC Resident Inspector

Mr. Al DeAgazio, NRR Project Manager (3 copies of CAR)

TASKS TO BE SUBMITTED TO NRR FOR REVIEW AND EVALUATION

Task 1. Safe Shutdown Systems Identification

Minimum systems, components, and circuits required for hot standby and for cold shutdown will be identified. Associated circuits whose damage could affect shutdown capability as defined in Generic Letter 81-12 will be included.

The systems, components, and circuits identified will be located in the plant. Fires will be postulated in each fire area/zone and the fire protection features for the systems, components, and circuits will be evaluated against the requirements of Appendix R, Section III.G.2.

Review of the isolation of circuits between the Auxiliary Shutdown Panel and the control room/cable spreading room will be included in this task.

Task 2. Fire Hazards Analysis Report (FHAR) - Appendix R Review

Revision 6 of the DB-1 FHAR will be reviewed against the requirements of 10 CFR 50 Appendix R, Sections III.G, J, O, and L. Revisions resulting from Task 1 will be incorporated in the FHAR. Feedback will be provided to upgrade the interim procedures when information affecting the procedures becomes available.

A generic review of the instrumentation will be performed to identify the extent of conformance to the alternative shutdown capability requirements of Appendix R, Section III.L.

Recommendations concerning modifications and/or exemptions will be made.

Task 3. Fire Hazards Analysis Report - Compatibility Review

A review will be performed to ensure commitment compatibility between the DB-1 Fire Hazards Analysis Report (including referenced documents), the National Fire Protection Association Code, the Updated Safety Analysis Report (USAR), and the DB-1 Technical Specifications.

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Task 4*. Associated Circuit Analysis

A review will be performed of the TED 1975-1976 engineering inspection of channel separation at DB-1 to determine consistency with the guidelines provided in Appendix R Sections III.G and L, Generic Letter 81-12, and the clarification letter to the Generic Letter. Existing Toledo Edison analyses will be upgraded, as necessary, to meet the aforementioned guidelines.

*Task 5 in September 13, 1983 Audit Response submittal.

TABLE 1-1
AREA COMPLIANCE NUMERICAL SUMMARY

Fire Area	Existing Compliance	Procedural Modifications Required	Compliance Upon Completion of Procedures	Physical Modifications Required	Exemptions		Alternate Shutdown Capability Required
					to III.G.2	to III.G.3	
A	No	Yes	No	Yes	X	X	Yes
B	No	Yes	No	Yes			
C	Yes						
D	No	Yes	No	Walkdown required			
E	No	Yes	Yes	No			
F	No	Yes	No	Yes			
G	No	Yes	No	Yes		X	Yes
H	No	Yes	No	Yes	X		
J	No	Yes	Yes	No			
K	No	Yes	Yes	No			Yes
L	Yes						
M	Yes						
P	No	Yes	No	Yes		X	Yes
Q	No	Yes	No	Yes		X	Yes
R	No	Yes	No	Yes		X	Yes
S	No	Yes	Yes	No			
T	No	Yes	No	Yes	*		Yes

*Previously approved

TABLE 1-1
(continued)

AREA COMPLIANCE NUMERICAL SUMMARY

Fire Area	Existing Compliance	Procedural Modifications Required	Compliance Upon Completion of Procedures	Physical Modifications Required	Exemptions		Alternate Shutdown Capability Required
					to III.G.2	to III.G.3	
U	No	Yes	No	Yes	X	X	Yes
V	No	Yes	No	Yes	X		
W	Yes						
X	No	Yes	Yes	No			
Y	No	Yes	Yes	No			
Z	Yes						
AA	Yes						
AB	No	Yes	No	Yes			
AC	No	Yes	Yes	No			
BB	Yes						
BD	Yes						
BE	No	No	N/A	Yes			
BF	No	No	N/A	Yes			
II	Yes						
CC	No	No	N/A	Yes			
DA	No	Yes	No	Yes	X		

TABLE 1-1
(continued)

AREA COMPLIANCE NUMERICAL SUMMARY

Fire Area	Existing Compliance	Procedural Modifications Required	Compliance Upon Completion of Procedures	Physical Modifications Required	Exemptions		Alternate Shutdown Capability Required
					to III.G.2	to III.G.3	
DB	No	Yes	No	Yes			
DC	Yes						
DD	No	Yes	No	Yes			Yes
DE	No	Yes	Yes	No			
DF	No	Yes	No	Yes		X	Yes
DG	Yes						
DH	No	Yes	No	Yes			
DJ	No	Yes	No	Yes			Yes
EE	No	Yes	No	Yes		X	Yes
FF	No	Yes	No	Yes		*	Yes
HA	No	Yes	No	Yes			
HH	No	Yes	No	Yes		X	Yes
UU	Yes						
BM	No	Yes	No	Yes			
BN	No	Yes	Yes	No			

*Previously approved

TABLE 1-2
LIST OF EXEMPTION REQUESTS

Section Reference	Exemption Statement	Appendix R Reference
2.5.1	Security modifications to Fire Doors 320, 321, 322, 323, 332, 427, 428 and 605	III.G.2
2.5.2	Non Fire Rated Doors 601 and 602	III.G.2
2.5.3	Non-rated openings with no fire dampers in the Auxiliary Feedwater (AFW) Pump Rooms (237 and 238, FireAreas E and F).	III.G.2
2.5.4	Interconnected opening between Fire Area G (Passage 227) and Fire Area H (Corridor 209 and Passage above Fuel Transfer Tubes).	III.G.2
2.5.5	Non-rated barrier in Corridor 304 located in Fire Area V separating Corridor 209, Fire Area H (non fire-rated hatchway located in floor slab).	III.G.2
2.5.6	Redundant passive components (Decay Heat Coolers) in Decay Heat Cooler Room 113 are not separated by a 3-hour fire-rated barrier.	III.G.2
2.5.7	Non-rated openings in Passageway 227, Fire Area G separating Passageway 110A in Fire Area A (non fire-rated steel plates and grating located in passageway to provide equipment removal and facilitate ventilation).	III.G.2
2.5.8	Non-rated barrier in Clean Waste Receiver Tank Room 123, located in Fire Area A separating the Boric Acid Addition Tank Room 240, Demineralizer Room 233, and the Boric Acid Evaporator Room 234, which are located in Fire Area G.	III.G.2
2.5.9	Non-rated hatch in Room 428, Fire Area/Zone X-1 communicates with Room 322, Fire Area/Zone P-1 located in the Elevation 603' floor slab.	III.G.2
2.5.10	Non-rated openings in the South wall of the Auxiliary Feedwater Pump Rooms, which interface with Clean Waste Receiver Tank Room 124.	III.G.2

TABLE 1-2
 (continued)

LIST OF EXEMPTION REQUESTS

Section Reference	Exemption Statement	Appendix R Reference
2.5.11	Non-rated opening where the Emergency Ventilation System (EVS) and its associated duct work pass through 3-hour fire-rated floor slabs and ceilings, not containing 3-hour rated fire dampers.	III.G.2
2.5.12	Non-rated openings where the Containment Purge Exhaust System ducts pass through 3-hour fire-rated floor slabs and ceilings, not containing 3-hour rated fire dampers.	III.G.2
4.2.3	An exemption is requested from the requirement to have a three hour barrier separating redundant trains for all embedded conduit.	III.G.2
4.6.1 (Fire Area A)	Exemption is requested from the requirement to have full (in lieu of partial) area suppression, zonal suppression exists over required components/circuits when accrediting 20 feet separation with suppression, detection and low intervening combustibles.	III.G.2
	Exemption is requested from 20 feet separation (16 feet horizontal separation exists) requirement for Cable Trays 2CEC, 2CEE, and 2CEF in room 124.	III.G.2
	Exemption is requested from the requirement to have full area suppression and detection in the area of consideration for the alternative shutdown capability utilizing the mechanical SG pressure gauges.	III.G.3
4.6.7 (Fire Area G)	Exemption is requested from the requirement to have full area automatic suppression and detection in the area of consideration due to the alternative shutdown actions for manually positioning valve MS107 (not located in this fire area).	III.G.3

TABLE 1-2
 (continued)

LIST OF EXEMPTION REQUESTS

Section Reference	Exemption Statement	Appendix R Reference
4.6.8 (Fire Area H)	Exemption is requested from the requirement to have full area suppression and detection in the area covering Conduit 27671C (Circuit 1CBE1157J) which will be wrapped with a one-hour barrier.	III.G.2
4.6.13 (Fire Area P)	Exemption is requested from the requirement to have full area automatic suppression and detection in the area of consideration due to the alternative shutdown actions for manually positioning damper MV5314 (not located in this fire area).	III.G.3
4.6.14 (Fire Area Q)	Exemption is requested from the requirement to have full area automatic suppression and detection in the area of consideration due to the alternative shutdown actions for manually positioning damper MV5597 (not located in this fire area).	III.G.3
4.6.15 (Fire Area R)	Exemption is requested from the requirement to have full area suppression and detection in the area of consideration for the alternative shutdown capability utilizing the mechanical SG pressure gauges.	III.G.3
4.6.18 (Fire Area U)	Exemption is requested from the requirement to have full (in lieu of partial) area suppression (zonal suppression exists over circuits and/or components requiring protection) with a one-hour wrap on the required trays and zonal detection (instead of full area detection).	III.G.2
	Exemption is requested from the requirement to have full area automatic suppression and detection in the area of consideration due to the alternative shutdown actions for providing guidelines to install temporary ventilation and perform damper positioning as necessary in the CCW Pump Room.	III.G.3

TABLE 1-2
 (continued)

LIST OF EXEMPTION REQUESTS

Section Reference	Exemption Statement	Appendix R Reference
4.6.19 (Fire Area V)	Exemption is requested from the requirement to have full (in lieu of partial) area suppression (zonal suppression exists over circuits and/or components requiring protection) with a one-hour wrap on the required trays and zonal detection. An exemption for spatial separation less than 20 feet for one circuit is also included.	III.G.2
4.6.33 (Fire Area DA)	Exemption is requested from the requirement to have automatic suppression in this fire area due to in excess of 100 feet of horizontal separation with no intervening combustibles.	III.G.2
4.6.38 (Fire Area DF)	Exemption is requested from the requirement to have full area suppression in the area of consideration for the alternative shutdown guidelines to manually de-energize and position valve MS106 (MS106 is not located in this area).	III.G.3
4.6.42 (Fire Area EE)	Exemption is requested from the requirement to have full area automatic suppression and detection in the area of consideration due to the alternative shutdown actions for manually positioning valve MS106.	III.G.3
4.6.45 (Fire Area HH)	Exemption is requested from the requirement to have area suppression in the area of consideration due to the alternative shutdown actions for alternative temporary ventilation installation.	III.G.3
6.5	Exemption is sought from the requirement to rely solely upon eight-hour battery powered emergency lighting units in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto, based upon the existence and availability of the AC and DC essential lighting.	III.J