

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-346/83-16(DE)

Docket No. 50-346

License No. NPF-3

Licensee: Toledo Edison Company
Edison Plaza
300 Madison Avenue
Toledo, Ohio 43652

Facility Name: Davis-Besse 1

Inspection At: Oak Harbor, Ohio

Inspection Conducted: July 11-13, 25-29, September 7-9, 22, 1983; December 1,
1983 (Enforcement Meeting at Region III); and
January 3-5, 9, 1984

Inspectors: <i>C. B. Ramsey for</i> R. Eberly, NRR	<u>8/28/84</u> Date
<i>C. B. Ramsey for</i> N. Fioravante, NRR	<u>8/28/84</u> Date
<i>C. B. Ramsey for</i> V. Lettieri, BNL	<u>8/28/84</u> Date
<i>F. Maura</i> F. Maura, RIII	<u>8/28/84</u> Date
<i>C. B. Ramsey for</i> P. McKee, IE	<u>8/28/84</u> Date
<i>C. B. Ramsey</i> C. Ramsey, RIII	<u>8/28/84</u> Date
<i>W. Rogers for</i> W. Rogers, RIII	<u>8/28/84</u> Date
<i>C. B. Ramsey for</i> H. Thomas, BNL	<u>8/28/84</u> Date

C. B. Ramsey for
J. Ulie, RIII

8/28/84
Date

C. C. Williams

Approved By: C. C. Williams, Chief
Plant Systems Section

8/28/84
Date

Inspection Summary

Inspection on July 11-13, 25-29, August 16, September 7-9, 22, 1983, December 1, 1983, and January 9, 1984 (Report No. 50-346/83-16(DE)).

Areas Inspected: Nonroutine, announced inspection for implementation of and compliance to the requirements of 10 CFR 50, Appendix R (Section III.G, J, O and L); and the fire protection program. The inspection involved 595 inspector-hours onsite by nine NRC inspectors including 103 inspector-hours during off shifts; 40 inspector-hours at an August 16, 1983 meeting at NRC Headquarters in Bethesda, Maryland; 6 inspector-hours at a December 1, 1983 enforcement conference; and 20 inspector-hours in December 1983 and January 3-5, 9, 1984 reviewing additional material submitted by the licensee.

Results: Eight items of noncompliance containing nineteen examples were identified in the two areas inspected. (Alternative shutdown capability does not meet the acceptance criteria of Appendix R, paragraph III.G.3 and III.L.-Paragraph 4; failure to perform a spurious signal analysis for the service water discharge valves, the pressurizer PORV and block valves, and the letdown cooler isolation valves-Paragraphs 4 and 7; auxiliary shutdown panel and transfer switch room lacks a fixed fire suppression system-Paragraph 4; Auxiliary shutdown panel fails to provide one train required for hot standby free of fire damage-Paragraph 4; fire at the auxiliary shutdown panel could cause a repair to be required which is not allowed for hot shutdown-Paragraph 4; (a) four areas of the plant did not have installed emergency lighting units, (b) three areas of the plant had obstructed lighting and (c) two of six emergency lighting units failed the 8 hour discharge test-Paragraph 5; inadequate oil collection system capacity-Paragraph 6; lack of a 1-hour fire barrier in conduits and junction boxes-paragraph 8; violation of LCO, failure to establish a fire watch after finding inoperable fire dampers-paragraph 10; inadequate fire damper surveillance test procedure-paragraph 10; modifications to fire doors were not controlled-paragraph 13; eight examples of inadequate surveillance test and administrative procedures-paragraph 14; failure to adhere to staffing qualifications for fire protection/protection program implementation-paragraph 15.

Details - Part I documents the inspections conducted in July, 1983 and the meeting between NRR, Region III, and Toledo Edison Company.

Details - Part II documents inspection of short term corrective action prior to plant restart.

Details - Part III documents Region III December 1, 1983 enforcement meeting and subsequent review and inspection.

DETAILS - PART I

1. Persons Contacted

Toledo Edison Company

- ***R. P. Crouse, Executive Vice President, Toledo Edison Company
- **T. Myers, Nuclear Services Director
- ***C. Daft, Toledo Edison Company
- **L. Young, Manager, Nuclear Licensing
- ***J. Lingenfelter, Toledo Edison Company
- **J. Haverly, Licensing Engineer
- *T. Hart, Senior Assistant Engineer
- *S. Quennoz, Assistant Station Superintendent-Operations
- *R. Ebersole, Technical Assistant, Operation
- F. Miller, Nuclear Systems and Analysis Engineer
- J. Faris, Administrative Coordinator
- *S. Feasel, Assistant Shift Supervisor
- *T. Bergner, Reactor Operator
- *W. Nissen, Fire Protection Coordinator
- J. Long, Maintenance Specialist
- E. Cusino, Control Systems Foreman
- *P. Carr, Maintenance Engineer
- P. Gable Maintenance Engineer
- *K. Spenler, Quality Assurance

Bechtel Corporation

- *P. Madden, Fire Protection Specialist
- *V. Marathe, Electrical Supervisor
- **J. Fay,
- *W. Frey, Design Supervisor

The inspection team also contacted other plant personnel including training, health physics, maintenance, operations and licensing.

*Denotes persons attending the exit meeting of July 29, 1983 only.

**Denotes persons attending the July 29, 1983 exit meeting and the special meeting at NRC Headquarters on August 16, 1983.

***Denotes persons attending the special meeting at NRC Headquarters on August 16, 1983 only.

The following individuals also attended the exit meeting of July 29, 1983.

- R. Spessard, Director, Division of Engineering, Region III
- W. Rogers, SRI, Davis-Besse, Region III
- A. DeAgazio, Project Manager, NRR
- S. Maloney, EPM, Nuclear Utility Group
- E. Durbeck, Consumers Power Company
- M. Goodman, Arkansas Power and Light Company
- L. Parscale, Arkansas Power and Light Company

2. Summary

a. Purpose

The inspection was to ascertain that the licensee is in conformance with 10 CFR 50, Appendix R, Sections III G, J, O, and L, including exemptions approved by the Office of Nuclear Reactor Regulations (NRR).

By letter (R. Crouse to J. Stolz) dated March 19, 1981, Toledo Edison Company stated that all fire protection system modifications had been completed, except the alternate to the service water system, and that once that modification is completed the station will meet the requirements of 10 CFR 50, Appendix R, Sections III. G., J., and O. On January 19, 1982 (letter J. Scolz to R. Crouse) NRR determined that Toledo Edison's letter of March 19, 1981 did not provide all the information required under NRC generic letter 81-12 dated February 20, 1981. Following a March 23, 1982 meeting between Toledo Edison, Bechtel Associates, and NRR personnel the licensee requested two exemptions from Section III. G.3 of 10 CFR 50, Appendix R by letter (R. Crouse to J. Stolz) dated April 29, 1982. The two exemptions requested relief from:

- (1) The requirement to provide automatic fire suppression in the control room, and
- (2) The requirement to have 20 feet separation between redundant system equipment in the same fire area for the component cooling water room.

By letter (D. Eisenhut to R. Crouse) dated November 23, 1982 NRR granted the two exemptions requested by Toledo Edison Company.

In summary, at the start of the inspection on July 11, 1983 the licensee claimed to be in compliance with 10 CFR 50, Appendix R except for:

- . the alternate to the service water system where a modification to the dilution pump and the area were in progress (to be completed at the end of the upcoming refueling outage) and
- . the two exemptions granted by the NRC for the control room and component cooling water room.

b. Findings

(1) Noncompliance

- (a) The alternative shutdown capability did not meet the acceptance criteria for achieving and maintaining hot standby, achieving cold shutdown within 72 hours, being independent of the fire area, accommodating loss of offsite power, providing direct readings of the process variables necessary to perform and control the reactor shutdown functions, and having procedures in effect to implement the safe shutdown capability. This item is found in Paragraphs 4.a and 7.a (346/83-16-01A).

- (b) Failure to perform a spurious signal analysis for motor operated valves M02929, 2930, 2931 and 2932 in the service water discharge line, and failure to analyze for spurious signal actuation of the pressurizer PORV and block valves, and the letdown cooler isolation valves. This item is found in Paragraphs 4.h and 7.b.(2)(e) (346/83-16-01B).
- (c) The auxiliary shutdown panel and transfer switch room lacks a fixed fire suppression system. This item is found in Paragraph 4.b (346/83-16-03).
- (d) The auxiliary shutdown panel fails to provide one train of systems needed for hot standby free of fire damage. This item is found in Paragraph 4.b (346/83-16-02).
- (e) Four areas of the plant did not have installed emergency lighting units; three areas of the plant had inadequate lighting; and two of six emergency lighting units tested failed the 8 hour discharge test. This item is found in Paragraph 5 (346/83-16-05).
- (f) The reactor coolant pump oil collection systems are not large enough to hold the entire lubricating oil systems inventory. This item is found in Paragraph 6 (346/83-16-07).
- (g) Lack of 1-hour fire barrier in various conduits and junction boxes in Rooms 314 and 328 (missing wrapping and partial wrapping). This item is found in Paragraph 8.b (346/83-16-11).
- (h) Failure to establish a fire watch after finding inoperable fire dampers. This item is found in Paragraph 10.a (346/83-16-13).
- (i) Inadequate test procedure ST 5016.11.1 failed to indicate only one attempt is allowed to close the damper in determining operability. This item is found in Paragraph 10.b (346/83-16-22J).
- (j) Failure to control modifications to fire doors. This item is found in Paragraph 13.b (346/83-16-15).
- (k) Failure to develop and implement adequate surveillance test procedures for fire pump testing. This item is found in Paragraph 14.a (346/83-16-22A).
- (l) Failure to develop and implement adequate surveillance test procedures for fire protection system valves operability. This item is found in Paragraph 14.b (346/83-16-22B).
- (m) Failure to develop and implement adequate surveillance test procedures for automatic sprinkler systems. This item is found in Paragraph 14.c (346/83-16-22C).

- (n) Failure to develop and implement adequate surveillance test procedures for fire detectors. This item is found in Paragraph 14.d (346/83-16-22D).
- (o) Failure to develop and implement adequate surveillance test procedures for the emergency lighting units. This item is found in Paragraph 14.e (346/83-16-22E).
- (p) Failure to develop adequate administrative procedures controlling physical examinations for fire brigade members. This item is found in Paragraph 14.f (346/83-16-22F).
- (q) Failure to develop adequate administrative procedures requiring fire prevention and use of fire protection equipment training for personnel performing fire watch duty. This item is found in Paragraph 14.g (346/83-16-22G).
- (r) Failure to develop adequate administrative procedures identifying the duties and responsibilities of the off site fire department when responding to a site fire. This item is found in Paragraph 14.h (346/83-16-22H).
- (s) Failure to adhere to staffing qualification requirements for fire protection program implementation. This item is found in Paragraph 15 (346/83-16-22I).

(2) Unresolved Items

- (a) The minimum amount of illumination acceptable at the auxiliary shutdown panel while emergency lighting units are operating. This item is found in Paragraph 5 (346/83-16-06).
- (b) Several conduits, trays, or junction boxes which although not wrapped with Kaowool appear to require wrapping in order to meet the requirements of Appendix R. This item is found in Paragraph 8.a (346/83-16-10).
- (c) Kaowool fire barrier material has not been qualified by an acceptable test as a one-hour barrier and the barrier may not have been installed properly to achieve a one-hour rating based on the manufacturer's own testing. This item is found in Paragraph 9 (346/83-16-12).
- (d) The licensee has not addressed the issue of pressure control while maintaining hot standby for the case of a fire at the auxiliary shutdown panel, and the licensee's staff disagrees with the inclusion of the pressurizer heaters as part of the "minimum amount of equipment" required for the case of the fire at the control room. This item is found in Paragraph 4.b (346/83-16-04).

- (e) Failure to adhere to the proper design and installation of automatic sprinkler systems. This item is found in Paragraph 13 (346/83-16-14).
- (f) Unqualified fire door. This item is found in Paragraph 13 (346/83-16-16).
- (g) Failure to adhere to the proper design and installation of yard fire hydrants and post indicator valves. This item is found in Paragraph 13 (346/83-16-17).
- (h) Failure to adhere to the proper design and installation of standpipe hose stations. This item is found in Paragraph 13.e (346/83-16-18).
- (i) One-hour fire wraps in the CCW room were found to be missing contrary to written statements by the licensee. This item is found in Details III, Paragraph 3.(b). (346/83-16-23)

(3) Open Items

- (a) The licensee is requested to provide a rationale and basis for determining the number and location of fire detectors that can be inoperable by Technical Specification LCO 3.3.3.8. This item is found in Paragraph 13 (346/83-16-19).
- (b) The licensee is requested to provide a design review of modifications made to automatic sprinkler and water spray systems to eliminate the possibility of cold soldering of sprinkler heads. This item is found in Paragraph 13 (346/83-16-20).
- (c) The licensee plans to replace unqualified control room fire doors with combination bullet-resisting fire doors listed by Underwriters Laboratories, Inc. for 3-hour fire resistive ratings as specified in FCR No. 83-009. This item is found in Paragraph 13 (346/83-16-21).
- (d) Failure of procedures to address spurious actuation of the decay heat isolation valves. This item is found in Paragraph 7 (346/83-16-08).
- (e) Failure to perform an analysis to determine the level of Gaitronics Communication system operability that would remain after a control room/cable spreading room fire. This item is found in Paragraph 7.b.(2)(f) (346/83-16-09).

3. List of Documents Reviewed

a. Procedures

AB 1203.04, Rev. 10

Depressurization of the RCS with only
Safety Grade Equipment

AB 1203.05, Rev. 13	Complete Loss of Main and Auxiliary Feedwater
AB 1203.12, Dated 7/15/83	Control Room Evacuation
AB 1810.00, Rev. 5	Fire Protection Program
AD 1810.03, Rev. 2	Fire Preplans
EP 1202.02, Rev. 20	Station Blackout
EP 1202.29, Rev. 5	Pressurizer System Failure
EP 1202.35, Rev. 10	Fire Emergency Procedure
MP 1410.73, Dated 11/19/82	Cable Spreading Room
SP 1102.16, Rev. 3	Fire Protection System
SP 1105.14, Rev. 2	Fire Detection System
SP 1105.16, Dated 7/6/82	Steam and Feedwater Rupture Control System Operating Procedure

b. Fire Preplans

FP 9105.00, Rev. 2
 FP 9115.00, Rev. 2
 FP 9225.00, Rev. 1
 FP 9234.00, Rev. 1
 FP 9237.00, Rev. 1
 FP 9238.00, Rev. 1
 FP 9240.00, Rev. 1
 FP 9250.00, Rev. 2
 FP 9304.00, Rev. 1
 FP 9314.00, Rev. 2
 FP 9318.00, Rev. 1
 FP 9319.00, Rev. 1
 FP 9323.00, Rev. 1
 FP 9324.00, Rev. 1
 FP 9325.00, Rev. 1
 FP 9328.00, Rev. 1
 FP 9422.00, Rev. 1
 FP 9428.01, Rev. 1
 FP 9428.02, Rev. 1
 FP 9429.01, Rev. 1
 FP 9429.02, Rev. 1
 FP 9502.00, Rev. 1
 FP 9804.00, Rev. 0

c. Drawings

<u>Drawing No/Sheet No.</u>	<u>Title</u>
E-115, Rev. 14 Sheets 1 - 25	Electrical Numbering Systems
E-332, Rev. 23	Raceway, Aux. Bldg. Elev. (1) 545 feet-0 inches, Area 7
E-335, Rev. 27	Raceway, Aux. Bldg. Elev (2) 565 feet-0 inches, Area 7
E-338, Rev. 39	Raceway, Aux. Bldg. Elev. (3) 585 feet-0 inches, Areas 5 and 6

E-343, Rev. 11	Raceway and Grounding, Aux. Bldg. Elev. (4) 603 feet - 0 inches. Areas 5 and 6
E-346, Rev. 31	Raceway, Aux. Bldg. Elev. (4) 603 feet-0 inches, Areas 5 and 7
E-349, Sh. 1, Rev. 19	Raceway, Aux. Bldg. Elev. (3) 603 feet-0 inches, Areas 5 and 7
E-349, Sh. 2, Rev. 9	Raceway, Aux. Bldg. Elev. (3) 585 feet-0 inches, Areas 5 and 7
E-349, Sh. 3, Rev. 7	Raceway, Aux. Bldg. Elev. (3) 585 feet 0 inches, Area 7, Rms. 304, 310, 312, 313
E-351, Sh. 3, Rev. 3	Raceway Sections Details, Aux. Bldg. Elev. (3) 585 feet-0 inches, and (4) Elev. 603 feet-0 inches
E-366, Rev. 19	Raceways, Containment, Elev. (4) 603 feet
E-368, Rev. 9	Raceway and Groundings - Containment Details
E-369, Rev. 23	Raceways, Containment, Elev. (3) 585 feet

d. Updated FSAR Drawings, July 1982 Revision

E-1, Sh. 1 and 2	AC Electrical System - One Line Diagram
E-3	4.16 kV Metering and Relay One Line
E-4, Sh. 1	480 V Unit Subs, E. Buses
E-4, Sh. 2	480 V Unit Subs, F. Buses
E-4, Sh. 5	480 V Pressurizer and Annulus HTRS
E-5, Sh. 1	480 V One Line, Non-Essential
E-6, Sh. 1 and 2	480 V Motor Control Center, One Line Diagram
E-7	250 V/125 V dc and Instrument ac One Line Diagram
E-9	240 V ac and 120 V ac Essential One Line Diagram
Drawing No. M-040B,	Reactor Coolant Pump and Motor

Drawing No. M-270,

Containment Building - Area 9

Drawing No. FSK-M-HBD-427-1
through 8,

All Reactor Coolant Pumps Oil Drip
Pan Drains

e. Elementary Wiring Diagrams

E-45B, Sh. 11A, Rev. 10	AFPT and MFPT Control and Auxiliaries AFPT Control
E-49B, Sh. 1A, Rev. 13	Treated Water MU PMPS (charging)
E-50B, Sh. 3B, Rev. 8	Cooling Water System, Component (CLNG PMP 1 (2))
E-50B, Sh. 3A, Rev. 10	Cooling Water System, Component (CLNG PMP 1 (2))
E-50B, Sh. 4A, Rev. 10	Cooling Water System, Component (CLNG PMP 1 (2))
E-50B, Sh. 4B, Rev. 7	Cooling Water System, Component (CLNG PMP 3)
E-50B, Sh. 4C, Rev. 6	Cooling Water System, Component (CLNG PMP 3)
E-50B, Sh. 4D, Rev. 5	Cooling Water System, Component (CLNG PMP 3)
E-52B, Sh. 6A, Rev. 8	Reactor Cooling System, DH PMP 1-1 and 1-2
E-52B, Sh. 6B, Rev. 7	Reactor Cooling System, DH PMP 1-1 and 1-2
E-52B, Sh. 42A, Rev. 1	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 42B, Rev. 1	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 42C, Rev. 3	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 42D, Rev. 3	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 42E, Rev. 6	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 42F, Rev. 7	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 42H, Rev. 4	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 43A, Rev. 2	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 43B, Rev. 5	Reactor Cooling System, PRZR Heaters

E-52B, Sh. 43C, Rev. 6	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 43D, Rev. 4	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 44A, Rev. 6	Reactor Cooling System, PRZR Heaters
E-52B, Sh. 44B, Rev. 2	Reactor Cooling System, PRZTR Heaters

In addition, various E Series Connection Diagrams, Electrical Circuit Schedule, (E-200B dated January 12, 1983) and the Electrical Raceway Schedule (E-300B dated January 12, 1983) were utilized to implement the review.

f. Mechanical Drawings

M-001, Rev. 23	Pipe Symbols and Diagrams Index
M-002, Rev. 9	Instrumentation Symbols
M-003A, Rev. 0	Main Steam and Reheat System, Sheet 1
M-003C, Rev. 0	Main Steam and Reheat System, Sheet 1
M-006A, Rev. 29	Condensate System
M-006B, Rev. 41	Feedwater System
M-007, Rev. 39	Steam Generator Secondary System
M-020, Rev. 32	Auxiliary Steam System
M-030A, Rev. 1	Reactor Coolant System
M-031, Rev. 42	Make Up and Purification System
M-033, Rev. 39	Decay Heat Removal System and Emergency Core Cooling Systems
M-034, Rev. 28	Emergency Core Cooling System Containment Spray and Core Flooding Systems
M-036, Rev. 34	Component Cooling Water System
M-040A, Rev. 29	Reactor Coolant System Details
M-041, Rev. 38	Service Water System
M-045, Rev. 25	Chemical Addition Systems
M-055, Rev. B	Make Up Water Treatment System
M-099, Rev. A	Piping Code and Class Designation Diagram

g. Licensee Submittals and Other Documents

All Davis Besse, NRC, and BNL documents pertaining to fire protection/safe shutdown systems starting with licensee's fire hazards analysis were reviewed.

Particular emphasis was placed on the following documents:

- . Latest updated Fire Hazards Analysis (Rev. 6)
- . Letter from Toledo Edison to NRC dated March 19, 1981 describing status of modifications required to comply with Appendix R.
- . Letter from NRC to Toledo Edison dated January 19, 1982 requiring additional information under NRC generic letter 81-12.
- . Letter from Toledo Edison to NRC dated April 29, 1982. Submittal of request for two exemptions and plans for modifications to provide backup service water.
- . NRC SER dated May 8, 1982.
- . NRC SER dated June 2, 1982.
- . Letter from NRC to Toledo Edison dated November 23, 1982 granting the two exemptions requested.
- . Matrix for the elevation of fire and shutdown capability (not dated).
- . FCR 79-032, Kaowool Modification Package: Fire Protection Modification.
- . Kaowool listing, dated 12-3-79.
- . Davis-Besse Fire Protection Matrix (Rev. 1) not dated.

4. Fire Area Inspection

- a. Fire Zone No. FF-1 and 4 (Room 505), Control Room and Fire Zone DD-1 (Room 422A), Cable Spreading Room

(1) Systems/Procedures

In accordance with the requirements of 10 CFR 50, Appendix R Sections III.G and III.L, the inspectors examined the licensee's capability for reactivity control, reactor coolant makeup, reactor pressure control, decay heat removal, monitoring needed process parameters, and any support equipment required to achieve cold shutdown within 72 hours following a fire in either of these fire zones.

The alternative shutdown capability which is provided for the control room and cable spreading room, consists of an auxiliary shutdown panel, local controls for the makeup pumps and letdown, local controls of various other valves and breakers, and instrumentation to monitor pressurizer level, reactor coolant system pressure, reactor coolant hot leg temperature, and steam generator pressure and level. Both auxiliary feedwater pump turbines and redundant sets of pressurizer heaters are controllable from the auxiliary shutdown panel. The alternative shutdown capability is intended to be utilized through procedure AB1203.12, "Control Room Evacuation." The alternative shutdown capability was deficient in that:

- (a) It did not consider the effect of a fire. Assumptions of initial conditions such as the capability of automatic control features were not consistent with the existence of a postulated fire in the control room or cable spreading room. Thus, various designated procedural actions could not be implemented without procedural modifications. For example, auxiliary feedwater flow to the steam generators will provide decay heat removal for hot shutdown and the decay heat removal system for cold shutdown. The use of the steam generators requires either MS101 and FW612 or MS100 and FW601 valves to close plus either MS106 and AF3870 or MS107, AF599, and AF3872 valves to be open. A fire could affect the automatic operation of these valves.
- (b) It did not consider the possible effects of interaction between associated circuits of concern. Protection from spurious or maloperations of associated circuits caused by a fire may require the addition of isolation, transfer switches or other equipment.
- (c) It failed to delineate specific actions or shutdown methods unique to the availability or unavailability of offsite power for 72 hours. Instead emergency operating procedure EP 1202.02, "Station Blackout" had to be utilized in conjunction with AB 1203.12, but the station backout procedure did not address the effects of a fire on implementation of the procedure.
- (d) The station staff did not agree with some procedure requirements. Procedure AB1203.12, Section 4.2 states, "The objective of this procedure is to place the plant in a shutdown condition with the reactor decay heat dependent on the minimum amount of equipment...". At a meeting with plant personnel on July 27, 1983 the licensee's staff verbally indicated that the pressurizer heaters were not included in the minimum amount of equipment. However, the control room evacuation procedure required use of the pressurizer heaters and the control for the heaters were electrically independent of the control room or cable spreading room. The procedures did not delineate methods of maintaining hot standby without pressurizer heaters nor

did the procedures identify the provision to immediately proceed to cold shutdown, given a control room or cable spreading room fire.

- (e) The licensee did not provide the capability of achieving cold shutdown conditions independent of the control room or cable spreading room. Additionally, during the July 27 meeting, the licensee indicated that cold shutdown conditions could not be achieved in 72 hours assuming a loss of offsite power.
- (f) The instrumentation at the auxiliary shutdown panel did not provide complete process monitoring function. The panel lacked source range flux monitoring capability. Monitoring of core flux is needed to provide a direct indication of the reactor shutdown condition. The reactor coolant temperatures, in conjunction with the reactor coolant system pressure, are necessary parameters for plant cooldown and control. The plant control elements which rely on accurate reactor coolant temperature indication are natural circulation, subcooling and pressurized thermal shock concerns. The panels lacked instrumentation for reactor coolant cold leg temperature and the range for reactor coolant hot leg temperature was inadequate.

The deficiencies in the procedures noted above were highlighted in a walkdown of the procedures assuming a control room fire causing evacuation concurrent with a loss of offsite power. Additionally, the fire was assumed to cause limited damage to the automatic control features of the auxiliary feedwater system. A minimum crew of five operators was utilized to walkdown the station shutdown to hot standby. The operators were not able to immediately identify the damage and establish stable conditions utilizing the procedures. The operators required the assistance of P&IDs and electrical distribution system manuals. The fire pre-plan which identified possible effects of the fire was not consulted. Considerable delay (at least 30 minutes) was experienced in establishing auxiliary feedwater flow. During the course of the walkdown, there was some discussion of whether an adequate core cooling condition was being approached.

Based on the above, the alternative shutdown capability did not meet the acceptance criteria for achieving and maintaining hot standby, achieving cold shutdown, being independent of the fire area, accommodating loss of offsite power, providing direct readings of the process variables necessary to perform and control the reactor shutdown functions, and having procedures in effect to implement the capability. Therefore, the alternative shutdown capability was in violation of Paragraphs III.G.3 and III.L of Appendix R to 10 CFR 50 and is considered an example of an item of noncompliance. (346/83-16-01A).

(2) Fire Protection/Suppression

It was determined by the inspectors that fire zones FF-1 and 4 (control room) met the fire protection requirements of 10 CFR 50, Appendix R, Section III.G. with the exception of the fire doors. The details are discussed in paragraph 13. Fire zone DD-1 (cable spreading room) also met the fire protection requirements of Section III.G with the exception of the fire suppression system. The details are discussed in Paragraph 13 of the report.

b. Fire Zone P-1 (Room 324), Auxiliary Shutdown Panel and Transfer Switch Room

(1) Systems/Procedures

This room contains the auxiliary shutdown panel. A fire in this panel could cause the loss of control and indication for auxiliary feedwater pumps 1 and 2 at both the auxiliary shutdown panel and the control room. This is considered to be in noncompliance with 10 CFR 50, Appendix R, Section III.G.1 in that one train of systems needed for hot standby is not free of fire damage (346/83-16-02). The licensee has the option (alternative capability) of either controlling the auxiliary feedwater pump turbines locally or load the startup feedwater pump onto the diesel and use Abnormal Procedure AB1203.05, "Complete Loss of Main and Auxiliary Feedwater". The room lacked a fixed fire suppression system. Based on the licensee's position that the local manual control for the auxiliary feedwater pumps or the use of the startup feedwater pump provides alternative shutdown capability, failure to provide a fixed fire suppression system in Room 324 is in noncompliance with 10 CFR 50, Appendix R, Section III.G.3. (346/83-16-03).

A fire at the auxiliary shutdown panel could also cause the loss of pressurizer heater Banks 1 and 2. If a loss occurs, a repair would be necessary to regain function which is not allowed for hot standby. The licensee has not addressed the issue of pressure control while maintaining hot standby. This issue is considered unresolved (346/83-16-04) for both a fire in the control room and a fire in the auxiliary shutdown panel and transfer switch room.

(2) Fire Protection Suppression

In addition to the lack of fixed fire suppression capability discussed above this room failed to meet 10 CFR 50, Appendix R, Section III.J., Emergency Lighting Requirements. This finding is discussed in Paragraph 5 of the report.

c. Fire Zone A-16 (Room 105), ECCS Pump Room No. 1 (West)

This room contains decay heat pumps 1-1 and HPI pump 1-1. These pumps have redundant equipment in room No. 115 that will not be affected by the fire.

It was determined by the inspectors that this zone met the fire protection requirements of 10 CFR 50, Appendix R, Section III.G.

d. Fire Zone A-13 (Room 115), ECCS Pump Room No. 2 (East)

This is redundant to item c. above and contains decay heat Pump 1-2 and HPI Pump 1-2.

e. Fire Zone V-6 (Room 304) Corridor to Mechanical Penetration Rooms No. 3 and 4, and Fire Zone D-16 (Room 314) Mechanical Penetration Room No. 4

These rooms were inspected to determine the adequacy of the Kaowool wrap configuration protecting cabling needed for safe shutdown as specified in the licensee's fire protection matrix, fire protection preplans, and fire protection Kaowool testing.

In several cases, the Kaowool wrappings were found to be inadequate. In Room 314, conduits 37604A and 37755A were wrapped with Kaowool as specified in the Fire Protection Modification Kaowool Listing. However, the relay cabinets which the conduits entered (RC 3704 and RC 3705, respectively) were not protected. Further, other conduits which entered the same relay cabinets were not wrapped. In Room 304, cable tray ICJP10 was not fully wrapped for the entire length of the tray. For the cases discussed above, fire protection features were inadequate to protect the cabling from an exposure fire.

The problem of incomplete fire protection wrapping is discussed in Paragraph 8.

f. (Room 52), Service Water Pump Room and (Room 50), Screen Wash Pump Room

The service water pump room contains all three service water pumps. A fire in the room could disable all three pumps. As an alternate shutdown method, the licensee is making modifications to provide backup service water capability. This capability will be provided by a backup service water pump which is located in the screen wash pump room. The two rooms are separated by a wall rated as a three hour barrier.

These rooms were inspected to verify the adequacy of the separation between the normal service water system and the backup system.

Modifications were not complete and unprotected penetrations and conduit still existed in the wall between the two rooms. However, from observations made by the inspector, it appeared that once the modifications are completed, the backup service water system would provide an adequate means for alternate shutdown in the event of a fire in the service water room. In addition, a problem with the fire suppression system was noted and is discussed in Paragraph 13.

g. Fire Zones U-2 (Room 313), J-1 (Room 318A), K-1 (Room 319 and Room 319A) Diesel Generator Rooms

The two diesel generators and supporting systems are located in adjacent rooms separated by a wall rated as a three hour fire barrier. These rooms were inspected to verify the adequacy of the separation.

It was determined by the inspectors that these fire zones met the fire protection requirements of 10 CFR 50, Appendix R, Section III.G with the exception of the fire suppression system which is discussed in Paragraph 13.

h. (Room 53), Service Water Valve Room

The service water valve room contains the main service water supply and discharge headers and associated valves. The single service water discharge header enters the room from the valve tunnel room. There are four parallel service water discharge paths from the discharge header. Each of the four paths can be isolated by motor operated valves: SW-2929 to the intake structure, SW-2930 to the forebay, SW-2931 to cooling tower makeup, and SW-2932 to the collection basin. Normally, service water discharges through one of the discharge valves with the other discharge paths isolated. The local valve controllers for SW-2929, SW-2930, SW-2931 and SW-2932 are mounted in the room in adjacent panels. These panels are enclosed within a single non-rated enclosure. Cable required to operate the motor-operated valves are housed in Kaowool wrapped conduit.

A fire in either the enclosure surrounding the valve controllers or the area adjacent to the valve motors could cause closing of the open discharge valve and could disable the remaining valves from opening. Thus, a single exposure fire could result in loss of service water and therefore, loss of hot shutdown capability. This is considered to be in violation of 10 CFR 50, Appendix R, paragraph III.G and is an example of an item of noncompliance (346/83-16-01B) and is discussed further in Paragraph 7.

The Kaowool wrappings for the conduit needed for operation of SW-2929, SW-2930, SW-2931, and SW-2932 were found to be worn in places so as to expose bare conduit. In one case (Conduit 30526) the wrapping was found incomplete (not covering the entire length of conduit). Also, the pipe tunnel (Room 250) adjacent to the valve room had no fire barrier and contained no fire detection or suppression equipment. The problem of incomplete fire protection wrapping is discussed in Paragraph 8. In addition, a problem with the fire suppression system was noted and is discussed in Paragraph 13.

5. Emergency Lighting

10 CFR 50, Appendix R, Section III.J requires that emergency lighting units with at least an eight hour battery power supply shall be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes to those areas.

In a letter to the NRC dated March 19, 1981, Toledo Edison Company stated that modifications to comply with Section III.J. of Appendix R had been completed.

During plant tours on July 25, 26, 27, and 28, 1983, the inspectors identified the following emergency lighting problems in areas required for safe shutdown:

- a. Four areas of the plant did not have installed emergency lighting as follows:
 - (1) Fire Zone EE-4(Room 500), EL 623'0" - hallway between Doors 400 and 500 leading to the radwaste exhaust equipment and station exhaust fan room.
 - (2) Fire Zone EE-3(Room 501) EL 603'-0" - on turbine bay deck through Door 517 leading to the radwaste exhaust equipment and station exhaust fan rooms.
 - (3) Access route to auxiliary feedwater pump room and 4160 volt switchgear rooms. These areas are access routes leading to manual control stations for the auxiliary feedwater pumps.
 - (4) Fire Zone 00-1 (Room 345), condensate storage tank area. Emergency lighting is needed to read the condensate storage tank level.

The above items Nos. (1) and (2) are access routes leading to the same manual valve control stations necessary for emergency safe shutdown (Valve Nos. ICS 11A and 11B). The inspectors understood that either route could be used during specific emergency conditions.

- b. In three additional areas of the plant, emergency lighting was obstructed by either seismic supports, lighting fixtures, ductwork, or cable trays as follows:
 - (1) Fire Zone EE-3/F-1 (Room 501), EL 629'0" - outside Door 501 between the control room and radiation access controlled area (RACA).
 - (2) Fire Zone V-9 (Room 404), EL 603'0" - corridor along the spent fuel room. Items Nos. (1) and (2) are access routes required to reach the same manual valve control stations. (Valve Nos. ICS 11A and 11B).
 - (3) Fire Zone D-17 (Room 303), EL 585'0" - in mechanical penetration room No. 3. This is an access route to reach manual valve control stations. (Valve Nos. FW612 and AF 608)
- c. On July 27 and 28, 1983, at the request of the inspectors a full discharge test was performed on six emergency lighting units to determine the operability of the units in their installed condition. The following six lighting units were chosen during the inspectors' plant tours:

- (1) Light No. 1, located in Fire Zone J-1 (Room 318), diesel generator room No. 1 was tested in its installed location. The light went completely out within three hours of the start of the test.
- (2) Light No. 2, located in Fire Zone R-1 (Room 324), auxiliary shutdown room was tested in its installed location. The light went completely out between the inspections performed at 6 hours and at 7 hours, 40 minutes after the start of the test.
- (3) Light No. 3, located in Fire Zone A-16 (Room 105), ECCS pump room was tested in its installed location. The unit continued to light after 8 hours.
- (4) Light No. 4, located in Fire Zone D-17 (Room 303), mechanical penetration room No. 3. The unit continued to light after 8 hours.
- (5) Light No. 5, located in Fire Zone D-16 (Room 314), mechanical penetration room No. 4. The unit continued to light after 8 hours.
- (6) Light No. 6, located in Fire Zone P-1 (Room 324), auxiliary shutdown room (new unit). The unit continued to light after 8 hours.

The lighting units are Teledyne Big Beam Model 2S6N70-80 with two 21 watt sealed beam lamps (Model 4606).

The batteries have a 70 ampere-hour rating. Manufacturer literature indicates that this battery would power the two 21 watt lamps for 8.0 hours.

Discussions with the electrician staff performing the 8 hour test indicated that two additional emergency lighting units failed the routine periodic test conducted in June, 1983.

In summary: (a) six areas of the plant did not have installed emergency lighting units, (b) three areas of the plant had inadequate lighting and (c) two of six emergency lighting units failed the 8 hour discharge test.

This is considered a violation of 10 CFR 50, Appendix R, Section III.J, "Emergency Lighting", (346/83-16-05).

d. Emergency Lighting Illumination

On July 27, 1983, the inspectors using a photometer (Weston model 614 #4769 corrected for visual and cosine response) in the auxiliary shutdown panel room measured approximately one to two foot-candles at waist level at the panel with (normal lighting turned off) the emergency light operating (two units).

The Life Safety Code, Section 5.8 requires that not less than 1.0 foot-candle measured at the floor shall be the amount of illumination at all points including angles and intersections of corridors and passageways, stairways, landing of stairs, and exit doors needed for egress. The purpose of this specification is to provide sufficient lighting for passage through the area.

The Illuminating Engineering Society's Lighting Handbook, Fifth Edition requires a minimum of 10.0 foot-candles for all areas using emergency lighting units when operating. The purpose of this specification is to provide sufficient lighting to operate equipment during abnormal plant conditions.

Region III fire protection inspectors have contacted the Human Factors Division requesting guidance as to the amount of illumination needed at the Auxiliary Shutdown Panel. Human Factors referenced NUREG 0700, "Guidelines for Control Room Design Reviews" Section 6.1.5.3 requiring 10.0 foot-candles for areas using emergency lighting units. The purpose of this specification is also to provide sufficient lighting to operate equipment during abnormal plant conditions.

10 CFR 50, Appendix R, Section III.J, "Emergency Lighting" requires at least an 8-hour battery power supply be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes to those areas. However, no guidance is given as to the amount of illumination required in these areas while emergency lighting units are operating.

This is an unresolved item pending NRR's review and resolution of this issue (346/83-16-06).

6. Oil Collection System for Reactor Coolant Pumps

The inspectors were unable to examine the licensee's installed oil collection systems for the reactor coolant pump motors due to the plant having been recently shut down. However, the inspectors were provided with documentation including drawings that represented the installed oil collection system. That documentation was examined to determine the oil collection system capacity.

10 CFR 50, Appendix R, Section III.0 requires that leakage shall be collected and drained to a vented closed container that can hold the entire lube oil system inventory.

In a letter to the NRC dated March 19, 1981, Toledo Edison Company stated that modifications to comply with Section III.0. of Appendix R had been completed.

The reactor coolant pumps oil collection systems are designed with one collection tank having a capacity of 250 gallons for two reactor coolant pump motors each having a 225 gallon oil system inventory capacity. The drawings indicated two oil collection tanks for four reactor coolant pump motors.

The Davis-Besse reactor coolant pump motors lubricating oil collection systems are not large enough to hold the entire lubricating oil systems inventory.

This is considered a violation of 10 CFR 50, Appendix R, Section III.0, "Oil Collection System for Reactor Coolant Pump" (346/81-16-07).

7. Associated Circuits/Cable/Conduit Inspection

a. Summary

The associated circuit concerns evaluated were:

- . Common bus associated circuits
- . Spurious signal associated circuits
- . Common enclosure associated circuits

Power, control, and instrumentation circuits were examined for each of the above potential problem evaluations. Of the approximately 18,000 circuits in the plant approximately 200 circuits were evaluated.

The inspection was conducted using the criteria in NRC Generic Letter 81-12 of February 12, 1981 and the clarification letter of March 22, 1982. The licensee stated that the basic concept of their Appendix R circuit analysis makes the assumption that any equipment damaged as the consequence of a fire is considered to be inoperative and that the redundant equipment is protected or isolated and therefore available. The licensee presented two documents:

- . "DB-1 Systems/Components for Cold Shutdown"
- . "Evaluation of Fire and Shutdown Capability - Cable Spreading Room"

The licensee had made a room-by-room analysis to determine the effect of total exposure fires on systems and components required to achieve cold shutdown. The analysis for the fire in their control room/cable spreading room was incomplete, because it assumed no loss of offsite power and that the control room would be continuously manned. Consequently, information relative to the use of specific equipment and controls was unavailable for alternative safe shutdown for the control room/cable spreading room, in the event of a total exposure fire as noted in Paragraph 4.a. In addition, the results of these analyses had not been utilized to develop procedures to assure safe shutdown capability for a fire in any fire zone.

b. Inspection for Compliance with Appendix R, Section III.G.

(1) Common Bus Concern

The common bus concern for associated circuits was reviewed during this inspection. Coordinated circuits were found in the sample selected. For example:

- . A 120 V ac (Channel A) circuit was found to be fused at 60 amps. The next upstream device was a 300 A fuse. The maximum fuse off of the 300 A common bus is sized at 100 A.
- . Relay coordination curves for several major safe shutdown components were examined and found to be satisfactorily coordinated. The settings are developed by Bechtel. Operational tests are conducted by plant personnel on a monthly basis at 1/2 channel trip settings. The trip settings are checked on an annual basis for the high voltage and the essential 480 volt switchgear. All other switchgear relay settings are checked on a 60 month cycle.

(2) Spurious Signal Concern

(a) Isolation Devices

The devices used to isolate the controls and instruments were satisfactory (i.e., Bailey, Babcock and Wilcox, buffer module, voltage to voltage converter). Also Fisher-Porter current to current converters were used.

GE type SB-1 control and instrument switches were used as transfer switches.

(b) Hi-Lo Pressure Boundaries

The licensee identified one hi-lo pressure boundary namely the decay heat isolation valves DH11 and DH12. Spurious actuation of these valves can be precluded by deenergizing the operating circuits through the disconnect switch for the valve, however existing procedures do not address this concern. This is considered an open item (346/83-16-08).

No other hi-lo pressure boundaries such as the pressurizer PORV and block valve or the letdown cooler isolation valves were identified. These represent potential locations where spurious signal actuation of the valves could induce a loss of reactor coolant. The licensee acknowledged that an analysis had not been conducted for these two cases. This is considered to be in violation of 10 CFR 50, Appendix R, III.G. and is an example of an item of noncompliance (346/83-16-01B).

(c) Repairs

In the Fire Hazard Analysis Report, Table A-4, the licensee takes credit for the lifting of wires and replacement of fuses in circuits which are required for hot as well as cold shutdown when the alternative equipment is unavailable. Lifting of wires and pulling of fuses is considered a repair by the NRC and, therefore, is not allowed for hot shutdown.

(d) Auxiliary Shutdown Panel

The auxiliary shutdown panel (ASP) has presently installed transfer switches which are used to control relays in the circuits for the auxiliary feed water pump turbine inlet valves and the essential pressurizer heaters. Therefore, a fire in the cable spreading room/control room should have no effect on the capability of the controls in the auxiliary shutdown panel since the circuits reviewed were properly isolated from the control room.

(e) Service Water Discharge Valves

No spurious signal analysis was made for the motor operated valves MO 2929, 2930, 2931, and 2932 in the SW discharge line. One of the valves must always remain open otherwise service water flow would be interrupted. The licensee must take corrective action to assure that a discharge pathway is available for the service water. This is an item of noncompliance as stated in Paragraph 4.

(f) Communications

The Gaitronics communications system would be damaged in a total exposure fire in the control room/cable spreading room. No analysis has been made by the licensee to determine the level of operability that would remain after a fire, consequently, communications would have to be maintained by use of portable radios. Station procedures are deficient in identifying this problem. This is an open item (346/83-16-09).

(3) Common Enclosure Concern

Provisions to transfer control of the essential pressurizer heater banks WUB 1, 2, and 3 (Channel 1) and WLB 11, 12, and 13 (Channel 2) are available at the auxiliary shutdown panel. Both banks, Channel 1 and 2 pressurizer heaters are capable of being loaded on the diesels. An exposure fire in room 324 may result in the loss of the ability to control power to either channel from the auxiliary shutdown panel and the control room. None of the remaining 32 pressurizer heater banks are capable of being loaded on the diesels. The pressurizer heaters were not identified by the licensee as being required for alternative safe shutdown although station procedures require their use. This is discussed in Paragraph 4.b.

All other circuits that were reviewed were coordinated and all power circuits are run in separate conduits. Controls and instrumentation are run in channelized cable trays or MPE conduits. Controls for redundant equipment are run in separate trays or conduits.

Nonessential cables are channelized into three channels, two for redundant equipment and one for equipment common to the whole station. Nonessential cables which are routed in trays with essential channels do not cross between or intermix with essential trays.

8. Incomplete Fire Barrier (Kaowool) Wrappings

a. Inspection for Fire Wrapping of Electrical Components

The inspectors noted several areas where, conduits, trays, junction boxes, etc., were not wrapped with Kaowool or where the wrapping was worn so as to expose bare conduit. The licensee stated that the only areas requiring 1-hour fire protection were those identified in Bechtel's "Fire Protection Modification Kaowool Listing" (Drawing No. E-899A, Sheet 1 thru 9) a copy of which was supplied to the inspectors. In addition to equipment listed in the Bechtel document which was found unprotected, several areas were identified during the inspection which although not included in the Bechtel document, appear to require a 1-hour fire barrier in order to comply with 10 CFR 50, Appendix R requirements. Specifically, (1) in Room 314 conduits 37604A and 37755A are wrapped as required but the relay cabinet RC3704 and RC3705, entered by the mentioned conduits, are not wrapped; (2) in Room 328 conduits 36011A, 36703A, 36111A, 37474A and 47342B, and junction boxes for the CCW pumps, JB3715, 3716 and 3718 are not wrapped.

This is considered an unresolved item pending licensee's re-review of equipment required to be protected by a one-hour fire barrier in order to meet the requirements of Appendix R (346/83-16-10).

b. Licensee Bases for Exemption Request-Component Cooling Water Pumps

By letter dated April 29, 1982 the licensee requested and was granted an exemption from the technical requirements of Paragraph III.G, "Fire Protection of Safe Shutdown Capability", of Appendix R to 10 CFR 50 to the extent it requires one-hour rated fire barriers if less than 20 feet of separation exists between redundant trains of safe shutdown equipment. The exemption was granted on the basis of the licensee's commitment to provide a one-hour barrier for the protection of conduits and valves required for safe shutdown in the component cooling water pump and heat exchanger room.

Contrary to the above, the inspectors observed that various conduits and junction boxes in Room 328 were not provided with fire barriers which totally enclose the equipment. Some conduits (e.g., 36010C, 37452A, 37450B, 47342B, 37474A, and 37035A) were provided with a wrapping material which protected only partial lengths of the conduit. Temperature and flow monitoring instrumentation is installed at various locations and was not protected by the fire barrier. Junction boxes for the pump power cables, including JB3716, JB3715, and JB3718 were not protected. Conduits 36011A, 36203A, and 36111A, the power cables for the CCW pumps, were also not protected. Similar problems were found in Room 53, SW intake valve room and are discussed in Paragraph 4.h.

The lack of a 1-hour fire barrier for the components identified in FCR 79-032 is considered to be a violation of 10 CFR 50, Appendix R, Section III.G2 (346/83-16-11).

c. Review of the Fire Protection Kaowool Modification Package

Since the exemption granted in the case of the CCW pumps was based in part on the fact that a one hour fire rated barrier was provided for the cables and valves in the area (see Enclosure 2 to letter D. Eisenhut to R. Crouse dated November 23, 1982); and since all correspondence between TECo and the NRC indicated that those modifications had been completed, the modification package (FCR 79-032) was reviewed. The inspectors noted that the FCR 79-032 package:

- (1) was initially approved on January 13, 1979
- (2) consisted of the initial Bechtel documents, which included the "Fire Protection Modification Kaowool Listing" (Drawing No. E-899A Sheet 1 thru 9), and five additional supplements (including drawings) dated February 8, 1980; February 21, 1980; September 8, 1980; December 2, 1980; and June 22, 1981.
- (3) contained an FCR Closeout/Post Implementation Checklist signed off as completed by several individuals in June 1983.
- (4) included a letter from the United Engineers' Resident Construction Manager to TECo's Nuclear Construction Manager, dated January 13, 1981, notifying TECo that the fire protection system modifications, as defined in the MWO/FCR work package for FCR 79-032 including supplements, had been completed with no exceptions.
- (5) included a letter from TECo's General Supervisor Facility Engineering to Bechtel's Project Engineer, dated June 22, 1983, stating that FCR 79-032 had been completed and closeout processing by Bechtel could begin.
- (6) included an internal TECo memo from J. Trokya to several individuals, dated June 27, 1983, listing several completed FCR's among which was FCR 79-032.
- (7) contained copies of the seven Maintenance Work Orders (MWO) used to carryout the FCR and its five supplements. The first six MWO, originated between December 1979 and September 1980, were signed off completed on October 1980 and covered all the physical work involved with the FCR (up to and including Supplement #3). The seventh MWO, covering Supplement #4 and 5, was originated on January 1981 and states that no physical work was involved, only paper work. It was signed off completed on November 1982.

The comparison of the written record with the lack of 1-hour fire wrap identified by the inspectors introduces the possibility that material false statements have been made. This is discussed further in Details - Part III of this report.

9. Qualification of One-Hour Fire Barrier Material

During the inspection it was observed that in the areas where redundant trains are protected by fire barriers, (specified in licensee drawing E-899A, dated December 3, 1979), the fire barrier does not appear to provide a one-hour fire resistance rating. NRC guidelines (NUREG 0800, July 1981, Section B.4.) identifies the fire resistance rating of a fire barrier as the time that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of "Standard Methods of Fire Tests of Building Construction and Materials" (NFPA Standard 251). Acceptable means of providing a qualified fire barrier included providing a barrier tested by a nationally recognized independent testing laboratory to this standard or providing a barrier tested and approved by a nationally recognized independent testing laboratory to its own, or other equivalent standards. The licensee was unable to produce any documentation showing the installed fire barriers are capable of providing one-hour of fire resistance when tested in accordance with these standard methods. The licensee, however, provided a test report written by the manufacturer of the fire barrier material entitled "Tests for Fire Protection" for Complete Fire Engulfment of Cable Trays and Conduits Containing Grouped Electrical Conductors", October 24, 1978. The report concludes on page II that wrapping solid bottom or open ladder cable trays and conduit with two inches of Kaowool blanket (with all butt joints tight) provides at least fifty minutes of protection in complete engulfment fires. This conclusion is based on a series of four fire tests evaluating three configurations of cable tray and conduit wrapping methods. In one of the tests, the conduit survived the fire test for more than a one-hour period. The licensee could not provide verification that any specific QA/QC procedures had been followed to ensure that the installation methods at the plant were identical to the configuration that survived the one-hour test.

Therefore, (1) the fire barrier material had not been qualified by an acceptable test as a one-hour barrier, and (2) the fire barrier may not have been installed properly to achieve a one-hour rating based on the manufacturer's own testing (one test out of four). This is an unresolved item pending licensee submittal to the NRC of additional test data demonstrating that the Kaowool material, as installed at the plant, is capable of providing one hour of fire resistance. The testing shall be by a nationally recognized independent testing laboratory in accordance with NFPA 251 or other equivalent standard (346/83-16-12).

10. Penetration Fire Barriers

a. Testing of Fire Dampers

At the request of the inspectors, a surveillance test was performed by the licensee on eight ventilation duct and wall penetration fire dampers to determine the operability of the dampers in their installed conditions. The results were as follows:

(1) Ventilation Duct Fire Dampers

- (a) Fire Zone HH-1 (Room 603), Number FD1018, two 3-hour rated dampers in series, located in the fan room above the control room, failed to close completely during the surveillance test. Both dampers traveled approximately one half to three quarters the distance to the closed position.
- (b) Fire Zone HH-1 (Room 603), Number FD1019, located in the fan room above the control room, closed completely during the surveillance test.

(2) Wall Penetrating Fire Dampers

- (a) Fire Zone FF1 (Room 502), Number FD1035 located in the control room closed completely during the surveillance test.
- (b) Fire Zone R-1 (Room 324), Numbered FD1045, located in the auxiliary shutdown panel room, closed completely during the surveillance test.
- (c) Fire Zone S-1 (Room 325), Number FD1048, located in the high voltage switchgear room, closed completely during the surveillance test.
- (d) Fire Zone Room, Damper No. 8, Number FD 1042, located in the passage way outside the auxiliary shutdown panel and transfer switch room, failed to move during the surveillance test.

Of seven fire dampers tested, three dampers either failed to close completely or to move from the fully open position.

The licensee's maintenance employee performing the surveillance test at the time of the inspection also performs the routine fire damper surveillance test program. The individual indicated to the inspector that damper numbered FD 1042 failed to close during the original surveillance test performed on June 7, 1983.

At the request of the NRC inspector, the licensee provided the official fire damper data sheets and procedure. These data sheets indicated fire dampers numbered FD1018 and FD1042 being verified operational by the testing individuals signature on May 12, 1983 and June 7, 1983 respectively.

The maintenance employee presented his personal copy of the fire damper data sheets. The words "doesn't close" appeared in the left side margin next to fire damper No. FD1042. His signature and date inspected were scratched out. The words "doesn't close" also appeared next to fire damper FD1018. His signature and date inspected were unmarked. No clear explanation for the conflicting records was determined at the time of the inspection.

Surveillance test procedure ST 5016.11.1, Section 4.1 states in part, "When one or more of the penetration fire barriers is not functional, a continuous fire watch...shall be established within one hour." The surveillance test performed on July 27, 1983 on the above mentioned fire dampers verified that three dampers were not functional since the time of the original surveillance test performed on May 12 and June 7, 1983.

Contrary to Technical Specification 3.7.10 a continuous fire watch was not established within one hour after the two penetrations were found to be inoperable on May 12 and June 7, 1983. This is considered a violation of Technical Specification 3.7.10 (346/83-16-13).

b. Fire Damper Surveillance Procedure

While performing the fire damper surveillance tests the maintenance employee repeatedly attempted to close the dampers with the use of force after the first closure simulation failed. After that first closure simulation failed, documented corrective actions should have been initiated and, if necessary, the damper should have been declared inoperable. The test procedure acceptance criteria for that test were not sufficiently explicit to result in a satisfactory, "Fire Simulation" type test. Additionally, the procedure specified that the damper and ductwork shall be cleaned prior to testing. A realistic test must be performed in the as found condition, and necessary corrective actions must be documented. The damper is to be considered inoperable if failing to close on the first attempt.

This inadequacy in the procedure is considered to be a violation of 10 CFR 50, Appendix A, General Design Criteria No. 1, as implemented by Section C.2 of Appendix A to NRC Branch Technical Position 9.5-1, and supplemental guidelines contained in "Nuclear Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance" dated June 14, 1977 (346/83-16-22J).

11. Fire Protection/Prevention Program Implementation

The inspectors examined the licensee's fire protection and prevention program to ascertain whether fire protection systems, equipment and components are designed, installed and maintained in conformance with regulatory requirements, commitments and applicable industry guides and standards. A review of the licensee's administrative procedures, surveillance testing and quality assurance was performed. These elements of fire protection/prevention program implementation were assessed against the licensee's commitments and the licensing conditions of amendments No. 18 and 24 to facility operation license NPF-3, the final safety analysis report, and the fire hazard analysis report; plant technical specifications for fire protection; subsequent revisions to these documents; and the requirements of Appendix A, to 10 CFR 50. The findings are discussed in paragraphs 13, 14 and 15.

a. Areas of Inspection/Documents Reviewed

(1) Administrative Procedures

<u>Number</u>	<u>Title</u>	<u>Date</u>
SP1102.16.0	Station Fire Protection System	7/26/78
SP1105.14	Fire Detection System	3/15/82
AD1810.00	Fire Protection Program	9/14/82
AD1810.01	Control of Combustible/ Ignition Sources	11/5/82
AD1810.03	Fire Preplan	12/13/79
AD1818.20	Fire Brigade Training	9/17/82
AD1835.00	Plant Cleanliness Inspection Program	6/12/83

(2) Surveillance Test Procedures

<u>Number</u>	<u>Title</u>	<u>Date</u>
ST5016.04	Accessible Channel Functional and Supervisory Circuit Check	6/8/83
ST5016.06	Fire Detector Functional Test	7/9/82
ST5016.07	Fire Protection System/Automatic Sprinkler System	2/8/83
ST5016.08	Electric Fire Pump Annual Flow Test	11/8/82
ST5016.09	Fire Hose, Fire Hose Stations and Fire System Valve Testing	1/12/83
ST5016.11	Fire Protection Systems Barrier Surveillance Test	1/21/83
ST5016.12	Diesel Fire Pump Annual Flow Test	6/8/81
ST5016.15.01	Diesel Generator Water Curtain Annual	4/21/83
ST5016.16	Fire Protection System Flush	6/24/83
PT112.01	Semi-Annual Emergency Lighting System Test	10/25/82
PT116.00	Cable Spreading Room Tray Detection	4/2/82
PT116.04	Fire Extinguisher and Fire Equipment Cabinet Test	6/29/82

(3) Records and Test Results

<u>Number</u>	<u>Title</u>	<u>Date</u>
4VF52248	Peerless Pump Specification for Diesel Fire Pump No. 346616	11/1/72
83-009	Facility Change Request Initiation for Fire Doors #509 and #512	1/14/83
051-Q60463A-ML	Purchase Order for Fire Dampers	10/9/80
021-F-58849A-E1	Purchase Order for Fire Detectors	1/15/81
071-Q-62887A-G1	Purchase Order for Fire Doors	9/14/81
F58849A	General Material Inspection Checklist	8/25/81
Q62887	General Material Inspection Checklist	2/8/82
12501-A-7Q	Purchase Specification for Pressure Resistant Door, Frame and Hardware	4/4/81

<u>Number</u>	<u>Title</u>	<u>Date</u>
.	Special Fire Brigade Training	9/16/82
.	Fire Brigade Training Simulated Drill	9/1/82 to 9/30/82
.	Fire Brigade Training Classroom	1/20/82 to 2/17/82
.	Carroll Township Fire Department Tour	3/2/82
.	Carroll Township Fire Department Class on Plant Sprinkler Systems	1/18/83
T-7153	Temporary Modification Request Dow Corning Silicone Foam Sealant	5/12/83
82-1372	Maintenance Work Order Firewall Penetration Fill	3/10/82
ST5016.13	Data Cover Sheet, Visual Inspection of Firewalls	3/7/83
M-84	Maintenance Instruction-Installation Procedure for Installing Conduit and/or piping	1/17/79
M-85	Maintenance Instruction-Installation Procedure for Installing Calk Type Adhesives and Sealants	1/17/79
M-87	Maintenance Instruction for Core Bores and Conduit Pipe Installation Through Negative Pressure Boundaries and Firewalls	4/23/82
MP1405.06	Maintenance Procedures for Core Bores and Installation of Conduit/Pipe Through Negative Pressure Boundaries and Fire Barriers	3/8/83
.	Babcock & Wilcox Fire Test Report On "Test for Fire Protection for Complete Fire Engulfment of Cable Trays and Conduits Containing Grouped Electrical Conductors"	10/24/78
920	Tri Annual Fire Protection Audit	9/10/80
M81-1443	Response to 1980 Fire Protection Audit	8/21/81
File:551.1.15		
A83-74H	Carroll Township Fire Department Agreement	1/27/83
.	Letter from Village of Oak Harbor, Ohio Fire Department	12/11/80
.	Section F-102.8, Ohio Fire Code	1/1/77
.	Section 3737.63 Ohio Revised Code	7/14/80
.	Section 4163 Ohio Revised Code	7/14/80
ST5016.08	1980, 1981, 1982 and 1983 Electrical Annual Fire Pump Test Results	
ST5016.12.0	1980, 1981, 1982 and 1983 Diesel Annual Fire Pump Test Results	
ST5016.07	1980, 1981 and 1982 Automatic Sprinkler System Test Results	
ST5016.04	1981 and 1982 Accessible Detector Channel Functional and Supervisor Check Results	

<u>Number</u>	<u>Title</u>	<u>Date</u>
ST5016.06	1980 and 1982 Fire Detector Functional Test Results	
ST5016.09	1980, 1981 and 1982 Fire Hose, Fire Hose Station and Fire System Valve Testing Results	
ST5016.15	1981 and 1982 Diesel Curtain Test Results	
ST5016.16	1982 Fire Protection System Flush Test Results	
PT5112.01	1981 and 1982 Semi Annual Emergency Lighting System Test Results	
PT5116.04	1981 and 1982 Fire Extinguisher and Firefighting Equipment Cabinet Inspection Results	

b. Plant Tours

The inspectors examined fire protection features and made a programmatic assessment of the fire protection/fire prevention program implementation and previous inspection findings during tours of the turbine building, auxiliary buildings and plant yard from July 25 through July 29, 1983.

12. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (346/82-03-01) Failure to establish a continuous fire watch on either side of non-functional penetration fire barriers (fire doors) Nos 312, 319A and 400 protecting fire zones U-2, L-1 and V-8 as required by Technical Specification limiting conditions for operation 3.7.10.

The inspectors verified that door No. 312 is not a designated fire door. The obstruction in door No. 319A had been removed and the inoperable door closure mechanism to door No. 400 has been replaced.

(Closed) Noncompliance (346/83-03-02) Failure to install automatic suppression capability in the control room.

By letter dated April 29, 1982, the licensee requested an exemption from this requirement of 10 CFR 50, Appendix A, Criterion 3 and 10 CFR 50, Appendix R, Section III.G. By letter dated May 15, 1982, NRR granted the licensee's request.

(Closed) Noncompliance (346/82-03-05A) Administrative Procedures AD1810.00 - Fire Protection Program Program, AD10.01 Control of Combustibles, AD1844.00 Maintenance, and AD1828.10 Fire Brigade have been developed and implemented.

(Open) Noncompliance (346/82-03-04A) Technical Specification 6.8.1.F. require that written administrative procedures be established and implemented covering the fire protection program to control combustibles.

On July 13, 1983, and again on July 25, 1983, during plant tours, the inspectors observed combustible materials on elevation 585 ft. in mechanical penetration room No. 3 such as one 55 gallon dumpster filled with combustibles, a small amount of trash on the floor and approximately two dozen wooden planks not in use stored in the area. Discussions with the assistant maintenance supervisor confirmed the storage of wooden planks in this area. However, the inspector was informed that this area was designated as a storage area in preparation for the upcoming outage. The inspector observed an erected scaffold along with wooden planking that was missing a maintenance work order tag in the mechanical penetration Room No. 3 during a plant tour on July 25, 1983. The inspector was informed by the maintenance supervisor that the maintenance work order No. 1-83-2795-00 originated on April 30, 1983, to paint two newly installed hanger supports in the room. A status check was logged into the computer on May 23, 1983, to determine if the job had been completed to date. On July 28, 1983, three months after the scaffold was erected for two hanger supports, the job remained incompleated. Furthermore, the maintenance supervisor indicated that there is no completion date scheduled for this job.

Currently no procedure or followup program exist to control the amount of planking or scaffolding that can be used in a safety-related area nor is there any estimated completion dates being assigned to maintenance work orders.

Appendix A to B.T.P. 9.5-1, Section B3.(c), requires the control of combustible material in safety-related areas. In addition, where wood is to be used in safety-related areas (i.e., used with scaffolding) the work to be performed is required to be completed immediately.

Davis Besse's response to the above states in part, "Comply-Use of combustible material is administratively controlled. Wood use is restricted...."

Administrative Procedure AD-1810-01 and Administrative Procedure AD 1835-00 specify procedures for control of combustibles/ignition sources and plant cleanliness inspection program, but do not specify control over transient fire loads. No procedure is in effect to control transient fire loads. The licensee's staff informed the inspectors that a new procedure is in draft form for control of transient fire loads.

(Open) Noncompliance (346/83-03-06) Fire protection audits did not conform to requirements. The licensee's annual audits do not address the commitments made in the FSAR, licensing amendments, letter to the NRC, etc. The audits only appear to address the items raised by their consultant's three year audits and NRC inspection findings.

13. Failure to Adhere to the Proper Design and Installation of Fire Protection Features

- a. Automatic Sprinkler Systems - NFPA 13 and 15 (1978) require that automatic sprinklers be installed above and below obstructions over four (4) feet wide and with minimum interference of sprinkler discharge patterns (Section 4.2-5 of NFPA 13 references NFPA 231C).

The inspectors noted that automatic sprinklers installed in fire zones containing equipment and/or cables utilized to achieve safe shutdown are not properly installed in that ceiling spaces are heavily congested with ventilation equipment, piping, cable trays/ conduits or seismic supports. As a result, sprinkler distribution patterns are grossly obstructed and sprinklers are installed below these obstructions nearest to floor level but not within the maximum distance from ceiling as required by NFPA in the following locations:

Fire Zone H-1	Make-up Room 225, Elevation 565
Fire Zone H-2	Corridor 209, Elevation 565
Fire Zone D-11	No. 1 Mechanical Penetration Room 208, Elevation 565
Fire Zone D-10	No. 2 Mechanical Penetration Room 236, Elevation 565
Fire Zone D-17	Mechanical Penetration Room 303, Elevation 565
Fire Zone D-16	No. 4 Mechanical Penetration Room 314, Elevation 565
Fire Zone D-11	No. 1 Electrical Penetration Room 402, Elevation 585
Fire Zone D-18	No. 2 Electrical Penetration Room 427, Elevation 585
Fire Zone II-10	Heater Bay Area Room 326, Elevations 585-657
Fire Zone E-3	Radwaste Exhaust Equipment and Main Station Exhaust Fan Room 501, Elevation 623
Fire Zone	Service water pump and valve room (intake structure)
Fire Zone A-3	Clean waste receiver tank room 124, Elevation 545 and 565
Fire Zone V-6	Corridor 304, Elevation 585
Fire Zone G-11	Passage 227, Elevation 565
Fire Zone G-9	Boric Acid evaporator room 234, Elevation 565
Fire Zone V-10	Storage Room 405, Elevation 603
Fire Zone DD-1	Cable spreading room 422A, Elevation 585
Fire Zone K-1	Diesel Generator Room 318, Elevation 585
Fire Zone J-1	Diesel Generator Room 319, Elevation 585

The 1980 fire protection audit conducted by Professional Loss Control, Inc. identified this problem. The license's internal memorandum dated August 20, 1981, states in part, "the false ceiling effect created by the piping, cable trays and conduit in the ceiling spaces creates an area of heat collection below the lowest level of cable trays and conduits. This is shown by sprinkler response tests conducted by Union Carbide in July of 1973 for the U. S. Atomic Energy Commission under government contract No. W.7405, Eng. 26, Document V-JA-06. The sprinkler heads were equipped with heat collection canopies and were placed at five (5) feet and seven (7) feet above the floor elevation."

The licensee did not provide the inspectors with any documented evidence that the room configurations and test conditions such as ventilation characteristics, thermal inertia, combustible fuel loading, etc. at Davis-Besse were the same as in the Union Carbide Test.

The inspectors determined that the licensee failed to provide adequate justification for not installing sprinklers within 6 percent of ceiling height with minimum interference to sprinkler discharge patterns as required by NFPA standards and as confirmed by studies conducted by the U.S. Department of Energy, Combustion Science Technology; the Department of Fire Protection Engineering, University of Maryland; Building Research Establishment, Fire Research Station, Borehamwood, England and the Ministry of Technology and Fire Officers Committee Joint Fire Research Organization, England.

Subsequent to the inspection the licensee supplied additional information in a letter (Serial No. 98b) to the NRC dated September 13, 1983 and in a copy of the Annual Fire Protection Audit conducted by Professional Loss Control, Inc. in 1981. Referring to the deviation of fire suppression system design from NFPA 13 and/or 15 requirements Professional Loss Control states:

Documentation has been presented to justify deviations from NFPA 13 requirements as outlined in recommendations 4.3.2 and 4.3.3 in the 1980 audit report. Deviations to the code (such as distance of sprinkler heads below the ceiling) have been researched and the design of piping, supports, obstruction of sprinkler spray patterns, and hydraulic analysis, has been verified to ensure that the systems will function as intended. Similar documentation is reportedly available for other NFPA code deviations.

The letter (Serial No. 98b) to NRC presented the licensee's design criteria for the water suppression systems and stated that NRC had agreed with it in 1978.

The failure of the automatic sprinkler system to meet NFPA codes is considered unresolved pending NRC review of the above material (346/83-16-14).

b. Control of Modifications to Fire Doors

To meet the requirements of 10 CFR 50, Appendix A, GDC #3, the licensee committed to install fire doors in accordance with NFPA 80. NFPA 80 requires that modifications to fire doors be done in the vendors shop or under the door manufacturer's control.

The inspectors noted that the South (double) door #320 to High Voltage Switchgear Room No. 323, Fire Zone Q-1 had been field modified to accommodate electronic access control. No FCR was issued on this door and interviews with the licensee's staff indicated that no procedure was in effect to control modifications that may violate the fire resistive rating of fire doors.

This item is considered to be an item of noncompliance against the requirements 10 CFR 50, Appendix A, GDC 1. (346/83-16-15)

c. Unqualified Fire Doors

10 CFR 50, Appendix R, Section III.G.2.(a). requires separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a 3-hour rating.

The inspectors identified one door, numbered 215 (Fire Zone E-1/F-1) (Rooms 237/238) located between the two auxiliary feedwater pump rooms, to which no fire rating label was observed attached. Paragraph 5.E.(4). of the Davis Besse Fire Hazards Analysis, Revision 1, dated January 11, 1978, and Davis-Besse Fire Preplan No. FP 9327.00, Revision 1, approved March 29, 1983, requires that the west wall which is fire rated for 3 hours provide a fire barrier between the two trains of auxiliary feedwater pumps and their associated cabling. The licensee could not provide documentation that this door is a 3-hour rated fire door. The door manufacturer supplied a letter to A. Bently and Sons Company (door contractor), dated January 18, 1974, stating that the door, "will not bear a U.L. 3-hour label due to special design requirements".

The licensee provided additional information to substantiate their position in their letter Serial No. 98b, dated September 13, 1983. This item will be unresolved pending Region III's review of the available documentation (346/83-16-16).

d. Yard Fire Hydrants and Post Indicator Valves

Article 3304 and 4305 of NFPA 24 specified that sectionalizing post indicator valves (PIV's) and fire hydrants be protected against mechanical damage (by concrete or steel post).

The inspectors noted that post indicator valves and fire hydrants throughout the plant yard are accessible to mechanical damage from vehicular traffic. No permanently affixed physical barriers (steel or concrete post) are installed to protect these fire protection features from such damage as required by NFPA 24.

The licensee provided additional information in letter Serial No. 98b, dated September 13, 1983, and concluded that no further protection was necessary. This will be unresolved pending NRC review of the licensee's position (346/83-16-17).

e. Stand Pipe Hose Stations

Chapter 4, Section 4-4.2 of NFPA 14 requires approved pressure reducing devices on any standpipe hose station outlet where the water pressure exceeds 100 psig.

The inspectors observed the static pressure on automatic sprinkler and standpipe hose stations to be at or above 150 psig. Examination of hose stations indicated there were no pressure reducers installed on standpipe hose stations throughout the plant as required by NFPA 14. The licensee provided additional information in letter Serial No. 98b, dated September 13, 1983 stating their position that they were not committed to this part of NFPA 14. This item will be unresolved pending Region III's review of the additional information (346/83-16-18).

f. Fire Detector Installation

Technical Specification LCO 3.3.3.8. specified, "With the number of operable fire detection instrument(s) less than the minimum number of operable requirement of Table 3.3.14....". Throughout the licensee's FSAR and FHA the commitment was made to install fire detectors in accordance with NFPA 72D. NFPA 72D requires that fire detectors be installed in accordance with NFPA 72E. NFPA 72E specifies minimum installation and spacing requirements for fire detectors. The licensee did not commit to install more fire detectors than required by NFPA.

Pending receipt and review of the licensee's rationale and basis for determining the number and location of fire detectors that can be inoperable by Technical Specification 3.3.3.8, this is considered an open item (346/83-16-19).

g. Cold Soldering of Sprinkler Heads

Section 3.3.3. of the 1980 Fire Protection Audit by Professional Loss Control, Inc., identified the possibility of cold soldering of sprinkler heads due to water curtain and sprinklers installed at elevation 657 feet in the heater bay area.

Item 5 of the licensee's internal memorandum of August 20, 1981, in response to this audit indicates that Grinnel Fire Protection Systems Company, Inc. performed a design review of these systems and the design was modified to eliminate the possibility of cold soldering of sprinkler heads. Pending the licensee's submittal of this design review and evidence of the modifications made to these systems, this is considered an open item (346/83-16-20).

h. Control Room Fire Doors

By letter dated January 5, 1983, Underwriters Laboratories, Inc. informed the NRC of the removal of its classification and listing marks for fire resistive ratings on doors number 509 and 512 to the control room. The licensee plans to replace these doors with combination bullet resisting fire doors listed by Underwriters Laboratories, Inc. (FCR No. 83-009). Pending installation of these doors and examination by this office, this is considered an open item (346/83-16-21).

14. Failure to Develop Adequate Surveillance Test Procedures, Administrative Controls and Quality Assurance

The inspectors reviewed the following surveillance test procedures (including test results), administrative controls, and quality assurance procedures against the requirements of Paragraph 2.C.(4) of Facility Operating License No. NPF-3, as specified in Amendment No. 24 which requires conformance to the NRC supplemental guidelines in "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance"; and licensee commitments as stated in Section 9.5.1.2.5. of the FSAR and Table 4-1, Revision 4 of the Fire Hazard Analysis Report.

a. Fire Pump Testing Procedures

NRC supplemental guidance requires written procedures in accordance with applicable design documents. The following deficiencies were identified:

- (1) The electric and diesel annual fire pump flow test procedures for 1980, 1981, 1982 and 1983 did not specify a "shutoff" (no flow) test as required by NFPA 20.
- (2) The electric fire pump annual flow test procedure did not specify measurement of vibration at peak load conditions (150 percent of rated capacity) as required by NFPA 20.
- (3) The diesel fire pump annual flow test procedure for 1980, 1981, 1982 and 1983 did not specify measurement of pump speed (rpm's), flow to 150 percent of rated capacity at 65 percent of rated head, or measurement of vibration at peak load conditions as required by NFPA 20.

Test results for 1980, 1981, 1982, and 1983 were not properly evaluated to determine their acceptability. No characteristic curve was plotted from the test results to compare with the original manufacturers certified shop test curve and acceptance test curve.

b. Surveillance of Fire Protection System Valve Operability

Contrary to the NRC supplemental guidance, surveillance test procedure 5016.06 did not specify verifying the fire protection system valve operability weekly, monthly and annually as required by NFPA 26.

c. Surveillance of Automatic Sprinkler Systems (Surveillance Test ST 5016.07)

Test results for 1980, 1981 and 1982 did not verify simulation of actuation of the most remote sprinkler head by opening the inspectors test valve on the system as required by the surveillance test procedure. According to the licensee's staff, this test is not performed as required by NFPA 13A. Instead, only a 2-inch drain test is performed at the base of the sprinkler system riser.

d. Surveillance of Fire Detectors

Contrary to the NRC supplemental guidance, surveillance test procedure ST 5016.06 did not specify measurement of sensitivity, periodic cleaning and adjustment of photoelectric fire detectors as required by NFPA 72D and NFPA 72E. The test procedures specified an unsafe practice in that it stated use of "Open Flame" to test fire detectors rather than a "puff" test as specified by NFPA 72E.

e. Surveillance of Emergency Lighting Units

Periodic test procedures PT 5112.01 did not specify quarterly surveillance of emergency lighting units, or an 8-hours discharge test and periodic replacement of batteries in accordance with the manufacturer's recommendations.

f. Fire Brigade Members Physical Qualifications

Contrary to the NRC supplemental guidance, administrative procedure AD 1828-20 "Fire Brigade Training" does not specify the minimum physical requirements as required by NFPA 27. Interviews with the licensee's staff indicated that no physical examinations are required for fire brigade members at Davis-Besse Nuclear Power Station.

g. Fire Watch Training

Contrary to the NRC supplemental guidance, administrative procedure AD 1810-01 did not specify fire watch training or that the fire watch remain on the work site while the work is performed and remain in the area for at least 30 minutes after the work is completed. NFPA 51 and 51B require that a fire watch be trained and equipped to prevent and combat fires, and that the fire watch remain on the work site for at least 30 minutes after the work is completed to check for smoldering fires.

The licensee's staff provided no documented evidence that offsite contractor personnel performing fire watch duty are required to be trained in the use of fire protection equipment and fire prevention.

During the inspection, the inspectors interviewed an individual performing fire watch duty. When asked the location of the nearest fire extinguisher, the individual did not know. Upon discovering an extinguisher in the area, the individual could not identify its type and intended use.

h. Backup Firefighting Capability From Offsite Fire Department

Attachment No. 5 of NRC supplemental guidance "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance" requires coordination with outside fire departments. This includes the firefighting procedures identifying those actions to be taken and identification of the individual who will direct fire fighting activities when aided by offsite fire departments.

Section F-102.8 of the Ohio fire code states, "Authority at fires and emergencies: the fire chief or his authorized representatives shall be in charge at the scene of a fire or other emergency involving the protection of life and/or property, and shall remain in charge until authority is relinquished".

Chapter 4163 of the Ohio revised code references nuclear power regulations in redefining the role of states in the nuclear licensing process but is not clear as to the role of fire departments in fighting fires at nuclear plants.

The Carroll Township, Ohio's letter of January 27, 1983, to the licensee indicates that the licensee has established liaison with the Carroll Township fire department. The licensee staff indicated that Carroll Township and other offsite fire departments would respond to the site under a mutual aid agreement.

The licensee's administrative procedures 1810.00 and 1828.20 did not specify the actions to be taken by offsite fire departments nor did they identify who will direct fire fighting activities when the fire brigade is aided by offsite fire departments.

These items are considered to be a violation of 10 CFR 50, Appendix A, General Design Criterion No. 1 and paragraph 2.C.(4) of Facility Operating License No. NPF-3 (Amendment No. 24), and are examples of an item of noncompliance (346/83-16-22A through 22H).

15. Failure to Adhere to Staffing Qualification Requirements for Fire Protection Program Implementation

Table 4-1 (Sheet 1) of the licensee's fire hazard analysis for Davis Besse describes the individuals in the fire protection program organization who are responsible for implementing these requirements. Paragraph 2.C.(4) of Facility Operating License NPF-3 (Amendment No. 24) required these programmatic improvements to be implemented by September 30, 1980.

The licensee's administrative procedure 1810-00 describes the individuals responsible for implementing the requirements of the fire protection program as:

- a. Vice President, Nuclear
- b. Station Superintendent
- c. Q.A. Director
- d. Facility Engineering
- e. Fire Protection Engineer
- f. Fire Protection Coordinator
- g. Fire Marshal

Specific qualifications and responsibilities for individuals responsible for implementing the program are specified in Table 4-1 (Sheet 1) of the licensee's FSAR for Davis-Besse and in Section 2.0 of NRC Supplemental guidance "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance".

The following discrepancies existed in the licensee's personnel qualification requirements for fire protection/prevention program implementation.

- a. Interviews with the licensee staff disclosed that only the fire protection coordinator has direct responsibility for the fire protection program at the site. Other licensee staff are periodically assigned various fire protection responsibilities a small percentage of the time.
- b. The fire protection coordinator and the fire marshal are the same individual, whose demonstrated knowledge of fire protection is vested in his training and experience as a volunteer firefighter.
- c. There is no qualified fire protection engineer who is a graduate of an engineering curriculum of accepted standing in fire protection engineering on the licensee's staff or on site as a consultant.

This is considered a violation of paragraph 2.C.(7) of Facility Operating License NPF-3 (Amendment No. 24) and 10 CFR 50, Appendix A, GDC No. 1 and an example of an item of noncompliance (346/83-16-22I).

16. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items or items of noncompliance. Unresolved items are contained in Details I, Paragraphs 4, 5, 8, 9, 13, and Details III, Paragraph 3 of this report.

17. Exit Interview

The inspectors met with licensee representatives (denoted in paragraph 1) on July 19, 1983. The inspectors summarized the scope and findings of the inspection. In addition, a meeting was held at NRC Headquarters in Bethesda, Maryland on August 16, 1983, to further discuss the inspection findings and their safety significance. The licensee acknowledged the statements made by the inspectors and other NRC staff members with respect to the items of noncompliance discussed in paragraphs 4, 5, 6, 8, 10, 13, 14, and 15 of the report.

DETAILS - PART II

1. Persons Contacted

*T. Myers, Nuclear Service Director
*T. Murray, Station Superintendent
*J. Haverly, Licensing Engineer
*R. Ebersole, Fire Protection Coordinator
*T. Chowdbarey, Quality Assurance
D. Rhodes, QC Supervisor
*T. Hart, Senior Assistant Engineer

*J. Tarpinian, Impell, Lead Senior Engineer

The inspectors also contacted other plant personnel including maintenance, operations, licensing and quality control.

*Denotes persons attending the exit meeting of September 9, 1983.

2. Licensee Action on Inspection Findings Described in Details-Part I

On August 16, 1983 the licensee met with NRC personnel at Bethesda, Maryland to discuss the inspection findings. By letter (R. Crouse to D. Eisenhut) dated August 26, 1983, the licensee committed to take corrective and/or interim compensatory action, prior to plant restart.

In addition the licensee outlined the long term corrective actions planned to bring the plant into compliance with 10 CFR 50, Appendix R.

During September 7-9, 1983, the inspectors verified that the corrective actions required prior to plant restart had been completed or were in progress. By letter dated September 13, 1983, the licensee updated their August 26 submittal of proposed corrective actions. On September 22, 1983, the Senior Resident Inspector informed the Region that the licensee had completed all the actions required prior to plant restart. All of the following items are considered open, even though corrective action taken was satisfactory, pending the licensee's response to the Notice of Violation.

(Open) Noncompliance (346/83-16-22H) Backup fire fighting capability from off site fire departments. The inspector verified that by letter dated August 31, 1983, the Assistant Fire Chief of the Carroll Township Emergency Medical and Fire Service, Inc., had agreed to provide fire protection in accordance with the Davis-Besse Emergency Plan. The licensee has prepared a revision (Revision 5) to the Emergency Plan which states that when answering to a call for assistance in fighting fires, the off site fire departments will operate under the direction of the licensee's fire brigade. Revision 5 is not scheduled for SRB review until October 1983. The licensee has committed (September 13 letter) to complete the revision by November 1, 1983.

(Open) Noncompliance (346/83-16-019) Closure of all service water discharge valves due to fire in area, and failure to analyze for spurious signal actuation of the PORV and block valves and the letdown cooler isolation valves. The inspectors verified that procedures SP1104.11, "Service Water System Operating Procedure", Revision 12, requires that the breaker for the service water discharge valve in use be de-energized, and a "Do Not Operate" tag be placed on the breaker. At the time of our inspection the procedure had been approved by the SRB and was in typing. Final approval by the Station Superintendent was verified by the Senior Resident Inspector on September 22, 1983. The inspectors also verified that the licensee included isolation of the PORV block valve and the letdown line prior to evacuation of the control room in Abnormal Operating Procedure AB 1203.66, Serious Control Room Fire.

(Open) Noncompliance (346/83-16-22G) Fire watches not being trained and equipped to combat fires as required by NFPA 51, 51B and NRC Supplemental Guidance "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance." By letter dated September 13, 1983 (R. Crouse to D. Eisenhut) the licensee committed to provide hands-on-training for fire watches in accordance with NFPA 51B, prior to restart, for all TECo and offsite contractor personnel involved in welding, grinding and burning activities. Ongoing hands-on-training for all personnel associated with these activities is to be provided on a periodic basis. Delineation will be made between fire watch and fire barrier watch personnel in accordance with revised administrative procedure AD 1810.00 by November 1, 1983.

(Open) Noncompliance (346/82-03-04A) Administrative procedures AD 1810-01 and AD 1835.00 specify procedures for control of combustibles and ignition sources, but did not specify control over transient fire loads, and transient fire loads are not being controlled.

The licensee's proposed procedure for control of transient fire loads (MP 1410.75) permits a maximum allowable transient fire loading of 273,989 BTU's/FT² based on fixed suppression systems ability to extinguish fire and remove heat. However, by letter dated September 13, 1983 (R. Crouse to D. Eisenhut) the licensee committed to hold levels of transient fire loads between 40,000 and 80,000 BTU's/FT² in areas provided with automatic suppression systems and not more than 40,000 BTU's/FT² in areas without automatic suppression systems. The licensee has committed to have MP 1410.75 in place by November 1, 1983.

(Open) Noncompliance (346/83-16-05) Four areas of the plant lacked emergency lighting units, and three areas had emergency lighting lamps that were improperly positioned. The inspectors verified that the licensee had purchased and made available, solely for the use of the operating shift, ten portable "Captains" lanterns. Procedure PT 5116.04 has been revised to include the ten lanterns to be functionally inspected on a semi-annual basis. On September 22, 1983 the Senior Resident Inspector informed the Region that he had verified that the three emergency lighting lamps had been properly redirected. This item will be closed upon verification that the licensee has completed the long term corrective actions per their letter of September 13, 1983 (R. Crouse to D. Eisenhut).

(Open) Noncompliance (346/83-16-13 and 346/83-16-22J) Failure to establish fire watch on inoperable fire dampers and inadequate surveillance test procedure. The inspector verified that procedure ST 5016.11 had been revised and its implementation was observed by the inspector on September 8, 1983 and found to be acceptable. All fire dampers inadequately tested prior to the NRC inspection have been retested as of September 10, 1983 using the revised procedure. Due to the high failure rate that occurred during the fire damper surveillance retests, the licensee has committed to an on-going testing program of all dampers until the confidence level increases. This program, plus the schedule completion date for the remaining fire dampers yet to be tested will be submitted to Region III by November 30, 1983, after an engineering analysis is performed on locating and evaluating any necessary work needed to perform the surveillance test.

(Open) Noncompliance (346/83-16-11) Lack of fire barrier in various conduits and junction boxes. The inspectors verified that the lack of a one-hour fire barrier wrap (Kaowool) had been reworked to meet the requirements of FCR 79-032 as identified in the Bechtel listing of December 3, 1979. Junction boxes 3715, 3716 and 3718 to the three CCW pumps in room 328 were not wrapped although power cables to the pumps had been wrapped recently. Neither the cables nor the junction boxes were in the Bechtel listing.

In addition, the inspectors could not verify that those circuits which appeared to require a one-hour fire barrier wrap (Kaowool) but were not listed in the Bechtel document had been wrapped. The inspectors were unable to locate these conduits as identified in Details - Part I, Paragraph 8 of the inspection report.

The licensee committed in the letter (R. Crouse to D. Eisenhut) dated September 13, 1983 to perform a walkdown of all conduits and cable trays containing safe shutdown circuits and requiring a one-hour fire barrier wrap to meet the requirements of Appendix R to 10 CFR 50 and those identified in the Bechtel document. All identified safe shutdown circuits are to be reworked to meet the requirements of FCR 79-032 and the results of the licensee's walkdown and repairs performed are to be forwarded to Region III for review.

(OPEN) Noncompliance (346/83-16-01A) Alternative shutdown capability to achieve hot standby and cold shutdown was deficient.

a. Interior Safe Shutdown Procedure

In response to the July inspection findings concerning the alternative shutdown capability to achieve hot standby and then subsequently achieve cold shutdown, the licensee committed to develop a procedure for safe shutdown. The procedure would outline the steps necessary to achieve hot standby and subsequent cold shutdown, in the event of a fire resulting in total loss of the control room or cable spreading room. The safe shutdown procedure would consider: (a) loss of offsite power, (b) fire damage to all components of the control room or cable spreading room, (c) use of only onsite personnel for hot standby, and (d) loss of plant communication system.

The inspectors evaluated the safe shutdown procedure (Abnormal Operating Procedure AB 1203.66, "Serious Control Room Fire") to verify the alternative shutdown capability to provide reactivity control, reactor coolant makeup, reactor pressure control, decay heat removal, monitoring needed for plant parameters and support equipment required to achieve hot standby and cold shutdown. The procedure utilizes equipment, controls and instrumentation independent of the control room or cable spreading room and accommodates a loss of offsite power. The procedure assumes that a fire is capable of damaging all control circuits and instrumentation within the control room or the cable spreading room.

The shutdown procedure is essentially a two-stage procedure, immediate actions for hot standby and guidelines for cold shutdown. A walkdown of the procedures verified proper identification and accessibility of the transfer switches, control switches, circuit breakers, manual valves and other equipment needed to achieve safe shutdown. All equipment was clearly identified with component identification tags and marked with reflective tape to aid in identification of components.

The shutdown procedure requires a minimum staffing of six plant operation personnel. Additionally, the procedure requires two plant personnel trained in specific instrumentation and control (I&C) and electrical modifications. The procedure initially identified plant operators as performing the I&C and electrical modifications. The procedure was later revised to require an I&C technician and an electrician to perform these tasks. By letter (R. Crouse to D. Eisenhut) dated September 13, 1983, the licensee committed to provide six operation personnel, an I&C technician, and an electrician on all plant shifts prior to startup. The need for an I&C technician and electrician may be eliminated, in the future, with appropriate plant modification and additional training of operating personnel. A walkdown of the original procedures by the inspectors assured that the minimum manpower required by the procedure was capable of performing the identified tasks in the necessary time frame. The revised procedures provide for more effective and efficient use of the manpower.

The shutdown procedure does require a number of repair activities to be performed by the electrician. The procedure identifies wires that must be cut to provide electrical isolation and "jumping" of circuits to provide necessary control function. The procedure clearly identifies the location (room and cabinet) of each repair activity and the inspectors verified identification and accessibility of components requiring repairs. Wires to be cut were clearly identified by wire and terminal tags. The wires were also marked with reflective tape for clear identification. By letter dated September 13, 1983, the licensee committed to provide permanent markings on wires to be cut. Material and tools were provided for all repair activities. The material and tools along with portable lighting units and portable radios are stored in a cabinet outside the control room on the turbine deck. All personnel utilized in the shutdown procedure will assemble at the cabinet to obtain necessary equipment and instructions.

Communication during the shutdown process is provided by portable radios in the event the fire causes a loss of the plant communication system. A test of the radios during the inspection, revealed a few problems with communicating in certain plant areas. The licensee has begun testing all radios and will verify their proper operation in all necessary plant areas by November 1, 1983. Communication is required primarily to provide instrumentation readings to the shift supervisor and not for coordinating control activities. Pending establishment of full communications capability from all areas, instrumentation readings can be communicated to the shift supervisor by the individual moving to another area where radio contact is available.

Final procedure approval and training of operating personnel, except those on vacation or simulator training, to the procedure were verified by the Senior Resident Inspector on September 22, 1983. Personnel not trained on the procedure by September 22 will be trained prior to their return to shift work.

Based on the above, the licensee has provided an adequate interim procedure for achieving the hot standby and subsequent cold shutdown pending satisfactory completion of the long term corrective actions.

b. Auxiliary Shutdown Panel

In response to the July inspection findings, the licensee has provided interim actions to compensate for the absence of source range neutron flux, cold leg temperature and wide range hot leg temperature monitoring. To compensate for the absence of source range flux monitoring the shutdown procedures require an operator to immediately align the makeup pumps and letdown line. After the plant has achieved stable hot standby conditions, reactor coolant system boron concentration is checked by sampling. Instructions for sample lineup are included in the shutdown procedure. The adequacy of the shutdown procedures are described in the previous paragraphs.

To compensate for hot and cold leg temperature monitoring, a portable battery powered digital volt ohmmeter is utilized to take resistance readings. The shutdown procedure identifies the necessary steps to obtain the appropriate resistance readings and all necessary equipment is stored onsite. Additionally, the shutdown procedure includes a table for converting the resistance readings to hot and cold leg temperature. These readings are communicated to the shift supervisor by portable radio, if the plant communication system has failed because of the fire.

Further, the licensee's review of the auxiliary shutdown panel indicated potential problems in isolation of reactor coolant system pressure instrumentation. Therefore, the licensee has installed a mechanical pressure gauge to provide primary system pressure. The procedure identifies the location of the gauge. The walkdown of the procedure by the inspectors verified location and accessibility of the instrument gauge.

Based on the above, the licensee has met their commitment to provide interim actions for adequate monitoring of the process variable necessary to perform and control the reactor shutdown function.

This item will be closed following satisfactory completion of the licensee's long term corrective actions.

(Open) Open Item (346/83-16-08) Failure of procedures to address spurious actuation of decay heat isolation valves. The licensee proposed revising plant procedures to require deenergizing one of the two motor operated valves, DH-11 or DH-12 in the decay heat removal system. On September 22, 1983 the Senior Resident Inspector informed the Region that he had verified that plant procedures were revised to require de-energizing of one valve.

3. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) on September 9, 1983. The inspectors summarized the scope and finding of the inspection. Following the inspection by the Senior Resident on September 22, 1983, NRR issued a letter dated September 23, 1983 authorizing plant restart and issuing the NRC Safety Evaluation Report, "Davis-Besse Nuclear Power Station Fire Protection Program Corrective Action Plan."

DETAILS - PART III

Enforcement Meeting at NRC Region III Office on December 1, 1983

1. Attendees

Toledo Edison Company (TED)

W. A. Johnson, President
R. P. Crouse, Vice President Nuclear
T. D. Murray, Station Superintendent
J. F. Helle, Director, Nuclear Facility Engineering
T. J. Myers, Nuclear Services Director
R. F. Peters, Jr., Nuclear Licensing Manager
C. T. Daft, QA Director
J. S. Haverly, Nuclear Licensing

Office of Nuclear Reactor Regulation - NRC

A. W. DeAgazio, Davis-Besse Project Manager

Region III - NRC

J. G. Keppler, Regional Administrator
S. H. Lewis, Regional Attorney
W. S. Little, Chief, Engineering Branch No. 2
W. H. Schultz, Enforcement Coordinator
F. A. Maura, Reactor Inspector
W. G. Rogers, Senior Resident Inspector
M. J. Jordan, Project Inspector

2. Enforcement Meeting Discussion

A detailed discussion of each item of noncompliance did not take place, since these had been thoroughly discussed in a previous meeting with NRR and the licensee, and in correspondence between the licensee and NRC. The Region briefly went through each item of noncompliance, and emphasized that the primary reason escalated enforcement action was being considered as the findings related to failure to meet the safe shutdown requirements of 10 CFR 50, Appendix R, Section III.G. The Region also expressed concern over findings which may involve false statements related to the existence of one-hour fire wrap for equipment in the component cooling water (CCW) room, and told the licensee that an investigation into this matter would be conducted by the NRC Office of Investigations.

The Region discussed their concern that after Appendix R became a requirement it was not apparent that Toledo Edison Company had made a good-faith effort to evaluate their fire protection program against the new requirements. The licensee discussed their efforts, both prior to and following the issuance of Appendix R, to ensure a good fire protection program, and agreed to submit additional information describing these efforts to the Region.

The Region indicated that this additional information would be reviewed before making a final determination of the enforcement action to be taken.

3. Review of Information Submitted Following Enforcement Meeting

Toledo Edison Company submitted additional information to Region III in letter Serial No. 1-396, dated December 16, 1983 and in letter NLL #83-013 dated December 29, 1983. (Attachments 1 and 2). The intent of this additional information was to demonstrate TED's good faith effort to meet 10 CFR 50.48 and Appendix R, and provide additional information to assure the Region that the one-hour fire wrap had been installed in accordance with their commitments. The Region's review and conclusions are as follows:

- a. Effort to Ensure Appendix R Compliance - As early as December 3, 1980 TED management initiated an internal review.

Subsequently, the licensee initiated the following actions to achieve Appendix R compliance. Bechtel was required to certify in their facility change request (FCR) closeout letter that the FCR meets the requirements set forth in 10 CFR 50, Appendix R; annual audits of the fire protection program by outside consultants were carried out which reference Appendix R.

The 1981 Annual Fire Protection Audit by Professional Loss Control (PLC) was primarily in accordance with Section 6.5.2.8i of the Technical Specifications. The PLC audit approach briefly mentions Appendix R. The audit report briefly mentions Appendix R under Method of Evaluation, however there is nothing in the report that indicates that the requirements of Appendix R, III.G, III.J, III.O and III.L were of concern.

The 1983 Annual Fire Protection Audit Scope and Audit Report by General Physics Corporation did indicate some increased concern over Appendix R compliance. The emphasis was on the safe shutdown requirements specified in Appendix R, III.G. The audit report identified some problems, but stated, "it appears that Davis-Besse complies with the requirements of Appendix R." Again no mention was made of Appendix R, III.J and III.O requirements and there was no indication that III.L had been considered.

Based upon this information it appears that, prior to this inspection, Toledo Edison Company had made an effort to determine their compliance with Appendix R, III.G, but it was limited in that III.L, whose only purpose is to define design criteria for alternative or dedicated systems required by III.G, was ignored. Also, no mention is made of Appendix R, III.J and III.O requirements which 10 CFR 50.48 requires Davis-Besse to meet.

It is concluded that the effort made by Toledo Edison Company lacked the ingredients necessary to assure compliance with 10 CFR 50.48 and applicable parts of Appendix R, and was significantly deficient. The effort appears to have been conducted in good faith, but good management and engineering practice were lacking.

- b. Installation of One-Hour Fire Wraps - The licensee contended in their letter of December 16, 1983, that the one-hour fire wrap identified by the inspectors as missing in the CCW room had been originally installed, but may have been subsequently removed or damaged in performing maintenance or modification work. The Senior Resident Inspector examined the area and surrounding equipment and concluded that this may be a plausible explanation. In the licensee's letter of December 29, 1983, he agreed to conduct a search to "ascertain those specific maintenance and/or testing activities which may have led to the wrapping deficiencies." The Region III concern over the conflict between the written record and the missing fire wraps will be carried as an unresolved item pending the results of the licensee's search and subsequent review by the NRC. (Unresolved Item 346/83-16-23)