

COMMONWEALTH EDISON COMPANY

UNITS 2/3 DRESDEN NUCLEAR STATION

NFPA CODE COMPLIANCE MATRICES

NTSC Report No. 93-124

Revision 1

Date: December 17, 1999

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1.0 PURPOSE

Dresden Station used National Fire Protection Association (NFPA) codes as guidelines in the design of passive and active fire protection features and in the development of administrative controls of fire hazards. Where deviations from significant provisions of the applicable codes were made, technical justifications were developed and documented in various reports. These reports also provided recommendations to eliminate certain significant NFPA code deviations. The purpose of this document is to:

1. Compile the NFPA code technical justifications in a single source.
2. Document the available objective evidence that resolves the above-mentioned recommendations.

2.0 METHODOLOGY

2.1 Revision 0 (1994)

The status of each code deviation listed in the NFPA Code Matrices was determined by reviewing the Fire Protection Program Documentation Package (FPPDP) (Ref. 4.9) and Station Fire Protection Program Procedures. The information found was recorded under the "Justification" section of each matrix. The information consisted of either the objective evidence that resolved the deviation or an engineering evaluation justifying the station's position for deviating from the code. Where the information was taken from the FPPDP, the specific document was referenced by number. Each reference was then listed and described on the last page of each matrix. All information taken from the FPPDP was paraphrased. For actual wording, see the referenced document. If the information was obtained through a procedure review, then the procedure number and revision was listed in the matrix.

When there was no information found to address a deviation, then Nexus Technical Services Corporation (NTSC) either developed an engineering evaluation to justify the deviation or identified that the station had to resolve the deviation. When a justification was written by NTSC, "(NTSC)" was listed after the justification.

2.2 Revision 1 (1999)

Dresden Station performed a Fire Protection Program Self-Assessment (FPPSA), the results of which are documented in the Dresden Self-Assessment Report (Ref. 4.1). That report identified NFPA Code Compliance issues that remained open. The following NFPA Code Compliance open items are addressed in this report through drawing reviews, walk downs and technical justifications:

- a. The circuits associated with the manual pull stations used for activation of fixed suppression systems are unsupervised. This situation was believed to be a code deviation from NFPA 72D. This report developed a Technical Justification for this condition. (Deviation 72D-06.2)
- b. The installation of a non-approved by-pass line and a timer to delay operation of each Cable Mezzanine pre-action sprinkler system deluge valve. This configuration is a deviation from NFPA 13. This report developed a Technical Justification for this condition. (Deviation 72E-05)
- c. The 1995 NFPA 80 Code Compliance Report identified a number of outstanding fire door issues which were documented in Appendix G of the Fire Door Analysis (Ref. 4.2). To obtain the current status of each issue, these fire doors were walked down by NTSC and the Dresden Fire Protection Systems Engineer (DFPSE) in accordance with NTSC Procedure 99-4003.001, Rev. 0 (Ref. 4.55). The information obtained from the walkdown was used to update Appendix G of the Fire Door Analysis (Ref. 4.2). (Deviation 80-03)
- d. The original Grinnell Unit 2 MG Set sprinkler Drawing 13-5165-8 (Ref. 4.3) identified that 3/8 inch orifice sprinklers were installed as required by the original design. The FPPSA identified that the 3/8 inch sprinklers had been replaced by 1/2 inch orifice sprinklers. The original method to resolve this issue was to analyze the potential effects on safe shutdown capability from larger amounts of water discharging from the larger sprinklers (1/2 inch vs. 3/8 inch). However, while performing this suppression effects evaluation, it was identified by walkdown that, after the FPPSA, the Station had replaced the 1/2 inch sprinklers with 3/8 inch sprinklers. As a result, the plant was no longer out of compliance with this item. In addition, the plant has the necessary documentation on Grinnell drawings that show the proper orifice size and temperature rating of the sprinklers, so that the plant is in compliance with NFPA code provision 1.9-2 (m). (Deviation 13-89)
- e. Based on the Dresden Self-Assessment report, there were three open items related to NFPA 90A. These items were investigated and the status of each were evaluated and documented as described below:

1. The FPPSA identified that there was no documentation that fire dampers were installed in the control room ductwork at the time of the writing or the NFPA 90A Code Compliance review. During this project, the Modification Package M12-2/3-87-05E (Ref. 4.4) was reviewed, along with Specification T-3395 (Ref. 4.5) and Drawing M-3653 (Ref. 4.6) demonstrating that there are 3-hour rated fire dampers in the ductwork. (Deviation 90A-01)
2. As of the writing of the NFPA 90A Code Compliance review, smoke detectors in the ductwork were not being routinely tested, cleaned or calibrated in accordance with the manufacturer's recommendations. During this project, Procedure 4183-14, Rev. 2 (Ref. 4.7) was reviewed and it was determined that the smoke detectors in the ducts are being tested annually in accordance with the manufacturer's instructions. However, the procedure does not indicate that the smoke sampling tubes in the ducts are being checked in accordance with the Manufacturer's Operations, Installation and Maintenance manual. (Deviation 90A-03)
3. As of the writing of the NFPA 90A Code Compliance review, the flame spread rating of the ductwork insulation was undocumented. Calculation DREG97-0105, Rev. 3 (Ref. 4.8) was reviewed. This calculation assumed that external ductwork insulation was a combustible material and determined the loading contributed by external ductwork insulation in its computations. The calculations demonstrated that the plant is within safe limits with the existing ductwork insulation. (Deviation 90A-09)

Report 93-124, Rev. 0 was revised to address the issues described above.

In addition, this report revision incorporates:

- The objective evidence found during the Fire Protection Program Self-Assessment, which closed out certain NFPA Code Compliance Report 93-124, Rev. 0 open issues.
- The technical evaluation that was issued by the Station to address the lack of a fusible link at the ceiling for Fire Doors 12 and 46 (Clean and Dirty Oil Tank Room)
- Resolution of the battery room airflow monitoring device surveillance issue (Deviation 50-10) and the fire hose system hydraulic capability issue (Deviation 14-02).

Finally, the report has been revised to divide those Matrices, which served to document more than one NFPA Code into two or more matrices so that each NFPA Code is addressed by a separate a separate matrix. For example, the matrix which reflected NFPA 4 and NFPA 4A has now been divided into two matrices, one for NFPA 4 and one for NFPA 4A.

3.0 ASSUMPTIONS

None.

4.0 REFERENCES

- 4.1 Dresden Station Fire Protection Program Self-Assessment Report, Report Number 237-251-98-03100, 09/28/98 through 11/20/98
- 4.2 An Analysis of Fire Doors in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, April 15, 1988, Rev.1
- 4.3 Grinnell Drawing 13-5165-8 (No Rev. Number given).
- 4.4 Memorandum to E. D. Eenigenburg, Station Manager, entitled "Subject: Partial Modification Approval Installation of HVAC Work Associated with Control Room Modifications Dresden Station - Units 1, 2 and 3 Modification No. M12-2/3-087-005E Specification Number T-3394 AIR - N/A", dated May 5, 1989
- 4.5 "Specification T-3395 FIRE DAMPERS Dresden Station - Units 1 and 2/3 Commonwealth Edison Company Project 7930-00", transmitted via letter from Mr. Jack W. Oneal, Contract Procurement Specialist, Sargent & Lundy Engineers to Mr. R. D. Koenig, BWR Cognizant Engineer, Commonwealth Edison Company, dated February 20, 1989
- 4.6 Drawing M-3563, Sheet 1, Rev. F, dated 12/14/98 "Control Room Kitchen and Locker Room Ventilation System Plans, Sections and Detail
- 4.7 "Unit 2/3 Control Room HVAC Smoke Detector Annual Surveillance Procedure, Unit 2/3 DFPS 4183-14, Revision 02", effective March 19, 1999
- 4.8 Calculation No. DREG97-0105, "Determination of Combustible Loading, Rev. 3, Attachment E, Page No. 13", dated 3/30/99
- 4.9 "Dresden Nuclear Station Units 2 and 3 Commonwealth Edison Company Fire Protection Program Documentation Package, Volume 9, NFPA Code Conformance"
- 4.10 An Evaluation of Organization for Fire Services (NFPA #4) at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, April 24, 1985, Rev. 0.

- 4.11 An Evaluation of Organization of Industrial Fire Loss Prevention (NFPA #6) at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, April 24 , 1985, Rev. 0
- 4.12 An Evaluation of Management Control of Fire Emergencies (NFPA #7) at Dresden Power Stations, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/24/1985
- 4.13 An Evaluation of Management Responsibility for Effects of Fire on Operations (NFPA #8) at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/24/85
- 4.14 An Evaluation of Standard Portable Fire Extinguishers (NFPA #10 and #10A) at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, April 24, 1985, Rev.0
- 4.15 S&L letter dated 8/7/87 to R.J. Whalen from J. W. Zeszutec, Fire Protection Closure Report - Draft Subsections 1 and 5, Project No. 7927-05
- 4.16 Initial Fire Brigade Training Program, Module FBP-07, "Hose and Fire Streams", Section F, "Handling Fire Streams", Rev 4, January, 1999.
- 4.17 Dresden Nuclear Power Station Units 2 & 3 Fire Pre-Plans, Rev. 4, December 13, 1999.
- 4.18 Fire Suppression Survey in Nuclear Safety Related Areas at Dresden Nuclear Station Units 2 and 3 for Commonwealth Edison Company, Rev.3, 9/30/86
- 4.19 Low Pressure CO2 Fire Extinguishing System Functional Operability and Full Discharge Tests for the Diesel Generator and Day Tank Rooms, Rev.0 (5/31/89) (FPPDP Vol. 8)
- 4.20 A Review of Fire Suppression System Surveillance Procedures for Compliance with NFPA 12,12A,13,15,20 and 2 in Nuclear Safety Related Areas at Dresden Nuclear Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/22/85
- 4.21 An Evaluation of Standard for the Installation of Standpipe and Hose Systems (NFPA# 14) at the Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, 5/30/85, Rev.1

- 4.22 Hydraulic Calculations in the FPPDP Volume 10 and 11.
- 4.23 S&L letter dated 9/22/87 to R.J. Whalen from J. W. Zeszutec, Fire Protection Closure Report, Project 7927-05
- 4.24 Modification Addendum Letter # 2, Modification M12-0-93-001, Doc. ID # 0005807258
- 4.25 Memorandum of Telephone Conversation dated December 15, 1994, Person Called: Mark Ferris and Mike Thoma.
- 4.26 Aurora Pump, A Unit of General signal, Letter dated March 6, 1995 from Mark Farris to V. Sehgal
- 4.27 Outside Protection Survey for Nuclear Safety Related Areas at Dresden Nuclear Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 7/3/85
- 4.28 Fire Suppression System Valve Supervision in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/22/85
- 4.29 An Evaluation of Organization, Training and Equipment of Private Fire Brigades (NFPA #27) at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/24/85
- 4.30 An Evaluation of Flammable, Combustible and Highly Reactive Chemical Storage and Handling (NFPA #30 and #49) at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/24/85An Analysis
- 4.31 A Survey of the Fire Hazards of Hydrogen Storage and Handling in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/24/85
- 4.32 An Evaluation of Fire Hazards of Cutting and Welding Processes in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/24/85
- 4.33 Applicability of NFPA 70 to Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, 4/22/85, Rev.0
- 4.34 Fire Detection and Alarm Survey in Safety Related Areas at Unit 2 and 3, Dresden Nuclear Power Station, Commonwealth Edison Company, 11/11/84, Rev.1.

- 4.35 NFPA Code Review of Standard for Installation, Maintenance and Use of Proprietary Protective Signaling Systems (NFPA 72D-1974) for Commonwealth Edison Company, Dresden Station, Units 2 and 3, Rev.0, 11/5/86.
- 4.36 A Review of the Fire Detection and Alarm System Surveillance Procedures for Compliance with NFPA 72D and 72E in Nuclear Safety Related at Dresden Nuclear Power Station, Units 2 and 3, Rev.0, 4/22/85.
- 4.37 Lightning Protection Survey in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, April 23, 1985, Rev.0
- 4.38 An Analysis of Fire Doors in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, April 23, 1985, Rev.0
- 4.39 Fire Protection Survey of HVAC Systems installed in Computer and Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, 7/24/85, Rev.0
- 4.40 Sheet 3 of 6 of RSM D82617-1, Doc. 4 of the M12-2/3-087-005E Modification Documentation Package
- 4.41 Memorandum from Eric Skowron, Technical Staff Engineer, Dresden Nuclear Power Station to Mssrs. Rob Whalen and Brian Barth entitled "Dresden Station Closure Report Response to PLC's NFPA 90A Code Recommendation 5.10", dated April 7, 1988, contained in the Dresden Station Units 2 & 3 Commonwealth Edison Company Fire Protection Documentation Package, Volume 9, Page C-1.
- 4.42 Floor Drain Survey in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, 7/22/85, Rev.0
- 4.43 Dresden Station Units 2 and 3 Commonwealth Edison Company Fire Protection Reports, Volume 1, Updated Fire Hazards Analysis, Amendment 12
- 4.44 An Evaluation of Screw Threads and Gaskets for Fire Hose Connections (NFPA # 194) and Standard Fire Hose (NFPA #196) at Dresden Nuclear Power Station Units 2 and 3 for Commonwealth Edison Company, April 24, 1985, Rev.0

- 4.45 An Evaluation of a Training Standard on Initial Fire Attack (NFPA #197) at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, 4/24/85, Rev.0
- 4.46 An Evaluation of Records Storage at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, 7/24/85, Rev.0. Application of NFPA 251 and NFPA 255 to Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/22/85
- 4.47 Application of NFPA 251 and NFPA 255 to Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev. 0, 4/22/85
- 4.48 An Evaluation of The Security Force Response to Fire Emergencies in Nuclear Safety Related Areas at Dresden Nuclear Power Station, Units 2 and 3 for Commonwealth Edison Company, Rev.0, 4/24/85
- 4.49 Completed DFPS 4132-03, Rev. 03 dated 02/06/96, *Refuel Operating Cycle Verification of Unit 3 Sprinkler Systems Integrity.*
- 4.50 Completed DFPS 4132-02, Rev. 03 dated 08/22/95, *Refuel Operating Cycle Verification of Unit 2 Sprinkler Systems Integrity.*
- 4.51 Completed DFPS 4132-01, Rev. 03 dated 08/22/95, *Verification of Unit 2/3 & Unit 1 Sprinkler Systems Integrity.*
- 4.52 Commonwealth Edison Company Dresden Station Resolution of Engineering Request NFPA Code Deviation Justification Program, NTSC Report No. 97-010.001, Rev. 0, dated 8/12/97
- 4.53 Commonwealth Edison Company Work Request Number 9900022111, issued to close out NTS number 237-212-98-0660, source Document: PIF D1998-05753
- 4.54 S & L Drawing F-396, Rev. A, 9/11/85
- 4.55 NTSC Procedure 99-4003.001, Rev. 0, "Dresden Units 2 & 3 Fire Door Walkdown Methodology and Checklist."
- 4.56 Airflow Monitor Devices Data for U2/3 Battery Rooms: Drawing M-973, Rev. F, Work Request 970087796 (EPN 3-5786-102), Work Request 970088680 (EPN 3-5786-103), Work Request 970086175 (EPN 2-5786-100), Work Request 970086763 (EPN 2-5786-101)

5.0 EXPLANATORY NOTES

- 5.1 All deviation numbers with an "S" mean that the deviation has to do with a surveillance, maintenance or test requirement.
- 5.2 In some cases, under the "Code Section" of the matrices, the FHA, SER or an other document is referenced instead of a NFPA paragraph. These documents were listed because the Code Compliance report referenced these documents. In addition, there were cases where the Code Compliance reviews did not specify the code paragraphs. In those cases, the code section was not provided.

6.0 RESULTS

The NFPA Code Matrices Report has been updated to address all open issues, including the NFPA Code Compliance issues identified in the Dresden Fire Protection Program Self-Assessment FPPSA (Ref. 4.1) [FPPSA deficiencies D01, D02, D15, D16, D17, D18 D19 and recommendation R05]. These FPPSA issues have been resolved through the Station's corrective actions program or have been technically justified.

Detailed results are provided in the attached tables.

Table A: NFPA Deviation Closeout Matrices

The NFPA Code Closeout Matrix enumerates all deviations from NFPA Codes that have been identified. The Close-out Matrix then lists the objective evidence that resolved the deviation. If a deviation has been resolved by corrective action, the "Recommended Action" column states "Delete Deviation". If a deviation was resolved by a Technical Justification, the Matrix lists the Technical Justification. The "Recommended Action" column states "None". If a deviation has not been resolved, the Closeout Matrix states the suggested action to close the item, such as "Review and Evaluate".

Table B: NFPA Code Justification Matrices

Unlike the NFPA Code Close-out Matrix, which enumerates all deviations from NFPA Codes that have been identified, the Justification Matrix lists only those deviations, which have been closed out by a Technical Justification. The Technical Justification is shown in Table B for each item for which this is the method of closing out the deviation.

Table C: List of NFPA Codes of Record

TABLE A

NFPA DEVIATION CLOSEOUT MATRICES

Table A contains the NFPA Deviation Close Out Matrices.

The NFPA Code Close-out Matrix enumerates all deviations from NFPA Codes that have been identified. The Close-out Matrix then lists the objective evidence that resolved the deviation.

If a deviation has been resolved by corrective action, the "Recommended Action" column states "Delete Deviation".

If a deviation was resolved by a Technical Justification, the Matrix lists the Technical Justification and the "Recommended Action" column states "None".

If a deviation has not been resolved, the Close-out Matrix states the suggested action to close the item, such as "Review and Evaluate".

<p>TABLE A DRESDEN NUCLEAR STATION NFPA DEVIATION CLOSEOUT MATRICES TABLE OF CONTENTS CODE NUMBER</p>		
NFPA 4	NFPA 20	NFPA 72D
NFPA 4A	NFPA 24	NFPA 72E
NFPA 6	NFPA 26	NFPA 78
NFPA 7	NFPA 27	NFPA 80
NFPA 8	NFPA 30	NFPA 90A
NFPA 10	NFPA 49	NFPA 92M
NFPA 12	NFPA 50A	NFPA 194
NFPA 12A	NFPA 50B	NFPA 196
NFPA 13	NFPA 51	NFPA 197
NFPA 13A	NFPA 51B	NFPA 232
NFPA 14	NFPA 69	NFPA 251
NFPA 15	NFPA 70	NFPA 255
		NFPA 601

TABLE A
NFPA 4 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
04-01	Not identified.	Combined fire drills with the local fire department are not conducted annually (Ref. 4.10, pg 6, para 1).	<p>DAP 03-01, Rev. 4 identifies that the station fire marshal is responsible for making arrangements with the local fire department.</p> <p>Procedure DFPP 4100-01 Section G.1.b(2) addresses offering annual training to the local fire department. Discussions with the Station Fire Marshal indicated that members of the Coal City Fire Protection District have not participated in fire drills at the station in the recent past. However, training sessions are conducted with the Coal City Fire Protection District. Dresden Station hosts the Shabbona Fire Clinics for all area fire departments. This was completed on 4/4/98 and was scheduled again for 4/10/99. GSEP Training is given to Coal City Fire Protection District annually and they are invited to participate in Station drills annually. Although an opportunity for improvement exists if the Coal City Fire Protection District participates in fire drills or other exercises held at the Station, the Station has no control over the local fire department. The issue was discussed and recognized by Assistant Fire Marshal. Under the circumstances, the relationship between the two parties is ACCEPTABLE (Ref. 4.1, Section 2.7, page 25).</p>	None.

Deviation No.	Code Section	Deviation	Justification	Recommended Action
None		None (Ref. 4.10).		None.

Deviation No.	Code Section	Deviation	Justification	Recommended Action
06-01	Not identified.	Procedures do not address overall Loss Prevention Program (Ref. 4.11, pg 4, para 2).	Procedure DAP 03-01, Rev. 4 addresses this issue.	Delete Deviation (DD).
06-02	Section 220, NFPA 6	Procedures do not address organizational functions of Plant Fire Loss Prevention Manager (Ref. 4.11, pg 4, para 3).	Procedure DAP 03-01, Rev. 4 addresses this issue.	DD
06-03	Paragraph's 230 - 233, NFPA 6	Relationship with the local fire department needs improvement (Ref. 4.11, pg 5, para 1).	Procedure DAP 03-01, Rev. 4 addresses this issue.	DD
06-04	Section 240, NFPA 6	Plan engineering department deficiencies (Ref. 4.11, pg 5, para 3).	DAP05-01,Rev.20 checklist 5-1C addresses this issue.	DD
06-05	Section 263, NFPA 6	"The on-going relationship between Safety and Fire Protection is not formalized" (Ref.4.11, pg 5, para 7).	Corporate safety and fire protection policies and implementing procedures are in place to adequately accomplish safety and fire protection objectives.(NTSC)	DD.
06-06	Section 280, NFPA 6	"No central point of control or coordination in relationship to the procedures dealing with Loss Prevention appears to exist" (Ref.4.11, pg 6, para 3).	Procedure DAP 03-01, Rev. 4 addresses this issue.	DD
06-07	Section 290, NFPA 6	Poor documentation on Loss Prevention Standards (Ref.4.11, pg 6, para 4).	Procedure DAP 03-01, Rev. 4 addresses this issue.	DD
06-08	Section 261 and 300, NFPA 6	Lack of loss prevention program documentation (Ref.4.11, pg 6, para 4 and pg 7).	Procedure DAP 03-01, Rev. 4 addresses this issue.	DD

TABLE A
NFPA 7 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
07-01	Section 140, NFPA 7	There is no Industrial Emergency Association which provides for 'mutual aid between Dresden and other industrial plants (Ref.4.12, pg 3, para 3).	The CECo corporate GSEP is so structured that support from one CECo plant would be provided to another as appropriate (Ref. 4.12, pg 3, para 3).	None.
07-02	Section 220 and 230, NFPA 7	Outside fire departments are not involved in plant fire drills and are not coordinated (Ref. 4.12, pg 4, para 3).	These items are addressed in the NFPA #4 and #4A evaluation (Ref. 4.12, pg 4, para 3).	DD.

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TABLE A
NFPA 8 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
8-01		No deviations (Ref. 4.12).		

TABLE A
NFPA 10 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
10-01	Paragraph 1-4, NFPA 10	...more prominent markings would be helpful on extinguishers (Ref. 4.14, pg 3, para 3).	Adequate markings are provided. DFPS 4114-04, Rev.0 verifies that proper labels are on extinguishers on an annual basis as opposed to monthly. Annual surveillance is considered adequate based on the following: a. Station personnel are periodically trained to operate plant fire extinguishers. b. Access to the plant is controlled through nuclear security procedures. c. Instructions for proper operation of the extinguishers are affixed permanently to the extinguisher. (Ref 4.15, pg 1.1-6, Item 4.1).	None.
10-02	Section 3-2, NFPA 10	Extinguishers for Class hazards are not distributed per NFPA 10 (Ref. 4.14, pg 3 para 5 and pg 4 para 1).	The quantity of Class A combustibles is limited primarily to cable insulation and well distributed hose stations are provided for a trained, on-site fire brigade. (Ref. 4.14, pg 3, Para 5 and pg 4 Para 1).	None.
10-03	Section 3-3, NFPA 10	Travel distance for Class B extinguishers is exceeded (Ref. 4.14, pg 4 and 5).	The increased travel distances are justified based on major hazards being protected by automatic and manual suppression and detection systems monitored by a proprietary fire alarm system and ignition sources are controlled. (Ref 4.14., pg 4 and pg 5).	None.

TABLE A
NFPA 10 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
10-04	Section 3-6, NFPA 10	Travel distance for Class C extinguishers is exceeded (Ref. 4.14, pg 4 and 5).	<p>Electrically safe nozzles are provided on all hoses except the refuel floor (Ref. 4.14, pg 4 and 5; Ref. 4.15, pg 1.1-6, 4.2) (See Footnote 1) and on the hard rubber hoses provide to cover the Control Room.</p> <p>Fire Brigade members are trained in the risks involved in using non-electrically rated fire nozzles in the Initial Fire Brigade Training Program, Module FBP -07, "Hose and Fire Streams", Section F, "Handling Fire Streams". Fire Brigade members also receive biennial requalification training in this subject (Ref. 4.16).</p> <p>The Dresden Nuclear Power Station Units 2 & 3 Fire Pre-Plans document the locations of these nozzles and identify risks involved in using these nozzles on the Fire Pre-Plans (Ref. 4.17).</p>	None.

Footnote 1. This is to minimize the potential of applying water to the new fuel in the new fuel storage pit, straight stream nozzles are used on the refuel floor (NTSC).

TABLE A
NFPA 12 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
12-01	Not provided.	The roll up fire door at the large louvered opening in each room is currently arranged to close only on operation of the fusible link (Ref. 4.18, Sect. 4.2 and 6.3).	The louvered doors can maintain an adequate CO2 concentration without the fire door closing (Ref. 4.19 and Ref. 4.1, Section 3.2.1.3)	None.
12-02	Not provided.	The fire doors at louvered openings into the emergency DG rooms do not close automatically upon actuation of the CO2 system (Ref. 4.18, pg 3, sect.2.2)	The louvered doors can maintain an adequate CO2 concentration without the fire door closing (Ref. 4.19 and Ref. 4.1, Section 3.2.1.3).	None.
12S-01	Par. 1716, NFPA 12	No fire protection procedure could be located which requires a weekly check of CO2 storage tank level and pressure, as required by NFPA 12-1973, Paragraph 1716. DFPP 4114-3 indicates these inspections are carried out monthly (Ref. 4.20, Sect 3.1, para 1 and pg 4 Subpart 1).	An acceptable weekly check is conducted under a procedure known as Appendix B Center Desk Loghook (Ref.4.20, Sect.3.1).	DD.
12S-02	1712 and 1714, NFPA 12	Simulated tests of the system components, including a "Puff test" are to be carried out every 18 months according to Dresden Tech Spec Item 4.12.D.3. NFPA 12 has no periodic actuation test requirement, although periodic (at least annual) inspections are recommended (Paragraph 1714) and discharge tests made when advisable (Paragraph 1712) (Ref. 4.20, Sect 3.1, para 1 and pg 4 Subpart 1).	Dresden exceeds these requirements by performing semi-annual maintenance testing of the CO2 systems. The procedure for these tests is listed in DFPP 4145-1 (Ref.4.20, Sect.3.1).	None.

TABLE A
NFPA 12A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
12AS-01	Par. 1553, NFPA 12A	Paragraph 1553 of NFPA 12A requires a hydrostatic test of charged cylinders at least every 12 years. No procedure could be located which indicates these hydrostatic tests are being carried out (Ref.4.20, Sect. 3.2, para 1 and pg 5 Subpart 2).	The Station did not commit to NFPA 12A maintenance requirements. As a result, this activity is not required (Ref. 4.1).	None.
12AS-02	Not provided	Dresden Tech Spec Item 4.12.H.1 requires a monthly check of the valves in the flow path from the Halon cylinders to the nozzles path (Ref.4.20, Sect. 3.2, para 1 and pg 5 Subpart 2).	In actuality, there are no valves in this flow (Ref.4.20, Sect. 3.2).	DD.
12AS-03	1715 and 1716, NFPA 12A	DFPP 4114-3 requires the Halon cylinder pressure to be checked monthly, but does not list any minimum acceptance criteria for this pressure. Semi-annual procedure DFPP 4195-1 also requires a pressure check, as well as cylinder weight in accordance with NFPA 12A-1973 (Paragraphs 1715 and 1716) and Dresden Tech Spec 4.12.H.2. The minimum acceptance criteria for weight and pressure is assumed to be that noted on the tag attached to each cylinder, although this is not clearly indicated by the procedure (Ref.4.20, Sect. 3.2, para 1 and pg 5 Subpart 3).	DFPS 4195-01, Rev.0 addresses this issue.	DD
12AS-04	Not provided	"Dresden Tech. Spec 4.12.H.3 requires the system to be verified to actuate manually and automatically, and a flow test to be made through headers and nozzles to verify no blockage at least once every 18 months. No permanent procedure could be found which verifies these items are performed (Ref.4.20, Sect. 3.2, para 1 and pg 5 Subpart 4).	DFPS 4195-02, Rev.0 addresses this issue.	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-01	SER (3/87) Section 4.3.1.2, NFPA 13, Section not provided.	Documentation transmitted to the NRC regarding the adequacy of the new pump with the shortest piping leg out of service indicates the 750 gpm hose demand cannot be met for the largest system demands. Also, several systems have been installed since this documentation was prepared and the flow and pressure requirements of some of these systems may also exceed the available supply. Hydraulic calculation data has not yet been located for five safety related systems (See Table One for specific systems) (Ref. 4.18, pg 7, Sect 5.1; pg 12, Sect 6.2; pg 3, Sect. 2.1; and pg 3, Sect.2.2).	Hydraulic calculations address this issue (Ref. 4.22).	DD.
13-02	Not provided	Documentation has not been located to verify that the distribution piping has been flushed (or at a specific flow rate)prior to connection to the numerous sprinkler and water spray systems (Ref.4.18, pg 11, Sect.6.1).	Due to the arrangement of the distribution system and the use of strainers the intent of the code is met (Ref.4.18, Sect 6.1, Pgs 11 and 12).	None.
13-03	SER (3/87) Section 3.1.3.	A sprinkler system has not been installed to protect the U3 Containment Cooling Service Water Pumps (Ref.4.18; pg 8, Sect 5.3 and pg 3, Sect.2.1).	Hydraulic calculations address this issue (Ref.4.22).	DD
13-04	Not provided	Contractor's test certificates are available and have been reviewed for 51 of the water suppression systems. However, no documentation has been located to verify such testing for the remaining 5 systems (Ref. 4.18, pg 15, Sect.6.6).	All systems were installed by Grinnell whose standard practice is to perform hydrostatic testing. The systems have been in operation for fourteen years now with no significant leaks or breaks (Ref. 4.18, Sect 6.6, Pg 15).	None.
13-05	4-2.4.6, NFPA 13	U2 Condensate Pump Area: One sprinkler head on the north side of the man-lift is 3 inches to one side of a beam which obstructs the water distribution pattern (Ref. 4.18, pg 18, Sect.7.1.1).	Mod. M12-2-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.1.1).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-06	4-1.1.1(3), NFPA 13	U2 Condensate Pump Area: Sprinklers are not provided below the large pipe (column lines 37.1 to 38.5) along the south wall of the room. This large pipe appears to be slightly less than 4 feet wide. However, an adjacent pipe approximately 2 feet wide is located slightly above and to the side of the larger pipe resulting in an effective obstruction approximately 6 feet wide (Ref. 4.18, pg 19, Sect.7.1.2).	Mod. M12-2-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.1.2).	DD
13-07	4-4.11 and 4-4.13, NFPA 13	U2 Condensate Pump Area: Sprinklers below the wide HVAC duct located in the east portion of the room (column line 35.7 to 37.1). The ventilation duct is 4-5 feet wide (Ref.4.18, pg 19, Sect.7.1.3).	Mod. M12-2-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.1.3).	DD
13-08	4-1.1.1(1)	U2 Condensate Pump Area: Sprinklers are not provided to protect the open hatch area in the southeast corner of the area which is currently used for storage of lube oil (Ref. 4.18, pg 19, Sect.7.1.4).	Mod. M12-2-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.1.4).	DD
13-09	4-2.4.6	U3 Condensate Pump Area: One sprinkler head located 10 feet north of the man-lift at (column 48.7) is currently obstructed by a steel beam (Ref.4.18, pg 19, Sect.7.2.1).	The obstruction is minor and due to other sprinklers installed, this is an acceptable configuration (Ref. 4.18, Sect 7.2.1, Pg 19).	None.

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-10	4-1.1.1(3)	U3 Condensate Pump Area: Heads are not provided below the large pipe (column line 49.5 to 50.3) along the south wall of the room. This piping is over 4 ft wide (Ref. 4.18, pg 20, Sect.7.2.2).	Mod. M12-3-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.2.2).	DD
13-11	4-4.11 and 4-4.13	U3 Condensate Pump Area: Heads are not located below the wide HVAC duct in the west portion of the room (column lines 49.9 to 52.4) (Ref. 4.18, pg 20, Sect.7.2.3).	Mod. M12-3-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.2.3).	DD
13-12	4-1.1.1(1)	U3 Condensate Pump Area: Sprinklers are not provided to cover the pen hatch area in the southwest corner of the room which is currently used for storage of lube oil (Ref. 4.18, pg 20, Sect.7.2.4).	Mod. M12-3-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.2.4).	DD
13-13	Not provided	U2 Cont. Cooling Service Water Pump and CRD Pump Room: An inspector's test connection for the system is not installed (Ref.4.18, pg 20, Sect.7.3.1).	Mod. M12-2-84-107 addresses this issue (Ref. 4.23, pg 1, Item 7.3.1).	DD
13-14	SER Section 5.1.8.6	U2 and U3 HPCI Pump Room: A deluge system is not installed for the U2 and U3 HPCI Pump Rooms (Ref. 4.18, pg 21, Sect.7.4.1).	Preaction systems were installed to reduce the potential of inadvertant operation. This type of system provides an equivalent level of protection compared to a deluge system (Ref. 4.23, pg 21, Item 7.4.1).	None.
13-15	Not provided	U2 and U3 HPCI Pump Room: An inspector's test connection for both systems are not installed (Ref. 4.18, pg 21, Sect.7.4.2).	Mod. M12-2(3)-84-107 and PLC Letter 2/26/86 address this issue (Ref.4.23, pg 2, Item 7.4.2).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-16	4-1.1.1, NFPA 13	U2 and U3 HPCI Pump Room: The south end of the room is not protected (Ref. 4.18, pg 20, Sect.7.4.3).	Mod. M12-2(3)-84-107 and PLC Letter 2/26/86 address this issue (Ref. 4.23, pg 2, Item 7.4.3).	DD
13-17	Not provided	U2 and U3 HPCI Pump Room: Heads are within 6'-0" of each other (Ref. 4.18, pg 20, Sect.7.4.4).	Mod. M12-2(3)-84-107 and PLC Letter 2/26/86 address this issue (Ref. 4.23, pg 2, Item 7.4.4).	DD
13-18	Not provided	U2 and U3 HPCI Pump Room: No waterflow alarm is provided for these systems (Ref. 4.18, pg 21, Sect.7.4.5).	Since each systems consists of fewer than 20 sprinkler heads, the waterflow alarm may be waived and is, therefore, acceptable (Ref. 4.18, pg 21, Sect.7.4.5). This is in compliance with NFPA 13.	DD
13-19	Not provided	U2 Trackway: Inadequate hanger supports for the sprinkler pipe between heads 1 and 2 near the stairs (Ref. 4.18, pg 22, Sect.7.5.1).	Mod M12-2(3)-84-107 and PLC lts dated 2/26/86 addresses this issue (Ref. 4.23, pg 2, Item 7.5.1).	DD
13-20	4-1.1.1(3)	U2 Trackway: The existing sprinkler location is effectively obstructed by stairs and mechanical piping in the northeast corner of the area (Ref. 4.18, pg 22, Sect.7.5.2).	Mod M12-2(3)-84-107 and PLC lts dated 2/26/86 addresses this issue (Ref. 4.23, pg 2, Item 7.5.2).	DD
13-21	4-1.1.1(2)	U2 Trackway: The distance between the sidewall heads exceeds NFPA 13 requirements (Ref. 4.18,, pg 22, Sect.7.5.3).	Mod M12-2(3)-84-107 and PLC lts dated 2/26/86 addresses this issue (Ref. 4.23, pg 2, Item 7.5.3).	DD
13-22	4-1.1.1(3)	U2 Trackway: Sprinkler 4 is obstructed by piping (Ref. 4.18, pg 22, Sect.7.5.4).	Mod M12-2(3)-84-107 and PLC lts dated 2/26/86 addresses this issue (Ref. 4.23, pg 2, Item 7.5.4).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-23	SER 3.1.5.2	Sprinklers have not been installed in the U3 Turbine Upper Basement, E1. 495-0 (Ref. 4.18, pg 3, Sect.2.1).	Sprinklers have been installed under the hot well and in the CRD pump rooms which are located on this area. (Ref. 4.18, pg.3, sect.2.1).	DD
13-24	4-3, NFPA 13	U2 Trackway: All 8 sprinkler heads at the south end of the trackway (column lines G - H) are not within 16 inches of the ceiling as required by NFPA 13 (Ref. 4.18, pg 22, Sect.7.5.5).	Mod M12-2(3)-84-107 and PLC Its dated 2/26/86 addresses this issue (Ref. 4.23, pg 2, Item 7.5.5).	DD
13-25	4-1.1.1(4)	U2 Trackway: Sprinkler 10 is not parallel with the ceiling (Ref. 4.18, pg 22, Sect.7.5.6).	WR DR46359 addresses this issue (Ref. 4.23, pg 2, Item 7.5.6).	DD
13-26	Not provided	U3 Trackway: Existing heads along the east side of the open bay area (column lines E to G) exceed distances between the heads as required by NFPA 13 (Ref. 4.18, pg 23, Sect.7.6.1).	Mod M12-3-84-107 addresses this issue (Ref. 4.23, pg 3, Item 7.6.1).	DD
13-27	4-3, NFPA 13	U3 Trackway: Four sprinklers at the southeast corner of the trackway (branches lines B and C) are not within 12 inches of the ceiling (Ref. 4.18, pg 24, Sect.7.6.2).	Mod M12-3-84-107 addresses this issue (Ref. 4.23, pg 3, Item 7.6.2).	DD
13-28	Not provided	U3 Trackway: Heads are not provided as shown on the sketch as X. These heads are required by NFPA 13 since the steel beams in the area exceed 7-1/2 foot spacing (Ref. 4.18, pg 24, Sect.7.6.2).	Mod M12-3-84-107 addresses this issue (Ref. 4.23, pg 3, Item 7.6.2).	DD
13-29	4-3	U3 Trackway: Sidewall heads 1, 2, 3, 4, 5, and 6 are not within 12 inches of the ceiling in the beam pockets to ensure timely actuation of each sprinkler as required by NFPA 13 (Ref. 4.18, pg 24, Sect.7.6.3).	Mod M12-3-84-107 addresses this issue (Ref. 4.23, pg 3, Item 7.6.3).	DD

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TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-30	Not provided	U3 EHC Fluid Reservoir: The sprinklers located below the cable trays above the Unit 3 EHC fluid reservoir are not centered directly beneath the cable trays (Ref. 4.18, pg 25, Sect.7.7.1).	However, the anticipated type of fire in this area is a rapidly developing oil type fire which will result in high temperatures at an early stage. Therefore, there is no need to relocate the head(s) to directly beneath the cable trays or to provide heat collectors. The sprinklers will actuate in a timely manner as installed and will protect the cable trays for an exposure fire below (Ref. 4.18, pg 25, Sect.7.7.1).	None.
13-31	Not provided	U3 EHC Fluid Reservoir: The northernmost head on the branch line located along the cable trays above the Unit 2 EHC fluid reservoir is not centered directly beneath the cable tray. This sprinkler is located immediately southeast of column line E44 (Ref. 4.18, pg 25, Sect.7.7.2).	However, the anticipated type of fire in this area is a rapidly developing oil type fire which will result in high temperatures at an early stage. Therefore, there is no need to relocate the head(s) to directly beneath the cable trays or to provide heat collectors. The sprinklers will actuate in a timely manner as installed and will protect the cable trays for an exposure fire below (Ref. 4.18, pg 25, Sect.7.7.2).	None.
13-32	4-1.1.1(1)	U3 EHC Fluid Reservoir: Sprinklers are not provided near ceiling level (within 12 inches) to cover the existing areas described below: a. The northeast section near column line 43E. b. The northwest section near column line 45E (Ref. 4.18, pg 25, Sect.7.7.3).	Mod M12-2-84-107 and PLC ltr 5/28/86 address this issue (Ref. 4.23, pg 3, Item 7.7.3).	DD
13-33	Not provided	EHC Fluid Reservoir: Sprinklers are not provided to protect the area above each cable tray parallel to branch lines B and C in the event of a cable initiated fire (Ref. 4.18, pg 25, Sect.7.7.4).	Mod M12-2-84-107 and PLC ltr 5/28/86 address this issue (Ref. 4.23 pg 3, Item 7.7.4).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-34	Not provided	EHC Fluid Reservoir: Note: This paragraph discusses planned additional protection. A specific deviation is not stated, but it is insinuated that the additional protection is required (Ref. 4.18, pg 26, Sect.7.7.5).	Mod M12-2-84-107 and PLC ltr 5/28/86 address this issue (Ref. 4.23, pg 4, Item 7.7.5).	DD
13-35	Not provided	U2 Bus Duct Pen (517-6): No waterflow alarm is provided for this system (Ref. 4.18, pg 27, Sect.7.8.1).	However, since only 8 water spray nozzles are provided, the lack of such an alarm is acceptable (Ref. 4.18, pg 27, Sect.7.8.1). This is in accordance with NFPA 13.	DD
13-36	Not provided	U2 Bus Duct Pen (517-6): 2 water spray nozzles near column line 32 are directed away from the bus duct penetrations (Ref. 4.18, pg 27, Sect.7.8.2).	WR D46362 addresses this issue (Ref. 4.23, pg4, Item 7.8.2).	DD
13-37	Not provided	U2 ACAD Air Comp. (530-6): Heat collector plates are not provided above the two sprinklers as indicated on the original sprinkler drawing (Ref. 4.18, pg 27, Sect.7.9.1).	Mod M12-2-84-107 addresses this issue (Ref. 4.23, pg 4, Item 7.9.1).	DD
13-38	Not provided	U2 ACAD Air Comp. (530-6): The heads are not a minimum of 6 feet apart to prevent cold soldering as required by NFPA 13 (Ref. 4.18, pg 27, Sect.7.9.1).	Mod M12-2-84-107 addresses this issue (Ref. 4.23, pg 4, Item 7.9.1).	DD
13-39	4-3	U2 Instr. Air Comp. (517-6): One sprinkler head located over the air compressor at column line 34D is located approximately 9 feet below the ceiling (Ref. 4.18, pg 28, Sect 7.10.1).	...this is acceptable in this case since the specific hazard for this head is an oil fire which will result in a rapidly developing fire which will provide sufficient heat to operate the sprinkler even though not located within 12 inches of the ceiling (Ref. 4.18, pg 28, Sect 7.10.1).	None.

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-40	4-1.1.1(3)	U2 Instr. Air Comp. (517-6): Lower four pendent sprinkler heads (SSP) located below the cable trays in the hallway at column line 33 for E to F: All four sprinklers are located approximately 1 inch above a PIP obstruction located only 3 inches horizontally to the side which significantly impairs the water distribution pattern of the sprinkler heads for this area (Ref. 4.18, pg 28, Sect 7.10.2).	Mod M12-2-84-107 and PLC ltr dtd 2/26/86 address this issue (Ref. 4.23, pg 4, Item 7.10.2).	DD
13-41	4-3	U1 Crib House: Several sprinklers within the area are located 14-18 inches below ceiling level instead of the maximum distance below ceiling of 12 inches allowed by NFPA 13 (Ref. 4.18, pg 28 and 29, Sect 7.11.1).	For this particular area, the sprinklers need not be relocated since the anticipated hazard in the area is an oil fire which will be a rapidly developing type fire with large amounts of heat and smoke. Relocation of the sprinklers in this area would not result in significant improvement in the protection for the area. Therefore, the existing location of the sprinklers is considered acceptable (Ref. 4.18, pg 28 and 29, Sect 7.11.1).	None.
13-42	Not provided	U2/3 Crib House: Sway bracing and hangers supporting the water spray system piping currently existing around the diesel driven fire pump are inadequate (Ref. 4.18, pg 29, Sect 7.12.1).	Mod M12-2/3-84-66 addresses this issue (Ref. 4.23, pg 4, Item 7.12.1).	DD
13-43	Not provided	U2 Reactor Feed Pump Room: The use of the pipe schedule method of system design for the Reactor Feed Pump Area is inappropriate due to the excessively long run of dead-end 4 inch supply main (approximately 200 feet) in the Turbine Building east-west corridor, ground floor (Ref. 4.18, pg 30, Sect 7.13, para 2).	Hydraulic calculations address this issue (Ref. 4.22).	DD
13-44	Not provided.	The existing globe type valves in the fire pump diesel engine cooling water line are not of the indicating type.(Ref. 4.18, pg.30, sect.7.12.2).	This is a NFPA 20 issue which is addressed by Deviation 20-06.	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-45	4-4.11 and 4-4.13	U2 Reactor Feed Pump Room: One sprinkler head in the northwest corner of the room has been removed near column line 38 (Ref. 4.18, pg 31, Sect 7.13.1).	The original sprinkler design required this head to provide protection beneath the wide ventilation duct in the area. This HVAC duct does not presently exist and therefore, no sprinkler is needed at this time (Ref. 4.18, pg 31, Sect 7.13.1).	None.
13-46	4-1.1.1(1)	U2 Reactor Feed Pump Room: Sprinkler heads are not provided to protect the north side of the room just north of column line G. The existing sprinklers will not protect the entire distance to the north wall (Ref. 4.18, pg 31, Sect 7.13.2).	Mod M12-2-84-107 addresses this issue (Ref. 4.23, pg 5, Item 7.13.2)	DD
13-47	4-1.1.1(1)	U2 Reactor Feed Pump Room: The eastern end of the room is inadequately protected (apparently the sound barrier walls were relocated after installation of the sprinkler system) (Ref. 4.18, pg 31, Sect 7.13.3).	Mod M12-2-84-107 addresses this issue (Ref. 4.23, pg 5, Item 7.13.3)	DD
13-48	4-4.11 and 4-4.13	U2 Reactor Feed Pump Room: Several problems regarding heads installed to protect beneath wide HVAC ducts in the room (Ref. 4.18, pg 31, Sect 7.13.4).	Mod M12-2-84-107 addresses this issue (Ref. 4.23, pg 5, Item 7.13.4)	DD
13-49	Not provided	U2 Reactor Feed Pump Room: The use of the pipe schedule method of system design for the Reactor Feed Pump Area is inappropriate due to the excessively long run of dead-end 4 inch supply main (approximately 200 feet) in the Turbine Building east-west corridor, ground floor (Ref. 4.18, pg 33, Sect 7.13.4).	Hydraulic calculations resolve this issue (Ref. 4.22).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-50	Not provided	U3 Reactor Feed Pump Room: The lower level sprinkler head located just southwest of column G51 is not centered beneath the HVAC duct (Ref.4.18, pg 33, Sect 7.14.1).	Due to the anticipated type of fire, this configuration is acceptable (Ref.4.18, pg 33, Sect 7.14.1).	None.
13-51	4-4.11 and 4-4.13	"U3 Reactor Feed Pump Room: Two sprinkler heads located below the ventilation ducts at the north end of column line 53 were intended for installation directly beneath the ducts. Also, the northernmost sprinkler head below the HVAC duct along column line 52 was intended to be no more than 12 inches below the duct according to the sprinkler drawings. The first two heads are not installed beneath the duct and the third sprinkler is located 18 inches below the duct" (Ref.4.18, pg 33, Sect 7.14.2).	The location of all three of these heads are considered acceptable because an oil fire in this room would produce high temperatures very quickly. (Ref. 4.18, pg 33, Sect 7.14.2).	None.
13-52	4-1.1.1(1)	U3 Reactor Feed Pump Room: The existing sprinklers will not cover the entire distance to the north wall (Ref. 4.18, pg 34, Sect 7.14.3).	Mod. M12-2-84-107 resolves this issue (Ref. 4.23, pg 5, Item 7.14.3).	DD
13-53	Not provided	U3 Reactor Feed Pump Room: The branch line located 5 feet west of column line 51 is twisted such that two heads are angled at 30 degrees to the vertical (Ref. 4.18, pg 34, Sect 7.14.4).	WRD46460 resolves this issue (Ref. 4.23, pg 6, Item 7.14.4).	DD
13-54	4-1.1.1(3)	U3 Reactor Feed Pump Room: The sprinkler head just northeast of column line H52 is obstructed by a pipe support (Ref. 4.18, pg 34, Sect 7.14.5).	Mod. M12-2-84-107 resolves this issue (Ref. 4.23, pg 6, Item 7.14.5).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-55	4-1.1.1 and 4-4.1.3	U3 Reactor Feed Pump Room: Several problems regarding heads installed to protect beneath wide ventilation ducts in the room (Ref. 4.18, pg 34, Sect 7.14.6).	Mod. M12-2-84-107 resolves this issue (Ref. 4.23, pg 6, Item 7.14.6).	DD
13-56	4-3	Two sprinkler heads located in the northwest corner of the room are spaced approximately 10 feet above floor level. This does not comply with the requirement of NFPA 13 to be located within 12 inches of the ceiling to achieve prompt actuation of the sprinkler heads (Ref. 4.18, pg 34, Sect 7.14.7).	However, the expected oil fire for this area will produce high temperatures in a short period of time, thus providing prompt actuation of the sprinkler heads even though they are located an excessive distance from the ceiling. Therefore, the location of these two sprinkler heads can be considered acceptable for this area (Ref. 4.18, pg 34, Sect 7.14.7).	None.
13-57	4-1.1.1(3)	Turb Mezzanine N/S: One sprinkler head located in the northeast corner of the area near the stairway is obstructed by existing mechanical piping (Ref. 4.18, pg 36, Sect 7.15.1).	The affected head is located approximately 5 feet south of the stairs and six feet west of the wall. The obstruction of the stairs at six feet west of the wall. The obstruction to the distribution pattern of the sprinkler system is minor and protection for the area would not be significantly improved by relocating the head. Therefore, no action is required for this item (Ref. 4.18, pg 36, Sect 7.15.1).	None.
13-58	Not provided	Turb Mezzanine N/S: Inspector's test connection is not installed for the system as required by NFPA 13 (Ref. 4.18, pg 36, Sect 7.15.2).	Mod. M12-2-84-107 addresses this issue. (Ref. 4.23, pg 6, Sect 7.15.2).	DD
13-59	4-4.1.1.1(1)	U2 Turb Mezz Cable Conc: Coverage is inadequate in the northeast portion of this area near the stairs (near column line G33) (Ref. 4.18, pg 37, Sect 7.16.1).	Mod 12-2-84-107 addresses this issue (Ref. 4.23, pg 6, Sect 7.16.1).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-60	Not provided	U2 Turb Mezz Cable Conc: A number of nozzles are pointing the wrong direction on branch line risers located approximately 22 feet west of column line 34 near the south wall (Ref. 4.18, pg 37, Sect 7.16.2).	WRD4659 addresses this issue (Ref. 4.23, pg 6, Sect 7.16.2).	DD
13-61.1	4-3	U2 Turb Mezz Cable Conc: In the southeast corner of the area a number of nozzles are located 6 to 18 inches above the cable trays, but are 10 to 20 feet below the ceiling (Ref. 4.18, pg 38, Sect 7.16.4).	Mod 12-2-84-107 addresses this issue (Ref. 4.23, pg 7, Sect 7.16.4).	DD
13-61.2	4-3	U2 Turb Mezz Cable Conc: South wall nozzles are not within 12 inches of the ceiling (Ref. 4.18, pg 38, Sect 7.16.3).	Mod 12-2-84-107 addresses this issue (Ref. 4.23, pg 7, Sect 7.16.3).	DD
13-62	4-3	U2 Turb Mezz Cable Conc: The top row of water spray nozzles are improperly located in relation to the ceiling (Ref. 4.18, pg 38, Sect 7.16.4).	Mod 12-2-84-107 addresses this issue (Ref. 4.23, pg 6, Sect 7.16.4).	DD
13-63	Not provided	U2 Turb Mezz Cable Conc: A waterflow alarm is not provided for each of the two pre-action systems protecting this area (Ref. 4.18, pg 38, Sect 7.16.5).	Mod 12-2-84-107 addresses this issue (Ref. 4.23, pg 7, Sect 7.16.5).	DD
13-64	Not provided	U2 Turb Mezz Cable Conc: Hangers and survey bracing are inadequate (Ref. 4.18, pg 38, Sect 7.16.6).	Mod 12-2-84-107 addresses this issue (Ref. 4.23, pg 7, Sect 7.16.6).	DD
13-65	4-1.1.1.(3)	U3 Cable Tunnel: Several locations exist where the installation of water spray nozzles does not conform to specific provisions of NFPA 13 relative to the obstruction of the water distribution pattern from the nozzles (Ref. 4.18, pg 39, Sect 7.17.1)	Relocation or addition of nozzles would not significantly improve the performance of the system (Ref. 4.18, pg 39 and 40, Sect 7.17.1)	None.

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-66	Not provided	U3 Cable Tunnel: Hangers and sway bracing are inadequate (Ref. 4.18, pg 40, Sect 7.17.2).	Mod M12-2-84-107 and WRD46365 address this issue (Ref. 4.23, pg 8, Sect 7.17.2).	DD
13-67	4-3	U3 Cable Tunnel: Nozzles protecting the top row of cable trays on each side of the cable tunnel between columns 50 and 44 are located over 12 inches from the ceiling (Ref. 4.18, pg 40, Sect 7.17.2).	Mod M12-2-84-107 and WRD46365 address this issue (Ref. 4.23, pg 8, Sect 7.17.2).	DD
13-68	4-1.1.1(3)	Nozzles protecting other areas, excluding nozzles discussed in paragraph 1 of Section 7.17.3, are located over 12 inches from the ceiling (Ref. 4.18, pg 41, Sect 7.17.3).	Due to the ceiling configuration and the type of fire anticipated, relocation of heads would not significantly improve the performance of the system (Ref. 4.18, Sect 7.17.3, pg 41, para 2)	None
13-69	4-1.1.1(3)	U3 Cable Tunnel: Several locations exist where additional water spray nozzles need to be installed to ensure adequate coverage where significant obstructions to the water distribution pattern exist and/or unusual configurations of cable tray routing require additional protection (Ref.4.18, pg 42, Sect 7.17.4).	Mod M12-2-84-107 addresses this issue (Ref. 4.23, pg 8, Sect 7.17.4).	DD
13-70	4-1.1.1(3)	U3 Cable Tunnel: Many heads require relocation to avoid existing obstructions to the water distribution spray pattern (Ref. 4.18, pg 42, Sect 7.17.5).	Completed (No mod or WR referenced) (Ref. 4.23, pg 9, Sect 7.17.5).	DD
13-71	Not provided	U3 Cable Tunnel: The top two nozzles in water spray riser 5N are misdirected one quarter turn (Ref. 4.18, pg 44, Sect 7.17.6).	Completed (No mod or WR referenced) (Ref. 4.23, pg 9, Sect 7.17.6).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-72	Not provided	U3 Cable Tunnel: The water spray risers 3M and 3K approximately 90 degrees are not properly oriented to ensure water spray pattern (Ref. 4.18, pg 44, Sect 7.17.7).	WRD46365 addresses this issue (Ref. 4.23, pg 9, Sect 7.17.7).	DD
13-73	Not provided	U3 Cable Tunnel: In water spray risers 4F and 4G near column line 42, the second nozzle from the top is directed towards the ceiling (Ref. 4.18, pg 44, Sect 7.17.8).	WRD46365 addresses this issue (Ref. 4.23, pg 9, Sect 7.17.8).	DD
13-75	Not provided	U3 Cable Tunnel: The top nozzle in water spray riser 2D is currently pointing in a downward direction and should be pointing horizontally (Ref. 4.18, pg 44, Sect 7.17.10).	WRD46365 addresses this issue (Ref. 4.23, pg 9, Sect 7.17.9)	DD
13-76	Not provided	U3 Cable Tunnel: The top nozzle in water spray riser 4K is misdirected 45 degrees (Ref. 4.18, pg 44, Sect 7.17.11).	WRD46365 addresses this issue (Ref. 4.23, pg 9, Sect 7.17.10 disposition)	DD
13-77	Not provided	One sprinkler head located 9'-7" west of column 45 and approximately 9 feet south of column line C is now located a considerable distance below the ceiling and is exposed to water flow from ceiling level sprinklers. This is a deviation from the requirements of NFPA 13 (Ref. 4.18, pg 45, Sect 7.18.1).	The sprinkler head was apparently installed to provide protection beneath a large ventilation duct in the area. However, the sprinkler head is not located beneath the duct. No relocation of the head is required since the HVAC duct is less than 4 feet wide and relocation of the sprinkler would not significantly improve protection of the area (Ref. 4.18, pg 45, Sect 7.18.1).	None.
13-78	Not provided	Turb Mezz. E/W: Hangers are not provided for the sprinkler pipe under stairs in the northwest corner of the area (Ref. 4.18, pg 45, Sect 7.18.2).	Mod M12-3-84-107 addresses this issue (Ref. 4.23, pg 10, Sect 7.18.2).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-79	4-3	Turb Mezz. E/W: Inspector's test connection is not provided for the system as required by NFPA 13 (Ref. 4.18, pg 45, Sect 7.18.3).	Mod M12-3-84-107 addresses this issue (Ref. 4.23, pg 10, Sect 7.18.3).	DD
13-80	Not provided	Turb Mezz. E/W: Many of the existing sprinklers are located 16 to 20 inches below the ceiling (Ref. 4.18, pg 45, Sect 7.18.4).	Mod M12-3-84-107 addresses this issue (Ref. 4.23, pg 10, Sect 7.18.4).	DD
13-81	Not provided	One sprinkler head has a damaged deflector located in the northwest corner of the zone near the stairs. The head is located 15 feet south of the wall near the edge of the stairs (Ref. 4.18, pg 45, Sect 7.18.5).	WRD46364 addresses this issue (Ref. 4.23, pg 10, Sect 7.18.5)	DD
13-82	4-1.1.1(3)	U2, U3 and U 2/3: Emer D.G. Day Tank RMS: Sprinklers are obstructed (Ref. 4.18 pg 46, Sect 7.19.1).	Obstructions do not have a significant impact on system performance. (Ref. 4.18 pg 46, Sect 7.19.1)	None.
13-83	Not provided	U2, U3 and U 2/3: Emer D.G. Day Tank RMS: Install an inspector's test connection on all three diesel generator day tank room sprinkler systems (Unit 2, Unit 3, and Unit 2/3) (Ref. 4.18 pg 46, Sect 7.19.2).	Mod M12-2(3)-84-107 and PLC Ltr 1/23/86 address this issue (Ref. 4.23, pg 10, Sect 7.19.2).	DD
13-84	Not provided	U2 H.P. Heater Bay: One 12-inch long branch line (1 inch diameter) is badly corroded (Ref. 4.18, pg 47, Sect 7.20.1).	Mod M12-2-84-107 addresses this issue (Ref. 4.23, pg 10, Sect 7.20.1).	DD
13-85	Not provided	Aux Heating Bay: Air supervision and a waterflow alarm are not provided as required by NFPA 13 (Ref. 4.18, pg 47, Sect 7.21.1).	Mod M12-1-84-107 addresses this issue (Ref. 4.23, pg 10, Sect 7.21.1).	DD

TABLE A
NFPA 13 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13-86	4-3, NFPA 13	U2 and U3 MG Set Fluid Drivers: Many of the sprinklers located in this area are 19 inches below the ceiling which exceeds the requirements of NFPA 13 not to exceed 16 inches below ceiling level for areas with this particular beam depth and spacing (Ref. 4.18, pg 48, Sect 7.23.1).	...the location of the sprinklers for this area are acceptable due to the anticipated oil fire which will produce high temperatures in a short period of time thus providing prompt actuation for the sprinklers in their existing locations (Ref. 4.18, pg 48, Sect 7.23.1).	None.
13-87	Not Provided	Radwaste Compactor: The supply valve for the system is currently closed and the waterflow alarm has not yet been connected (Ref. 4.18, pg 48, Sect 7.22.1).	Mod M12-2/3-82-13 addresses this issue (Ref. 4.23, pg 10, Sect 7.22.1).	DD
13-88	SER 3.1.5.2	Sprinklers have not been installed in the U3 Control Rod Drive Feed Pump Area (Ref. 4.18, pg 3, Sect 2.1).	See Supplement 2 of the hydraulic calculations (Ref. 4.22)	DD
13-89	1-9.2 (m)	During a Walkdown on October 13, 1998, it was discovered that the sprinkler system protecting the Unit 2 MG set area on the 561' elevation of the Turbine Building is not in accordance with the Design Drawings (Grinnell drawing 13-5165-8 and S & L drawing F-396). The drawing showed 3/8 inch orifice sprinklers as the proper orifice size. It was discovered that the 3/8 inch orifice sprinklers had been replaced by 1/2 inch orifice sprinklers under Work Order WR 960016293-01 in May 1997 because of paint overspray on the original 3/8 inch orifice sprinklers (Ref. 4.1, Section 3.2.1.1)	The 1/2 inch sprinklers were replaced with 3/8 inch sprinklers by Work Order 990002111 (Ref. 4.53). The 3/8 inch sprinklers were also field-verified by NTSC. Information about the sprinkler orifice size and temperature is contained on Grinnell Drawing 13-5165-8 (Ref. 4.3). The S & L Drawing, F-396 (Ref. 4.54), incorporates the Grinnell Drawing by reference, so the plant is in compliance with Section 1-9.2 (m).	DD
13-90	Section 4	Several sprinklers were obstructed (Ref. 6).	Obstructions to sprinkler systems are justified in Attachment C of Reference 4.52.	DD

TABLE A
NFPA 13A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13S-01	Not provided	DFPP 4114-2 and 4114-3 list several fire main (FM) and sprinkler system (SS) valves that are inspected without a specific acceptance criteria (normally open, normally closed) (Ref. 4.20, pg7, Sect 3.3, para 2, subpart 2 and pg 6, Table 3.3-1).	DFPS 4114-01, Rev.04; 4114-02, Rev.02 and 4114-03, Rev.3 address this issue.	DD
13S-02	Not provided	DFPP 4114-2 and 4114-3 indicate unsealed valves are to be resealed without test. These procedures should be corrected to require valves to be physically tested and returned to their proper positions prior to resealing (Ref. 4.20, pg7, Sect 3.3, para 2, subpart 2 and pg 6, Table 3.3-1).	As per an NTSC walkdown, seals are no longer used. Locks have been installed.	DD
13S-03	Not provided	DFPP 4114-2 and 4114-3 specify the procedure for conducting an alarm test at the sprinkler riser. However, they do not address those wet pipe systems having an inspector's test location remote from the riser, and it would appear these valves are not being used for waterflow alarm testing (Ref. 4.20, pg 7, Sect 3.3, para 2, subpart 3 and pg 6, Table 3.3-1).	Procedure DFPS 4133, Rev.01 addresses this issue.	DD
13S-04	Not provided	On Page 15 of DFPP 411 4-3, SS valve number 2-4199-501 is listed as "normally open". However, a note beneath the valve location status: "VERIFY that the valve is CLOSED" (Ref. 4.20, pg 7, para 1, subpart 4).	Procedure 4114-02 inspects the proper position of Unit 2 fire mains and sprinkler system valves. It does not include this valve. As shown on Drawing M-23, valve 2-4199-501 is at a dead-end and does not control any fire suppression system or water supply. Its position would have no impact on the performance of the fire water systems and, as a result, there is no need to monitor its position (Ref. 4.1, Section 3.2.1.1).	DD.

TABLE A
NFPA 13A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13S-05	Not provided	DFPP's 4132-1, 4132-2 and 4132-3 apply only to sprinkler and water spray systems required by the tech. specs. Non-tech spec systems are not inspected in accordance with these procedures..."...although these are not tech spec systems, they are generally located in, or expose, safety-related areas or are related to the Appendix R analysis. The Turbine Mezzanine cable concentration is mentioned in the SER (Ref. 4.20, pg 8, Sect 3.3, para 2, subpart 5).	Non Tech Spec systems are now covered by DFPS 4132-01, Rev.0; 4132-02, Rev.0; and 4132-03, Rev.0.	DD
13S-06	Not provided	Sketches attached to DFPP's 4132-1, 4132-2 and 4132-3 do not clearly indicate the proper nozzle or sprinkler orientation, nor the hanger locations. Dresden Tech Spec Item 4.12.C.1.b requires sprinkler headers to be inspected; item 4.12.C.1.c. requires nozzles to be inspected to verify no blockage (NFPA 13A requires piping, as well as supports to be checked). These procedures do not require inspection of sprinkler or nozzle condition, only orientation. Because of these deficiencies, either detailed acceptance criteria (in the form of detailed plans) need to be developed, or the qualifications of the personnel performing the procedure need to be expanded to insure a thorough system walk-down is conducted (Ref. 4.20, pg 8, Sect 3.3, para 2, subpart 6 and pg 6 Table 3.3-1).	Procedures DFPS 4132-01, Rev.0; DFPS 4132-02, Rev.0; and DFPS 4132-03, Rev.0 address this issue.	DD
13S-07	Not provided	NFPA 13A requires weekly checks of control valve position, valve seal integrity, and control valve operability (1/4 turn). Dresden procedures indicate these tests are carried out monthly, but only on supervised valves (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 7 and pg 6 Table 3.3-1).	This longer period is justified due to administrative controls which keep a record of all valve closures (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 7).	None.

TABLE A
NFPA 13A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13S-08	Not provided	NFPA 13A requires weekly checks of riser gage readings, as well as a 2-inch drain test at each riser. These requirements are not being implemented. However, NFPA 13A requires these tests at sprinklered properties normally served by city water connections. The test verifies that the city supply is in service (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 8 and pg 6 Table 3.3-1).	Since the water supply at Dresden is totally under plant control, these tests are unnecessary (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 8).	None.
13S-09	Not provided	NFPA 13A requires yearly lubrication of control valve stems and indicating mechanisms. No procedure could be located to confirm that this maintenance is being performed (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 9 and pg 6 Table 3.3-1).	Procedure 4132-04, Rev.01 addresses this issue.	DD
13S-10	Not provided	NFPA 13A does not specifically require, but implies, a periodic inspection to verify air pressure maintenance on those preaction systems where supervisory air is maintained. There is not Dresden procedure to verify air pressure is maintained on any preaction system (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 10 and pg 6 Table 3.3-1).	The XL3 System continuously monitors preaction system air pressure. XL3 System Dresden Annunciator Procedures (DANs) provide operator instructions for when the XL3 System identifies when there is a low air pressure condition. As a result, a procedure is not needed.(NTSC)	DD
13S-11	Not Provided	Sprinkler system No. 2-4199-501 is listed as normally open. A note beneath the valve location states,"Verify the valve is closed".(Ref. 4.20, pg.19).	Procedure 4114-02 inspects the proper position of Unit 2 fire mains and sprinkler system valves. It does not include this valve. As shown on Drawing M-23, valve 2-4199-501 is at a dead-end and does not control any fire suppression system or water supply. Its position would have no impact on the performance of the fire water systems and, as a result, there is no need to monitor its position (Ref. 4.1, Section 3.2.1.1).	DD.

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AMENDMENT 13

TABLE A
NFPA 13A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
13S-12	Not provided	Sprinkler systems in the following areas should be included in DFPP 4132-1, 4132-2 and 4132-3 (as applicable) as they are related to the Appendix R analysis.	DFPS 4132-02, Rev.0 and DFPS 4132-03, Rev.0 address this issue.	DD

Deviation No.	Code Section	Deviation	Justification	Recommended Action
14-01	Chapter 1	The addition of hose reel numbers to the F-drawings would simplify the gathering of needed information (Ref. 4.21, pg 8, para 2).	P&IDs and F-Drawings have been updated (Ref. 4.15, pg 1.1-12, Item 4.1).	DD
14-02	219	In the Turbine Building some standpipe sizes are less than 2 inches (Ref. 4.21, pg 8, para 5).	A hydraulic analysis was performed on three hose stations to verify adequacy of 1-1/2" supply pipe. The analysis indicates the required amount of water can be delivered (Ref. 4.21, pg 8, para 5).	None.
14-03	322	Several plant areas shown in Table 3.1 cannot be reached with 100' of hose and a 30' hose stream (Ref. 4.21, pg 9, 10, 11).	In specified areas, due to the minimal amount of combustibles and other fire protection features provided, the existing configuration is adequate (Ref. 4.21, pg 9, 10, 11). Recommendation made for additional hose to select hose stations with less than 100 ft hose (Ref. 4.21, pg 17, Item 4.3). PIF D1998-05386 and NTS 237-251-90-3125 addressed this issue (Ref. 4.1, Section 3.3)	None. DD
14-04	342	As identified in Table 3.1 standpipes not provided with 1-1/2" outlets at each floor (Ref. 4.21, pg 11, para 3).	Table 3.1 does not reference any stand pipes without 1 1/2 inch outlets.	DD
14-05	42	More than 100' of approved hose is at some hose stations (Ref. 4.21, pg 11, para 7). Two 150 ft hard rubber hoses are provided to protect the Control Room.	The additional hose length is required to provide adequate coverage for the control room (NTSC).	None.

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AMENDMENT 13

TABLE A
NFPA 14 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
14-06	43	Labels indicating use and operating instructions are not provided on hose racks (Ref. 4.21, pg 11, para 8).	The fire hoses are for use by the fire brigade only. Signs have been provided on each hose station identifying that only the fire brigade can use the hoses. All fire brigade member have been adequately trained to handle hoses. As a result, operating instructions on the hose stations are unnecessary (NTSC).	None.
14-07	44: OSHA Sub-part L	Pressure reducing devices are not provided for standpipes exceeding 100 psi (Ref. 4.21, pg 12, para 3).	CECo policy is not to use pressure reducing devices ... (Ref. 4.15, pg 1.1-12, Item 4.4) Fire hoses are for the use of the fire brigade only. All brigade members have been adequately trained to handle hoses subject to high pressure. (NTSC)	None.
14-08	6	The main 2/3 discharge valve is not of an indicating type as required (Ref. 4.21, pg 15, para 2).	A NTSC walkdown found that an indicator has been installed on the valve.	DD
14-09	67	Water flow switches are not provided on all standpipes (Ref. 4.21, pg 15, para 5).	A primary function of a flow switch is to provide notification of unauthorized use. Since access to a nuclear power plant is controlled, unauthorized operation is not normally a concern. In addition, operation of a hose station should activate the fire pump running alarm (NTSC).	None.

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AMENDMENT 13

TABLE A
NFPA 15 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
15-01	SER (3/87) Section 4.3.1.2, NFPA 15 Section Not Provided (Rep. 1)	Hydraulic calculations are not provided for five systems.(Ref. 4.18, pg 7 and pg 12, Sect 6.2).	Hydraulic Calculations address this issue. The calculations contain justifications to minor NFPA 15 deviations (Ref. 4.22).	None.
15-02	Not Provided	Contractor's test certificates are available and have been reviewed for 51 of the water suppression systems. However, no documentation has been located to verify such testing for the remaining 5 systems (Ref. 4.18, pg 15, Sect.6.6).	All systems were installed by Grinnell whose standard practice is to perform hydrostatic testing. The systems have been in operation for fourteen years now with no significant leaks or breaks (Ref. 4.18, Sect 6.6, Pg 15).	None.
15S-01	6003	There is no weekly visual check of the deluge systems as required by Paragraph 6003 of NFPA 15-1973; however, Paragraph 6003 also states that the frequency of such inspections may be at "other frequent regularly scheduled plant inspections" (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 1).	Due to the high level of administrative controls at this plant, such an inspection to identify major deficiencies could be extended to a monthly basis and included in DFPP's 4114-2, 4114-3 and 4114-6, as applicable (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 1).	None.
15S-02	6013 and 6019	No procedures exist to check outdoor piping annually for proper drainage (Paragraph 6013) or to conduct an annual flushing of the underground lead-in connection (Paragraph 6019) (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 2).	Because strainers are provided and to be cleaned annually, the requirement for a flushing test of the underground lead-in connection is eliminated (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 2).	None.
15S-03	Par. 6012	No procedures exist to annually inspect and clean strainers on the deluge valves (Paragraph 6012), as well as strainers on underground lead-in connection to the Turbine and Reactor Buildings, except for those valves controlling water to the hydrogen seal oil unit systems (DFPP 4134-1) (Ref. 4.20 , pg 11, Sect 3.4, para 3, subpart 3).	Procedure is not used to perform this task. The Station surveillance program (GSRV) requires main strainers to be cleaned and inspected annually and individual system strainers every 5 years.(NTSC)	DD.

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AMENDMENT 13

TABLE A
NFPA 15 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
15S-04	6013	Procedures exist to conduct air flow tests of the hydrogen seal oil unit systems (DFPP 4134-1), U-2/3 fire pump and fuel day tank (DFPP 4134-2) and water flow tests of the outside transformer systems (DFPP's 4132-2 and 4133-3). No-flow test procedures (air or water) for the following open head spray systems could be located: U-2 & U-3 Bus duct penetrations at outside transformers. U-2/3 Turbine lube oil reservoirs. Such tests are necessary to verify no obstructions to water discharge exist at the nozzles (Ref. 4.20, pg 11, Sect 3.4, para 3, subpart 4).	Procedures DFPS 4135-05, Rev.0; DFPS 4134-06, Rev.0; DFPS 4134-07, Rev.0 and DFPS 4134-04, Rev.0 address this issue	DD

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TABLE A
NFPA 20 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
20-01	SER (3/87) Section 4.3.1.2	During the fire pumps original acceptance test, the Unit 1 fire pump was unable to achieve sufficient pressure at all points along the manufacturer's curve (Ref. 4.18, pg 3, Sect 2.2; pg 7; and pg 13, Sect 6.4.).	...even though the pump may not comply with the NFPA 20 performance requirements, its performance could be considered acceptable as long as it exceeds the requirements (flow and pressure) of all installed water suppression systems (Ref. 4.18, pg 7 and pg 13, Sect 6.4.). Hydraulic calculations address this issue (Ref. 4.22).	None.
20-02	SER (3/87) Sections 5.4.6 and 5.12.6	The curb has not yet been installed to contain the diesel fuel oil for the Unit 2/3 fire pump (Ref. 4.18, pg 2, Sect 3 and pg 8, Sect 5.4).	Mod M12-2/3-84-7 addresses this issue (Ref. 4.23, pg 1.1-22. Item 4.6).	DD
20-03	SER (3/87) Section 5.4.6	A curb is not provided at the north door to the AEER (Ref.4.18, pg 8, Sect 5.5).	There are two entrances to this room. A curb has been installed at the west door opening onto the Unit 2 Trackway area. A similar curb is provided approximately 10 feet from the north door in the vicinity of the Unit 2 480V switchgear area. Therefore, an additional curb at the north door to the room is unnecessary as the curb in the switchgear area should be sufficient to prevent any oil spill in this area from entering the room. The intent of this commitment is satisfied (Ref. 4.18, pg 8, Sect 5.5).	None.
20-04	Not provided	Documentation for the original acceptance testing of the Unit 2/3 fire pump is not available for review (Ref. 4.18, pg 13, Sect 6.4).	However, justification for this deviation can be provided based on the satisfactory performance of the annual pump test for the last two years. The problems that existed during the original acceptance test have apparently been satisfactorily addressed (Ref. 4.18, pg 13, Sect 6.4).	None.
20-05	SER (3/87) Section 3.1.3	... the main discharge valve in the 2/3 pump discharge line is a motor operated type valve (MO-2/3-4101). This valve is not of the indicating type (Ref. 4.18, pg 7, Sect 5.2).	A NTSC walkdown found that an indicator has been installed.	DD

TABLE A
NFPA 20 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
20-06	Not provided	The existing globe type valves in the fire pump diesel engine cooling water line are not indicating type valves (Ref. 4.18, pg 30, Sect 7.12.2).	Mod M12-2/3-84-66 addresses this issue (Ref.4.23, pg 4, Item 7.12.2).	DD
20-07	Not provided	The two strainers in the cooling water bypass line are not provided as required by NFPA 20, Centrifugal Fire Pumps (Ref. 4.18, pg 30, Sect 7.12.2).	Mod M12-2/3-84-66 addresses this issue (Ref. 4.23, pg 4, Item 7.12.2).	DD.
20-08 (New 2/3 Fire Pump)	Section 2-14.2.2	NFPA 20, Table 2-20 lists 12 - 2-1/2-inch hose valves needed to test a fire pump with 3,000 gpm capacity rating. Dresden Station has a fire pump test header with 8 - 2-1/2-inch hose valves. This constitutes a deviation from NFPA 20, 1993 edition (Ref. 4.24).	This deviation is acceptable based on the station's ability to perform the capacity test using the Unit 1 test header and local fire hydrants. This method was proven during acceptance testing of the installation. The procedure for the 2/3 diesel fire pump annual capacity check has already been revised to direct performance of the test using an arrangement of the test header and adjacent fire hydrants.	None.
20-09 (New 2/3 Fire Pump)	Section 8-2.3	Dresden Station has an unlisted coupling in lieu of a listed drive shaft for Unit 2/3 diesel driven fire pump assembly. This constitutes a deviation from NFPA 20, 1993 edition (Ref. 4.24, 4.25, 4.26).	The coupling is identified as a Wood's Sure-Flex Coupling by the pump and diesel supplier. Based on torsional analysis conducted by the pump and diesel supplier, the Wood's Sure-Flex Coupling with a stiffness of 0.305 Deg/100 LB FT will not present a torsional problem and is a suitable alternative to the flexible drive shaft originally specified for the Unit 2/3 Diesel Fire Pump.	None.
20S-01	8-6.3.1, 8-6.3.2, 8-6.3.3, and 8-6.4	DFPP 4123-1 does not reference battery maintenance items and fuel day tank level checks in the procedure, but these items are listed on the inspection sheet. Similarly, DFPP 4123-5 does not reference a check of the fuel day tank level although this item is listed on the checklist (Ref. 4.19, pg 12, Sect 3.5, para 2, subpart 1 and pg 13 table 3.5-1).	DFPS 4123-01, Rev.1 and DFPS 4123-05, Rev.1 address this issue.	DD.

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AMENDMENT 13

TABLE A
NFPA 20 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
20S-02	Not provided	NFPA 20 requires maintenance to be performed on diesel engines at least annually, whereas DFPP's 4124-3 and 4124-4 allow this maintenance to be conducted at 18 month intervals (Ref. 4.19, pg 12, Sect 3.5, para 2, subpart 2 and pg 13 table 3.5-1).	This deviation is justified due to the limited use of these engines and weekly operability tests of the fire pumps which insure the engines are in proper condition (Ref. 4.19, pg 12, Sect 3.5, para 2, subpart 2). <i>MONTHLY R6B 12/18/00</i>	None.
20S-03	8-6.5	There is no procedure for verifying the temperature in the fire pump rooms as required by Paragraph 8-6.5 of NFPA 20 (Ref. 4.19, pg 12, Sect 3.5, para 2, subpart 3 and pg 13 table 3.5-1).	Dreden Annunciator Procedure (DAN) XL3, Device 51-15, Rev.0 states that there is a low temperature device in the Crib House that is set to alarm at 32 F. Procedure 51-15, Rev. 3 shows that the alarm was reset to activate at 50 degrees F instead of 32 degrees F (Ref. 4.1, Section 3.2.2).	DD
20S-04	12.3.1	DFPP 4123-7 requires six or seven flow test points (as well as test at shut-off) for the Unit 1 annual fire pump test. However, no procedure exists for correcting the pressure and flow data to rated RPM, and using these tests points to construct a graph which can be compared to some minimum acceptance criteria in order to detect any deterioration in the pump. This minimum acceptance criteria is presently not specified. No operational test of the pressure relief valve is conducted (Ref. 4.19, pg 12, Sect 3.5, para 2, subpart 4 and pg 13 Table 3.5-1).	Procedures DFPS 4123-07, Rev.2 addresses this issue DFPS 4123-06, Rev 0.	DD.

TABLE A
NFPA 20 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
20S-05	12.3.1	DFPP 4123-6 (U-2/3 Diesel Fire Pump Annual Capacity Check) has the deficiency noted above, except that insufficient data is collected to construct a valid 3-point test curve (shut-off, 100% capacity and 150% capacity). This procedure utilizes fire hydrants on the yard loop for flow test outlets, instead of a test header or flowmeter as recommended by NFPA 20. However, the 1983 edition of NFPA 20 allows test to be made through yard hydrants, providing justification for the existing procedure. This procedure also does not require pressure relief valve to be shut before the test and reopened after the test, nor are any operational tests of the pressure relief valve conducted (Ref. 4.19, pg 13, Sect 3.5, para 2, subpart 5 and pg 13 Table 3.5-1).	See 20S-04	DD
20S-06	Not provided	Good fire protection practice would require that every 18 months it should be verified that each fire suppression pump starts (sequentially) to maintain the fire suppression water system pressure greater than or equal to some minimum required pressure. Dresden has no tech spec item relating to this requirement and no procedure to implement it (Ref. 4.19, pg 15, Sect 3.5, para 2, subpart 6).	Dresden satisfies the intent of this issue (Ref.4.19, pg 1.1-8, Item 4.1.9).	DD.

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Deviation No.	Code Section	Deviation	Justification	Recommended Action
24-01	2600	No fire department connection provided (Ref. 4.27, pg 7, para 2).	...due to the remote location, lack of nearby public water supply, redundancy of fire pumps, and intake canal supplies through which water may be pumped from draft, omission of such a connection is justified (Ref. 4.27, pg 7, para 2).	None.
24-02	3302	PIV's located closer than 40 feet from buildings with exposed openings (Ref. 4.27, pg 7, paras 3,4,5 and 6).	Exiting PIV locations are justifiable (Ref. 4.27, pg 7, paras 3,4,5 and 6).	None.
24-03	3304, NRC/CEC's letter 6/12/79	Lack of barriers around PIV north and U-1 HPCI Building (Ref. 4.27, pg 7, para 7 and pg 8, para 1).	...loss of this valve will not affect the water supply to the U-2/3 plan, as a sectional valve exists to cut off supply to this U-1 area (Ref. 4.27, pg 7, para 7 and pg 8, para 1).	None.
24-04	9301 and 3502	Underground piping run below buildings (Ref. 4.27, pg 8, para 2).	These installation are justifiable as a break in either line would not prevent water supplies from reaching the Turbine and Reactor Buildings (Ref. 4.27, pg 8, para 2).	None.
24-05	NRC Staff Position SF.7 5-26-77 Dresden Response 6-22-77	Additional PIVs are required (Ref. 4.27, pg 8, para 3).	Not requiring additional PIV's is justifiable as the existing sectional PIV's could be used to remove this section of pipe from service without blocking flow to any water suppression system in the U-2/3 Turbine and Reactor Buildings (Ref.4.27, pg 8, para 3).	None.
24-06	4101, NRC Staff Position PF.5, PF.26	Hydrants not provided with isolation valves (Ref. 4.27, pg 8, para 5).	Lack of valves are acceptable (Ref. 4.27, pg 9 para 1).	None.
24-07	4201, Appendix A	Hydrant spacing exceeds requirements (Ref. 4.27, pg 9 para 2).	The existing installation is justified as sufficient hose is available to reach all buildings with no hose line exceeding 500 feet in length as required by Paragraph 4201) (Ref. 4.27, pg 9 para 2).	None.
24-08	4204	Hydrant closer than 50 feet from buildings (Ref. 4.27, pg 9 para 3, 4, 5 and pg 10 para 1, 2, and 3).	Existing hydrant s are acceptable (Ref. 4.27, pg 9 para 4 and 5; and pg 10 para 1, 2, and 3)	None.

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TABLE A
NFPA 24 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
24-09	4301 - 4304	Lack of information on installation designs (Ref. 4.27, pg 10 para 4).	As no serious problems have been encountered with the hydrants, the existing installation is considered adequate (Ref. 4.27, pg 10 para 4).	None.
24-10	4305	Barricades protecting hydrants 2-7 not provided (Ref. 4.27, pg 10 para 4).	As noted previously in this report, these hydrants are generally located in U-1 areas and would not be needed for a fire in a U-2/3 area (Ref. 4.27, pg 10 para 4).	None.
24-11	SER Item 3.1.23	Hydrant wrench obstructions on hydrants 1, 22, 23, 24 and 25 (Ref. 4.27, pg 10 para 6 and pg 11, para 1).	Ratchet type wrenches available (Ref. 4.27, pg 10 para 6 and pg 11, para 1).	None.
24-12	5101, 5102, 5201, and 5202	Hose not provided at hydrants 25 and 27 (Ref.4.27, pg 11 para 2).	Hydrant 25 hose cabinet temporarily removed and has been replaced (Ref. 4.19, pg 1.1-14, Item 4.2) Hydrant No. 27 is essentially redundant to No. 2, therefore providing additional hose for this hydrant would not significantly improve fire protection (Ref. 4.27, pg 11 para 2).	DD None.
24-13	52-01, SER 3.1.23	Hose houses in poor repair (Ref. 4.27, pg 11 para 3).	WRD45381 addresses this issue (Ref. 4.19, pg 1.1-14, Item 4.4)	DD
24-14	5501	Hydrants (or hose houses) not marked; 21,22,23,25 &27 (Ref. 4.27, pg 11 para 4).	Marking provided (Ref. 4.19, pg 1.1-14, Item 4.3)	DD

TABLE A
NFPA 24 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
24-15	5601, NRC Staff Position	Hose houses and hose reel cabinets not properly equipped (Ref. 4.27, pg 11 para 5; pg 12; and pg 13 paras 1,2 and 3).	1. Justification provided (Ref. 4.27, pg 12, para 3) 2. Suitable hose will be made available if hose cabinets are damaged, suitable hose eqmt will be made available through the use of portable carts, or hoses from other nearby fire hydrants.... (Ref. 4.19, pg 1.1-14. Item 4.4.2). 3. WRs D45381, D45740 and 46739 addresses this issue.	None.
24-16	NRC Request	Nozzle not designed to operate in modes requested (Ref. 4.27, pg 13 para 4).	Not replacing nozzles is justified as they are used only by properly trained fire brigade personnel (Ref. 4.27, pg 13 para 4).	None.
24-17	6301, 6401 and 6402	No procedure for care and maintenance of hose (Ref. 4.27, pg 13 para 5).	DFPS 4114-05, Rev.0 addresses this issue.	DD
24-18	93-3	No covered pipe trench provided where piping is below railroad tracks (Ref.4.27, pg 14 para 1).	...due to over 5-foot bury depth and infrequent use of these tracks, lack of such trenches is justified (Ref. 4.27, pg 14 para 1).	None.
24-19	9501	No documentation to verify existing pipe joints (Ref. 4.27, pg 14 para 2 and 3).	There is no evidence of excessive leakage in the underground piping. As a result, the existing pipe joints are justified (Ref. 4.27, pg 14, Para 3).	None.

TABLE A
NFPA 24 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
24-20	Section 96	No documentation to verify anchoring of fire mains (Ref. 4.27, pg 14 para 4).	Lack of such documentation is justified as the piping has been in service in excess of 10 years with no serious problems reported (Ref. 4.27, pg 14, Para 4).	None.
24.1-01	SER (3/87) Section 4.3.1.2	Distribution pipe is unlined (Ref. 4.18, pg 3, Sect 2.2; and pg 14, Sect 6.5).	Hydraulic calculations address this issue (Ref. 4.22).	None.
24.1-02	-----	In the original matrix, deviation 24.1-02 was duplicated in this space. As a result, during this update, it was deleted.	-----	-----
24.1-03	Not provided.	Contractor's test certificates are available and have been reviewed for 51 of the water suppression systems. However, no documentation has been located to verify such testing for the remaining 5 systems (Ref. 4.27, pg 15, Sect.6.6).	All systems were installed by Grinnell whose standard practice is to perform hydrostatic testing. The systems have been in operation for fourteen years now with no significant leaks or breaks (Ref. 4.27, Sect 6.6, Pg 15).	None.
24.1-04	-----	In the original matrix, deviation 24.1-02 was duplicated in this space. As a result, during this update, it was deleted.	-----	-----

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TABLE A
NFPA 24 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
24S-01	3601	Deficiencies regarding verification of valve position are identical to those specified in Section 3.3 of this report, namely 1) lack of specific acceptance criterias, and 2) the possibility of sealing a valve without physically verifying that it is open. This item is addressed in the Fire Suppression System Valve Supervision Survey (NFPA 26) by PLC (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 1; and pg 17 Table 3.6-1).	See NFPA 26 code review.	None.
24S-02	3601	NFPA 24 recommends weekly verification of valve position, whereas DFPP 4114-6 requires monthly inspections (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 2; and pg 17 Table 3.6-1).	However, justification exists for monthly inspections as unauthorized valve closures are unlikely for these reasons: 1) Access to areas where these valves are located is restricted to CECO personnel, approved contractors, and escorted visitors, and 2) There is consistent attendance of the plant with on-site guard service to reduce the probability of valve tampering (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 2).	None.
24S-03	None.	No permanent procedure was located to perform a water flow test on the yard system in accordance with Dresden Tech. Spec. 4.12.B.1.e (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 3; and pg 17 Table 3.6-1).	DFPS 4132-08, rev.0 addresses this issue.	None.
24S-04	4102	Performance of DFPP 4125-1 results in the hydrants being operated yearly. However, NFPA 24-1973, Paragraph 4102, recommends operation two times per year (Spring and Fall) (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 4; and pg 17 Table 3.6-1).	DFPP 4125-1, Fire System Annual Flush, is performed in the Fall to flush the hydrants and check for proper drainage. During the Spring, the Station will rely on leak detection systems to detect any underground leakage (Ref. 4.15, pg 1.1-11, Item 4.9).	None.

Deviation No.	Code Section	Deviation	Justification	Recommended Action
26-01	Not identified.	Procedures should identify acceptance criteria indicating valve positions not provided (Ref. 4.28, pg 5, para 2).	Procedures 4114-01, Rev.04; 4114-02, rev.02; 4114-03, rev.02; 4114-06, rev.05 address this issue.	DD
26-02	Paragraph 3-1, NFPA 26	(1) Inspections not conducted weekly. (2) Procedures do not identify need to reseal valves (Ref. 4.28, pg 5, para 3).	(1) Justification exists for monthly inspections for the following reasons: 1) Access to valves is restricted. 2) 24 hr guard service reduces the probability of valve tampering. (Rev. 4.28, pg 5, Para 1, subpart 2). (2)The station chooses to lock valves rather than seal them. (Ref. 4.15, pg 1.1-17, Item 4.1.2).	None.
26-03	Chapter 5, NFPA 26	Failure to conduct 2-inch main drain tests after opening shut valves (Ref. 4.28, pg 6, para 1).	Section 3.0 of the Dresden FPP Self-Assessment (Ref. 4.1) summarized the station's fire protection system maintenance requirements. Based on this summary, the station is not required to comply with NFPA 26.	None.
26-04	Not identified.	Valves noted without seals and valves not on procedure DFPP 4144-6 (Ref. 4.28, pg 6, para 2).	Procedures 4114-01, Rev.04; 4114-02, rev.02; 4114-03, rev.02; 4114-06, rev.05 list all fire protection valves in plant. As per the fire asst. fire marshal and based on a NTSC field sampling of valves, all FP control valves are locked. According to NFPA 26, locks are an acceptable altenaitive to seals.	DD
26-05	Not identified.	Broken lock on valve 3-4199-167 (Ref. 4.28, pg 7, dash 1).	New lock installed (Ref. 4.15, pg 1.1-17,Item 4.3).	DD
26-06	Not identified.	Valve supervision inoperable on the U3 Hydrogen Seal Oil Unit (Ref. 4.28, pg 7, dash 2).	WRD42832 addresses this issue (Ref. 4.15, pg 1.1-17,Item 4.4).	DD
26-07	Not identified.	Non-indicating valve (MO-2/3-4101) installed on U2-3 fire pump discharge (Ref. 4.28, pg 7, dash 3).	An indicating rod was installed per Mod. MO-2/3-4101 (Ref. 4.15, pg 1.1-18, Item 4.5).	DD

TABLE A
NFPA 26 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
26-08	Not identified.	Not all control valves have valve tags installed (Ref.4.28, pg 7, dash 4).	Tags are installed on all valves.	DD
26-09	Chapter 8, NFPA 26	No plant procedure for non-tech spec. areas (Ref. 4.28, pg 7, dash 5).	DATR Rev. 04 sect 3/4.1.3 ensures that compensatory measures for all systems except for outlying bldgs (Boiler Rm, warehouse etc.)	DD
26-10	Tech. Spec. 4.12.B.1.a	Performing a water flow check in lieu of monthly inspections for inaccessible valves.	Justification provided in the following letters: from D Roberts, T Hausheer, G Tietz to E Eenigenburg dtd 8/7/89 and ltr from D Roberts, T Hausheer, P Kuhel to E Eenigenburg dtd 3/27/89. Procedure DFPS 4123-09 performs monthly flow tests on non accessible valves.	None.

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TABLE A
NFPA 27 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
27-01		No deviations (Ref. 4.29).		

TABLE A
NFPA 30 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
30-01	Not identified.	Storage Warehouse: In this warehouse building flammable and combustible liquids are kept in a separate cut-off room which meets most of the requirements of NFPA 30 (Ref. 4.30, pg 5, para 2 and 3).	...it does not expose any safety related areas; therefore, no recommendations have been made concerning this building (Ref. 4.30, pg 5, para 2 and 3).	None.
30-02	NFPA 30	There is no station receiving and storage restriction for combustible liquids (Ref. 4.30, pg 8, para 3).	DAP 16-1, Rev.06 and DAP 3-3, Rev.03 address these issues.	DD
30-03	NFPA 30	Chemical lists needs to be updated to provide more accurate information (Ref. 4.30, pg 8, para 4).	DAP 16-1, Rev.06 and DAP 3-3, Rev.03 address these issues.	DD
30-04	Not identified.	No knowledgeable personnel review chemical prior to plant entry (Ref. 4.30, pg 9, para 1).	DAP 16-1, Rev.06 and DAP 3-3, Rev.03 address these issues.	DD
30-05	Paragraph 5122, NFPA 30	No procedure exists to monitor storage and use in plant areas. Plant survey revealed storage in open plant areas on the Turbine Operating Floor (Ref. 4.30, pg 9, para 1 and 2).	Based on a review, a cabinet will not be provided (Ref. 4.15, pg 1.1-22, Item 4.8)	None.
30-06	Paragraph 4313, NFPA 30	Clean and Dirty Lube Oil Tank Room: Exhaust and air intakes not located within 12 inches of floor (Ref. 4.30, pg 12, para 2).	...the existing installation can be justified as Class III liquids do not require special ventilation (Ref. 4.30, pg 12, para 2).	None.
30-07	Not identified.	Fire barrier deficiencies for the HPCI Pump Rooms and Clean and Dirty Lube Oil Tank Room (Ref. 4.30, pg 10, para 4; pg 11, para 4; and pg 12, para 2).	U2 HPCI door has been replaced (Ref. 4.15, pg 1.1-31, Item 4.1.2.) U2 DG Day Tank Rm Door (#50) and U3 DG Day Tank Rm Door (#132) are acceptable based on justifications for unlisted fire door frame and signs attached to the door (Ref.4.2, Appendix D).	None.
30-08	Section 52, NFPA 30	Fire resistive requirements unclear for several areas (Ref. 4.30, pg 13, para 2; pg 13, para 5; pg 17, para 2 and 5; and pg 18, para 3).	Based on active and passive protection provided, as well as the high flash point of the liquid, the existing configuration is acceptable (Ref. 4.30, pg 13, para 2; pg 13, para 5; pg 17, para 2 and 5; and pg 18, para 3).	None.

TABLE A
NFPA 30 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
30-09	Procedure 5650-3	Procedure 5650-3 references the use of space heaters and temporary enclosures to preheat the EHC fluid (Ref. 4.30, pg 13, para 1).	Procedure DOP 5650-3 has been revised to address this issue (Ref. 4.15, pg 1.1-22, Item 4.7).	DD
30-10	Not identified.	U2 Oil Drum Storage Room: Nonstandard fire door (Ref. 4.30, pg 15, dash 1).	...because of the fixed suppression system, ramped access and limited exposure to important equipment, door replacement is not justified (Ref. 4.30, pg 15, dash 1).	None.
30-11	Not identified.	U2 Oil Drum Storage Room: Electrical equipment is not approved for Class 1, Division 2 operations (Ref. 4.30, pg 15, dash 1; and pg 16, para 1).	Based on the fact that the quantity of Class I liquid is small and the quantity of flammable liquids stored is close to that specified by NFPA 30 for unprotected areas, this is acceptable (Ref. 4.30, pg 16, para 1).	None.
30-12	Not identified.	U2 Oil Drum Storage Room: No ventilation system provided (Ref. 4.30, pg 15, dash 3).	...this is justified as no dispensing operations take place within this room (Ref. 4.30, pg 15, dash 3).	None.
30-13	Not identified.	U2 Oil Drum Storage Room: No bonding or grounding wires provided (Ref. 4.30, pg 15, dash 4).	...this is justifiable as these liquids are not dispensed in this room (Ref. 4.30, pg 15, dash 4).	None.
30-14	Paragraph 4311, NFPA 30	U2 Oil Drum Storage Room: Room size exceeds 500 ft2 limit (Ref. 4.30, pg 15, dash 5; and pg 16 para 3).	The excessive size of this room can be justified based on the room being of fire resistive construction, sprinkler protection installed and that most of the liquid in the room is Class III liquid (Ref. 4.30, pg 16 para 3)	None.
30-15	DAP 3-11	Procedure DAP 3-11 not enforced (Ref. 4.30, pg 16 para 2).	DAP 3-11 is now enforced.	DD
30-16	Not identified.	Curbs and adequate drainage not provided for Hydrogen Seal Oil Units (Ref. 4.30, pg 17 para 4).	Mod M12-2/3-85-68 addresses this issue. (Ref. 4.15, 1.1-21, Item 4.4).	DD

TABLE A
NFPA 30 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
30-17	Paragraph 2343, NFPA 30	Heat-actuated shut-off valve not provided for the DG Cell Day Tank Rooms (Ref. 4.30, pg 18 para 5).	However, this position is overridden by concern for the possible spurious operation of such a valve, as fuel for the DG unit could be cut off by such operation. It is desired that the DG units be able to operate even if a fire occurs due to the overriding concern for safe shutdown (Ref. 4.30, pg 18 para 5).	None.
30-18	Appendix A, Section F-10	Unprotected steel in the U2 day tank room (Ref. 4.30, pg 19, dash 2).	The unprotected beam is in a room with sprinkler protection.... (Ref. 4.15, pg1.1-21, Item 4.5).	None.
30-19	Not identified.	Deficiencies in Day Tank Room wall penetration (Ref.4.30 pg 19, dash 1 and 3):	Each of the day tank rooms communicates only with its associated DG cell. As these DG cells are cut off from remaining plant areas by 3-hour barriers, justification exists for not requiring the deficiencies in wall penetration to be corrected (Ref. 4.30, pg 19, dash 1 and 3).	None.
30-20	Paragraphs 5130 and 5291, NFPA 30	No drainage from diked area in this U1 Cribhouse (Ref. 4.30, pg 20, para 3).	...this can be justified as the diked area will contain three times the tank capacity (Ref. 4.30, pg 20, para 3).	None.
30-21	Not identified.	U1 and U2/3 Cribhouse: No fire resistive enclosure (Ref. 4.30, pg 20, para 3; and pg 21).	Not requiring an enclosure of suitable fire resistance can be justified due to the fixed fire suppression system provided (Ref. 4.30, pg 20, para 3; and pg 21).	None.
30-22	Not identified.	U1 and U2/3 Cribhouse: Tank venting arrangement is not standard as the ventilate should terminate outside (Ref. 4.30, pg 20, para 4; and pg 21 para 3).	The present arrangement can be justified due to fire-resistive construction and the installed sprinkler protection (Ref. 4.30, pg 20, para 4; and pg 21 para 3).	None.
30-23	Paragraph 2343, NFPA 30	No automatic closing heat actuated valve provided (Ref. 4.30, pg 20, para 5; and pg 21 para 4).	...this omission is justified due to the relatively small tank size, fixed suppression provided, and redundancy of fire pumps (Ref. 4.30, pg 20, para 5; and pg 21 para 4).	None.
30-24	Paragraphs 5130 and 5241, NFPA 30	U2/3 Cribhouse: No curbing or drainage provided (Ref. 4.30, pg 21, para 2).	Mod M12-2/3-84-7 addresses this issue(Ref. 4.25, pg1.1-22, Item 4.6).	DD

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TABLE A
NFPA 49 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
None		No deviations (Ref. 4.30).		

TABLE A
NFPA 50A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
50-02	Paragraph 413 and 451, NFPA 50A	Bulk Hydrogen Storage Systems: Hydrogen signs not visible (Ref. 4.31, pg 8, para 3).	Signs provided (Ref. 4.15, pg 1.1-23, Item 4.1)	DD
50-03	Paragraph 512, NFPA 50A, "Gaseous Hydrogen Systems"	Bulk Hydrogen Storage Systems: Hydrogen systems not above ground (Ref. 4.31, pg 8, para 5).	<p>The current hydrogen storage system at the site is a liquified hydrogen storage system. The older gaseous hydrogen equipment is still on-site, but is not in service at this time.</p> <p>NFPA 50A does not apply. NFPA 50B, which governs Liquified Hydrogen Systems, has no such requirement. In addition, since hydrogen supply piping is routed above ground before it enters the building, any leaks would not be carried into the building, and the below ground piping installation could be justified, even for a gaseous hydrogen system (Ref. 4.31, pg 8, para 5).</p>	DD.
50-04	Paragraph 513, NFPA 50A	Bulk Hydrogen Storage Systems: Hydrogen systems below power lines (Ref. 4.31, pg 8, para 6).	As per NTSC walkdown, this system has been removed. A portable system is now installed away from power lines.	DD
50-05	Not identified.	Bulk Hydrogen Storage Systems: Electrical equipment not listed for Class I, Group B operation (Ref. 4.31, pg 9, para 2).	However, the existing installation can be justified as Class I, Group C equipment is installed, the outdoor installation should dissipate flammable mixtures quickly, and the tanks do not expose any areas necessary for safe shutdown (Ref. 4.31, pg 9, para 2).	None.
50-06	Paragraph 446, NFPA 50A	No procedure requiring electrical bonding (Ref. 4.31, pg 9, para 3).	The Air Products Co. procedure already provides for grounding of the trailer prior to unloading (Ref. 4.15, pg 1.1-23, Item 4.4).	DD

TABLE A
NFPA 50B Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
50-01	Paragraph 463, NFPA 50B	Bulk Hydrogen Storage Systems: Vehicular barriers will be needed (Ref. 4.31, pg 8, para 2).	Barriers provided (Ref. 4.15, pg 1.1-23, Item 4.2).	DD
50-02	Paragraph 515, NFPA 50B	Bulk Hydrogen Storage Systems: Hydrogen signs not visible (Ref. 4.31, pg 8, para 3).	Signs provided (Ref. 4.15, pg 1.1-23, Item 4.1)	DD
50-06	Paragraph 74, NFPA 50B	No procedure requiring electrical bonding (Ref. 4.31, pg 9, para 3).	The Air Products Co. procedure already provides for grounding of the trailer prior to unloading (Ref. 4.15, pg 1.1-23, Item 4.4).	DD
50-07	NFPA 50B	Bulk Hydrogen Storage System: Hydrogen facility is not above ground level (Ref. 4.31, pg 9, para 4).	Since the fuel oil tank on the west side is diked, this should not present a problem (Ref. 4.31, pg 9, para 4). In addition, this equipment is not in service at this time.	None.

TABLE A
NFPA 51 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
None		None (Ref. 4.32)		None

TABLE A
NFPA 51B Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
51-01	Not identified.	Persons issuing hot work permits are not receiving training (Ref. 4.32, pg 5, dash 1).	NGET and DAP 3-2 address this issue (Ref.4.15, pg 1.1-25,Item 4.2)	DD
51-02	Not identified.	Procedure DMP 4100-1: "Item B, References, does not include NFPA 51B" (Ref. 4.32, pg 5, dash 2).	DAP 3-2, Rev.03 replaced DMP 4100-1. It references NFPA 51B.	DD
51-03	Not identified.	Procedure DMP 4100-1: Precautions, does not include ducts or removal of combustibles (Ref. 4.32, pg 5, dash 3).	DAP 3-2, Rev.03 addresses this issue.	DD
51-04	Not identified.	Procedure DMP 4100-1: Required minimum distance to combustibles is not specified (Ref. 4.32, pg 5, dash 4).	DAP 3-2, Rev.03 addresses this issue.	DD
51-05	Not identified.	Procedure DMP 4100-1: Requirements not specified for combustibles behind noncombustible walls (Ref. 4.32, pg 5, dash 4).	However, this omission can be justified as all walls in safety related areas are of masonry construction (Ref. 4.32, pg 5, dash 4).	None.
51-06	Paragraph 412, NFPA 51B	Procedure DMP 4100-1: No requirement to check that sprinkler systems are operable (Ref. 4.32, pg 6, dash 1).	DAP 3-2, Rev.03 addresses this issue.	DD
51-07	Paragraph 434, NFPA 51B	Procedure DMP 4100-1: Lack of continuous fire watch for 30 minutes (Ref. 4.32, pg 6, dash 2).	DAP 3-2, Rev.03 addresses this issue.	DD
51-08	Not identified.	Procedure DMP 4100-1: No permit expiration date specified (Ref. 4.32, pg 6, dash 3).	DAP 3-2, Rev.03 addresses this issue.	DD
51-09	Not identified.	Form S6-5186: Forms are ambiguous (Ref. 4.32, pg 6, last para).	DAP 3-2, Rev.03 addresses this issue.	DD

TABLE A
NFPA 69 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
50-08	Paragraph 3722, NFPA 69	Battery Room: No procedure for loss of ventilation (Ref. 4.31, pg 9, para 5).	Dresden Annunciator Procedures (DANs) XL3 52-29, 52-30, 62-29, 62-30(all Rev.0) address this issue.	DD
50-09	NRC Staff Position No.14, March 10, 1977	Exhaust ducts not routed outside (Ref.4.31, pg 10, para 1).	However, due to continuous air flow monitoring and the existence of calculations showing the time necessary to reach the lower explosive limit in the event of ventilation system failure, periodic air sampling is not necessary (Ref. 4.31, pg 9, para 6).	None.
50-10	Paragraph 3742	Battery Room: No procedure for periodic maintenance and recalibration of airflow meters (Ref. 4.31, pg 9, para 7).	The following U2/3 air flow switches are shown on drawing M-973 (Ref. 4.56): 3-5786-102 (U3 Battery Rm, el 538') 3-5786-103 (U3 Battery Rm, el 551') 2-5786-100 (U2 125V Battery Rm) 2-5786-101 (U2 250V Battery Rm) The two year Station Preventive Maintenance Surveillance for these devices call for calibration checks per vendor manuals. Recent work requests (Ref. 4.56) validate that this activity is being performed.	None.
50-11	NRC Staff Position No. 14, March 10, 1977	Exhaust ducts not routed outside (Ref.4.31, pg 10, para 1).	Adequate dilution is provided where the exhaust discharges into the TB (Ref. 4.15, pg 1.1-24, Item 4.6).	None.

TABLE A
NFPA 70 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
70-01		No deviations (Ref. 4.33).		

TABLE A
NFPA 72D Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72D-01	1321	Paragraphs 1112 and 1131 do not apply in this case. The Mux security panels are connected in a loop circuit to the CPU. The loop will still be operational under a single ground or open circuit. However, the Signaling Line Circuits (SLC) from the Mux panel to the Fire Control Unit appears to not have this capability based on the information provided to date. The NRC has also imposed these conditions on circuits installed to actuate fire suppression systems. The actuating device circuits at Dresden (deluge valve solenoids) are supervised (Class B), but are not operable during a single ground or open circuit condition (Class A). Browns Ferry was required by the NRC to upgrade these circuits for Class A operation (Ref. 4.34, pg 12 and pg 46).	Dresden has not committed to or required by the NRC to provide Class A supervision. Style C circuits (Class B) are installed. Initiation of local alarm signals is not supervised; however, these circuits are not essential to the receipt of signals at the central station (Ref. 4.35, Sect 2 -7.1 and Table 3-9.1).	None.
72D-02	1322	The water flow switch circuit arrangement shown on ASCO DRWG PE-497-2 is not capable of operating during a single ground fault or open circuit on the initiating device circuit. Paragraph 1323 is not applicable (Ref. 4.34, pg 12).	This circuit configuration is a Class B arrangement and is acceptable. A Class A circuit configuration would allow the circuit to continue to function under an open circuit or ground condition; however, Dresden has made no commitment to install Class A circuits. If a open or ground occurs, a trouble signal will be received at the XL3 panel (NTSC).	None.
72D-03	2022	The NRC is the authority having jurisdiction. They require that equipment be listed or labeled by a nationally recognized testing laboratory for the services for which it is used. The fire alarm system and fire control units are not listed for NFPA 72D service. The existing system is a customized assembly (Ref. 4.34, pg 13).	All new equipment (XL3 System) is UL listed for their intended service; however, a few devices (e.g., door switches) wired to the addressable interface modules are not listed for fire service but are designed to produce a trouble signal upon failure. In addition, there are still some unlisted local control panels remaining. The functional importance of these panels is minimal. Ltr 2/13/86 (Ref. 4.35, Sect 2-2.2).	None.

TABLE A
NFPA 72D Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72D-04	2035	The Dresden fire alarm system is combined with the security signaling system. The security signaling system could be considered a system for protection of life and property (the majority of existing nuclear stations today have independent dedicated fire alarm systems) (Ref. 4.34, pg 13).	The security panel is no longer used for U2/3 fire alarm signal monitoring. As per field verification, U2/3 fire alarm signals are being monitored by a UL listed fire alarm panel (XL3 System).(NTSC)	DD
72D-05	2224	This requirement is under the category for power supplies, Central Supervision Station (CSS). The main power supply at Dresden provides operation of trouble signals in the CSS based on available information (Ref. 4.34, pg 14).	The CSS is no longer used for U2/3. Power to the XL3 system is described in Section 2-6 of the NFPA 72D Review. Deviations are discussed in this section(Ref. 4.35, Sect 2-6).	DD.
72D-06.1	2230 and 2231	The CSS and Mux panels are supplied by the dedicated security diesel with 125VDC battery back-up as a secondary supply. This is according to FHA and conversations with CECo and the local fire control units do not have a secondary or trouble power supply. This is the reason the Security computer receives an overload of fire alarm trouble signals on any loss of main power to the local panel (Ref. 4.34, pg 14).	The CSS is no longer used for U2/3. Power to the XL3 system is described in Section 2-6 of the NFPA 72D Review. Deviations are discussed in this section(Ref. 4.35, Sect 2-6).	DD.
72D-06.2	2431	Manual pull stations used for actuation of fixed suppression systems are arranged such that an open circuit or ground fault would go undetected (Unsupervised circuits). (eg. See ASCO DRWGS PE-497-1 and PE-497-17). Items (a), (b), and (c) are not applicable (Ref. 4.34, pg 15).	The manual pull stations utilized to actuate deluge sprinkler, open-head water spray, pre-action, carbon dioxide and Halon 1301 fire suppression systems are not fire alarm "initiating devices" or "signaling circuits". The manual pull stations used for actuation of fire suppression systems are arranged in accordance with NFPA 12, 12A, 13 or 15 which do not require supervision of these circuits. There is no code violation. See the Technical Justification in Attachment I of this report.	DD.

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72D-07	2441	Local fire alarm bells are not supervised. A single ground fault or open circuit would go undetected (eg. ASCO DRWG PE-497-4) (Ref. 4.34, pg 15).	NFPA 72 D does not require local alarms; however, Dresden committed to providing local alarms in their response to the BTP 9.5-1, Appendix A, Sect E.1(b) . (Appendix A recommended the use of local alarms). As a result, the requirements of NFPA 72A must be met. NFPA 72A requires indicating circuits to be supervised. The alarm system provides unsupervised local audibles via existing local control panels except in the areas protected by CO2 and Halon. These areas have supervised indicating circuits. Unsupervised circuits decrease the reliability of the providing a local alarm. However, since a P.A. system is available and procedurally (XL3 DANS) set up to provide evacuation notification when a fire alarm is received in the control room, the existing level of alarm circuit reliability is adequate (Ref. 4.35, pg 19, Para 4-2.3).	None.
72D-08	2521	Local alarm bells and trouble horns are listed by U.L. However, it is uncertain that audible signals in the CSS and Control Room are listed since the security systems is not listed. Insufficient information has been provided for this conclusion (Ref. 4.34, pg 16).	See Justifications for 72D-03.	None.
72D-09	2541	The fire alarm system is not intended for total evacuation of the plant, only of the immediate fire area. A justification stating the plant's position should be documented (Ref. 4.341, pg 16).	Fire alarms are received in the control room. The alarms indicate the location of concern to the control room operators. The operators notify station personnel of the condition via the P.A. system and address the alarm condition accordingly with the assistance of written emergency response procedures - XL3 DANS (NTSC).	None.

TABLE A
NFPA 72D Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72D-10	2551(b) and (c)	(b) Status of this item is uncertain at this time because of lack of available design data. (c) This means precedence over all signals on the fire alarm signaling system (eg. security). The fire alarm system is connected to and operated by the security department. Alarm signals are transmitted to the control room where they are monitored. Conversations with CECO personnel indicates software changes to the security CPU which may jeopardize fire alarm precedence (Ref. 4.34, pg 17).	(b) Addressed (Ref.2, Sect.4-3.1 and 4-4.1(b) and 4-4.1(c)). (c) Security system is no longer used to monitor the fire alarm system. An XL3 system has been installed to monitor fire protection alarms.	(b) DD (c) DD
72D-11	2630 and 1244	Insufficient information is available to draw any conclusions regarding the interface of the local fire control units and the Mux system (Ref. 4.34, pg 17).	Addressed (Ref. 4.35, Sect.4-5.3)	DD
72D-12	3113	There is no manual fire alarm service as intended in this Section at Dresden Station. Documentation reviewed shows only manual pull stations associated with the actuation of fire suppression systems. These pull stations are similar in design to manual fire alarm boxes and could be easily confused. All pull stations are not located adjacent to the suppression system and are not clearly identified as to their function unmarked. This could lead to the inadvertent operation of the suppression system (Ref. 4.34, pg 18).	Although the station does not comply with this item, however, PLC agrees that the extensive plant communication system provides an equivalent service since through administrative procedures, personnel are trained to use this system in case of fire (Ref. 4.34, pg 18). Remotely located manual pull stations are labeled (Ref. 4.1, Section 3.1).	None. DD
72D-13	3431	A number of water suppression systems were found without water flow devices. See PLC Fire Suppression Survey (Ref. 4.34, pg 19).	Sprinkler system water flow switches are provided and monitored (Ref. 4.35, Sect.3-6.3).	DD

TABLE A
NFPA 72D Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72D-14	3330 and 3520	See Sections 4 and 5 and Appendix A report for details on deviations from NFPA 72E (Ref. 4.34, pg 19).	See NFPA 72E Matrix.	None.
72D-15	2-2.2	A few devices wired to the Pyrotronics addressable module interfaces (e.g., time delay relays for door switches on areas having gaseous suppression) are unlisted (Ref. 4.35, pg 6).	These devices are designed to produce a trouble signal upon failure. The functional importance of existing unlisted equipment (most control panels) was minimized or eliminated. See letter dated 2/13/86 (Ref. 4.35, pg 6).	None.
72D-16	2-7.1	Detection loops, actuation circuits from SPX modules, indicating circuits from SPX modules, indicating circuits to the Control Room and the dry contact connections to the addressable interface (TRX-1) modules are supervised for opens and grounds. "Initiation of local alarm signals is not supervised (Ref. 4.35, pg 10).	The local alarm signal circuits are not essential to the receipt of signals at the central station (Ref. 4.35, pg 10).	None.
72D-17	3-9.1	Door switches and air flow monitors are combined systems (Ref. 4.35, pg 16 and 18).	They are monitored via TRX modules so they cannot interfere (Ref. 4.35, pg 16 and 18).	None.
72D-18	3-9.1	A single detection loop may have more than one existing panel monitored via TRX modules (Ref. 4.35, pg 16 and 18).	Since each panel is monitored by a single addressable TRX module, this is acceptable (Ref. 4.35, pg 16 and 18).	None.
72D-19	4-2.3	The indication of location shall utilize indicating appliances acceptable to the AHJ. NRC requires local audible signals. System provides unsupervised local audible via existing panels and bells (Ref. 4.35, pg 19).	The dispatching of roaming operators with hand-held radios and fire brigade members to all alarms supplements and thus reduces the need for local audible alarms. Additionally, the P.A. system is available and procedurally set up to provide evacuation notification. Therefore, unsupervised local audible alarms without secondary power is acceptable. "It is desired to have local audible in Halon and CO2 protected areas for personnel safety reasons. These meet the NFPA 72A (Ref. 4.35, pg 19).	None.

TABLE A
NFPA 72D Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72DS-01	Not provided.	DFPP 4185-2 does not include a comment section for the inspector to note any unusual problems encountered during the inspection (Ref. 4.36, pg 3, para 1, subpart 1).	DFPP 4185-2, "Smoke Detector Semi-Annual Maintenance Test" has been deleted. DFPS 4183-03, Rev.01; DFPS 4183-04, Rev.01; and DFPS 4183-05, Rev.02 replace DFPP 4185-2. These procedures do not have comment sections; however, these procedures require that the Shift Engineer and the Fire Marshal address of any potential problems.	DD.
72DS-02	Not provided.	DFPP 4185-2 does not include surveillance of detectors in the following areas. U-2 & U-3 Turbine Lube Oil Reservoirs water spray systems U-2 & U-3 H2 Seal Oil Units water spray systems U-2 & U-3 Turbine Bearing Lift Pump water spray systems All outside transformer water spray systems (Ref. 4.36, pg 3, para 1, subpart 2; and pg 4, Table 3.0-1, Item 9).	As per the station fire marshal, all non-restorable heat detectors have been replaced with restorable heat detectors. Further evidence that they were replaced with restorable detectors is in test procedures DFPS 4183-1, Rev.0; DFPS 4183-2, Rev.0, and DFPS 4183-08, Rev.0.	DD.
72DS-03	1232.b	Test of transmitters every two months as required by Paragraph 1232.b of NFPA 72D-1975 (Ref.4.36, pg 3, para 1, subpart 3; and pg 4, Table 3.0-1, Item 1).	The XL3 system addressable interface modules(e.g. TRXs and TRIs) transmit the signals to the head end panel. These transmitters are tested semi annually, not every two months. The station did not commit to maintaining the fire alarm in accordance with NFPA 72D, therefore, semi-annual testing is acceptable (Ref. 4.1, Section 3.1).	None.
72DS-04	1232.c	A semi-annual test of miscellaneous sprinkler supervisor devices, such as air supervision to preaction sprinkler systems, as required by Paragraph 1232.c of NFPA 72D-1975 (Ref. 4.36, pg 3, para 1, subpart 3; and pg 4, Table 3.0-1, Item 3).	Procedure DFPS 4133-01, Rev.01 addresses this issue.	DD

TABLE A
NFPA 72D Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72DS-05	None.	Semi-annual test of the supervised circuits to detectors (Ref. 4.36, pg 5, para 1, subpart 3; and pg 4, Table 3.0-1, Item 5).	NTSC determined this is not required by NFPA 72D. It was only recommended as good engineering practice. No action required.	DD
72DS-06	None.	A test of non-supervised detector alarm circuits every 31 days. This is also considered good engineering practice (Ref. 4.363, pg 5, para 1, subpart 3; and pg 4, Table 3.0-1, Item 6).	NTSC determined this is not a NFPA 72D requirement. It was only recommended as good engineering practice. No action required.	DD

TABLE A
NFPA 72E Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72E-01	Not provided.	The existing detectors in the diesel generator room are listed by U.L. (Fire Protection Equipment Directory Page 171) for 25 ft spacing on a smooth ceiling and 12.5 ft maximum spacing to a wall or partition. The existing detectors in the diesel room are installed too far from each wall and cover too much area for the type of service for which they are listed (Ref. 4.34, pg 21, Sect 4.1.2).	Mod M12-3-84-109 addresses this issue (Ref. 4.23, Item 4.1.1).	DD.
72E-02	Not provided.	The U2 and U3 MCC (EL 517'-6") ionization detectors under a sheet metal canopy located above an MCC, does not meet the requirements of NFPA 72E-1974 which call for smoke detectors to be located at ceiling level (Ref. 4.34, pg 23, Sect 4.1.3).	Mod M12-2-84-109 and M12-3-84-109 addresses this issue (Ref. 4.23, Item 4.1.3).	DD.
72E-03	Not provided.	No Detection in the New Fuel Area (Ref. 4.34, pg 26, Sect 4.1.7).	Technical justification provided via two letters to the NRR dated 2/25/80 and 12/5/85. See FPPDP (Ref. 4.23, pg 2, Item 4.1.7).	None.
72E-04	Not provided.	The AEER Room fire detection system is not in compliance with NFPA 72E-1974 for a beam construction ceiling (Ref. 4.34, pg 28, Sect 4.2.1).	Mod. M12-2-84-109 addresses this issue (Ref. 4.23, pg 2, Item 4.2.1).	DD.

TABLE A
NFPA 72E Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72E-05	Not provided.	<p>The Cable Conc. Area (Mezzanine El.538') preaction system is actuated by the smoke detectors transmitting a signal to the preaction valve. The circuitry for this arrangement is detailed on ASCO DRWG PE-497-17. This drawing indicates that a timer circuit is installed in the logic actuate the preaction system. The timing sequence of this timer is uncertain. It is assumed through the ASCO drawing that the timer is used to delay water into the system. This arrangement is nonstandard and unwarranted (Ref. 4.34, pg 31, Sect 4.2.4).</p>	<p>Based on a review of drawing 12E-6580B, Rev. L, dated 10/6/98, the system is equipped with a solenoid that allows water to flow through the by-pass. This solenoid is controlled from a local panel.</p> <p>The actuation of the deluge valves are completely independent of the bypass solenoid.</p> <p>When any one of the detectors 2-4135 401 through 415 detect fire or TRX-1#2-4135-426 is actuated, after 10 seconds SPX-1-04 Output #3 energizes the deluge valve at Valve 2-4199-142B to arm the pre-action system protecting the East Side Mezzanine Floor Cable Tray Panel 2202-56A.</p> <p>When any one of the detectors 2-4132-701 through 716 detect fire or TRX-1#2-4132-730 is actuated, after 10 seconds, SPX-1-04 Output #2 energizes the deluge valve at valve 2-4199-142A to arm the pre-action system protecting the West Side Mezzanine Floor Cable Tray Panel 2202-56B.</p> <p>Failure of the by-pass solenoid will not prevent the actuation of the deluge valve. In addition, a 10-second delay will not have a significant effect on the system's ability to control a fire (Ref. 4.1 , Section 3.1).</p>	DD.

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TABLE A
NFPA 72E Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72E-06	Not provided.	The Cable Conc. Area (Mezzanine El. 538') detection system arrangement is not as specified in NFPA 72E-1974 and the detection should be extended over MCC 28-2. (Ref. 4.34, pg 31, Sect 4.2.4).	The fire detection system has been accepted by the NRC in this configuration to activate the preaction water spray system in the cable trays (Ref. 4.34, pg 31, Sect 4.2.4). Mod. M12-2-84-109 addresses extension of detectors (Ref. 4.23, pg 2, Item 4.2.4).	None. DD
72E-07	Not provided.	There is no fire detection in consoles and cabinets in the operator's area in the Control Room (Ref. 4.34, pg 32 and 33, Sect 4.2.5).	The existing configuration is acceptable based all but two of the consoles and cabinets are open or vented thus allowing smoke to be detected by the ceiling system. Plant operators are in attendance continuously and a fire in the enclosed cabinets would be quickly identified (Ref.4.34, pg 32 and 33, Sect 4.2.5).	None.
72E-08	Not provided.	The Station Battery Room (U2 El. 549') detection system installation does not comply with NFPA 72E-1974 for beam construction ceilings or detectors located in sidewalls (Ref.4.34, pg 34, Sect 4.2.6).	Mod. M12-2-84-109 addresses extension of detectors (Ref. 4.23, pg 2, Item 4.2.6).	DD
72E-09	Not provided.	The fire detection placement in the cable tunnel complies with NFPA 72E-1974 location and spacing requirements except for detector 8941-222 near column line (Col. 45) located 5 ft. from the ceiling (Ref. 4.34, pg 35, Sect 4.3.1).	Mod. M12-2-84-109 addresses extension of detectors (Ref. 4.23, pg 2, Item 4.3.1).	DD

TABLE A
NFPA 72E Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72E-10	Not provided.	1) The installation of the fire detectors in the Unit 2 DG Room does not comply with NFPA 72E-1974. The three detectors are not mounted on the ceiling. They are mounted on the lower flanges of beams in the room. 2) The existing detectors are 225.F detectors listed by U.L. for 25 foot spacing on a smooth ceiling and 12.5 ft maximum spacing to a wall or partition. The existing detectors are installed too far from each wall for which they are listed (Ref. 4.34, pg 36, Sect 4.3.2).	The existing detector installation will achieve its objective based on the environmental variables (Ref. 4.34, pg 37 and 38).	None.
72E-11	Not provided.	Detector No. 8941-18 (U2 480V Swtgr and MCC El. 517'-6") is located just above MCC 29-2 several feet from the ceiling (Ref. 4.34, pg 39, Sect 4.3.3).	Mod. M12-2-84-109 addresses extension of detectors (Ref. 4.23, pg 2, Item 4.3.3).	DD
72E-12	Not provided.	One beam pocket between Col. 55-56 in U3-4KV switchgear & MCC area, El. 538', lacks detectors. Detectors are spaced too far (approximately 18 ft) from column line 53 (Ref. 4.34, pg 41, Sect 4.3.6).	Mod. M12-2-84-109 addresses extension of detectors (Ref. 4.23, pg 2, Item 4.3.6).	DD
72E-13	Not provided.	The U3 MCC 38-2 El. 538', fire detection system is not installed to provide modification of a fire exposure to the MCC's (Ref. 4.34, pg 42, Sect 4.3.7).	Mod. M12-2-84-109 addresses extension of detectors (Ref. 4.23, pg 2, Item 4.3.7).	DD

TABLE A
NFPA 72E Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
72E-14	Not provided.	The fire detector located immediately adjacent to the air supply ventilate on the north wall near Col. 32 (U2 480V Swigr & MCC El. 517'-6") will not be effective due to the strong air flow patterns in the area (Ref. 4.34, pg 39, Sect 4.3.3).	Mod. M12-2-84-109 addresses extension of detectors (Ref. 4.23, pg 2, Item 4.3.3).	DD
72ES-01	7-4.1	A periodic check of smoke detectors to clean, inspect, and adjust the sensitivity of the device as required by Paragraph 7-4.1 of NFPA 72E-1974. Most detector manufacturers require the sensitivity check to be conducted annually (Ref. 4.36, pg 5, para 1, subpart 3; and pg 8, Table 3.01, Item 8).	Procedure DFPS 4185-03, Rev.0 addresses this issue.	DD
72ES-02	7-3.1.1	Paragraph 7-3.1.1 of NFPA 72E-1974 requires non-restorable detectors to be sample tested. After the fifteenth year in service, and at 5-year intervals thereafter, at least 2% of all non-restorable detectors should be removed and submitted to a testing laboratory (such as UL, Inc.) for testing. Removed detectors shall be replaced with new detectors. Test failure may result in the submittal of additional detectors for testing (Ref. 4.36, pg 5, para 1, subpart 4; and pg 8, Table 3.01, Item 9).	As per the station fire marshal, all non-testable, non-restorable heat detectors have been replaced with restorable heat detectors. Furthure evidence that they were replaced with resorable detectors is in test procedures DFPS 4183-1, Rev.0; DFPS 4183-2, Rev.0, and DFPS 4183-08, Rev.0.	DD

TABLE A
NFPA 78 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
78-01	Section 24, NFPA 78	Several ground cable connections have pulled loose from the ventilation chimney north of the Unit 2/3 Radwaste Building (Ref. 4.37, pg 3, para 1).	WR D56407 repaired loose connections (Ref. 4.15, pg 1.1-30, Item 4.1). Procedure DFPP 4174-10 and DAP 11-2 address this issue (Ref. 4.15, pg 1.1-30, Item 4.2).	DD
78-02	Section 2142, NFPA 78	No down conductors are installed on the roof and upper most floors of the Unit 2 and Unit 3 Reactor and Turbine Buildings (Ref. 4.37, pg 3, para 3).	As per the R.H. Johnson letter dated 3/13/87 the existing lightning protection is sufficient (Ref. 4.15, pg 1.1-30, Item 4.3).	DD
78-03	Section 3120, NFPA 78	Portions of the lower Unit 2 and Unit 3 Reactor Buildings lie outside of the protected area (Ref. 4.37, pg 4, para 1).	As per the R.H. Johnson letter dated 3/13/87 the existing lightning protection is sufficient (Ref. 4.15, pg 1.1-30, Item 4.3)	DD

TABLE A
NFPA 80 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
80-01	1.6.1 and 10.2.3	No U.L. label for the bullet proof Control Room doors (numbers 28, 30, U1-36 and U1-39) (Ref. 4.38, pg 6, Sect 3.1.1).	See Justification 1 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2).	None.
80-02	1.6.1 and 10.2.3	No U.L. label for the Diesel Generator 2/3 Room Entrance Door (Number 137) (Ref. 4.38, pg 6, Sect 3.1.2).	See Justification 2 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2).	None.
80-03	Various	Various deviations to be resolved by maintenance (Ref. 4.2, Appendix G).	See Appendix G, Updated November 30, 1999, contained in Attachment 2 of this report.	Resolve eight remaining open issues listed in Appendix G.
80-04	2-5.1	Of the single and double swinging doors observed at Dresden, seven have listed door frames (Door number 8, 39, 80, 81, 82, 83 and 168) with labels attached. The remaining frames appear to have been fabricated at the site (Ref. 4.38, pg 7, Sect 3.3).	See Justification 3 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2).	None.
80-05	2-5.4	Of the swinging doors observed, ten doors (Numbers 14, 50, 70, 76,82, 117, 129, 132, 140 and 168) were found to meet the required maximum limits of Paragraph 2-5.4. The remaining swinging doors deviate from NFPA 80 (Ref. 4.38, pg 7, Sect 3.4).	See Justifications 4 and 5 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2).	None.
80-06	2-8.2, 2-8.7 10.1.2	Specific doors do not meet lock and latch requirements.	See Justification 6 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2). Doors 70 and 73 are not provided with strike plates. Since the door frame is a channel frame this condition is acceptable (NFPA 80-1983, paragraph 2-8.2.8, Exception).	None.

TABLE A
NFPA 80 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
80-07	2-8 and 9.1	Alteration of fire doors exist at Dresden. These alterations fall into the following principal categories: 1) Damage 2) Repairs 3) Additional of extra hardware, signs, etc. 4) Deletion of extra hardware, etc., leaving small holes or voids in the door surface (Ref. 4.38, pg 9, Sect 3.9).	See Justification 7 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2).	None.
80-08	Chapter 4	Comparing the requirements of Chapter 4 with the actual door installations, the doors were found to meet the code except for the conditions discussed. These conditions are also acceptable (Ref. 4.38, pg 9, Sect 3.10).	See Justifications 8 through 14 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2).	None.
80-09	Chapter 6	Dresden has installed four roll-up steel fire doors (Numbers 17A, 57, 95A and 1005). In general, the doors appear to be in good condition; however, they were not operating during the survey. These doors were installed in accordance with NFPA 80, except for lack of fusible links for rolling doors (Ref. 4.38, pg 9, Sect 3.11).	See Justifications 15 and 16 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.2).	None.
80-10	Section 2-8.2, NFPA 80	Coordinating devices are not provided on doors 20, 28, 30, U1-36 and U1-39 (Ref. 4.38, pg 8, Sect 3.7).	The lack of this device is acceptable since the inactive leaf of each door are normally closed and bolted (Ref. 4.38, pg 8, Sect 3.7).	None.
80 - 11	Not identified	There is no fusible link at the ceiling to activate the door closing mechanism for Doors 12 and 46 to the Clean and Dirty Oil Room.	See Technical Justification dated February 9, 1999 contained on Page 17.4-1 of the FPPDP (Ref. 4.9).	None

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TABLE A
NFPA 80 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
80-12	6-6.2	There are no fusible links at the ceiling on the Turbine Building side of the fire wall to activate the door closing mechanism for Fire Doors 17A and 95A on the Unit 2 and Unit 3 Diesel Generator Rooms.	<p>Fusible links are installed near the ceiling on the inside of the Diesel Generator Rooms to provide automatic closing of the fire doors in accordance with NFPA 80, Section 6-5.1 in the event of a fire inside the Diesel Generator Rooms. The heat generated by an oil fire in one of the Diesel Generator Rooms would be significant and would melt the fusible link near the ceiling rapidly, achieving prompt closure.</p> <p>In the event of a fire outside the Diesel Generator Rooms, the Diesel Generator is not needed to achieve Safe Shutdown for a fire in the Turbine Building in the vicinity of the Diesel Generator Room (i. e., the Unit X Diesel Generator is not needed to safely shut down the plant in the event of a fire in the Unit X Turbine Building near the Unit X Diesel Generator Room). If fire spread to the Diesel Generator, it would not jeopardize safe shutdown of the plant, therefore the lack of a fusible link near the ceiling on the Turbine Building side of the Diesel Generator Room wall is acceptable (NTSC).</p>	None

TABLE A
NFPA 90A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
90A-01	Not provided.	There are currently no fire dampers installed in Control Room HVAC ducts (Ref. 4.39, pg 6, para 2).	<p>As a part of Modification Number M12-2/3-87-05E, 3-hour rated fire dampers were installed in the Control Room HVAC dampers (Ref. 4.4, Pgs. 1 & 2). These dampers were procured in accordance with Specification T-3395, "Fire Dampers" issued by Sargent & Lundy for use on February 23, 1989. This specification calls for the procurement and installation of four Type C, 3-hour rated, UL listed dampers, Equipment Numbers 2/3-9472-163, 2/3-9472-164, 2/3-9472-165 and 3/2-9472-166 (Ref. 4.5, Section 302.1, page 3-1).</p> <p>Sheet 3 of 6 of RSM D82617-1, Doc. 4 of the M12-2/3-87-05E modification package (Ref. 4.4) indicates that the QA inspection verifies that these fire dampers were installed by a Receipt Inspection on 12/23/91, 12/24/91 and 1/21/92 by "RJS" who signed as "Foreman". "VRP" verified their receipt as a representative of the QC/QA department on 6/8/92.</p> <p>Drawing M-3563 (Ref. 4.6) indicates that these dampers are installed in the ductwork that passes through the control room walls. Note 10 of that drawing indicates that these dampers were furnished under specification T-3395.</p>	DD.
90A-02	Not provided.	The Dresden Station currently does not have a procedure for the routine maintenance, inspect, and/or testing of installed fire dampers (Ref. 4.39, pg 11, para 3).	DFPS 4175-9, Rev. 0 addresses this issue except for operability testing. Operability checks are performed at the time of installation per the manufacturers' instructions (Ref. 4.15, pg 1.1-48, Item 5.1).	None.

Deviation No.	Code Section	Deviation	Justification	Recommended Action
90A-03	Not provided.	Smoke detectors which are installed in the ductwork are not being routinely tested to ensure their operability or periodically cleaned and properly calibrated in accordance with the recommendations of the manufacturer (Ref. 4.39, pg 11, para 4).	The smoke detectors installed in the ductwork are now being tested annually in accordance with the manufacturer's recommendations to ensure their operability via Procedure 4183-14, Rev. 02, effective march 19, 1999 (Ref. 4.7). These tests include testing the smoke detector via the sampling tube using the test port provided, however, the procedure does not address the cleaning and maintenance of the sampling tubes.	Institute a procedure to clean and maintain the sampling tubes in the ductwork in accordance with the manufacturer's instructions. Action Request Number 19427, Task 05 has been issued to address this condition.
90A-04	Not provided.	Fire damper 2/3-9472-009 consists of two 1-1/2 hour fire dampers in series and is located in the supply air duct for the Auxiliary Electric Equipment Room. The bottom fire damper is installed upside down so that the damper release latches are not accessible from the bottom. If the damper is actuated, it cannot be reset (Ref. 4.39, pg 11, para 4).	Mod M12-2(3)-84-110 addresses this issue (Ref. 4.15, pg 1.1-49, Item 5.4).	DD
90A-05	Not provided.	Fire damper 2/3-9482-142 consists of two 1-1/2 hours fire dampers in parallel and is located in the supply air duct for the Prime Computer Room. Both dampers are installed in the vertical position with the head section of the damper at the bottom. Release latches are installed such that the damper can only be reset from inside the Computer Room under the floor. Both dampers have labels on the frame stating "For Horizontal Installation Only" (Ref. 4.39, pg 11, para 5).	Mod M12-2(3)-84-110 addresses this issue (Ref. 4.15, pg 1.1-49, Item 5.5).	DD
90A-06	Not provided.	Fire damper 2/3-9482-141 is located in return air duct and mounted in the Prime Computer Room wall. The damper is installed such that the release latches will not be accessible to reset the damper should the damper be actuated. There is currently no access door to the opposite side of the damper (Ref. 4.39, pg 12, para 1).	Mod M12-2(3)-84-110 addresses this issue (Ref. 4.15, pg 1.1-49, Item 5.6).	None.

TABLE A
NFPA 90A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
90A-07	Not provided.	Dampers 3-9472-023 and 3-9472-024 are mounted in a wire mesh and pyrocrete wall which separates the Unit 3 HPCI Room from the East LPCI Corner Room. The ductwork has been removed from damper 3-9472-023 and an air line run through the damper into the HPCI Room. Adjacent to the dampers were large holes through the pyrocrete wall. The wall does not appear to adequately support the damper assemblies (Ref. 4.39, pg 12, para 2).	Walkdowns and WRD63467 address this issue (Ref. 4.15, pg 1.1-49, Items 5.7 and 5.8).	DD
90A-08	Not provided.	Fire damper 2/3-9482-138 located between the Battery Room and the UPS Room in the Control Building has an electrical cord passing through the opening. This cord was removed during the inspection (Ref. 4.39, pg 12, para 2).	Training provided (Ref.4.15, pg 1.1-49, Items 5.9).	DD

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AMENDMENT 13

TABLE A
NFPA 90A Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
90A-09	Not provided.	Documentation concerning the flame spread rating of duct insulation, originally installed in the plant, was not available for review. No conclusions can be reached regarding this insulation without verifiable information (Ref. 4.39, pg 12, para 3).	<p>In a memo from E. Skowron and T. Hausheer to R. Whalen and Brian Barth, dated April 7, 1988, entitled "Response to PLC's NFPA 90A code Rec. 5.10", Commonwealth Edison states that Specification K-2230, dated 6/5/67 was reviewed to determine the combustibility of the external duct insulation that was specified for construction in the plant. This memo is contained in the FPPDP, Volume 9, Tab 27 (Ref. 4.41). The memo states that the review was inconclusive as to whether or not the ductwork insulation satisfies the requirements of NFPA 90A - 1976. Commonwealth Edison then states that the contribution of external ductwork insulation to the total fire loadings was deemed to be "insignificant".</p> <p>The Dresden Combustible Loading calculation (Ref. 4.8) includes fire loadings for external duct insulation based on 2,500 BTU/lb. These calculations demonstrate that the fire loading is within acceptable limits including the combustible loading of the external ductwork.</p>	DD
90A-10	Not provided.	Access doors of adequate size for visual inspection and resetting of the following fire dampers are not provided: 2-9472-012 Unit 2/3 Clean/Dirty Oil Room 2-9472-013 Unit 2/3 Clean Dirty Oil Room 2-9472-014 Unit 2 125V Battery Room 2-9472-053 Unit 2/3 Clean/Dirty Oil Room 2-9472-054 Unit 2/3 Clean/Dirty Oil Room OVW46Y Radwaste Building Stock Control Room (Ref. 4.39, pg 13, Sect.5.3).	Mod M12-2(3)-84-110 addresses this issue (Ref. 4.15, pg 1.1-48, Item 5.3).	DD

TABLE A
NFPA 92M Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
92-01	Not identified.	Floor drains for the Hotwell are plugged according to the plans (Ref. 4.42, pg 7, note 2).	According to the plumbing plans, these drains are plugged. In this way, if a large accumulation of radioactive water were to occur, it would be held in the pit until disposal arrangements could be made. Containment of radioactive materials takes priority over fire protection water drainage (Ref. 4.42, pg 7).	None.
92-02	Not identified.	Drains in the cable tunnel are not effective (Ref. 4.42, pg 8, para 2).	There appears to be no economically justifiable method of correcting this condition (Ref. 4.42, pg 8, para 2).	None.
92-03	Not identified.	Floor drains at U-2 Trackway and U-3 Turbine Oil reservoir are clogged (Ref. 4.42, pg 8, para 4 and 5).	The floor drains in the south end of the U2 Trackway are required to be plugged as they drain to the station storm sewers. WRD56408 opens the U3 Turb Oil Res drain. It was completed on 8/7/86 (Ref. 4.42, pg 1.1-51, Item 4.1.1).	None.
92-04	Appendix A, Section G.2	Sprinkler protection not provided in a resin storage area (Ref. 4.42, pg 9, para 2).	This lack of protection can be justified as no safety-related systems are directly exposed (Ref. 4.42, pg 9, para 2).	None.
92-05	Appendix A, Section D.1.i	Dresden's response to Appendix A contains one error. Dresden states MG set areas have no drains. Curbs and drains are provided (Ref. 4.42, pg 9, para 3).	This error was corrected in Amendment 2 (2/86) of Appx A Comparison in the UFHA.	DD
92-06	Not identified.	No curbs have been installed in the U-2/3 DG cell to prevent water or oil from flowing into the HPCI stairwell ladder enclosure (Ref. 4.42, pg 9, para 6).	Lack of such curbing can be justified as the plant can initiate safe shutdown with both the HPCI pumps and the U-2/3 diesel generator out of the service (Ref. 4.42, pg 9, para 6).	None.
92-07	Not identified.	Inadequate drainage is provided for the diesel fuel tank in the Unit 2/3 Cribhouse (Ref. 4.42, pg 10, para 2).	Mod M12-2/3-84-7 addresses this issue (Ref. 4.15, pg 1.1-51, Item 4.3).	None.

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APPENDIX 13

TABLE A
NFPA 92M Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
92-08	Not identified.	It could not be determined if drains in the HCP1 rooms go to the room sump or to Radwaste (Ref. 4.42, pg 8, para 6).	Mod M12-2/3-84-81 addresses this issue (Ref. 4.15, pg 1.1-51, Item 4.2).	None.
92-09	Not identified.	In the CRD area there is an enclosed watertight room containing a CCSW pump required for safe shutdown in the event of a flood. No drains are provided from these rooms (Ref. 4.42, pg 7, note 3).	This room is located in the Unit 2 Turbine Building at the 495' elevation. It is in Fire Zone 8.2.2.A. It is protected by a wet pipe automatic sprinkler system. The Fire Suppression Effects Analysis documented on Page 4.8-6 of Reference 4.43 gives justification for the drainage in this area.	None.
92-10	Not identified.	Drains for the Turbine Building Turbine Bearing Lift pumps could not be located due to equipment storage on the floor in the SE area, and due to a dress-out area established in the NW area, with paper taped to the floor. In these areas, unprotected floor penetrations exist and water could easily travel to the floor below (Ref. 4.42, pg 7, note 4).	This area is located on the Unit 2 Turbine Building, Fire Zone 8.2.8.A. The Turbine Bearing Lift Pumps are protected by an automatic sprinkler system. The Fire Suppression Effects Analysis documented on Page 4.11-6 of Reference 4.43 gives justification for the drainage of fire protection water runoff in this area. In addition, there is a large floor hatch covered by grated metal floor nearby this area. This would further assist in drainage of fire protection water runoff.	None.

TABLE A
NPPA 194 Deviation Close Out Matrix

Unit 2/3 Dresden Nuclear Station
NPPA Code Matrices

Deviation No.	Code Section	Deviation	Justification	Recommended Action
None		No deviations (Ref. 4.44).		

TABLE A
NFPA 196 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
196-01	Not identified.	It is possible that there is some old hose at the station that is not approved (Ref. 4.44, pg 4, para 6).	Procedure DFPS 4114-05, Rev.0 verifies that approved hose is used.	DD

TABLE A
NFPA 197 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
197-01	Not identified.	The station fire brigade does not train on initial and structural fire attack (Ref. 4.45, pg 4, para 3).	The appropriate training is provided (Ref. 4.15, pg 1.1-53, Items 4.1 and 4.2).	DD.

TABLE A
NFPA 232 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
232-01	Section 5-3 and Paragraph 3-1.5, NFPA 232	Central File Room: Use of enclosed cabinets for vital records instead of rated record protection equipment (Ref. 4.46, pg 4, para 1).*	This room is no longer used for records storage.	DD.
232-02	Paragraph 3-4.3, NFPA 232	Central File Room: The file room HCB walls do not extend above the noncombustible roof (Ref. 4.46, pg 4, para 2).*	This room is no longer used for records storage.	DD.
232-03	Section 3-8, Paragraph 3-6.3.2, 3-6.3.3, and 3-11.2, NFPA 232	Central File Room: The file room walls do not have approved file room doors and are pierced for ventilation ducts (Ref. 4.46, pg 4, para 3).*	This room is no longer used for records storage.	DD
232-04	Paragraph 3-7.1, NFPA 232	Central File Room: The roof of the file room is not independent of the remaining roof area of the old Administration Building (Ref. 4.46, pg 4, para 4).*	This room is no longer used for records storage.	DD.
232-05	Paragraph 3-10.3, NFPA 2332	Central File Room: The file room electric lighting units are not vapor-proof or explosion resistant (Ref. 4.46, pg 4, para 5).*	This room is no longer used for records storage.	DD.
232-06	Paragraph 3-12.4, NFPA 232	Central File Room: The file room contains limited work stations and access is not closely controlled (Ref. 4.46, pg 4, para 6).*	This room is no longer used for records storage.	DD.
232-07	Paragraph 3-12.4, NFPA 232	Central File Room: Smoking is not prohibited (Ref. 4.46, pg 4, para 7).*	This room is no longer used for records storage.	DD
232-08	Paragraph 2-7.5.5, NFPA 232	Records Vault: The walls of the vault are pierced for ventilation equipment (Ref. 4.46, pg 6, para 2).	This room is no longer used for records storage.	DD
232-09	Paragraph 2-7.5.2 and 2-10.1, NFPA 232	The vault is not provided with listed vault doors (Ref. 4.46, pg 6, para 3).	This room is no longer used for records storage.	DD

NOTE: * see Deviation 232-14

TABLE A
NFPA 232 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
232-10	Paragraph 2-11.3, NFPA 232	Records Vault: Vapor-proof or explosion-proof lighting is not installed (Ref. 4.46, pg 6, para 4).	This room is no longer used for records storage.	DD.
232-11	Paragraph 2-12.1, NFPA 232	Records Vault: Records are not fully enclosed in noncombustible containers (Ref. 4.46, pg 6, para 5).	This room is no longer used for records storage.	DD.
232-12	Paragraph 2-4, NFPA 232	Records Vault: The vault volume exceeds 5000 ft3 (Ref. 4.46, pg 6, para 6).	This room is no longer used for records storage.	DD.
232-13	Paragraph 2-6.1, NFPA 232	Records Vault: The vault floor is surfaced with linoleum (Ref. 4.46, pg 6, para 7).	This room is no longer used for records storage.	DD.
232-14	N/A	Deficiencies for the Camera Room and Storage Room are referenced in the code compliance report as being similar to those listed for the Central File Room. These deficiencies are marked with an asterisks (*) above (Ref. 4.46, pg 7, para 5).	This room is no longer used for records storage.	DD.
232-15	Paragraph 3-4.3, 3-6.3.2, 3-6.3.3, 3-7.1, 3-11.2, and Section 3-8, NFPA 232	Walls in central file room, camera room, and records storage room are not fire rated (Ref. 4.46, pg 8, para 4 and 5).	This room is no longer used for records storage.	DD
232-16	Paragraph 3-12.1, NFPA 232	Camera Room and Storage Room: Records in the Storage Room are not in noncombustible containers (Ref. 4.46, pg 4, para 1 and pg 7 para 4).	This room is no longer used for records storage.	DD

NOTE: * see Deviation 232-14

TABLE A
NFPA 251 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
		No deviations (Ref. 4.47).		

Deviation No.	Code Section	Deviation	Justification	Recommended Action
		No deviations (Ref. 4.47).		

TABLE A
NFPA 601 Deviation Close Out Matrix

Deviation No.	Code Section	Deviation	Justification	Recommended Action
601-01	Not identified.	Guards do not perform all duties specified by NFPA 601 (Ref. 4.48, pg 3, para 1).	Where the activities listed in NFPA 601 are performed by others, no deficiency in protection is found to exist (Ref. 4.48, pg 3, para 1).	None.
601-02	Not identified.	Supervised tours of the premises are not conducted (Ref. 4.48, pg 3, para 4).	However, due to the large size of the guard force (with guards stationed in various areas), electronic and television monitoring of the property parameter, card key entry systems, and 24 hours operation of the plant, there appears to be little need for supervised tours (Ref. 4.48, pg 3, para 4).	None.
601-03	Section 58, NFPA 601	The guard training procedure does not address fire hazards in the various plant areas (Ref. 4.48, pg 4, para 1).	The security force is not intended as the primary response force....(Ref. 4.15, pg 1.1-57, Item 4.1)	None.

TABLE B

NFPA DEVIATION JUSTIFICATION MATRICES

Table B contains the NFPA Code Justification Matrices.

Unlike the NFPA Code Close-out Matrix, which enumerates all deviations from NFPA Codes that have been identified, the Justification Matrix lists only those deviations, which have been closed out by a Technical Justification. The Technical Justification is shown in Table B for each item for which this is the method of closing out the deviation.

TABLE B		
DRESDEN NUCLEAR STATION		
NFPA JUSTIFICATION MATRICES		
TABLE OF CONTENTS		
CODE NUMBER		
NFPA 4	NFPA 20	NFPA 72D
NFPA 6 - (Deleted)*	NFPA 24	NFPA 72E
NFPA 7	NFPA 26	NFPA 78 - (Deleted)*
NFPA 8 - (Deleted)*	NFPA 27 - (Deleted)*	NFPA 80
NFPA 10	NFPA 30	NFPA 90A
NFPA 12	NFPA 50 - (Deleted)*	NFPA 92M
NFPA 12A	NFPA 50A	NFPA 194 - (Deleted)*
NFPA 13	NFPA 50B	NFPA 196 - (Deleted)*
NFPA 13A	NFPA 51B	NFPA 197 - (Deleted)*
NFPA 14	NFPA 69	NFPA 232 - (Deleted)*
NFPA 15	NFPA 70 - (Deleted)*	NFPA 251 - (Deleted)*
		NFPA 255 - (Deleted)*
		NFPA 601

* These were deleted because no identified deviations remain for these NFPA codes.

TABLE B
NFPA 4 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
04-01	Not identified.	Combined fire drills with the local fire department are not conducted annually (Ref. 4.10, pg 6, para 1).	<p>DAP 03-01, Rev. 4 identifies that the station fire marshal is responsible for making arrangements with the local fire department.</p> <p>Procedure DFPP 4100-01 Section G.1.b(2) addresses offering annual training to the local fire department. Discussions with the Station Fire Marshal indicated that members of the Coal City Fire Protection District have not participated in fire drills at the station in the recent past. However, training sessions are conducted with the Coal City Fire Protection District. Dresden Station hosts the Shabbona Fire Clinics for all area fire departments. This was completed on 4/4/98 and was scheduled again for 4/10/99. GSEP Training is given to Coal City Fire Protection District annually and they are invited to participate in Station drills annually. Although an opportunity for improvement exists if the Coal City Fire Protection District participates in fire drills or other exercises held at the Station, the Station has no control over the local fire department. The issue was discussed and recognized by Assistant Fire Marshal. Under the circumstances, the relationship between the two parties is ACCEPTABLE (Ref. 4.1, Section 2.7, page 25).</p>

Unit 2/3 Dresden Nuclear Station
NFPA Code Matrices

TABLE B
NFPA 7 Justification Matrix

NTSC Report No. 93-124, Rev. 1
December 17, 1999

Deviation No.	Code Section	Deviation	Justification
07-01	Section 140, NFPA 7	There is no Industrial Emergency Association which provides for "mutual aid" between Dresden and other industrial plants (Ref. 4.12, pg 3, para 3).	The CECo corporate GSEP is so structured that support from one CECo plant would be provided to another as appropriate (Ref. 4.12, pg 3, para 3).

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TABLE B
NFPA 10 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
10-01	Paragraph 1-4, NFPA 10	...more prominent markings would be helpful on extinguishers (Ref. 4.10, pg 3, para 3).	Adequate markings are provided. DFPS 4114-04, Rev.0 verifies that proper labels are on extinguishers on an annual basis as opposed to monthly. Annual surveillance is considered adequate based on the following: a. Station personnel are periodically trained to operate plant fire extinguishers. b. Access to the plant is controlled through nuclear security procedures. c. Instructions for proper operation of the extinguishers are affixed permanently to the extinguisher. (Ref. 4.15, pg 1.1-6, Item 4.1).
10-03	Section 3-3, NFPA 10	Travel distance for Class B extinguishers is exceeded (Ref. 4.10, pg 4 and 5).	The increased travel distances are justified based on major hazards being protected by automatic and manual suppression and detection systems monitored by a proprietary fire alarm system and ignition sources are controlled. (Ref. 4.10., pg 4 and pg 5).
10-02	Section 3-2, NFPA 10	Extinguishers for Class hazards are not distributed per NFPA 10 (Ref. 4.10, pg 3 para 5 and pg 4 para 1).	The quantity of Class A combustibles is limited primarily to cable insulation and well distributed hose stations are provided for a trained, on-site fire brigade. (Ref. 4.10, pg 3, Para 5 and pg 4 Para 1).
10-04	Section 3-6, NFPA 10	Travel distance for Class C extinguishers is exceeded (Ref. 4.10, pg 4 and 5).	Electrically safe nozzles are provided on all hoses except the refuel floor (Ref. 4.10, pg 4 and 5; Ref.2, pg 1.1-6, 4.2) (See footnote 1) and on the hard rubber hoses provided to cover the Control Room. Fire Brigade members are trained in the risks involved in using non-electrically rated fire nozzles in the Initial Fire Brigade Training Program, Module FBP - 07, "Hose and Fire Streams", Section F, "Handling Fire Streams" (Ref. 4.16). Fire Brigade members also receive biennial requalification training in this subject. The Dresden Nuclear Power Station Units 2 & 3 Fire Pre-Plans document the locations of these nozzles and identify risks involved in using these nozzles on the Fire Pre-Plans (Ref. 4.17).

Footnote: 1. To minimize the potential of applying water to the new fuel in the new fuel storage pit, straight stream nozzles are used on the refuel floor (NTSC).

TABLE B
NFPA 12 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
12-01	Not provided.	The roll up fire door at the large louvered opening in each room is currently arranged to close only on operation of the fusible link (Ref. 4.18, Sect. 4.2 and 6.3).	The louvered doors can maintain an adequate CO2 concentration without the fire door closing (Ref. 4.19 and Ref. 4, Section 3.2.1.3)
12-02	Not provided.	The fire doors at louvered openings into the emergency DG rooms do not close automatically upon actuation of the CO2 system (Ref. 4.18, pg 3, sect.2.2)	The louvered doors can maintain an adequate CO2 concentration without the fire door closing (Ref. 4.15 and Ref. 4.1, Section 3.2.1.3).
12S-02	1712 and 1714, NFPA 12	Simulated tests of the system components, including a "Puff test" are to be carried out every 18 months according to Dresden Tech Spec Item 4.12.D.3. NFPA 12 has no periodic actuation test requirement, although periodic (at least annual) inspections are recommended (Paragraph 1714) and discharge tests made when advisable (Paragraph 1712) (Ref. 3, Sect 3.1, para 1 and pg 4 Subpart 1).	Dresden exceeds these requirements by performing semi-annual maintenance testing of the CO2 systems. The procedure for these tests is listed in DFPP 4145-1 (Ref. 4.20, Sect.3.1).

TABLE B
NFPA 12A Justification Matrix

Deviation No.	Code Section	Deviation	Justification
12AS-01	Par. 1553, NFPA 12A	Paragraph 1553 of NFPA 12A requires a hydrostatic test of charged cylinders at least every 12 years. No procedure could be located which indicates these hydrostatic tests are being carried out (Ref. 4.18, Sect. 3.2, para 1 and pg 5 Subpart 2).	The Station did not commit to NFPA 12A maintenance requirements. As a result, this activity is not required (Ref. 4.1).

TABLE B
NFPA 13 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
13-02	Not provided	Documentation has not been located to verify that the distribution piping has been flushed (or at a specific flow rate) prior to connection to the numerous sprinkler and water spray systems (Ref. 4.18, pg 11, Sect.6.1).	Due to the arrangement of the distribution system and the use of strainers the intent of the code is met (Ref. 4.18, Sect 6.1, Pgs 11 and 12).
13-04	Not provided	Contractor's test certificates are available and have been reviewed for 51 of the water suppression systems. However, no documentation has been located to verify such testing for the remaining 5 systems (Ref. 4.18, pg 15, Sect.6.6).	All systems were installed by Grinnell whose standard practice is to perform hydrostatic testing. The systems have been in operation for fourteen years now with no significant leaks or breaks (Ref. 4.18, Sect 6.6, Pg 15).
13-09	4-2.4.6	U3 Condensate Pump Area: One sprinkler head located 10 feet north of the man-lift at (column 48.7) is currently obstructed by a steel beam (Ref.4.18, pg 19, Sect.7.2.1).	The obstruction is minor and due to other sprinklers installed, this is an acceptable configuration (Ref. 4.18, Sect 7.2.1, Pg 19).
13-14	SER Section 5.1.8.6	U2 and U3 HPCI Pump Room: A deluge system is not installed for the U2 and U3 HPCI Pump Rooms (Ref. 4.18, pg 21, Sect.7.4.1).	Preaction systems were installed to reduce the potential of inadvertant operation. This type of system provides an equivalent level of protection compared to a deluge system (Ref. 4.23, pg 21, Item 7.4.1).
13-30	Not provided	U3 EHC Fluid Reservoir: The sprinklers located below the cable trays above the Unit 3 EHC fluid reservoir are not centered directly beneath the cable trays (Ref. 4.18, pg 25, Sect.7.7.1).	However, the anticipated type of fire in this area is a rapidly developing oil type fire which will result in high temperatures at an early stage. Therefore, there is no need to relocate the head(s) to directly beneath the cable trays or to provide heat collectors. The sprinklers will actuate in a timely manner as installed and will protect the cable trays for an exposure fire below (Ref. 4.18, pg 25, Sect.7.7.1).
13-39	4-3	U2 Instr. Air Comp. (517-6): One sprinkler head located over the air compressor at column line 34D is located approximately 9 feet below the ceiling (Ref. 4.18, pg 28, Sect 7.10.1).	...this is acceptable in this case since the specific hazard for this head is an oil fire which will result in a rapidly developing fire which will provide sufficient heat to operate the sprinkler even though not located within 12 inches of the ceiling (Ref. 4.18, pg 28, Sect 7.10.1).

TABLE B
NFPA 13 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
13-31	Not provided	U3 EHC Fluid Reservoir: The northernmost head on the branch line located along the cable trays above the Unit 2 EHC fluid reservoir is not centered directly beneath the cable tray. This sprinkler is located immediately southeast of column line E44 (Ref. 4.18, pg 25, Sect.7.7.2).	However, the anticipated type of fire in this area is a rapidly developing oil type fire which will result in high temperatures at an early stage. Therefore, there is no need to relocate the head(s) to directly beneath the cable trays or to provide heat collectors. The sprinklers will actuate in a timely manner as installed and will protect the cable trays for an exposure fire below (Ref. 4.18, pg 25, Sect.7.7.2).
13-41	4-3	U1 Crib House: Several sprinklers within the area are located 14-18 inches below ceiling level instead of the maximum distance below ceiling of 12 inches allowed by NFPA 13 (Ref. 4.18, pg 28 and 29, Sect 7.11.1).	For this particular area, the sprinklers need not be relocated since the anticipated hazard in the area is an oil fire which will be a rapidly developing type fire with large amounts of heat and smoke. Relocation of the sprinklers in this area would not result in significant improvement in the protection for the area. Therefore, the existing location of the sprinklers is considered acceptable (Ref. 4.18, pg 28 and 29, Sect 7.11.1).
13-45	4-4.11 and 4-4.13	U2 Reactor Feed Pump Room: One sprinkler head in the northwest corner of the room has been removed near column line 38 (Ref. 4.18, pg 31, Sect 7.13.1).	The original sprinkler design required this head to provide protection beneath the wide ventilation duct in the area. This HVAC duct does not presently exist and therefore, no sprinkler is needed at this time (Ref. 4.18, pg 31, Sect 7.13.1).
13-50	Not provided	U3 Reactor Feed Pump Room: The lower level sprinkler head located just southwest of column G51 is not centered beneath the HVAC duct (Ref. 4.18, pg 33, Sect 7.14.1).	Due to the anticipated type of fire, this configuration is acceptable (Ref. 4.18, pg 33, Sect 7.14.1).

TABLE B
NFPA 13 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
13-51	4-4.11 and 4-4.13	"U3 Reactor Feed Pump Room: Two sprinkler heads located below the ventilation ducts at the north end of column line 53 were intended for installation directly beneath the ducts. Also, the northernmost sprinkler head below the HVAC duct along column line 52 was intended to be no more than 12 inches below the duct according to the sprinkler drawings. The first two heads are not installed beneath the duct and the third sprinkler is located 18 inches below the duct" (Ref. 4.18, pg 33, Sect 7.14.2).	The location of all three of these heads are considered acceptable because an oil fire in this room would produce high temperatures very quickly. (Ref. 4.18, pg 33, Sect 7.14.2).
13-56	4-3	Two sprinkler heads located in the northwest corner of the room are spaced approximately 10 feet above floor level. This does not comply with the requirement of NFPA 13 to be located within 12 inches of the ceiling to achieve prompt actuation of the sprinkler heads (Ref. 4.18, pg 34, Sect 7.14.7).	However, the expected oil fire for this area will produce high temperatures in a short period of time, thus providing prompt actuation of the sprinkler heads even though they are located an excessive distance from the ceiling. Therefore, the location of these two sprinkler heads can be considered acceptable for this area (Ref. 4.18, pg 34, Sect 7.14.7).
13-57	4-1.1.1(3)	Turb Mezzanine N/S: One sprinkler head located in the northeast corner of the area near the stairway is obstructed by existing mechanical piping (Ref. 4.18, pg 36, Sect 7.15.1).	The affected head is located approximately 5 feet south of the stairs and six feet west of the wall. The obstruction of the stairs at six feet west of the wall. The obstruction to the distribution pattern of the sprinkler system is minor and protection for the area would not be significantly improved by relocating the head. Therefore, no action is required for this item (Ref. 4.18, pg 36, Sect 7.15.1).

TABLE B
NFPA 13 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
13-65	4-1.1.1.(3)	U3 Cable Tunnel: Several locations exist where the installation of water spray nozzles does not conform to specific provisions of NFPA 13 relative to the obstruction of the water distribution pattern from the nozzles (Ref. 4.18, pg 39, Sect 7.17.1)	Relocation or addition of nozzles would not significantly improve the performance of the system (Ref. 4.18, pg 39 and 40, Sect 7.17.1)
13-68	4-1.1.1.(3)	Nozzles protecting other areas, excluding nozzles discussed in paragraph 1 of Section 7.17.3, are located over 12 inches from the ceiling (Ref. 4.18, pg 41, Sect 7.17.3).	Due to the ceiling configuration and the type of fire anticipated, relocation of heads would not significantly improve the performance of the system (Ref. 4.18, Sect 7.17.3, pg 41, para 2)
13-77	Not provided	One sprinkler head located 9'-7" west of column 45 and approximately 9 feet south of column line C is now located a considerable distance below the ceiling and is exposed to water flow from ceiling level sprinklers. This is a deviation from the requirements of NFPA 13 (Ref. 4.18, pg 45, Sect 7.18.1).	The sprinkler head was apparently installed to provide protection beneath a large ventilation duct in the area. However, the sprinkler head is not located beneath the duct. No relocation of the head is required since the HVAC duct is less than 4 feet wide and relocation of the sprinkler would not significantly improve protection of the area (Ref. 4.18, pg 45, Sect 7.18.1).
13-82	4-1.1.1.(3)	U2, U3 and U 2/3: Emer D.G. Day Tank RMS: Sprinklers are obstructed (Ref. 4.18, pg 46, Sect 7.19.1).	Obstructions do not have a significant impact on system performance. (Ref. 4.18, pg 46, Sect 7.19.1)
13-86	4-3, NFPA 13	U2 and U3 MG Set Fluid Drivers: Many of the sprinklers located in this area are 19 inches below the ceiling which exceeds the requirements of NFPA 13 not to exceed 16 inches below ceiling level for areas with this particular beam depth and spacing (Ref. 4.18, pg 48, Sect 7.23.1).	...the location of the sprinklers for this area are acceptable due to the anticipated oil fire which will produce high temperatures in a short period of time thus providing prompt actuation for the sprinklers in their existing locations (Ref. 4.18, pg 48, Sect 7.23.1).

TABLE B
NFPA 13A Justification Matrix

Deviation No.	Code Section	Deviation	Justification
13S-07	Not provided	NFPA 13A requires weekly checks of control valve position, valve seal integrity, and control valve operability (1/4 turn). Dresden procedures indicate these tests are carried out monthly, but only on supervised valves (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 7 and pg 6 Table 3.3-1).	This longer period is justified due to administrative controls which keep a record of all valve closures (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 7).
13S-08	Not provided	NFPA 13A requires weekly checks of riser gage readings, as well as a 2-inch drain test at each riser. These requirements are not being implemented. However, NFPA 13A requires these tests at sprinklered properties normally served by city water connections. The test verifies that the city supply is in service (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 8 and pg 6 Table 3.3-1).	Since the water supply at Dresden is totally under plant control, these tests are unnecessary (Ref. 4.20, pg 9, Sect 3.3, para 2, subpart 8).

TABLE B
NFPA 14 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
14-02	219	In the Turbine Building some standpipe sizes are less than 2 inches (Ref. 4.21, pg 8, para 5).	A hydraulic analysis was performed on three hose stations to verify adequacy of 1-1/2" supply pipe. The analysis indicates the required amount of water can be delivered (Ref. 4.21, pg 8, para 5).
14-03	322	Several plant areas shown in Table 3.1 cannot be reached with 100' of hose and 30' hose stream (Ref. 4.21, Pg. 9, 10, 11).	In specified areas, due to the minimal amount of combustibles and other fire protection features provided, the existing configuration is adequate (Ref. 4.21, pg 9, 10, 11). Recommendation made for additional hose to select hose stations with less than 100 ft hose (Ref. 4.21, pg 17, Item 4.3). PIF D1998-05386 and NTS 237-251-90-3125 addressed this issue (Ref. 4.1, Section 3.3)
14-05	42	More than 100' of approved hose is at some hose stations (Ref. 4.21, pg 11, para 7). Two 150 ft hard rubber hoses are provided to protect the Control Room.	The additional hose length is required to provide adequate coverage for the control room (NTSC).
14-06	43	Labels indicating use and operating instructions are not provided on hose racks (Ref. 4.21, pg. 11, page 8).	The fire hoses are for use by the fire brigade only. Signs have been provided on each hose station identifying that only the fire brigade can use the hoses. All fire brigade member have been adequately trained to handle hoses. As a result, operating instructions on the hose stations are unnecessary (NTSC).
14-07	44; OSHA Sub-part L	Pressure reducing devices are not provided for standpipes exceeding 100 psi (Ref. 4.21, pg 12, para 3).	CECo policy is not to use pressure reducing devices...(Ref. 4.15, pg 1.1-12, Item 4.4) Fire hoses are for the use of the fire brigade only. All brigade members have been adequately trained to handle hoses subject to high pressure. (NTSC)
14-09	67	Water flow switches are not provided on all standpipes (Ref. 4.21, pg 15, para 5).	A primary function of a flow switch is to provide notification of unauthorized use. Since access to a nuclear power plant is controlled, unauthorized operation is not normally a concern. In addition, operation of a hose station should activate the fire pump running alarm (NTSC).

TABLE B
NFPA 15 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
15-01	SER (3/87) Section 4.3.1.2, NFPA 15 Section Not Provided (Rep. 1)	Hydraulic calculations are not provided for five systems.(Ref. 4.18, pg 7 and pg 12, Sect 6.2).	Hydraulic Calculations address this issue. The calculations contain justifications to minor NFPA 15 deviations (Ref. 4.22).
15-02	Not Provided	Contractor's test certificates are available and have been reviewed for 51 of the water suppression systems. However, no documentation has been located to verify such testing for the remaining 5 systems (Ref. 4.18, pg 15, Sect.6.6).	All systems were installed by Grinnell whose standard practice is to perform hydrostatic testing. The systems have been in operation for fourteen years now with no significant leaks or breaks (Ref. 4.18, Sect 6.6, Pg 15).
15S-01	6003	There is no weekly visual check of the deluge systems as required by Paragraph 6003 of NFPA 15-1973; however, Paragraph 6003 also states that the frequency of such inspections may be at "other frequent regularly scheduled plant inspections" (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 1).	Due to the high level of administrative controls at this plant, such an inspection to identify major deficiencies could be extended to a monthly basis and included in DFPP's 4114-2, 4114-3 and 4114-6, as applicable (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 1).
15S-02	6013 and 6019	No procedures exist to check outdoor piping annually for proper drainage (Paragraph 6013) or to conduct an annual flushing of the underground lead-in connection (Paragraph 6019) (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 2).	Because strainers are provided and to be cleaned annually, the requirement for a flushing test of the underground lead-in connection is eliminated (Ref. 4.20, pg 10, Sect 3.4, para 3, subpart 2).

TABLE B
NFPA 20 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
20-01	SER (3/87) Section 4.3.1.2	During the fire pumps original acceptance test, the Unit 1 fire pump was unable to achieve sufficient pressure at all points along the manufacturer's curve (Ref. 4.18, pg 3, Sect 2.2; pg 7; and pg 13, Sect 6.4.).	...even though the pump may not comply with the NFPA 20 performance requirements, its performance could be considered acceptable as long as it exceeds the requirements (flow and pressure) of all installed water suppression systems (Ref. 4.18, pg 7 and pg 13, Sect 6.4.). Hydraulic calculations address this issue (Ref. 4.22).
20-03	SER (3/87) Section 5.4.6	A curb is not provided at the north door to the AEER (Ref. 4.18, pg 8, Sect 5.5).	There are two entrances to this room. A curb has been installed at the west door opening onto the Unit 2 Trackway area. A similar curb is provided approximately 10 feet from the north door in the vicinity of the Unit 2 480V switchgear area. Therefore, an additional curb at the north door to the room is unnecessary as the curb in the switchgear area should be sufficient to prevent any oil spill in this area from entering the room. The intent of this commitment is satisfied (Ref.4.18, pg 8, Sect 5.5).
20-04	Not provided	Documentation for the original acceptance testing of the Unit 2/3 fire pump is not available for review (Ref. 4.18, pg 13, Sect 6.4).	However, justification for this deviation can be provided based on the satisfactory performance of the annual pump test for the last two years. The problems that existed during the original acceptance test have apparently been satisfactorily addressed (Ref. 4.18, pg 13, Sect 6.4).
20-08 (New 2/3 Fire Pump)	Section 2-14.2.2	NFPA 20, Table 2-20 lists 12 - 2-1/2-inch hose valves needed to test a fire pump with 3,000 gpm capacity rating. Dresden Station has a fire pump test header with 8 - 2-1/2-inch hose valves. This constitutes a deviation from NFPA 20, 1993 edition (Ref. 4.24).	This deviation is acceptable based on the station's ability to perform the capacity test using the Unit 1 test header and local fire hydrants. This method was proven during acceptance testing of the installation. The procedure for the 2/3 diesel fire pump annual capacity check has already been revised to direct performance of the test using an arrangement of the test header and adjacent fire hydrants.

TABLE B
NFPA 20 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
20-09 (New 2/3 Fire Pump)	Section 8-2.3	Dresden Station has an unlisted coupling in lieu of a listed drive shaft for Unit 2/3 diesel driven fire pump assembly. This constitutes a deviation from NFPA 20, 1993 edition (Ref. 4.24, 4.25, 4.26).	The coupling is identified as a Wood's Sure-Flex Coupling by the pump and diesel supplier. Based on torsional analysis conducted by the pump and diesel supplier, the Wood's Sure-Flex Coupling with a stiffness of 0.305 Dcg/100 LB FT will not present a torsional problem and is a suitable alternative to the flexible drive shaft originally specified for the Unit 2/3 Diesel Fire Pump.
20S-02	Not provided	NFPA 20 requires maintenance to be performed on diesel engines at least annually, whereas DFPP's 4124-3 and 4124-4 allow this maintenance to be conducted at 18 month intervals (Ref. 4.20, pg 12, Sect 3.5, para 2, subpart 2 and pg 13 table 3.5-1).	This deviation is justified due to the limited use of these engines and weekly operability tests of the fire pumps which ensure the engines are in proper condition (Ref. 4.20, pg 12, Sect 3.5, para 2, subpart 2). MONTHLY RBP 2/18/00

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TABLE B
NFPA 24 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
24-01	2600	No fire department connection provided (Ref. 4.27, pg 7, para 2).	...due to the remote location, lack of nearby public water supply, redundancy of fire pumps, and intake canal supplies through which water may be pumped from draft, omission of such a connection is justified (Ref. 4.27, pg 7, para 2).
24-02	3302	PIV's located closer than 40 feet from buildings with exposed openings (Ref. 4.27, pg 7, paras 3,4,5 and 6).	Exiting PIV locations are justifiable (Ref. 4.27, pg 7, paras 3,4,5 and 6).
24-03	3304, NRC/CEC's letter 6/12/79	Lack of barriers around PIV north and U-1 HPCI Building (Ref. 4.27, pg 7, para 7 and pg 8, para 1).	...loss of this valve will not affect the water supply to the U-2/3 plan, as a sectional valve exists to cut off supply to this U-1 area (Ref. 4.27, pg 7, para 7 and pg 8, para 1).
24-04	9301 and 3502	Underground piping run below buildings (Ref. 4.27, pg 8, para 2).	These installation are justifiable as a break in either line would not prevent water supplies from reaching the Turbine and Reactor Buildings (Ref. 4.27, pg 8, para 2).
24-05	NRC Staff Position 8F.7 5-26-77 Dresden Response 6-22-77	Additional PIVs are required (Ref. 4.27, pg 8, para 3).	Not requiring additional PIV's is justifiable as the existing sectional PIV's could be used to remove this section of pipe from service without blocking flow to any water suppression system in the U-2/3 Turbine and Reactor Buildings (Ref. 4.27, pg 8, para 3).
24-06	4101, NRC Staff Position PF.5, PF.26	Hydrants not provided with isolation valves (Ref. 4.27, pg 8, para 5).	Lack of valves are acceptable (Ref. 4.27, pg 9 para 1).
24-07	4201, Appendix A	Hydrant spacing exceeds requirements (Ref. 4.27, pg 9 para 2).	The existing installation is justified as sufficient hose is available to reach all buildings with no hose line exceeding 500 feet in length as required by Paragraph 4201) (Ref. 4.27, pg 9 para 2).
24-08	4204	Hydrant closer than 50 feet from buildings (Ref. 4.27, pg 9 para 3, 4, 5 and pg 10 para 1, 2, and 3).	Existing hydrant s are acceptable (Ref. 4.27, pg 9 para 4 and 5; and pg 10 para 1, 2, and 3)
24-09	4301 - 4304	Lack of information on installation designs (Ref. 4.27, pg 10 para 4).	As no serious problems have been encountered with the hydrants, the existing installation is considered adequate (Ref. 4.27, pg. 10, para 4).

TABLE B
NFPA 24 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
24-10	4305	Barricades protecting hydrants 2-7 not provided (Ref. 4.27, pg 10 para 4).	As noted previously in this report, these hydrants are generally located in U-1 areas and would not be needed for a fire in a U-2/3 area (Ref. 4.27, pg 10 para 4).
24-11	SER Item 3.1.23	Hydrant wrench obstructions on hydrants 1, 22, 23, 24 and 25 (Ref. 4.27, pg 10 para 6 and pg 11, para 1).	Ratchet type wrenches available (Ref. 4.27, pg 10 para 6 and pg 11, para 1).
24-12	5101, 5102, 5201, and 5202	Hose not provided at hydrant 27 (Ref. 4.27, pg 11 para 2).	Hydrant No. 27 is essentially redundant to No. 2, therefore providing additional hose for this hydrant would not significantly improve fire protection (Ref. 4.27, pg 11 para 2).
24-15	5601, NRC Staff Position	Hose houses and hose reel cabinets not properly equipped (Ref. 4.27, pg 11 para 5; pg 12; and pg 13 paras 1,2 and 3).	<ol style="list-style-type: none"> Justification provided (Ref. 4.27, pg 12, para 3) Stable hose will be made available if hose cabinets are damaged, suitable hose eqmt will be made available through the use of portable carts, or hoses from other nearby fire hydrants.... (Ref.4.19, pg 1.1-14. Item 4.4.2). WRs D45381, D45740 and 46739 addresses this issue.
24-16	NRC Request	Nozzle not designed to operate in modes requested (Ref. 4.27, pg 13 para 4).	Not replacing nozzles is justified as they are used only by properly trained fire brigade personnel (Ref. 4.27, pg 13 para 4).
24-18	93-3	No covered pipe trench provided where piping is below railroad tracks (Ref. 4.27, pg 14 para 1).	...due to over 5-foot bury depth and infrequent use of these tracks, lack of such trenches is justified (Ref. 4.27, pg 14 para 1).
24-19	9501	No documentation to verify existing pipe joints (Ref. 4.27, pg. 14, para 2 and 3).	There is no evidence of excessive leakage in the underground piping. As a result, the existing pipe joints are justified (Ref. 4.27, Pg. 14, Para 3).

TABLE B
NFPA 24 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
24-20	Section 96	No documentation to verify anchoring of fire mains (Ref. 4.27, pg 14 para 4).	Lack of such documentation is justified as the piping has been in service in excess of 10 years with no serious problems reported (Ref. 4.27, pg 14, Para 4).
24.1-01	SER (3/87) Section 4.3.1.2	Distribution pipe is unlined (Ref. 4.18, pg 3, Sect 2.2; and pg 14, Sect 6.5).	Hydraulic calculations address this issue (Ref. 4.22).
24.1-03	Not provided.	Contractor's test certificates are available and have been reviewed for 51 of the water suppression systems. However, no documentation has been located to verify such testing for the remaining 5 systems (Ref. 4.27, pg 15, Sect.6.6).	All systems were installed by Grinnell whose standard practice is to perform hydrostatic testing. The systems have been in operation for fourteen years now with no significant leaks or breaks (Ref. 4.27, Sect 6.6, Pg 15).
24S-01	3601	Deficiencies regarding verification of valve position are identical to those specified in Section 3.3 of this report, namely 1) lack of specific acceptance criterias, and 2) the possibility of sealing a valve without physically verifying that it is open. This item is addressed in the Fire Suppression System Valve Supervision Survey (NFPA 26) by PLC (Ref.4.19, pg 15, Sect.3.6, para 2, subpart 1; and pg 17 Table 3.6-1).	See NFPA 26 code review.

TABLE B
NFPA 24 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
24S-02	3601	NFPA 24 recommends weekly verification of valve position, whereas DFPP 4114-6 requires monthly inspections (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 2; and pg 17 Table 3.6-1).	However, justification exists for monthly inspections as unauthorized valve closures are unlikely for these reasons: 1) Access to areas where these valves are located is restricted to CECco personnel, approved contractors, and escorted visitors, and 2) There is consistent attendance of the plant with on-site guard service to reduce the probability of valve tampering (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 2).
24S-03	None.	No permanent procedure was located to perform a water flow test on the yard system in accordance with Dresden Tech. Spec. 4.12.B.1.c (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 3; and pg 17 Table 3.6-1).	DFPS 4132-08, rev.0 addresses this issue.
24S-04	4102	Performance of DFPP 4125-1 results in the hydrants being operated yearly. However, NFPA 24-1973, Paragraph 4102, recommends operation two times per year (Spring and Fall) (Ref. 4.19, pg 15, Sect.3.6, para 2, subpart 4; and pg 17 Table 3.6-1).	DFPP 4125-1, Fire System Annual Flush, is performed in the Fall to flush the hydrants and check for proper drainage. During the Spring, the Station will rely on leak detection systems to detect any underground leakage (Ref. 4.15, pg 1.1-11, Item 4.9).

TABLE B
NFPA 26 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
26-02	Paragraph 3-1, NFPA 26	(1) Inspections not conducted weekly. (2) Procedures do not identify need to reseal valves (Ref. 4.19, pg 5, para 3).	(1) Justification exists for monthly inspections for the following reasons: 1) Access to valves is restricted. 2) 24 hr guard service reduces the probability of valve tampering. (Ref. 4.19, pg 5, Para 1, subpart 2). (2) The station chooses to lock valves rather than seal them... (Ref. 4.15, pg 1.1-17, Item 4.1.2).
26-10	Tech. Spec. 4.12.B.1.a	Performing a water flow check in lieu of monthly inspections for inaccessible valves.	Justification provided in the following letters: from D Roberts, T Hausheer, G Tietz to E Eenigenburg dtd 8/7/89 and ltr from D Roberts, T Hausheer, P Kuhel to E Eenigenburg dtd 3/27/89. Procedure DFPS 4123-09 performs monthly flow tests on non accessible valves.

TABLE B
NFPA 30 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
30-01	Not identified.	Storage Warehouse: In this warehouse building flammable and combustible liquids are kept in a separate cut-off room which meets most of the requirements of NFPA 30 (Ref. 4.30, pg 5, para 2 and 3).	...it does not expose any safety related areas; therefore, no recommendations have been made concerning this building (Ref. 4.30, pg 5, para 2 and 3).
30-05	Paragraph 5122, NFPA 30	No procedure exists to monitor storage and use in plant areas. Plant survey revealed storage in open plant areas on the Turbine Operating Floor (Ref. 4.30, pg 9, para 1 and 2).	Based on a review, a cabinet will not be provided (Ref. 4.15, pg 1.1-22, Item 4.8)
30-06	Paragraph 4313, NFPA 30	Clean and Dirty Lube Oil Tank Room: Exhaust and air intakes not located within 12 inches of floor (Ref. 4.30, pg 12, para 2).	...the existing installation can be justified as Class III liquids do not require special ventilation (Ref. 4.30, pg 12, para 2).
30-07	Not identified.	Fire barrier deficiencies for the HPCI Pump Rooms and Clean and Dirty Lube Oil Tank Room (Ref. 4.30, pg 10, para 4; pg 11, para 4; and pg 12, para 2).	U2 HPCI door has been replaced (Ref. 4.15, pg 1.1-31, Item 4.1.2.) U2 DG Day Tank Rm Door (#50) and U3 DG Day Tank Rm Door (#132) are acceptable based on justifications for unlisted fire door frame and signs attached to the door (Ref. 4.2, Appendix D).
30-08	Section 52, NFPA 30	Fire resistive requirements unclear for several areas (Ref. 4.30, pg 13, para 2; pg 13, para 5; pg 17, para 2 and 5; and pg 18, para 3).	Based on active and passive protection provided, as well as the high flash point of the liquid, the existing configuration is acceptable (Ref. 4.30, pg 13, para 2; pg 13, para 5; pg 17, para 2 and 5; and pg 18, para 3).

TABLE B
NFPA 30 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
30-10	Not identified.	U2 Oil Drum Storage Room: Nonstandard fire door (Ref. 4.30, pg 15, dash 1).	...because of the fixed suppression system, ramped access and limited exposure to important equipment, door replacement is not justified (Ref. 4.30, pg 15, dash 1).
30-11	Not identified.	U2 Oil Drum Storage Room: Electrical equipment is not approved for Class I, Division 2 operations (Ref. 4.30, pg 15, dash 1; and pg 16, para 1).	Based on the fact that the quantity of Class I liquid is small and the quantity of flammable liquids stored is close to that specified by NFPA 30 for unprotected areas, this is acceptable (Ref. 4.30, pg 16, para 1).
30-12	Not identified.	U2 Oil Drum Storage Room: No ventilation system provided (Ref. 4.30, pg 15, dash 3).	...this is justified as no dispensing operations take place within this room (Ref. 4.30, pg 15, dash 3).
30-13	Not identified.	U2 Oil Drum Storage Room: No bonding or grounding wires provided (Ref. 4.30, pg 15, dash 4).	...this is justifiable as these liquids are not dispensed in this room (Ref. 4.30, pg 15, dash 4).
30-14	Paragraph 4311, NFPA 30	U2 Oil Drum Storage Room: Room size exceeds 500 ft ² limit (Ref. 4.30, pg 15, dash 5; and pg 16 para 3).	The excessive size of this room can be justified based on the room being of fire resistive construction, sprinkler protection installed and that most of the liquid in the room is Class III liquid (Ref. 4.30, pg 16 para 3)
30-17	Paragraph 2343, NFPA 30	Heat-actuated shut-off valve not provided for the DG Cell Day Tank Rooms (Ref. 4.30, pg 18 para 5).	However, this position is overridden by concern for the possible spurious operation of such a valve, as fuel for the DG unit could be cut off by such operation. It is desired that the DG units be able to operate even if a fire occurs due to the overriding concern for safe shutdown (Ref. 4.30, pg 18 para 5).
30-18	Appendix A, Section F-10	Unprotected steel in the U2 day tank room (Ref. 4.30, pg 19, dash 2).	The unprotected beam is in a room with sprinkler protection.... (Ref. 4.15, pg 1.1-21, Item 4.5).

TABLE B
NFPA 30 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
30-19	Not identified.	Deficiencies in Day Tank Room wall penetration (Ref. 4.30, pg 19, dash 1 and 3).	Each of the day tank rooms communicates only with its associated DG cell. As these DG cells are cut off from remaining plant areas by 3-hour barriers, justification exists for not requiring the deficiencies in wall penetration to be corrected (Ref. 4.30, pg 19, dash 1 and 3).
30-20	Paragraphs 5130 and 5291, NFPA 30	No drainage from diked area in this U1 Cribhouse (Ref. 4.30, pg 20, para 3).	...this can be justified as the diked area will contain three times the tank capacity (Ref. 4.30, pg 20, para 3).
30-21	Not identified.	U1 and U2/3 Cribhouse: No fire resistive enclosure (Ref. 4.30, pg 20, para 3; and pg 21).	Not requiring an enclosure of suitable fire resistance can be justified due to the fixed fire suppression system provided (Ref. 4.30, pg 20, para 3; and pg 21).
30-22	Not identified.	U1 and U2/3 Cribhouse: Tank venting arrangement is not standard as the ventilate should terminate outside (Ref. 4.30, pg 20, para 4; and pg 21 para 3).	The present arrangement can be justified due to fire-resistive construction and the installed sprinkler protection (Ref. 4.30, pg 20, para 4; and pg 21 para 3).
30-23	Paragraph 2343, NFPA 30	No automatic closing heat actuated valve provided (Ref. 4.30, pg 20, para 5; and pg 21 para 4).	...this omission is justified due to the relatively small tank size, fixed suppression provided, and redundancy of fire pumps (Ref. 4.30, pg 20, para 5; and pg 21 para 4).

TABLE B
NFPA 50A Justification Matrix

Deviation No.	Code Section	Deviation	Justification
50-03	Paragraph 512, NFPA 50A	Bulk Hydrogen Storage Systems: Hydrogen systems not above ground (Ref. 4.31, pg 8, para 5).	<p>The current hydrogen storage system at the site is a liquified hydrogen storage system. The older gaseous hydrogen equipment is still on-site, but is not in service at this time.</p> <p>NFPA 50A does not apply. NFPA 50B, which governs Liquified Hydrogen Systems, has no such requirement. In addition, since hydrogen supply piping is routed above ground before it enters the building, any leaks would not be carried into the building, and the below ground piping installation could be justified, even for a gaseous hydrogen system (Ref. 4.31, pg 8, para 5).</p>
50-05	Not identified.	Bulk Hydrogen Storage Systems: Electrical equipment not listed for Class I, Group B operation (Ref. 4.31, pg 9, para 2).	However, the existing installation can be justified as Class I, Group C equipment is installed, the outdoor installation should dissipate flammable mixtures quickly, and the tanks do not expose any areas necessary for safe shutdown (Ref. 4.31, pg 9, para 2).

TABLE B
NFPA 50B Justification Matrix

Deviation No.	Code Section	Deviation	Justification
50-07	NFPA 50B	Bulk Hydrogen Storage System: Hydrogen facility is not above ground level (Ref. 4.31, pg 9, para 4).	Since the fuel oil tank on the west side is diked, this should not present a problem (Ref. 4.31, pg 9, para 4).

TABLE B
NFPA 51B Justification Matrix

Deviation No.	Code Section	Deviation	Justification
51-05	Not identified.	Procedure DMP 4100-1: Requirements not specified for combustibles behind noncombustible walls (Ref. 4.32, pg 5, dash 4).	However, this omission can be justified as all walls in safety related areas are of masonry construction (Ref. 4.32, pg 5, dash 4).

TABLE B
NFPA 69 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
50-09	Not identified.	Battery Room: No procedure for periodic air sampling (Ref. 4.31, pg 9, para 6).	However, due to continuous air flow monitoring and the existence of calculations showing the time necessary to reach the lower explosive limit in the event of ventilation system failure, periodic air sampling is not necessary (Ref. 4.31, pg 9, para 6).
50-11	NRC Staff Position No. 14, March 10, 1977	Exhaust ducts not routed outside (Ref. 4.31, pg 10, para 1).	Adequate dilution is provided where the exhaust discharges into the TB (Ref. 4.15, pg 1.1-24, Item 4.6).

TABLE B
NFPA 72D Justification Matrix

Deviation No.	Code Section	Deviation	Justification
72D-01	1321	Paragraphs 1112 and 1131 do not apply in this case. The Mux security panels are connected in a loop circuit to the CPU. The loop will still be operational under a single ground or open circuit. However, the Signaling Line Circuits (SLC) from the Mux panel to the Fire Control Unit appears to not have this capability based on the information provided to date. The NRC has also imposed these conditions on circuits installed to actuate fire suppression systems. The actuating device circuits at Dresden (deluge valve solenoids) are supervised (Class B), but are not operable during a single ground or open circuit condition (Class A). Browns Ferry was required by the NRC to upgrade these circuits for Class A operation (Ref. 4.34, pg 12 and pg 46).	Dresden has not committed to or required by the NRC to provide Class A supervision. Style C circuits (Class B) are installed. Initiation of local alarm signals is not supervised; however, these circuits are not essential to the receipt of signals at the central station (Ref. 4.35, Sect 2 -7.1 and Table 3-9.1).
72D-02	1322	The water flow switch circuit arrangement shown on ASCO DRWG PE-497-2 is not capable of operating during a single ground fault or open circuit on the initiating device circuit. Paragraph 1323 is not applicable (Ref. 4.34, pg 12).	This circuit configuration is a Class B arrangement and is acceptable. A Class A circuit configuration would allow the circuit to continue to function under an open circuit or ground condition; however, Dresden has made no commitment to install Class A circuits. If a open or ground occurs, a trouble signal will be received at the XL3 panel (NTSC).
72D-03	2022	The NRC is the authority having jurisdiction. They require that equipment be listed or labeled by a nationally recognized testing laboratory for the services for which it is used. The fire alarm system and fire control units are not listed for NFPA 72D service. The existing system is a customized assembly (Ref. 4.34, pg 13).	All new equipment (XL3 System) is UL listed for their intended service; however, a few devices (e.g., door switches) wired to the addressable interface modules are not listed for fire service but are designed to produce a trouble signal upon failure. In addition, there are still some unlisted local control panels remaining. The functional importance of these panels is minimal. Ltr 2/13/86 (Ref. 4.35, Sect 2-2.2).

TABLE B
NFPA 72D Justification Matrix

Deviation No.	Code Section	Deviation	Justification
72D-07	2441	Local fire alarm bells are not supervised. A single ground fault or open circuit would go undetected (eg. ASCO DRWG PE-497-4) (Ref. 4.34, pg 15).	NFPA 72 D does not require local alarms; however, Dresden committed to providing local alarms in their response to the BTP 9.5-1, Appendix A, Sect E.1(b). (Appendix A recommended the use of local alarms). As a result, the requirements of NFPA 72A must be met. NFPA 72A requires indicating circuits to be supervised. The alarm system provides unsupervised local audibles via existing local control panels except in the areas protected by CO2 and Halon. These areas have supervised indicating circuits. Unsupervised circuits decrease the reliability of the providing a local alarm. However, since a P.A. system is available and procedurally (XL3 DANS) set up to provide evacuation notification when a fire alarm is received in the control room, the existing level of alarm circuit reliability is adequate (Ref. 4.35, pg 19, Para 4-2.3).
72D-08	2521	Local alarm bells and trouble horns are listed by U.L. However, it is uncertain that audible signals in the CSS and Control Room are listed since the security systems is not listed. Insufficient information has been provided for this conclusion (Ref. 4.34, pg 16).	See Justifications for 72D-03.
72D-09	2541	The fire alarm system is not intended for total evacuation of the plant, only of the immediate fire area. A justification starting the plant's position should be documented (Ref. 4.34, pg 16).	Fire alarms are received in the control room. The alarms indicate the location of concern to the control room operators. The operators notify station personnel of the condition via the P.A. system and address the alarm condition accordingly with the assistance of written emergency response procedures - XL3 DANS (NTSC).
72D-12	3113	There is no manual fire alarm service as intended in this Section at Dresden Station.	Although the station does not comply with this item, however, PLC agrees that the extensive plant communication system provides an equivalent service since through administrative procedures, personnel are trained to use this system in case of fire (Ref. 4.34, pg 18).
72D-14	3330 and 3520	See Sections 4 and 5 and Appendix A report for details on deviations from NFPA 72E (Ref. 4.34, pg 19).	See NFPA 72E Matrix.

TABLE B
NFPA 72D Justification Matrix

Deviation No.	Code Section	Deviation	Justification
72D-15	2-2.2	A few devices wired to the Pyrotronics addressable module interfaces (e.g., time delay relays for door switches on areas having gaseous suppression) are unlisted (Ref. 4.35, pg 6).	These devices are designed to produce a trouble signal upon failure. The functional importance of existing unlisted equipment (most control panels) was minimized or eliminated. See letter dated 2/13/86 (Ref. 4.35, pg 6).
72D-16	2-7.1	Detection loops, actuation circuits from SPX modules, indicating circuits from SPX modules, indicating circuits to the Control Room and the dry contact connections to the addressable interface (TRX-1) modules are supervised for opens and grounds. "Initiation of local alarm signals is not supervised (Ref. 4.35, pg 10).	The local alarm signal circuits are not essential to the receipt of signals at the central station (Ref. 4.35, pg 10).
72D-17	3-9.1	Door switches and air flow monitors are combined systems (Ref. 4.35, pg 16 and 18).	They are monitored via TRX modules so they cannot interfere (Ref. 4.35, pg 16 and 18).
72D-18	3-9.1	A single detection loop may have more than one existing panel monitored via TRX modules (Ref. 4.35, pg 16 and 18).	Since each panel is monitored by a single addressable TRX module, this is acceptable (Ref. 4.35, pg 16 and 18).
72D-19	4-2.3	The indication of location shall utilize indicating appliances acceptable to the AHJ. NRC requires local audible signals. System provides unsupervised local audible via existing panels and bells (Ref. 4.35, pg 19).	The dispatching of roaming operators with hand-held radios and fire brigade members to all alarms supplements and thus reduces the need for local audible alarms. Additionally, the P.A. system is available and procedurally set up to provide evacuation notification. Therefore, unsupervised local audible alarms without secondary power is acceptable. "It is desired to have local audible in Halon and CO2 protected areas for personnel safety reasons. These meet the NFPA 72A (Ref. 4.35, pg 19).

TABLE B
NFPA 72E Justification Matrix

Deviation No.	Code Section	Deviation	Justification
72E-03	Not provided.	No Detection in the New Fuel Area (Ref. 4.34, pg 26, Sect 4.1.7).	Technical justification provided via two letters to the NRR dated 2/25/80 and 12/5/85. See FPPDP (Ref. 4.9, pg 2, Item 4.1.7).
72E-06	Not provided.	The Cable Conc. Area (Mezzanine El. 538') detection system arrangement is not as specified in NFPA 72E-1974. (Ref. 4.34, pg 31, Sect 4.2.4).	The fire detection system has been accepted by the NRC in this configuration to activate the preaction water spray system in the cable trays (Ref. 4.34, pg 31, Sect 4.2.4).
72E-07	Not provided.	There is no fire detection in consoles and cabinets in the operator's area in the Control Room (Ref. 4.34, pg 32 and 33, Sect 4.2.5).	The existing configuration is acceptable based all but two of the consoles and cabinets are open or vented thus allowing smoke to be detected by the ceiling system. Plant operators are in attendance continuously and a fire in the enclosed cabinets would be quickly identified (Ref. 4.34, pg 32 and 33, Sect 4.2.5).
72E-10	Not provided.	1) The installation of the fire detectors in the Unit 2 DG Room does not comply with NFPA 72E-1974. The three detectors are not mounted on the ceiling. They are mounted on the lower flanges of beams in the room. 2) The existing detectors are 225.F detectors listed by U.L. for 25 foot spacing on a smooth ceiling and 12.5 ft maximum spacing to a wall or partition. The existing detectors are installed too far from each wall for which they are listed (Ref. 4.34, pg 36, Sect 4.3.2).	The existing detector installation will achieve its objective based on the environmental variables (Ref. 4.34, pg 37 and 38).

TABLE B
NFPA 80 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
80-01	1.6.1 and 10.2.3	No U.L. label for the bullet proof Control Room doors (numbers 28, 30, U1-36 and U1-39) (Ref. 4.2, pg 6, Sect 3.1.1).	See Justification 1 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9).
80-02	1.6.1 and 10.2.3	No U.L. label for the Diesel Generator 2/3 Room Entrance Door (Number 137) (Ref. 4.2, pg 6, Sect 3.1.2).	See Justification 2 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9).
80-04	2-5.1	Of the single and double swinging doors observed at Dresden, seven have listed door frames (Door number 8, 39, 80, 81, 82, 83 and 168) with labels attached. The remaining frames appear to have been fabricated at the site (Ref. 4.2, pg 7, Sect 3.3).	See Justification 3 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9).
80-05	2-5.4	Of the swinging doors observed, ten doors (Numbers 14, 50, 70, 76, 82, 117, 129, 132, 140 and 168) were found to meet the required maximum limits of Paragraph 2-5.4. The remaining swinging doors deviate from NFPA 80 (Ref. 4.2, pg 7, Sect 3.4).	See Justifications 4 and 5 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9).
80-06	2-8.2, 2-8.7 10.1.2	Specific doors do not meet lock and latch requirements.	See Justification 6 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9). Doors 70 and 73 are not provided with strike plates. Since the door frame is a channel frame this condition is acceptable (NFPA 80-1983, paragraph 2-8.2.8, Exception).
80-07	2-8 and 9.1	Alteration of fire doors exist at Dresden. These alterations fall into the following principal categories: 1) Damage 2) Repairs 3) Additional of extra hardware, signs, etc. 4) Deletion of extra hardware, etc., leaving small holes or voids in the door surface (Ref. 4.2, pg 9, Sect 3.9).	See Justification 7 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9).

TABLE B
NFPA 80 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
80-08	Chapter 4	Comparing the requirements of Chapter 4 with the actual door installations, the doors were found to meet the code except for the conditions discussed. These conditions are also acceptable (Ref. 4.2, pg 9, Sect 3.10).	See Justifications 8 through 14 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9).
80-09	Chapter 6	Dresden has installed four roll-up steel fire doors (Numbers 17A, 57, 95A and 1005). In general, the doors appear to be in good condition; however, they were not operating during the survey. These doors were installed in accordance with NFPA 80, except for lack of fusible links for rolling doors (Ref. 4.2, pg 9, Sect 3.11).	See Justifications 15 and 16 of Appendix A of NFPA 80 Report, Rev.2 (Ref. 4.9).
80-10	Section 2-8.2, NFPA 80	Coordinating devices are not provided on doors 20, 28, 30, U1-36 and U1-39 (Ref. 4.2, pg 8, Sect 3.7).	The lack of this device is acceptable since the inactive leaf of each door are normally closed and bolted (Ref. 4.2, pg 8, Sect 3.7).
80-11	Not identified	"Dresden Nuclear Station Units 2 and 3 Commonwealth Edison Company Fire Protection Program Documentation Package, Volume 9, NFPA Code Conformance"	See Technical Justification dated February 9, 1999 contained on Page 17.4-1 of the FPPDP (Ref. 4.9).

TABLE B
NFPA 80 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
80-12	6-6.2	There are no fusible links at the ceiling on the Turbine Building side of the fire wall to activate the door closing mechanism for Fire Doors 17A and 95A on the Unit 2 and Unit 3 Diesel Generator Rooms.	<p>Fusible links are installed near the ceiling on the inside of the Diesel Generator Rooms to provide automatic closing of the fire doors in accordance with NFPA 80, Section 6-5.1 in the event of a fire inside the Diesel Generator Rooms. The heat generated by an oil fire in one of the Diesel Generator Rooms would be significant and would melt the fusible link near the ceiling rapidly, achieving prompt closure.</p> <p>In the event of a fire outside the Diesel Generator Rooms, the Diesel Generator is not needed to achieve Safe Shutdown for a fire in the Turbine Building in the vicinity of the Diesel Generator Room (i. e., the Unit X Diesel Generator is not needed to safely shut down the plant in the event of a fire in the Unit X Turbine Building near the Unit X Diesel Generator Room). If fire spread to the Diesel Generator, it would not jeopardize safe shutdown of the plant, therefore the lack of a fusible link near the ceiling on the Turbine Building side of the Diesel Generator Room wall is acceptable (NTSC).</p>

TABLE B
NFPA 90A Justification Matrix

Deviation No.	Code Section	Deviation	Justification
90A-02	Not provided.	The Dresden Station currently does not have a procedure for the routine maintenance, inspect, and/or testing of installed fire dampers (Ref. 4.39, pg 11, para 3).	DFPS 4175-9, Rev. 0 addresses this issue except for operability testing. Operability checks are performed at the time of installation per the manufacturers' instructions (Ref. 4.15, pg 1.1-48, Item 5.1)
90A-06	Not provided.	Fire damper 2/3-9482-141 is located in return air duct and mounted in the Prime Computer Room wall. The damper is installed such that the release latches will not be accessible to reset the damper should the damper be actuated. There is currently no access door to the opposite side of the damper (Ref. 4.39, pg 12, para 1).	Mod M12-2(3)-84-110 addresses this issue (Ref. 4.15, pg 1.1-49, Item 5.6).

TABLE B
NFPA 92M Justification Matrix

Deviation No.	Code Section	Deviation	Justification
92-01	Not identified.	Floor drains for the Hotwell are plugged according to the plans (Ref. 4.42, pg 7, note 2).	According to the plumbing plans, these drains are plugged. In this way, if a large accumulation of radioactive water were to occur, it would be held in the pit until disposal arrangements could be made. Containment of radioactive materials takes priority over fire protection water drainage (Ref. 4.42, pg 7).
92-02	Not identified.	Drains in the cable tunnel are not effective (Ref. 4.42, pg 8, para 2).	There appears to be no economically justifiable method of correcting this condition (Ref. 4.42, pg 8, para 2).
92-03	Not identified.	Floor drains at U-2 Trackway and U-3 Turbine Oil reservoir are clogged (Ref. 4.42, pg 8, para 4 and 5).	The floor drains in the south end of the U2 Trackway are required to be plugged as they drain to the station storm sewers. WRD56408 opens the U3 Turb Oil Res drain. It was completed on 8/7/86 (Ref. 4.42, pg 1.1-51, Item 4.1.1).
92-04	Appendix A, Section G.2	Sprinkler protection not provided in a resin storage area (Ref. 4.42, pg 9, para 2).	This lack of protection can be justified as no safety-related systems are directly exposed (Ref. 4.42, pg 9, para 2).
92-06	Not identified.	No curbs have been installed in the U-2/3 DG cell to prevent water or oil from flowing into the HPCI stairwell ladder enclosure (Ref. 4.42, pg 9, para 6).	Lack of such curbing can be justified as the plant can initiate safe shutdown with both the HPCI pumps and the U-2/3 diesel generator out of the service (Ref. 4.42, pg 9, para 6).
92-07	Not identified.	Inadequate drainage is provided for the diesel fuel tank in the Unit 2/3 Cribhouse (Ref. 4.42, pg 10, para 2).	Mod M12-2/3-84-7 addresses this issue (Ref. 4.15, pg 1.1-51, Item 4.3).
92-08	Not identified.	It could not be determined if drains in the HPCI rooms go to the room sump or to Radwaste (Ref. 4.42, pg 8, para 6).	Mod M12-2/3-84-81 addresses this issue (Ref. 4.15, pg 1.1-51, Item 4.2).
92-09	Not identified	In the CRD area there is an enclosed watertight room containing a CCSW pump required for safe shutdown in the event of a flood. No drains are provided from these rooms (Ref. 4.42, pg 7, note 3).	This room is located in the Unit 2 Turbine Building at the 495' elevation. It is in Fire Zone 8.2.2.A. It is protected by a wet pipe automatic sprinkler system. The Fire Suppression Effects Analysis documented on Page 4.8-6 of Reference 4.43 gives justification for the drainage in this area.

TABLE B
NFPA 92M Justification Matrix

Deviation No.	Code Section	Deviation	Justification
92-10	Not identified	Drains for the Turbine Building Turbine Bearing Lift pumps could not be located due to equipment storage on the floor in the SE area, and due to a dress-out area established in the NW area, with paper taped to the floor. In these areas, unprotected floor penetrations exist and water could easily travel to the floor below (Ref. 4.42, pg 7, note 4).	<p>This area is located on the Unit 2 Turbine Building, Fire Zone 8.2.8.A. The Turbine Bearing Lift Pumps are protected by an automatic sprinkler system.</p> <p>The Fire Suppression Effects Analysis documented on Page 4.11-6 of Reference 4.43 gives justification for the drainage of fire protection water runoff in this area. In addition, there is a large floor hatch covered by grated metal floor nearby this area. This would further assist in drainage.</p>

TABLE B
NFPA 601 Justification Matrix

Deviation No.	Code Section	Deviation	Justification
601-01	Not identified.	Guards do not perform all duties specified by NFPA 601 (Ref. 4.48, pg 3, para 1).	Where the activities listed in NFPA 601 are performed by others, no deficiency in protection is found to exist (Ref. 4.48, pg 3, para 1).
601-02	Not identified.	Supervised tours of the premises are not conducted (Ref. 4.48, pg 3, para 4).	However, due to the large size of the guard force (with guards stationed in various areas), electronic and television monitoring of the property parameter, card key entry systems, and 24 hours operation of the plant, there appears to be little need for supervised tours (Ref. 4.48, pg 3, para 4).
601-03	Section 58, NFPA 601	The guard training procedure does not address fire hazards in the various plant areas (Ref. 4.48, pg 4, para 1).	The security force is not intended as the primary response force....(Ref. 4.15, pg 1.1-57, Item 4.1)

TABLE C

NFPA CODES OF RECORD

Table C lists the NFPA Codes of Record that have been adopted for use at Dresden Units 2 and 3.

TABLE C
DRESDEN NUCLEAR STATION
NFPA CODES OF RECORD
(See Note 1)

NFPA 4-1971	NFPA 20-1976	NFPA 70-1975
NFPA 4A-1969	NFPA 24-1973	NFPA 72D-1975
NFPA 6-1974	NFPA 26-1976	NFPA 72E-1974
NFPA 7-1974	NFPA 27-1975	NFPA 78-1975
NFPA 8-1974	NFPA 30-1973	NFPA 80-1975/1983
NFPA 10-1975	NFPA 49-1975	NFPA 90A-1976
NFPA 12-1973	NFPA 50A-1973	NFPA 92M-1972
NFPA 12A-1973	NFPA 51-1974	NFPA 194-1974
NFPA 13-1976	NFPA 51B-1971	NFPA 196-1974
NFPA 13A-1976	NFPA 69-1973	NFPA 197-1966
NFPA 14-1974		NFPA 232-1980
NFPA 15-1973		NFPA 251-1973
		NFPA 255-1973
		NFPA 601-1975

Note 1: The code edition year was obtained from the Dresden Station Fire Protection Program Documentation Package, Set 6, Microfiche.

ATTACHMENT 1

Technical Justification for Deviation NFPA 72D-06.2

Technical Justification
For
Deviation NFPA 72D-06.2
Dresden Nuclear Power Station

NTSC Analysis Number 99-4003.001
Revision No. 0
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1.0 PURPOSE

Dresden Fire Detection and Alarm Survey (Ref. 4.6) raised the issue that the manual pull stations used to actuate fire suppression systems are not electrically supervised. According to this report, the lack of electrical supervision is not in compliance with Section 2431 of NFPA 72D, 1975 edition.

This Technical Justification is performed to justify that it is not necessary to electrically supervise or to periodically test the electrical circuits serving manual pull stations that actuate fire suppression systems including deluge sprinkler systems, pre-action sprinkler systems, open head water spray systems, carbon dioxide extinguishing systems and Halon 1301 systems.

2.0 SCOPE

This Technical Justification was been developed for the purpose of resolving NFPA Code Compliance Open Issue/Recommendation documented on page 15 of the Dresden Fire Detection and Alarm Survey (Ref. 4.6).

3.0 LICENSING AND DESIGN BASIS COMMITMENTS

The following document(s) list commitments made related to this evaluation:

- 3.1 Dresden 2 & 3 Updated Fire Hazard Analysis Report, Amendment 12

4.0 REFERENCES

- 4.1 NFPA 72D, *Proprietary Protective Signaling Systems*, 1975 edition
- 4.2 NFPA 12, *Carbon Dioxide Extinguishing Systems*, 1975 edition
- 4.3 NFPA 12A, *Halogenated Fire Extinguishing Agent System*, 1975 edition
- 4.4 NFPA 13, *Standard for the Installation of Sprinkler Systems*, 1976 edition
- 4.5 NFPA 15, *Water Spray Fixed Systems for Fire Protection*, 1973 edition
- 4.6 Fire Detection and Alarm survey in Nuclear Safety Related Areas at Units 2 & 3 Dresden Nuclear Power Station, Commonwealth Edison Company, Rev. 1, dated November 11, 1984

5.0 DEFINITIONS

None

6.0 EVALUATION METHODOLOGY AND RESULTS

6.1 Description

This Technical Justification demonstrates that applicable NFPA codes and standards do not require manual pull stations which are used for the purposes of actuating fire suppression systems to be electrically supervised or periodically tested. Consequently, the manual pull stations used for the purpose of actuating fire suppression systems at Dresden Units 2 & 3 are currently in compliance with the appropriate NFPA Codes of Record and Standards.

6.2 Assumptions

None

6.3 Safe Shutdown Equipment

The safe shutdown equipment protected by systems that utilize manual actuation of fire suppression systems is documented in the Fire Hazards Analysis, Amendment 12.

6.4 Fire Protection Equipment

The locations of the systems that utilize manual actuation of fire suppression systems are documented in the Fire Hazards Analysis, Amendment 12. This analysis deals with a generic, plant-wide issue.

6.5 Analysis

The Dresden 2 & 3 Updated Fire Hazards Analysis (UFHA), Amendment 12, Section 2.1.3 indicates that National Fire Protection (NFPA) Codes were used as guidelines in the design of fire protection features. It also states that technical justifications for deviations from significant provisions of the applicable codes have been developed and are available in the NFPA Code Review (see FPPDP, Volume 9). Section 2.4.2 further clarifies the station's intent by stating "The fire alarm and detection systems, where provided, are designed and installed under the general guidance of NFPA 72D. However, certain specific problem areas encountered in nuclear power plants were not always addressed in

NFPA codes. Where such situations occurred, deviations from code provisions were necessary. In all cases, the intent of the NFPA codes were followed (modified, as required, by sound engineering judgment) with major deviations justified and documented in the NFPA Code Review (see FPPDP)" and "All alarm circuits are either electrically supervised or are tested to assure operability."

UFHA Sections 2.4.3.1, 2.4.3.2, and 2.4.3.3 indicate that the appropriate NFPA Codes and Standards are also used as guidelines in the design and installation of water suppression systems, Halon suppression systems and carbon dioxide suppression systems, respectively. These sections also state that where code deviations are required or desirable, they are made under the intent of the code using sound engineering principles.

UFHA Sections 5.4.D.1 (h), 5.4.D.2 (a), 5.4.D.4 (d), 5.5.E.3 (c), 5.5.E.4, 5.5.E.5, 5.6.F.3 (a) (1), 5.6.F.3 (b), 5.6.F.9, and 5.6.F.9 (b) contain commitments to utilize fixed fire suppression systems, some of which are equipped with manual pull stations used to actuate the fire suppression system. UFHA Section 5.5.E.1 (a) states that fire detection systems should as a minimum comply with NFPA 72D and that deviations from the requirements of NFPA 72D should be identified and justified. In its response, Dresden Nuclear Power Station indicated that "Fire detection systems have been reviewed against the criteria of NFPA 72D."

Dresden Fire Detection and Alarm (Ref. 4.6) Section 2431 states that the manual pull stations that actuate certain fixed fire suppression systems are not in compliance with Code Section 2431 of NFPA 72D (Ref. 4.1).

The analyses below evaluate the requirements of each of the NFPA Codes of Record that apply to this situation.

a. NFPA 72D, *Proprietary Protective Signaling Systems*, 1975 edition

Section 2431 is a part of Article 240, Electrical Supervision. Section 2431 states, in part, "The electrical supervision shall also include all circuits for signals initiated by the operation of fire alarm boxes, fire detectors, automatically operated transmitters, or other appliances or devices which initiate or transmit signals . . ." (underlining added by NTSC). As per Article 100, these types of signals are "alarm signals" whose purpose is to provide an indication that there is an emergency requiring immediate action. This is consistent with the Fire Hazards Analysis, Amendment 12, Section 2.4.2 which states that all "alarm circuits" are either electrically supervised or tested to assure operability.

The manual pull stations in question do not transmit "alarm signals". They are not

intended to act as a fire alarm box per NFPA 72D, Article 310; nor as a supplementary means for manually operating an automatic fire alarm system as per NFPA 72D, Article 330. The only function of the manual pull stations is to manually actuate the release of a fire suppression agent (water, carbon dioxide gas, or Halon 1301 gas). Each system that uses a manual pull station for this function, fire detectors are provided to initiate an "alarm signal". The alarm initiating circuits are electrically supervised. In addition, the transmitters (local control panels) which send a signal to the Pyrotronics XL3 alarm-receiving panel are electrically supervised and the Signaling Line Circuit between the local control panels and the XL3 alarm-receiving panel are electrically supervised. This meets both the intent and the letter of the code.

Although the manual pull stations are not required to be electrically supervised according to NFPA 72D, the issue of whether or not these devices are required to be electrically supervised by other codes was investigated. These codes have been investigated and it has been determined that they do not require that these manual pull stations be electrically supervised. The codes that apply are summarized below.

b. NFPA 12, *Carbon Dioxide Extinguishing Systems*, 1975 edition

NFPA 12 states, in Section 144:

"Supervision. Where supervision of any or all of the following – automatic detection system, the electrical actuation circuit, the electrical power supply – is provided, it shall be arranged to give immediate indication of failure". Section 144 does not require the pull stations to be supervised. The current arrangement of pull stations used to manually actuate carbon dioxide systems meets both the intent and the letter of the code.

c. NFPA 12A, *Halogenated Fire Extinguishing Agent System*, 1975 edition

Section 1435 requires that all automatically operated valves controlling agent release and distribution be provided with approved independent means for emergency operation. The manual pull stations of concern have been provided for this purpose. Section 1440 states that supervision of automatic systems is advisable. It makes no mention of manual systems. The current arrangement of pull stations used to manually actuate Halon 1301 systems meets both the letter and the intent of NFPA 12A.

d. NFPA 13, *Standard for the Installation of Sprinkler Systems*, 1976 edition

NFPA 13 states, in Section 5-3.2 Description, "Pre-action and deluge systems are normally without water in the system piping and the water supply is controlled by an automatic valve operated by means of fire detection devices and provided with manual means for operation which are independent of the sprinklers . . ."

For pre-action systems, Section 5-3.5.2 Supervision, states "Sprinkler piping and fire detection devices shall be automatically supervised when there are more than 20 sprinklers on the system."

For deluge systems, Section 5-3.6 states "The fire detection devices or systems shall be automatically supervised when there are more than 20 sprinklers on the system."

The manual pull stations are not used to detect fire. They are used to manually actuate the system. Manual means of operation are not required to be electrically supervised by NFPA 13. The current arrangement meets both the intent and the letter of the code.

e. NFPA 15 *Water Spray Fixed Systems for Fire Protection*, 1973 edition

NFPA 15 states, in Section 1020 Definitions, "A water spray system is a special fixed pipe system connected to a reliable source of fire protection water supply, and equipped with water spray nozzles for specific water discharge and distribution over the surface or area to be protected. The piping system is connected to the water supply through an automatically or manually actuated valve which initiates the flow of water . . ."

Section 2011, states, in part, "Systems shall be operable by automatic means with supplementary manual tripping means."

Section 2082 states "Manual devices may actuate the automatic control valves by mechanical, pneumatic, electrical, or other approved means . . ."

Section 4062 (b) under "Automatically Controlled Valves", states "Remote manual tripping devices, where required, shall be conspicuously located where readily accessible during the emergency and adequately identified as to the system controlled."

Chapter 8, Automatic Detection Equipment governs the arrangements of automatic detection equipment, including fire detectors. Section 8040 governs Arrangement & Supervision of Systems. Section 8041. Supervision, states "Central station, remote station or proprietary supervision of detection equipment is recommended." The manual pull stations used for actuation of fire suppression systems are not included in this category because they are not "automatic detection equipment". Their purpose is to trip/actuate the control valve, not to detect a fire or send a fire alarm.

The current arrangement of manual pull stations used to actuate fixed water spray systems meets both the intent and the letter of the code.

6.6 Conclusion

Based on a review of NFPA 72D, NFPA 12, NFPA 12A, NFPA 13 and NFPA 15, the current arrangement of manual pull stations to actuate fire suppression systems at the Dresden Nuclear Power Station Units 2 and 3 meets all Codes of Record that apply to this situation. This is not a code deviation.

6.7 Attachments

None

ATTACHMENT 2

Dresden Fire Door Items to be Resolved, Appendix G

NEXUS TECHNICAL SERVICES CORPORATION

*125 Fairfield Way, Suite 380
Bloomington, IL 60108*

December 17, 1999

Mr. Michael Dillon
Fire Protection Systems Engineer
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, IL 60450

**Subject: Dresden Fire Door Items to be Resolved
NTSC Project 99-4003**

Dear Mike:

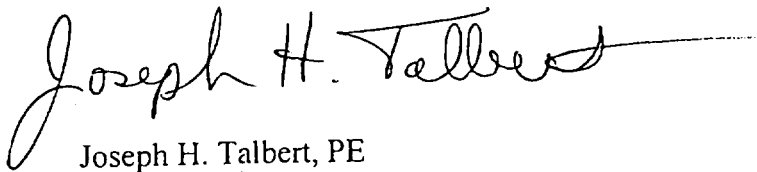
On October 11, 12 and 27, 1999, Nexus Technical Services Corporation (NTSC) visited the site again to follow-up on the open items listed in Appendix G of the Dresden Fire Door Analysis. The results of our walkdown are summarized in the attached updated Appendix G. Many items were found to be resolved. The updated Appendix G lists the Action Request numbers that have been issued by Dresden Nuclear Power Station to correct the remaining open items. Upon completion of the Action Requests and the Action Tracking numbers that are contained in this update, all previously identified fire door issues pertaining to Units 2 and 3 will be completed.

The outstanding items are given in table form. Items labeled as "Priority" (P) must be completed in order for revision 2 of the Dresden Fire Door Analysis to be valid. Items labeled "Maintenance" (M) should also be resolved, but are not necessary to validate revision 2 of the Dresden Fire door Analysis.

The previous "Appendix G" should be removed from the Fire Protection Program Documentation Package, pages 17.1-112 through 17.1-125 and replaced with the attached "Appendix G Updated December 17, 1999" and labeled pages 17.1-112 through 17.1-127.

Please feel free to call me at (630) 893-2277, ext. 22 if you have any questions or if we can be of any assistance.

Sincerely,
Nexus Technical Services Corporation



Joseph H. Talbert, PE
Principal Engineer

Cc: Thomas J. McCormack, NTSC
Don Mershon, NTSC
Mr. Al Casillo, Com Ed
Mr. Russell Peak, Com Ed
Mr. Pete Griffin, SWEC

Attachment: Appendix G, Updated December 17, 1999

Appendix G
Fire Door Items to be Resolved

April 12, 1988
Updated December 17, 1999

Item Number	Door Number/Location	Priority (P or M)	Action	Status
1)	8/U2 Oil Storage Room to DR 2 Transformer	P	a) Fill holes in door where kick plate was with metal screws, rivets or bolts	Door removed. Opening Sealed. Completed.
2)	12/Clean & Dirty Oil Storage Room North Door	P	a) Install UL listed rear binders (latch plate assemblies) and front binder. See Drwg. No. 1 at end of letter.	Completed
2)		P	b) Provide new pin in closing mechanism per manufacturer's instructions.	Completed.
2)		P	c) Install fusible link inside Clean & Dirty Oil Storage Room at ceiling.	This issue was resolved by Technical Justification issued by Dresden on February 9, 1999. See FPPDP Page 17.4-1.
2)		P	d) Install weight box around fire door closing mechanism weight.	Completed.
2)		M	a) Attach front binder to horizontal surface.	Completed.
2)		M	b) Tighten stay roll.	Completed.
3)	14/U2 TB to Aux. Trans. (517')	M	a) Paint Door Red.	Completed.
3)		M	b) Provide a door number tag.	Completed.

Appendix G
Fire Door Items to be Resolved

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Updated December 17, 1999

Item Number	Door Number/Location	Priority (P or M)	Action	Status
4)	17A/U2 Diesel Generator Room Louvered Door	P	a) Rework caulking on right hand side guide so expansion gap between the floor and guide is clear.	Completed.
4)		P	b) Interlock with detection system to close upon detection actuation.	<p>Fusible links are installed near the ceiling on the inside of the Diesel Generator Room to provide automatic closing of the fire door in accordance with NFPA 80, Section 6-5.1 in the event of a fire inside the Diesel Generator Room. The purpose of an interlock with the detection system was to ensure prompt closure of the fire door. However, the heat generated by an oil fire in the Diesel Generator room would be significant and would melt the fusible link near the ceiling rapidly, achieving this prompt closure.</p> <p>In the event of a fire outside the Diesel Generator Room, this Diesel Generator is not needed to achieve Safe Shutdown for a fire in the Turbine Building in the vicinity of the Diesel Generator Room. If fire spread to the Diesel Generator, it would not jeopardize safe shutdown of the plant, therefore the lack of a fusible link near the ceiling on the Turbine Building side of the wall is acceptable.</p>

Appendix G
Fire Door Items to be Resolved

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Updated December 17, 1999

Item Number	Door Number/Location	Priority (P or M)	Action	Status
4)		M	a) Right hand guide is missing 3/8" threaded rod. Replace it.	Completed.
5)	20/AEER to U2 Switchgear Area North Door	P	a) Reduce gap at latch to 1/8" or less.	Completed.
5)		P	b) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is UL listed according to Mr. Joe Gadbois of Yale Security (see letter from Joseph H. Talbert to Mr. Michael Dillon dated October 29, 1999). However, the door closer arms are not UL listed for use with fire doors. Action Request Number 990056420 has been issued to correct this item.
5)		M	a) Provide door closer with cover.	This door closer does not require a cover. The cover is an integral part of the unit. Completed.
6)	24/AEER to U2 Trackway	P	a) Reduce gap at latch to 1/8" or less.	Completed.
6)		M	a) Provide closer with cover.	Completed.
7)	28/Control Room North Wall NW Door.	P	a) Reduce gap at latch to 1/8" or less.	Completed.
8)	30/Control Room West Wall to Trackway.	P	a) Door will not latch unless fully extended. Repair so that it will close when only partially opened.	Completed.
8)		P	b) Reduce gap at latch to 1/8" or less.	Completed.

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Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
9)	Unit 1 – 36/Control Room Southwall to Shift Engineer Office	P	a) Reduce gap at latch to 1/8" or less.	Door removed. Opening Sealed. Completed.
10)	46/Clean & Dirty Oil Storage Room West Door.	P	a) Install UL listed rear binders (latch plate assemblies) and front binder. See Drwg. No. 1 at the end of letter.	Completed.
10)		P	b) Provide new pin in closing mechanism per manufacturer's instructions.	Completed.
10)		P	c) Install fusible link inside Clean & Dirty Oil Storage Room at ceiling.	This issue was resolved by Technical Justification issued by Dresden on February 9, 1999. See FPPDP Page 17.4-1.
10)		P	d) Install weight box around fire door closing mechanism weight.	Completed.
11)	50/U2 Diesel Generator Day Tank Room	P	a) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is a Corbin Model 166. It is U. L. listed for fire door use. Completed.

Appendix G
Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
11)	50/U2 Diesel Generator Day Tank Room	M	a) Install larger screws in doorstop.	Completed.
11)		M	b) Remove paint from U. L. door label.	Not completed. Action Request Number 990056426 has been issued to correct this item.
12)	53/U2 shutdown Cooling Room	P	a) Interlock door with ceiling smoke detection system to close door in the event of a fire.	Completed.
13)	57/Between U2 and U2 Rx (517').	P	a) Verify the installed chain set up for the fusible links is in accordance with manufacturer's instructions.	The manufacturer of the door (Wayne Dalton Co.) was contacted and indicated that the chain arrangement is not in accordance with the manufacturer's instructions. Not completed. Action Request Number 990064617 has been issued to correct this item.
13)		P	b) Complete WR D54125 to install electro thermal link at ceiling.	Completed.

Appendix G
Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
14)	64/Iso Cond. Vlv Room 3 (545')	P	a) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is a Corbin Model 166. It is U. L. listed for fire door use. Completed.
15)	70/Between U2 and U3 Rx (570')	P	a) Replace latch with latch that has a 1/4" throw.	Completed.
15)		P	b) Verify brass plug lock is acceptable. If not, replace it with metal similar to installed hardware.	<p>According to Underwriters Laboratories, the use of a brass plug is not acceptable for a fire door.</p> <p>Not completed.</p> <p>Replace the brass plug with metal similar to the construction of the door or cover the brass plug with a steel plate of the same gauge as the fire door.</p> <p>Action Request Number 990056444 has been issued to correct this item.</p>

Appendix G
Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
15)	70/Between U2 and U3 Rx (570')	M	a) Tighten screws on bottom hinge.	Completed.
15)		M	b) Remove paint off UL label.	Completed.
16)	73/Between U2 & U3 Rx 589'	M	a) Provide a cover on door closer.	Completed.
17)	76/U2 Iso Cond. VLV Room 2	P	a) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is UL listed according to Mr. Joe Gadbois of Yale Security (see letter from Joseph H. Talbert to Mr. Michael Dillon dated October 29, 1999). However, the door closer arms on Door 20 are not UL listed for use with fire doors. This door closer is similar to the door closer on Door 20, but the arms could not be verified because it is in a high radiation area the door closer arms are not visible from outside the area. Action Tracking Number ATI 19427, Task 01 has been issued to verify whether or not the door closer arms are UL listed at the next outage when the door is open.
18)	80/U2 250 V Batt. Room North Door	P	a) Install a sill so that the gap between the door is less than ¼" or less.	The door has a gap of 1 inch at the floor. Action Tracking Number ATI 19427, Task 04 has been issued for this item.
19)	81/U2 125 V Battery Room South Door	P	a) Replace latch with latch that has a ¼" throw.	Completed.
20)	84/U2 Diesel Generator Room Entrance	M	a) Paint door red.	Completed.

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Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
21)	92/U3 TB to Aux. Transf. (517')	P	a) Install two missing bolts from security strike coverplate.	Door Removed. Opening Sealed. Completed.
21)		P	b) Fill hole in doorjamb with metal screw, rivet or bolt.	Door Removed. Opening Sealed. Completed.
22)	95A/U3 Diesel Generator Room Louvered Door	P	a) Baffle hinge is missing two left-hand side screws. Replace them.	Completed.
22)		P	b) Guide angles are provided with bolts every other hole. Verify this is adequate per manufacturer's instruction. If not. Correct it.	Completed.

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Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
22)	95A/U3 Diesel Generator Room Louvered Door	P	c) Interlock door with detection system to close upon detection actuation.	<p>Fusible links are installed near the ceiling on the inside of the Diesel Generator Room to provide automatic closing of the fire door in accordance with NFPA 80, Section 6-5.1 in the event of a fire inside the Diesel Generator Room. The purpose of an interlock with the detection system was to ensure prompt closure of the fire door. However, the heat generated by an oil fire in the Diesel Generator room would be significant and would melt the fusible link near the ceiling rapidly, achieving this prompt closure.</p> <p>In the event of a fire outside the Diesel Generator Room, this Diesel Generator is not needed to achieve Safe Shutdown for a fire in the Turbine Building in the vicinity of the Diesel Generator Room. If fire spread to the Diesel Generator, it would not jeopardize safe shutdown of the plant, therefore the lack of a fusible link near the ceiling on the Turbine Building side of the wall is acceptable</p>
22)		M	a) Left-hand guide angle is missing a washer. Replace it.	<p>Not completed. Action Request Number 990064619 has been issued to correct this item.</p>

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
23)	117/U3 Shutdown Cooling Pump Room	P	a) Replace aluminum door stop and rubber gasketing with bolted, or welded (for weld per detail B1 on drwg, B-334) steel stop and UL listed gasket.	Completed.
23)		P	b) Interlock door with fire detection system at the ceiling to shut the door in event of a fire.	
24)	124/U3 Iso Cond. VLV room 2 (570')	P	a) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is a Corbin Model 166. It is U. L. listed for fire door use. Completed.
24)		P	b) Shim sill so gap between door and sill is $\frac{1}{4}$ " or less.	Completed.

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Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
25)	132/U3 Diesel Generator Day Tank Room	P	a) Replace lock cylinder.	Completed.
25)		P	b) There is no UL label on the door. Provide documentation to verify this is a UL listed door (Bill of Material or Purchase Order).	Not completed. Action Tracking Number ATI 19427, Task 02 has been issued to correct this item.
25)		P	c) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is a Corbin Model 166. It is U. L. listed for fire door use. Completed.
25)		M	a) Paint door red.	Completed.
26)	140/Diesel Generator Room	P	a) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is a Corbin Model 166. It is U. L. listed for fire door use. Completed.

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Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
27)	153/U3 TB to Rad Waste (517')	P	a) Fill holes in door and frame with metal screws, rivets and bolts.	Completed.
27)		P	b) Reduce gap at latch to 1/8" or less.	Completed.
27)		M	a) Paint door red.	Completed.
27)		M	b) Replace bolts on handle, latch cover plate and hinges with larger holes to completely fill holes.	Completed.
27)		M	c) Remove paint from UL door label.	Not completed. Action Request Number 990056439 has been issued to correct this item.
27)		M	d) Provide door closer with cover.	Completed.
28)	164/U2 TB Mezz to Rad Waste	P	a) Verify brass plug lock is acceptable. If not, replace it with metal similar to installed hardware.	Completed.
28)		M	a) Remove paint from UL door label.	Completed.
29)	168/U3 Cable Tunnel to AEER	M	a) Paint door red.	Completed.

Appendix G
Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
29)		M	b) Provide door with a number tag.	Not completed. Action Tracking Number ATI 19427, Task 03 has been issued to correct this item.
29)		M	c) Provide door closer with cover.	Completed.
30)	182/U3 Tip Drive Room	P	a) Provide PLC with the door closer model number or P.O. number it was purchased under to verify if it is UL listed for fire door use. (If not UL listed, closer will need to be replaced).	The door closer is a Corbin Model 166. It is U. L. listed for fire door use. Completed.
31)	1005/U2RX and 2/3 Diesel Generator Interlock (517')	P	a) Verify the use of the right hand side lever arm with the manufacturer instructions..	Wayne Dalton Co., the manufacturer of this fire door was contacted and indicated that the use of only the right hand side lever to actuate the door is not in accordance with the manufacturer's instructions. The fusible link arrangement does not meet the manufacturer's instructions. Not completed. Action Request Number 990064631 has been issued to correct this item.

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Fire Door Items to be Resolved

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Item Number	Door Number/Location	Priority (P or M)	Action	Status
31)	1005/U2RX and 2/3 Diesel Generator Interlock (517')	P	b) Verify fusible link arrangement with manufacturer's instructions.	Wayne Dalton Co., the manufacturer of this fire door was contacted and indicated that the use of only the right hand side lever to actuate the door is not in accordance with the manufacturer's instructions. The fusible link arrangement does not meet the manufacturer's instructions. Not completed. Action Request Number 990064631 has been issued to correct this item.
31)		M	a) Clean debris out from under the guides' expansion gap.	Completed.