



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE RD. SUITE 210  
LISLE, IL 60532-4352

January 4, 2017

Mr. Brian D. Boles  
Site Vice President  
FirstEnergy Nuclear Operating Co.  
Davis-Besse Nuclear Power Station  
5501 N. State Rte. 2, Mail Stop A-DB-3080  
Oak Harbor, OH 43449-9760

**SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - TRIENNIAL FIRE  
PROTECTION INSPECTION REPORT 05000346/2016009**

Dear Mr. Boles:

On December 1, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed a Triennial Fire Protection Inspection at your Davis-Besse Nuclear Power Station, Unit 1. The enclosed inspection report documents the inspection results, which were discussed on December 1, 2016, with Mr. K. Byrd and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

NRC inspectors documented one finding of very-low safety significance (Green) in this report. This finding was determined to involve a violation of NRC requirements. However, because of its very-low safety significance, and because the issue was entered into your Corrective Action Program, the NRC is treating the issues as a Non-Cited Violation in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the subject or severity of the Non-Cited-Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Davis-Besse Nuclear Power Station.

B. Boles

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA/***

Robert C. Daley, Chief  
Engineering Branch 3  
Division of Reactor Safety

Docket No. 50-346 and 72-014  
License No. NPF-3

Enclosure:  
IR 05000346/2016009

cc: Distribution via LISTSERV®

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-346  
License No: NPF-3

Report No: 05000346/2016009

Licensee: FirstEnergy Nuclear Operating Company

Facility: Davis-Besse Nuclear Power Station, Unit 1

Location: Oak Harbor, OH

Dates: October 31 - December 1, 2016

Inspectors: A. Dahbur, Senior Reactor Inspector, Lead  
I. Hafeez, Reactor Inspector  
A. Shaikh, Senior Reactor Inspector

Approved by: Robert C. Daley, Chief  
Engineering Branch 3  
Division of Reactor Safety

Enclosure

## SUMMARY

Inspection Report 05000346/2016009; 10/31/2016 – 12/01/2016; Davis-Besse Nuclear Power Station, Unit 1; Routine Triennial Fire Protection Baseline Inspection.

This report covers an announced Triennial Fire Protection Baseline Inspection. The inspection was conducted by Region III inspectors. One finding was identified by the inspectors. The finding was considered a Non-Cited Violation of U.S. Nuclear Regulatory Commission (NRC) regulations. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated April 29, 2015. Cross-cutting aspects were determined using IMC 0310, "Aspects Within the Cross Cutting Areas." Findings for which the Significance Determination Process does not apply may be Green or be assigned a severity level after NRC management review. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6, dated July 2016.

### **Cornerstone: Mitigating Systems**

Green. The inspectors identified a finding of very-low safety significance (Green), and associated Non-Cited Violation of License Condition 2.C.(4) for the licensee's failure to implement and maintain the Fire Protection Program as described in the Updated Final Safety Analysis Report. Specifically, the current Fire Hazards Analysis Report incorrectly listed rooms 511 and 512 as not requiring a separate fire watch, for fire protection impairments, because the rooms were incorrectly assumed to be continuously staffed or visible to the continuously staffed area. The licensee entered this issue into their Corrective Action Program and updated the Fire Hazards Analysis Report to reflect the current operating practice and deleted rooms 511 and 512 from the list of rooms that were continuously staffed.

The inspectors determined that the performance deficiency was more-than-minor because if left uncorrected, it could become a more significant safety concern for the failure to maintain the defense-in-depth element for the Fire Protection Program. The lack of fire watches degraded the ability to recognize conditions which could either increase the likelihood of a fire or the severity of a fire. The finding was representative of a low degradation and screened as having very low safety significance (Green) in Task 1.3.1 of IMC 0609, Appendix F. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance.  
(Section 1R05.10b)

## REPORT DETAILS

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events and Mitigating Systems**

##### 1R05 Fire Protection (71111.05T)

The licensee was in transition to National Fire Protection Association (NFPA) 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," as incorporated by Title 10, *Code of Federal Regulations* (CFR), Part 50.48(c). The NFPA 805 standard establishes a comprehensive set of requirements for Fire Protection Programs at nuclear power plants. The standard incorporates both deterministic and risk-informed, performance-based concepts. The deterministic aspects of the standard are comparable to traditional requirements. However, the transition to a risk-informed, performance-based Fire Protection Program requires an in-depth nuclear safety circuit analysis for equipment identified for nuclear safety functions such as safe shutdown (SSD). Because the conversion and licensing process to NFPA 805 was expected to identify and address a variety of issues that were normally the subject of the Triennial Fire Protection Baseline Inspection, the U.S. Nuclear Regulatory Commission (NRC) modified the Enforcement Policy for licensees in transition to NFPA 805. As part of the transition to NFPA 805, certain findings not associated with findings of high safety significance that meet the four criteria established by Section A of the NRC's Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48) receive enforcement discretion in accordance with the NRC's Enforcement Policy.

The purpose of the Triennial Fire Protection Baseline Inspection was to conduct a design-based, plant specific, risk-informed, onsite inspection of the licensee's Fire Protection Program's defense-in-depth elements used to mitigate the consequences of a fire. The Fire Protection Program shall extend the concept of defense-in-depth to fire protection in plant areas important to safety by:

- preventing fires from starting;
- rapidly detecting, controlling and extinguishing fires that do occur;
- providing protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by fire suppression activities will not prevent the safe-shutdown of the reactor plant; and
- taking reasonable actions to mitigate postulated events that could potentially cause loss of large areas of power reactor facilities due to explosions or fires.

The inspectors' evaluation focused on the design, operational status, and material condition of the reactor plant's Fire Protection Program, post-fire SSD systems, and B.5.b mitigating strategies. The objectives of the inspection were to assess whether the licensee had implemented a Fire Protection Program that: (1) provided adequate controls for combustibles and ignition sources inside the plant; (2) provided adequate fire detection and suppression capability; (3) maintained passive fire protection features in good material condition; (4) established adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems or features; (5) ensured that procedures, equipment, fire barriers and systems exist so that the post-fire capability to safely shut down the plant was ensured; (6) included feasible and

reliable operator manual actions when appropriate to achieve SSD; and (7) identified fire protection issues at an appropriate threshold and ensured these issues were entered into the licensee's Problem Identification and Resolution Program.

In addition, the inspectors' review and assessment focused on the licensee's post-fire SSD systems for selected risk-significant fire areas. Inspector emphasis was placed on determining that the post-fire SSD capability and the fire protection features were maintained free of fire damage to ensure that at least one post-fire SSD success path was available. The inspectors' review and assessment also focused on the licensee's B.5.b-related license conditions and the requirements of 10 CFR Part 50.54 (hh)(2). Inspector emphasis was to ensure that the licensee could maintain or restore core cooling, containment, and spent fuel pool cooling capabilities utilizing the B.5.b mitigating strategies following a loss of large areas of power reactor facilities due to explosions or fires. Documents reviewed are listed in the Attachment to this report.

The fire areas and B.5.b mitigating strategies selected for review during this inspection are listed below and in Section 1R05.13. The fire areas selected constituted five inspection samples and the B.5.b mitigating strategies selected constituted one inspection sample, respectively, as defined in Inspection Procedure 71111.05T.

Fire Area	Description
Q-01	High Voltage Switchgear Room "B"
BF	Service Water Pump Room
DD	Cable Spreading Room

.1 Protection of Safe Shutdown Capabilities

a. Inspection Scope

For each of the selected fire areas, the inspectors reviewed the fire hazards analysis, SSD analysis, and supporting drawings and documentation to verify that SSD capabilities were properly protected.

The inspectors also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the Fire Protection Program and/or post-fire SSD analysis and procedures.

b. Findings

No findings were identified.

.2 Passive Fire Protection

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire area barriers, penetration seals, fire doors, electrical raceway fire barriers, and fire rated electrical cables. The inspectors observed the material condition and configuration of the installed barriers, seals, doors, and cables. The inspectors reviewed approved construction

details and supporting fire tests. In addition, the inspectors reviewed license documentation, such as NRC Safety Evaluation Reports, and deviations from NRC regulations and NFPA standards to verify that fire protection features met license commitments.

The inspectors walked down accessible portions of the selected fire areas to observe material condition and the adequacy of design of fire area boundaries (including walls, fire doors, and fire dampers) to ensure they were appropriate for the fire hazards in the area.

The inspectors reviewed the installation, repair, and qualification records for a sample of penetration seals to ensure the fill material was of the appropriate fire rating and that the installation met the engineering design.

b. Findings

No findings were identified.

.3 Active Fire Protection

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire suppression and detection systems. The inspectors observed the material condition and configuration of the installed fire detection and suppression systems. The inspectors reviewed design documents and supporting calculations. In addition, the inspectors reviewed license basis documentation, such as, NRC Safety Evaluation Reports, deviations from NRC regulations, and NFPA standards to verify that fire suppression and detection systems met license commitments.

b. Findings

No findings were identified.

.4 Protection from Damage from Fire Suppression Activities

a. Inspection Scope

For the selected fire areas, the inspectors verified that redundant trains of systems required for hot shutdown would not be subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems including the effects of flooding. The inspectors conducted walkdowns of each of the selected fire areas to assess conditions such as the adequacy and condition of floor drains, equipment elevations, and spray protection.

b. Findings

No findings were identified.

.5 Alternative Shutdown Capability

a. Inspection Scope

The inspectors reviewed the licensee's systems required to achieve alternative SSD to determine if the licensee had properly identified the components and systems necessary to achieve and maintain SSD conditions. The inspectors also focused on the adequacy of the systems to perform reactor pressure control, reactivity control, reactor coolant makeup, decay heat removal, process monitoring, and support system functions.

The inspectors conducted selected area walkdowns to determine if operators could reasonably be expected to perform the alternate SSD procedure actions and that equipment labeling was consistent with the alternate SSD procedure. The review also looked at operator training as well as consistency between the operations shutdown procedures and any associated administrative controls.

b. Findings

No findings were identified

.6 Circuit Analyses

a. Inspection Scope

The inspectors verified that the licensee performed a post-fire SSD analysis for the selected fire areas and the analysis appropriately identified the structures, systems, and components important to achieving and maintaining SSD. Additionally, the inspectors verified that the licensee's analysis ensured that necessary electrical circuits were properly protected and that circuits that could adversely impact SSD due to hot shorts, shorts to ground, or other failures were identified, evaluated, and dispositioned to ensure spurious actuations would not prevent SSD.

The inspectors' review considered fire and cable attributes, potential undesirable consequences, and common power supply/bus concerns. Specific items included the credibility of the fire threat, cable insulation attributes, cable failure modes, and actuations resulting in flow diversion or loss of coolant events.

The inspectors also reviewed cable raceway drawings for a sample of components required for post-fire SSD to verify that cables were routed as described in the cable routing matrices.

The inspectors reviewed circuit breaker coordination studies to ensure equipment needed to conduct post-fire SSD activities would not be impacted due to a lack of coordination. Additionally, the inspectors reviewed a sample of circuit breaker maintenance records to verify that circuit breakers for components required for post-fire SSD were properly maintained in accordance with procedural requirements.



The inspectors verified for cables that are important to SSD, but not part of the success path, and that do not meet the separation/protection requirements of Section III.G.2 of 10 CFR 50, Appendix R, that the circuit analysis considered the cable failure modes. In addition, the inspectors have verified that the licensee has either: (1) determined that there is not a credible fire scenario (through fire modeling), (2) implemented feasible and reliable manual actions to assure SSD capability, or (3) performed a circuit fault analysis demonstrating no potential impact on SSD capability exists.

b. Findings

No findings were identified.

.7 Communications

a. Inspection Scope

The inspectors reviewed, on a sample basis, the adequacy of the communication system to support plant personnel in the performance of alternative SSD functions and fire brigade duties. The inspectors verified that plant telephones, page systems, sound powered phones, and radios were available for use and maintained in working order. The inspectors reviewed the electrical power supplies and cable routing for these systems to verify that either the telephones or the radios would remain functional following a fire.

b. Findings

No findings were identified.

.8 Emergency Lighting

a. Inspection Scope

The inspectors performed a plant walkdown of selected areas in which a sample of operator actions would be performed in the performance of alternative SSD functions. As part of the walkdowns, the inspectors focused on the existence of sufficient emergency lighting for access and egress to areas and for performing necessary equipment operations. The locations and positioning of the emergency lights were observed during the walkdown and during review of manual actions implemented for the selected fire areas.

b. Findings

No findings were identified.

.9 Cold Shutdown Repairs

a. Inspection Scope

The inspectors reviewed the licensee's procedures to determine whether repairs were required to achieve cold shutdown and to verify that dedicated repair procedures, equipment, and material to accomplish those repairs were available onsite. The inspectors also evaluated whether cold shutdown could be achieved within the required time using the licensee's procedures and repair methods. The inspectors also verified that equipment necessary to perform cold shutdown repairs was available onsite and properly staged.

b. Findings

No findings were identified.

.10 Compensatory Measures

a. Inspection Scope

The inspectors conducted a review to verify that compensatory measures were in place for out-of-service, degraded or inoperable fire protection and post-fire SSD equipment, systems, or features (e.g., detection and suppression systems, and equipment, passive fire barriers, pumps, valves or electrical devices providing SSD functions or capabilities). The inspectors also conducted a review of the adequacy of short term compensatory measures to compensate for a degraded function or feature until appropriate corrective actions were taken.

b. Findings

(1) Fire Hazards Analysis Report Incorrectly Described Rooms 511 and 512 as being Continuously Staffed

Introduction: The inspectors identified a finding of very-low safety significance (Green), and associated Non-Cited Violation (NCV) of license condition 2.C.(4) for the licensee's failure to implement and maintain the fire protection program as described in the Updated Final Safety Analysis Report. Specifically, the current Fire Hazards Analysis Report (FHAR) incorrectly listed rooms 511 and 512 as not requiring a separate fire watch, for fire protection impairments, because the rooms were incorrectly assumed to be continuously staffed or visible to the continuously staffed area.

Description: On November 3, 2016, during a tour of Control Room areas, the inspectors noted a discrepancy with regards to rooms 511 and 512. Specifically, these rooms were not occupied or visible from a space that was continuously occupied. The current FHAR incorrectly described rooms 511 and 512 as continuously staffed. Approximately 15 years ago, these rooms were staffed by the Shift Supervisor and Shift Manager. Subsequently, staff were relocated to offices in other parts of the facility.

In Davis-Besse Power Station, "Fire Protection Impairment and Fire Watch," Procedure DB-FP-00009, Section 4.18, "Operating Specification Fire Watch," required the establishment of a fire watch for fire impairment (i.e. degraded barriers and/or systems such as blocked open fire doors, fire dampers that were inoperable, fire detection system(s), sprinkler systems, hose stations, structural steel, Appendix R wrap, and/or Fire computer inoperable). These fire watches may be continuous or roving (hourly or 8-hour). This section also stated, that no additional compensatory measures needed to be established in areas that were continuously manned.

Based on the above, the inspectors concluded that the licensee's Fire Protection Program failed to ensure that appropriate compensatory actions (fire watch) would be established for fire impairment in rooms 511 or 512. The licensee entered this issue into their Corrective Action Program (CAP) as Condition Reports CR-2016-13064 and CR-2016-13066 and updated the FHAR to reflect the current operating practice and deleted rooms 511 and 512 from the list of rooms that were continuously staffed.

Analysis: The inspectors determined that the current FHAR description of rooms 511 and 512 was incorrect. Further, the inspectors concluded that this mischaracterization would result in a failure to implement and maintain the Fire Protection Program as approved and therefore was contrary to License Condition 2.C.(4) related to the Fire Protection Program and was a performance deficiency. Specifically, compensatory measures required for fire impairments in these rooms by Procedure DB-FP-00009 would not be implemented as these rooms were incorrectly described in the FHAR as being continuously staffed or visible to the continuously staffed area. Continuously staffed areas do not require compensatory measures as personnel normally in the area perform that function.

The performance deficiency was determined to be more-than-minor because if left uncorrected, it could become a more significant safety concern for the failure to maintain the defense-in-depth element for the Fire Protection Program. Specifically, the current description in the FHAR didn't ensure compensatory measures would be established for inoperable fire equipment in these rooms. In addition, the finding involved the attribute of protection against external factors (fire) and could have affected the mitigating systems objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences and adversely affected the fire protection. The licensee's ability to quickly detect a fire in the area was impaired due to FHAR characterization of the rooms as continuously staffed or visible to areas that are continuously staffed. The lack of fire watches degraded the ability to recognize conditions which could either increase the likelihood of a fire or the severity of a fire.

In accordance with Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 2, the inspectors determined the finding affected the Mitigating System cornerstone. The finding degraded fire protection defense-in-depth strategies, and the inspectors determined, using Table 3, that it could be evaluated using Appendix F, "Fire Protection Significance Determination Process."

The inspectors completed a significance determination of this issue using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," dated September 20, 2013. The inspectors determined that the finding affected the category of "Fire Prevention and administrative Controls," based upon that element of the FPP being impacted. Although, IMC 0609, Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements," does not cover findings involving degradation of fire watches other than hot work activities, the inspectors used these guidance and determined that the finding was representative of a low degradation and screened as having very-low safety significance (Green) in Task 1.3.1 of IMC 0609, Appendix F. Specifically, the inspectors concluded that the majority of issues identified by fire watches would involve combustible materials which would not result in ignition of a fire from existing sources of heat or electrical energy as specified in IMC 0609, Appendix F, Attachment 2.

The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance. The licensee failed to update the FHAR when the office for the shift supervisor and shift manager were relocated 15 years ago to the personnel shop facility.

Enforcement: Davis-Besse Facility Operating License Condition 2.C.(4) stated, in part, that the licensee shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Updated Safety Analysis Report. Section 9.5.1, "Fire Protection Program," of the Updated Safety Analysis Report stated, in part, that the FHAR documents the analysis that insures compliance with Appendix R of 10 CFR 50. Various sections of the FHAR, stated, in part, that rooms that are continuously staffed or are visible to the continuously staffed area did not require a separate fire watch since the personnel normally in the area serve that function. The FHAR listed Rooms 511 and 512 among the rooms that did not require a separate fire watch for fire impairment.

Contrary to the above, as of November 3, 2016, the licensee did not implement all provisions of the approved Fire Protection Program as described in the Davis-Besse Updated Final Safety Analysis Report. Specifically, the FHAR incorrectly listed Rooms 511 and 512 among the rooms that did not require a separate fire watch as they were continuously staffed. This conclusion was not supported by current staffing practices as the rooms were no longer continuously staffed.

This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy because it was of very-low safety significance and was entered into the licensee's CAP as Condition Reports CR-2016-13064 and CR-2016-13066. The licensee updated the FHAR to reflect the current operating practice and deleted rooms 511 and 512 from the list of rooms that were continuously staffed.

**(NCV 05000346/2016009-01, FHAR Incorrectly Described Rooms 511 and 512 as being Continuously Staffed).**

.11 Review and Documentation of Fire Protection Program Changes

a. Inspection Scope

The inspectors reviewed changes to the approved Fire Protection Program to verify that the changes did not constitute an adverse effect on the ability to safely shutdown. The inspectors also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the Fire Protection Program and/or post-fire SSD analysis and procedures.

b. Findings

No findings were identified.

.12 Control of Transient Combustibles and Ignition Sources

a. Inspection Scope

The inspectors reviewed the licensee's procedures and programs for the control of ignition sources and transient combustibles to assess their effectiveness in preventing fires and in controlling combustible loading within limits established in the fire hazards analysis. A sample of hot work and transient combustible control permits were also reviewed. The inspectors performed plant walkdowns to verify that transient combustibles and ignition sources were being implemented in accordance with the administrative controls.

b. Findings

No findings were identified.

.13 B.5.b Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee's preparedness to handle large fires or explosions by reviewing selected mitigating strategies. This review ensured that the licensee continued to meet the requirements of their B.5.b related license conditions, and 10 CFR 50.54(hh)(2) by determining that:

- procedures were being maintained and adequate;
- equipment was properly staged, maintained, and tested;
- station personnel were knowledgeable and could implement the procedures; and
- additionally, inspectors reviewed the storage, maintenance, and testing of B.5.b related equipment.

The inspectors reviewed the licensee's B.5.b related license conditions and evaluated selected mitigating strategies to ensure they remain feasible in light of operator training, maintenance/testing of necessary equipment and any plant modifications. In addition, the inspectors reviewed previous inspection reports for commitments made by the licensee to correct deficiencies identified during performance of Temporary Instruction 2515/171 or subsequent performances of these inspections.

The B.5.b mitigating strategies selected for review during this inspection are listed below. The offsite and onsite communications, notifications/emergency response organization activation, initial operational response actions and damage assessment activities identified in Table A.3-1 of Nuclear Energy Institute 06-12, "B.5.b Phase II and III Submittal Guidance," Revision 2, are evaluated each time due to the mitigation strategies' scenario selected.

<b>NEI 06-12, Revision 2, Section</b>	<b>Licensee Strategy (Table)</b>
2.3.2	Spent Fuel Pool Spray Capability (Table A.2-3)
3.3.1	Emergency Makeup to Borated Water Storage Tank (BWST) (Table A.4-1)

b. Findings

One finding was identified which is discussed in Inspection Report 05000346/2016410.

#### **4. OTHER ACTIVITIES**

##### 4OA2 Identification and Resolution of Problems (71152)

###### a. Inspection Scope

The inspectors reviewed the licensee's CAP procedures and samples of corrective action documents to verify that the licensee was identifying issues related to the Fire Protection Program at an appropriate threshold and entering them in the CAP. The inspectors reviewed selected samples of condition reports, design packages, and fire protection system non-conformance documents.

###### b. Findings

No findings were identified.

##### 4OA6 Management Meetings

###### .1 Exit Meeting Summary

On December 1, 2016, the inspectors presented the inspection results to Mr. K. Byrd, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

K. Byrd, Director, Site Engineering  
J. Carr, Operation, Senior Reactor operator  
J. Cuff, Manager, Training  
S. Gatter, System Plant Engineering  
P. McCloskey, Manager, Site Regulatory Compliance  
G. Michael, Manager, Design Engineering  
M. Murtha, Fire Protection Engineer, Design Engineering  
V. Patton, Fire Marshal, Operations  
H. Phelps, Supervisor, Training  
J. Phillippe, Operations Superintendent  
J. Ross, Fire Protection Engineer, Design Engineering  
J. Vetter, Manager, Emergency Response  
V. Wadsworth, Sr. Engineering Specialist, Regulatory Compliance  
J. Whitright, Supervisor, Design Engineering  
G. Wolf, Supervisor, Regulatory Compliance

#### U.S. Nuclear Regulatory Commission

P. Smagacz, Acting Senior Resident Inspector

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

#### Opened and Closed

0500346/2016009-01 NCV Fire Hazards Analysis Report Incorrectly Described Rooms  
511 and 512 as being Continuously Staffed (Section 1R05.10b)

#### Discussed

None

### LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
CAP	Corrective Action Program
CFR	<i>Code of Federal Regulations</i>
FHAR	Fire Hazard Analysis Report
IMC	Inspection Manual Chapter
NCV	Non-Cited Violation
NFPA	National Fire Protection Association
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records
SSD	Safe Shutdown

## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### **CALCULATIONS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
C-ME-013.04	Fire Protection Sprinkler Calculations	01

### **CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
2016-13809	Lack of Fire Detection in Room 509, Control Room Passage	11/29/2016
2016-13064	FHAR Room Listing for Continuously Staffed Rooms Incorrect	11/03/2016
2016-13066	Control Room Area Fire Detection Deficiencies	11/03/2016

### **CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
2005-0013	Operability Evaluation Fire Water System	12/09/2005
2010-76172	Multiple Spurious Operations Scenarios Review	04/30/2010
2013-04512	Post Fire Safe-Shutdown Repair Does Not Have Detailed Procedure	03/26/2013
2013-13262	Hose Station 36 Damaged from Hose being Charged	08/27/2013
2013-14019	Penetration 422A-C-0661 Failed DB-FP-04038	09/09/2013
2014-04194	Compensatory Measures for Higher Risk Fire Compartments	03/02/2014
2014-12175	Sprinkler Heads in CCW Pump Room Found Damaged	07/24/2014
2014-12504	Fire Protection 5-Year Flow Test Results Do Not Meet Acceptable Range for C Value	08/01/2014
2015-13040	Cables Located above Suspended Ceiling not in accordance with FHAR	10/01/2016
2015-16648	Transient Combustibles Staged on the North Side of Room 124	12/11/2015
2016-07345	Current Firewatch Practice needs to be re-evaluated	06/02/2016
2016-09942	PA-DB-16-04: Elevation: Fire Protection Risk Awareness and Control	08/17/2016
2016-13410	Circulating Water Pump House Roof Fire	11/14/2016

### **DRAWINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
E-52B, Sheet 66	Reactor Coolant System, HPI-LPI Cross Connection Isolation Valves	10
E-52B, Sheet 5A	Reactor Cooling System, HP Injection Pump 1-1	12
E-52B, Sheet 6A	Reactor Cooling System, DH Injection Pump 1-1	14
E-34B, Sheet 13A	4.16 KV Feeder Breaker Bus C1 Tripping and Lockout and Sychro Check Relays	2



## **DRAWINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
E-64B, Sheet 1A	Diesel Generator 1-1 Breaker AC101 Control	13
E-434, Sheet 1	Raceways Area Rad. Monitor. & Fire Alarm System Containment and Auxiliary Plan EI 623'-0	7
A-7	Shield, Turbine, Auxiliary, Opr Bld. General Floor Plan EI629'-0	0
E-64B, Sheet 1F	Emergency Diesel Generator 1-1 Remote Start & Stop Signals	5
B15702501	Schematic Diagram Engine Control For Emergency Diesel Generator 1-1	19
B157D02505	Wiring Diagram Eng. Control Panel C3621 Door Bruce GM Diesel Inc.	10

## **ENGINEERING CHANGE PACKAGE**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
15-086	Changes to FHAR 4.6.Q	05/15/2015
C-EE-006-01-003	Multiple High Impedance Fault Caused by 10CFR50 Appendix R Fire	03/12/1990
16-152	Condition Report 2016-13064 identified that the listing of rooms credited for continuous staffing in Section 8 of (FHSAR) is not consistent with current staffing practices.	11/28/2016

## **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
DB-OP-02519	Serious Control Room Fire	23
DB-OP-02501	Serious Station Fire	26
DB-FP-04024	18 Month Fire Damper Visual Inspection	08
DB-OP-02600	Operational Contingency Response Plan	13
PPF-YD-STRAT	Protected Area Pre-Fire Plan/Protected Area Yard Strategy	4
DB-FP-04019	Non-RRA Wet Pipe Sprinkler System Test	12
DB-OP-02700	Emergency Operating Procedure Station Blackout	0
DB-FP-04005	Periodic Test Procedure Fire Brigade Equipment Quarterly Inspection	14
DB-OP-02519	Abnormal Procedure Serious Control Room Fire	17
DB-ME-09323	Maintenance Procedure Emergency Lighting System Preventive Maintenance	3
DB-ME-04100	Critical Periodic Test Procedure Emergency Lighting System Test	16
DB-ME-099325	Electrical Maintenance Procedure Emergency Lighting System Maintenance	7

## **VENDOR REPORTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
10-76172-1	Preliminary Selection of Deterministic Resolution for Multiple Spurious Operations	0

## **WORK ORDERS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
200626417	Replace Mortice Latches in Fire Door 423A	02/20/2015
200531807	Perform 18 Month Fire Damper Visual Inspection	03/10/2015
200599612	Room 53 Wet Pipe Sprinkler System Test	06/15/2016

B. Boles

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Letter to Brian Boles from Robert Daley dated January 4, 2017

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - TRIENNIAL FIRE  
PROTECTION INSPECTION REPORT 05000346/2016009

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