

MAR 18 1983

MEMORANDUM FOR: D. G. Eisenhut, Director, Division of Licensing, NRR

FROM: C. E. Norelius, Director, Division of Project and Resident Programs

SUBJECT: SAFETY EVALUATION OF NUREG-0737, ITEM 11.B.2.2
DESIGN REVIEW OF PLANT SHIELDING-ACCESS TO VITAL AREAS
PALISADES NUCLEAR GENERATING PLANT
TAC NO. 47961

Per your request we have completed the review of the subject TMI Action Item. The Safety Evaluation and referenced portions of the Inspection Reports documenting this review are attached.

Forty-five staff hours were used in this evaluation.

Any questions on this subject should be directed to K. R. Ridgway (FTS 384-2544).

C. E. Norelius, Director
Division of Project and
Resident Programs

Enclosures:

1. SE
2. Inspection Reports (in part)
50-255/82-01 and
50-255/82-29

cc w/encls:

G. Lainas, AD/OR
E. Tourigney, LORPM
T. Wambach, ORPM
D. Crutchfield, ORB-5

cc w/o encls:

J. Thoma, NRR

RII
py
Lovendale/jp
3/16/83

RIII
Greg
Greger
3/17

RIII
KR
Ridgway
3/17

RIII
WLL
Tambling
3/17

RIII
JS
Streeter
3/17

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N
Norelius
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SAFETY EVALUATION OF NUREG-0737, ITEM II.B.2.2. - DESIGN REVIEW OF
PLANT SHIELDING-ACCESS TO VITAL AREAS

Consumers Power Company
Palisades Nuclear Generating Plant
DOCKET NO. 50-255

INTRODUCTION

Following the accident at TMI-2, the NRC staff developed Action Plan NUREG-0660, and "Clarification of TMI Action Plan Requirements" NUREG-0737, to provide for improved safety at nuclear power plants.

NUREG-0737, Item II.B.2 directed all licensees to perform a design review of plant shielding and to provide for adequate access to vital areas. The licensee has not requested technical deviations from the criteria of Item II.B.2.

The following evaluation contains the results of the post implementation review regarding II.B.2.2 entitled Plant Shielding Modifications for Vital Area Access.

EVALUATION

The inspector examined the conclusions resulting from the licensee's shielding review, as contained in the Design Review Study of Plant Shielding dated January 10, 1980, for the Palisades Nuclear Generating Plant.

The inspector verified by actual observation that selected plant modifications recommended as a result of the shielding design review were complete. In addition, the inspector verified by selective review and walkdown of procedures that post-accident procedural controls for ensuring adequate access to vital areas were implemented. The inspector did not observe any potential sources of radiation that were not included in the licensee's evaluation.

These verifications were performed on January 4-8, 1982 and December 14-17, 1982 and the results were reported in Inspection Report Nos. 50-255/82-01 and 50-255/82-29.

CONCLUSION

The licensee has completed the modifications resulting from the plant shielding review for post-accident access to vital areas as outlined in NUREG-0737, Item II.B.2.

The following NRC personnel have contributed to this Safety Evaluation.

P. C. Lovendale
B. L. Jorgensen

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/82-01(DPRP)

Docket No. 50-255

License No. DPR-20

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Palisades Nuclear Generating Plant

Inspection At: Palisades Site, Covert, MI

Inspection Conducted: December 30, 1981 and January 4-8, 11-15, 18-23,
and 25-30, 1982

| | | |
|---|----------------|----------------|
| Inspectors: B. L. Jorgensen | <i>DL Boyd</i> | <u>2-24-82</u> |
| <i>for</i> J. K. Heller | <i>DL Boyd</i> | <u>2-24-82</u> |
| <i>for</i> N. E. DuBry | <i>DL Boyd</i> | <u>2-24-82</u> |
| Approved By: D. C. Boyd, Chief Reactor Projects Section 1A | <i>DL Boyd</i> | <u>2-24-82</u> |

Inspection Summary

Inspection during January 1982 (Report No. 50-255/82-01(DPRP))
Areas Inspected: Routine resident inspection program activities including: verification of operational safety; surveillance; maintenance; reportable events; plant trips; TMI action items; and IE Bulletin review. The inspection involved a total of 162 inspector hours onsite by three NRC inspectors including 28 inspector hours onsite during offshifts.
Results: Of the seven areas inspected, no items of noncompliance or deviations were identified in six areas. One item of noncompliance (Category 6 - failure to establish firewatch for an open fire door - Paragraph 2) was identified in the remaining area.

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the inspector reviewed this item and verified that Revision 4 was the correct revision, but also verified that Revision 4 and Revision 1 were identical. Identification of the sheet used as Revision 1 was apparently a typographical error. This item was also discussed with the Operations Superintendent.

No items of noncompliance or deviations were identified.

7. TMI Action Items

The inspection included a review of licensee actions on selected action items identified in NUREG-0737, "Clarification of TMI Action Plan Requirements."

- a. Item II.F.1.4 - containment pressure recorder: the licensee installed two separate 10-200 psia continuous recorders during the recent refueling outage, which were apparently available for service January 1, 1982, thus meeting the commitments as stated in the licensee's letters of December 19, 1980 and September 1981. After calibration of the system January 1, 1982, however, the instruments were not actually placed in service. This was brought to the attention of licensee personnel in mid January and the recorders were placed in service, but not all control operators were informed the system was officially operational. The inspector discussed instrument use and parameters with control operators. The operators contacted did not exhibit good understanding of the system and indicated weaknesses in training on use and meaning of the information provided. This was discussed at the Management Interview.
- b. Item II.F.1.5 - containment water level recorder: the licensee installed two separate water level recording channels (each with two detectors covering different portions of the overall span) during the recent refueling outage. These channels feed the same multi-point recorders used for containment pressure as described above, and were similarly not placed in service effective January 1, 1982; nor were they well understood by the control operators contacted. The licensee's September 1981, letter identifies a system design exception for water level monitoring in that the range of the system does not extend to 600,000 gallons as provided in NUREG-0737, Appendix B and Regulatory Guide 1.89 criteria. This is considered acceptable based on plant-specific analyses that onsite water capacity which could end up in the containment building totals less than 600,000 gallons.
- c. Item II.B.2 - plant shielding: the inspector verified plant shielding was modified in accordance with the licensee's letter of December 19, 1980. The modifications, completed during the refueling outage, included concrete plugs in the 48" containment purge supply and exhaust penetrations, providing remote manual

(powered) operators for LPSI suction valves, relocating the manual controller for a LPSI discharge valve, and installing a shield wall in the vicinity of the personnel airlock.

Based on the above reviews and discussions at the Management Interview, the above items are considered closed.

No items of noncompliance or deviations were identified.

8. IE Bulletin

This inspection included followup review to IE Bulletin 80-15 "Possible Loss of Emergency Notification System (ENS) With Loss of Offsite Power." During a previous inspection⁵ it was noted the licensee planned a test schedule different from the Bulletin provision, stating in his letter of September 4, 1980, that a system test with loss of offsite power would be conducted during the next scheduled refueling outage. A successful ENS test with loss of offsite power was observed by the inspector on December 21, 1981, and the test results were reviewed during this inspection. This item is considered closed.

No items of noncompliance or deviations were identified.

9. Management Interview

A management interview was conducted (attended by licensee personnel as indicated in Paragraph 1) following completion of the inspection. The following items were addressed.

- a. The inspectors summarized the scope and findings of the inspection.
- b. The noncompliance was specifically identified and discussed. The inspectors stated licensee corrective actions appeared appropriate (Paragraph 2).
- c. Inspector concerns relative to water leakage control into and around the auxiliary feedwater room were discussed. The licensee indicated they share the same concern. (Paragraph 2)
- d. Licensee actions with respect to control of clerical errors in the document revision process were discussed. The inspectors stated the current administrative procedures (revised pursuant to LER 81-031) were apparently being implemented only in the Operations Department. The licensee stated the procedures and his practices would be reconciled.
- e. Followup to TMI Action Items was reviewed. The licensee acknowledged minor "loose ends" remain to be tied up with respect to the containment pressure and water level recorders; and these are being actively pursued.

⁵ IE Inspection Report No. 255/81-05.

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/82-29(DETP)

Docket No. 50-255

License No. DPR-20

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Palisades Nuclear Generating Plant

Inspection At: Palisades Site, Covert, Michigan

Inspection Conducted: December 14-17, 1982

Inspector: *P. C. Lovendale*
P. C. Lovendale

1/14/83

Approved By: *L. R. Greger*
L. R. Greger, Chief
Facilities Radiation
Protection Section

1/14/83

Inspection Summary

Inspection on December 14-17, 1982 Report No. 50-255/82-29(DETP)

Areas Inspected: Routine, unannounced inspection of radioactive waste systems, including: effluent releases; records and reports of effluents; effluent control instrumentation; procedures for controlling releases; and solid radioactive waste. Also, actions taken in response to previous inspection findings, a TMI Action Item, and two licensee event reports were reviewed. The inspection involved 34 inspector-hours onsite by one NRC inspector.

Results: Of the eight areas inspected, one item of noncompliance was identified in one area (failure to maintain liquid radioactive waste monitor operable - Section 7).

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The licensee has recently procured a box compactor for installation in the south radwaste building. At the time of this inspection, installation and preoperational testing of the compactor had not been completed. The licensee stated that a procedure for compactor operation has not been developed and that air flow and air activity measurements have not been completed. This matter was discussed during the exit meeting and will be reviewed during a future inspection (255/82-29-03).

9. TMI Action Item II.B.2.2 - Plant Shielding

The inspector selectively reviewed the licensee's actions and modifications completed to satisfy the criteria of NUREG-0737 for shielding plant areas where access is necessary during accident conditions. Necessary modifications, completed by January 1, 1982, included:

- a. Installation of concrete plugs in both 48-inch containment purge ducts.
- b. Provisions for remote-manual operation of valves CV-3189, CV-3190, CV-2198, and CV-3199 from the control room.
- c. Relocation of the controller for CV-3006 to a lower post-accident dose rate area.
- d. Installation of a shield wall outside the personnel air lock to reduce predicted doses in the laboratory areas.

In addition to the resident inspector's review,¹ the inspector verified installation of the shield wall installation outside of the personnel air lock and observed the operation of the post-accident sampling system (considered a vital operation during an accident) to determine if GDC-19 dose guidelines would be exceeded. The shield wall installation appeared satisfactory and, based on licensee calculations and inspector verifications, it appears vital operations can be conducted within GDC-19 dose limits.

10. Licensee Event Reports

Corrective actions taken in response to the following Licensee Event Reports were reviewed. No problems were noted.

LER 82-37 - PCS iodine out of specification
LER 82-41 - PCS iodine out of specification

11. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on December 17, 1982. Further discussions were conducted by telephone, on December 28 and 29, 1982, between the inspector and licensee management. The inspector summarized the scope and findings of the inspection. In response to certain items discussed by the inspector, the licensee:

¹ Inspection Report No. 50-255/82-01.