



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

August 13, 2020

Mr. Terry Brown
Site Vice President
Energy Harbor Nuclear Corp.
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 – INTEGRATED INSPECTION
REPORT 05000346/2020002

Dear Mr. Brown:

On June 30, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Davis-Besse Nuclear Power Station. On July 22, 2020, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

One finding of very low safety significance (Green) is documented in this report. This finding did not involve a violation of NRC requirements.

A licensee-identified violation which was determined to be of very low safety significance is documented in this report. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, 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; and the NRC Resident Inspector at Davis-Besse Nuclear Power Station.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; and the NRC Resident Inspector at Davis-Besse Nuclear Power Station.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

April M. Nguyen, Acting Chief
Branch 2
Division of Reactor Projects

Docket No. 05000346
License No. NPF-3

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Terry Brown from April Nguyen dated August 13, 2020.

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION – INTEGRATED INSPECTION
REPORT 05000346/2020002

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000346

License Number: NPF-3

Report Number: 05000346/2020002

Enterprise Identifier: I-2020-002-0027

Licensee: Energy Harbor Nuclear Corp.

Facility: Davis-Besse Nuclear Power Station

Location: Oak Harbor, OH

Inspection Dates: April 01, 2020 to June 30, 2020

Inspectors: M. Garza, Emergency Preparedness Inspector
J. Harvey, Resident Inspector
D. Mills, Senior Resident Inspector
J. Park, Reactor Inspector
J. Rutkowski, Project Engineer

Approved By: April M. Nguyen, Acting Branch Chief
Branch 2
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Davis-Besse Nuclear Power Station, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. A licensee-identified non-cited violation is documented in report section: 71153.

List of Findings and Violations

Failure to Verify the Adequacy of Design for a Nuclear Instrument Well Cover Modification			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green FIN 05000346/2020002-01 Open/Closed	[H.12] - Avoid Complacency	71111.18
A finding of very low safety significance (Green) was self-revealed when the licensee failed to verify the adequacy of a design modification for covers protecting various flux monitoring equipment, including the safety-related post-accident monitoring (PAM) instrumentation. Specifically, the licensee's failure to evaluate all design requirements for the new cover seal design resulted in two seals failing and the inoperability of PAM channel 1.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000346/2019-002-00	LER 2019-002-00 for Davis-Besse Nuclear Power Station, Unit 1, Auxiliary Feedwater Trains Inoperable due to Loss of Train Separation from Door Being Left Open	71153	Closed

PLANT STATUS

The unit began the inspection period at rated thermal power and, other than small changes for planned evolutions, remained at rated thermal power for the entire inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time the resident inspectors performed periodic site visits each week and during that time conducted plant status activities as described in IMC 2515, Appendix D; observed risk significant activities, and completed on-site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on-site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal hot temperatures and seasonal heavy rains for the following systems:

Service water system, circulating water system, and associated cooling tower

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Emergency diesel generator (EDG) 2 before EDG 1 became unavailable for planned testing during the week ending May 2, 2020

- (2) Emergency feedwater while auxiliary feedwater train 2 was unavailable for planned maintenance during the week ending May 9, 2020

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Control room air conditioning equipment room (room 603): Fire area HH during the week ending April 18, 2020
- (2) Emergency core cooling system pump room 1 (room 105): Fire area AB during the week ending April 25, 2020
- (3) Decay heat cooler room and hatch (room 113): Fire area AB during the week ending May 23, 2020
- (4) Component cooling water heat exchanger and pump room (room 328): Fire area T during the week ending June 6, 2020
- (5) Clean waste receiver tank rooms 1 and 2, detergent waste tank room (rooms 123, 124, and 125): Fire areas A and G during the week ending June 6, 2020

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Decay heat cooler (room 113) and emergency core cooling system train 1 (room 105) rooms

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during planned power reduction activities on May 30, 2020

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance during the operator requalification simulator scenario on June 16, 2020

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Reactor coolant pump (RCP) controlled bleed off flow element and the RCP seal return flow element and transmitter

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Auxiliary feedwater train 2 unavailable for planned maintenance during the week ending May 9, 2020
- (2) Emergent issue associated with emergency core cooling system train 1 sump pump 3B inoperable during work on sump pump 3A during the week ending May 16, 2020
- (3) Emergent issue associated with containment spray train 2 suction valve following planned maintenance during the week ending June 6, 2020
- (4) Planned smart analog selector switch turbine throttle pressure module replacement activities during the week ending June 13, 2020

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (2 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) CR 2020-01723: Error identified in containment piping overpressure calculation containment past operability review
- (2) CR 2020-01866: Gamma-Metrics channel 1 source and wide range unexpected indication

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Decay heat/low pressure injection 2 shaft seal package modification
- (2) Refueling canal nuclear instrument well cover sealing system modification

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the following post maintenance test activities to verify system operability and functionality:

- (1) Control rod drop testing following refueling outage during the week ending March 28, 2020
- (2) Decay heat cooler room sump pump 3A test following planned maintenance during the week ending April 4, 2020
- (3) Auxiliary feedwater train 2 surveillance following planned maintenance during the week ending May 9, 2020
- (4) Station black out diesel test following planned maintenance during the week ending June 13, 2020
- (5) Decay heat/low pressure injection pump 1 surveillance following planned maintenance during the week ending June 27, 2020

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Partial)

- (1) (Partial)
The inspectors evaluated refueling outage 21 activities from February 28, 2020 to March 30, 2020 and documented a partial sample in the Davis-Besse first quarter integrated inspection report. The inspectors continued their outage-related inspection activities during the second quarter inspection period including a review of work-hour rule compliance. No issues of concern were identified; however, the inspectors were unable to perform a physical containment closeout walkdown due to the NRC's response to COVID-19. Inspection Procedure 71111.20, "REFUELING AND OTHER OUTAGE ACTIVITIES," has 18 high-level requirements to complete the inspection procedure. IP 71111.20 section 03.02.d.2, "Containment Closure," requires in part, "If containment is opened, conduct a walkdown of containment just before closure." Though the inspectors were unable to perform this physical walkdown just before closure, they did perform multiple walkdowns of containment during the refueling outage and reviewed the licensee's assessment of containment condition just before closure. No issues were identified. Inspection Manual Chapter 2515 states that "the inspector is to perform the inspection requirements most appropriate ... to the activity being inspected in order to declare an activity (sample) as being satisfactorily completed." Because the physical containment closeout walkdown was not performed and could not be performed at the time, and in accordance with the memo from Ho Nieh, Director of the Office of Nuclear Reactor Regulation dated May 28, 2020 (ML 20141L66), this inspection sample is documented as partially completed and is closed.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (4 Samples)

- (1) Component cooling water pump 3 quarterly test during the week ending May 2, 2020
- (2) Turbine valve testing during the week ending May 30, 2020
- (3) Control rod exercising during the week ending May 30, 2020
- (4) Emergency diesel generator train 2 184-day test during the week ending May 16, 2020

Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

- (1) Local leak rate testing of containment isolation valves MU59A, MU59B, MU59C, MU59D, and MU38 for penetration 56 during the refueling outage

71114.02 - Alert and Notification System Testing

Inspection Review (IP Section 02.01-02.04) (1 Sample)

- (1) The inspectors evaluated the following maintenance and testing of the alert and notification system:
 - 2018 Annual Preventive Maintenance
 - 2019 Annual Preventive Maintenance

71114.03 - Emergency Response Organization Staffing and Augmentation System

Inspection Review (IP Section 02.01-02.02) (1 Sample)

- (1) The inspectors evaluated the readiness of the Emergency Preparedness Organization

71114.05 - Maintenance of Emergency Preparedness

Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

- (1) The inspectors evaluated the maintenance of the emergency preparedness program

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

EP01: Drill/Exercise Performance (IP Section 02.12) (1 Sample)

- (1) Unit 1 (January 2019 – December 2019)

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

- (1) Unit 1 (January 2019 – December 2019)

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

- (1) Unit 1 (January 2019 – December 2019)

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

- (1) Unit 1 (April 2019 – April 2020)

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) CR 2020-00013: Pipe supports 33B-GCB-1H3 and 33B-GCB-1-H5

71153 - Follow-up of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (1 Sample)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 05000346/2019-002-00, Auxiliary feedwater trains inoperable due to loss of train separation from door being left open

The circumstances surrounding this LER are documented in the Results section

INSPECTION RESULTS

Failure to Verify the Adequacy of Design for a Nuclear Instrument Well Cover Modification			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green FIN 05000346/2020002-01 Open/Closed	[H.12] - Avoid Complacency	71111.18
<p>A finding of very low safety significance (Green) was self-revealed when the licensee failed to verify the adequacy of a design modification for covers protecting various flux monitoring equipment, including the safety-related post-accident monitoring (PAM) instrumentation. Specifically, the licensee's failure to evaluate all design requirements for the new cover seal design resulted in two seals failing and the inoperability of PAM channel 1.</p> <p><u>Description:</u></p> <p>During the refueling outage in March 2020, the licensee implemented a modification for nuclear instrument (NI) well covers to improve seal reliability. The NIs sit next to the reactor vessel below the refuel canal floor in four separate wells spaced around the outside of the reactor vessel. The main function of the covers is to provide a leak tight barrier to allow flooding of the refueling canal. The covers also act as a water barrier post-accident, but they are not credited to ensure the NIs maintain their safety function after a design basis accident due to the design of the well. The cover modification changed the gasket to a more flexible material and the bolting of the cover to a cam-action design.</p> <p>After installing the modification, while the licensee was filling the refueling canal, operators noted an increase in containment sump level and halted the evolution. The licensee determined that two of the four new NI well covers (wells 8 and 11) leaked. The licensee halted refueling operations and drained the canal to allow access to the NI well covers. The licensee generated condition report 2020-01848, "1R21 Framatome - Nuclear Instrument (NI) Well Covers Leaking," to document the leakage and determined no equipment was impacted. Then, due to a lack of confidence in the new seals, the licensee performed rework and replaced all four NI well seals with new gaskets of the old design. After the gasket replacement, the refueling canal was refilled with no further issues.</p> <p>The day after the seals leaked, the licensee noted that channel 1 of the post-accident monitoring (PAM) equipment was acting erratically and generated CR 2020-01866, "Gamma-Metrics channel 1 source and wide range unexpected indication." The licensee declared PAM Channel 1 source range neutron flux and PAM wide range neutron flux inoperable. Technical Specification (TS) limiting condition for operation (LCO) 3.3.17, PAM Instrumentation, was applicable; however not in the mode the plant was in at the time. The licensee subsequently entered the mode of applicability during startup, which required invoking LCO 3.0.4 to allow for a mode transition into an applicable mode with inoperable equipment. Specifically, the licensee transitioned to mode 3 with the PAM flux instrumentation inoperable, as required by LCO 3.3.17. The inspectors did not identify any issues with the licensee's application of LCO 3.0.4.</p> <p>After noting the degraded equipment, the licensee drained, flushed, and inspected NI well 8, which housed PAM channel 1. The licensee also determined that NI well 11 had drained without additional action. The licensee then allowed NI well 8 and 11 to dry during startup</p>			

and at power operation. PAM instrumentation functioned properly following these actions. The inspectors noted the licensee is tracking an action to perform inspections of NI well 11 during the next refueling outage, as tracked by Work Order 200819290.

The licensee evaluated the failure and determined the leakage was due to a faulty design which allowed the gasket to shift during flooding of the canal. The licensee also noted that “although the vendor built a mock-up and tested the system using the design drawings provided to them by the site, the testing did not account for the lateral forces against the seal (sideways flowing water).”

The inspectors reviewed the licensee’s engineering change procedure and the associated engineering change package (ECP) for the modification. Procedure NOP-CC-2003, “Engineering Changes,” provided the instructions for a design equivalent change package and required that the licensee evaluate all design input and characteristics. Additionally, the inspectors noted the procedure also provided a reference to applicable design inputs to consider. The inspectors reviewed the licensee’s engineering change procedure and the associated engineering change package (ECP) for the modification. Step 3.3.4 of Appendix 1, Attachment 5 in NOP-CC-2003, “Engineering Changes,” revision 24, provided the instructions for a design equivalent change package and stated, in part, “list the design requirements and evaluate the changes,” and “each department involved in the design shall document the design inputs/requirements/critical characteristics that are applicable to the design.” The inspectors noted the step stated, in part, “the nuclear industry has identified a list of 33 design inputs that are to be considered when performing design activities,” referencing Attachment 11, “Design Input Considerations,” of NOP-CC-2003. This attachment included basic functions of a structure, system or component and design conditions, such as pressure, flow and temperature. The inspectors determined the evaluation corresponding to the above Step 3.3.4 failed to include several design inputs, such as all forces expected on the seals, during fill, draining and steady state conditions. The inspectors questioned the licensee as to whether Attachment 11 was used when considering design inputs. The licensee did not have any formal documentation capturing the thought process for the applicability of each design input nor how the attachment was used during the ECP review process.

Corrective Actions: Immediate corrective actions included draining the refueling canal and replacing the four NI well covers with new gaskets of the old design. Additionally, after PAM channel 1 began acting erratically, the licensee drained, flushed and inspected NI well 8, and determined the configuration of NI well 11 was such that it drained without action. The licensee plans to inspect NI well 11 during the next refueling outage.

Corrective Action References: CR-2020-02841, Summary of Results of CHAR Testing Performed in 1R21 on NI4, NI6, NI8, and NE5874, 4/1/2020; CR-2020-02372, 1R21 BACC: A NI Well #8 Leak was Found on NE5874, 3/18/2020; CR-2020-01848, 1R21 Framatome - Nuclear Instrument (NI) Well Covers Leaking, 3/5/2020

Performance Assessment:

Performance Deficiency: The licensee failed to ensure a modification accurately reflected design requirements for replacement of the NI well cover gaskets as required by Step 3.3.4 of Appendix 1, Attachment 5 in NOP-CC-2003, “Engineering Changes.” Specifically, the licensee failed to evaluate the all forces on the new NI well cover seal design, which resulted in two seals failing.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, PAM flux instrumentation, which is required to verify the reactor is shutdown, was adversely impacted, resulting in additional testing to ensure operability of other equipment in the NI wells. Additionally, due to a lack of confidence in the new design, the licensee performed rework and installed the previous NI cover seal and gasket design on all four NI wells. The inspectors also referenced IMC 0612, Appendix E, and determined example 3.e was similar to this issue. Specifically, example 3.e is more than minor if the resulting condition was unacceptable and the licensee had to perform a modification. Due to this performance deficiency the seal modification was unacceptable, and the licensee had to perform rework to install the old seal type in order to ensure the NI wells would remain watertight.

Significance: The inspectors assessed the significance of the finding using Appendix G, "Shutdown Safety SDP." The inspectors determined the finding was of very low safety significance, or Green, using Exhibit 3, Mitigating Systems Screening Questions, in Appendix G, Attachment 1, Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings. Specifically, the inspectors answered "No" to all questions in Exhibit 3, so a detailed risk assessment was not required. The inspectors referenced Step 1.4 and contacted a Regional Senior Reactor Analyst who concurred that the finding was of very low safety significance.

Cross-Cutting Aspect: H.12 - Avoid Complacency: Individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Individuals implement appropriate error reduction tools. Specifically, the licensee failed to rigorously implement the error reduction tool located in NOP-CC-2003, Appendix 1, Attachment 11, such that the justification for each applicable design input could be reviewed and questioned.

Enforcement:

Inspectors did not identify a violation of regulatory requirements associated with this finding.

Minor Violation	71152
<p>Minor Violation: While performing a walkdown in the emergency core cooling system train 2 room, the inspectors noted several pipe support spring cans supporting the decay heat discharge line appeared to be at the maximum allowable setting. The function of the spring cans is to provide deadweight support while permitting the piping to move thermally. The inspectors questioned the licensee as to whether the settings were appropriate for the piping.</p> <p>Upon investigation into the question, the licensee discovered this condition was identified in 2003 and documented in condition report (CR) 2003-10730, "DH [Decay Heat] Train 2 Pump Discharge Spring Hanger Set Outside Vendor Recommended Band." The CR identified that the supports were set outside of the vendor recommended range. The licensee subsequently performed an operability evaluation in 2003 that determined the spring cans were able to perform their pipe support safety function. The licensee determined that although the spring cans were set outside the vendor recommended range, the settings were within the reserve range and allowed for the required thermal displacement. The inspectors noted that the issue was classified as a non-conforming condition.</p>	

The licensee generated two corrective actions in 2003. The first was to prepare and issue necessary design documentation to change the spring hanger size for the subject supports. This action was completed in 2004. The second corrective action (CA), CA-2003-10730-002, was intended to track implementation of the engineering change request to replace the spring can pipe supports. Because this issue was determined to have low risk significance, the licensee closed the corrective action to a work order to be tracked by the work management process. Due to the inspectors' questioning, it was discovered that the work order to replace the spring cans was not implemented. The licensee determined the work order had been delayed multiple times, and was last modified in 2011, which sent the order back to planning due to a lack of detail. The inspectors noted the work management process failed to track the 2003 work order from 2011 until the inspectors questioned the condition in 2020, with no justification for an extension.

The licensee generated CR-2020-00013 to address the inspectors' concerns. The licensee determined the current state of the spring cans continued to be bounded by the operability evaluation in 2003 because there were no major piping design changes that would have impacted the stress analysis. Additionally, the licensee performed an extent of condition review of operability evaluations generated since 2003 to determine if other corrective actions had been missed and found no other instances.

The inspectors reviewed CR-2020-00013 and the licensee's prioritization, extent of condition, and resolution of the issue, and did not identify any current concerns. However, the inspectors noted that with the closed corrective action and inactive work order, there appeared to be no tracking of the nonconforming condition which could have adversely impacted future engineering changes and evaluations on the piping. As stated, there had been no piping modifications to the subject piping since the issue was identified in 2003 and therefore no adverse impact to the system.

Screening: The inspectors determined the performance deficiency was minor. The licensee's failure to establish measures to correct a condition adverse to quality associated with the decay heat system piping supports is a minor performance deficiency because it did not impact the Mitigating Systems' cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors referenced IMC 0612, Appendix E, "Examples of Minor Issues," and determined this performance deficiency was similar to the 3.e. Specifically, the operability evaluation from 2003 was bounding such that the as-found condition was acceptable.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that measures be established to ensure conditions adverse to quality, such as nonconformances are corrected.

This failure to comply with Title 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. The licensee has taken actions to restore compliance.

Licensee-Identified Non-Cited Violation	71153
This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.	

Violation: Title 10 *Code of Federal Regulations*, Part 50, Appendix B, Criterion V requires in part “activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.” Licensee procedure DB-OP-06233 “Auxiliary Feedwater System,” Revision 45, Attachment 8, Step 1 requires that in Modes 1, 2, and 3, “the door [215] shall be open only as long as necessary to allow access to and egress from auxiliary feedwater pump (AFP) room 1. After entering or exiting the room, the door shall be closed and latched.”

Contrary to the above, on August 19, 2019, licensee maintenance personnel failed to follow licensee procedure DB-OP-06233 “Auxiliary Feedwater System” Revision 45, Attachment 8, Step 1. Specifically, the maintenance personnel opened door 215 to enter the auxiliary feedwater (AFW) train 1 room for planned maintenance and left the door open while working. An operator conducting rounds identified that door 215 was left open and immediately closed it. Licensee staff determined that the door had been open for a period of 75 minutes rendering both AFW trains inoperable and causing the plant to be in a technical specification limiting condition of operation requiring shutdown within six hours.

Significance/Severity: Green. The inspectors answered ‘No’ to all the questions in Inspection Manual Chapter (IMC) 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” because the licensee restored operability of the AFW trains by closing the door when discovered. In addition, the AFW trains were available to perform their intended function for the entire 75-minute period of time. Therefore, the finding screened as Green.

Corrective Action References: The licensee entered this issue into their corrective action program as CR 2019-06949.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On July 22, 2020, the inspectors presented the integrated inspection results to Mr. T. Brown, Site Vice President and other members of the licensee staff.
- On May 8, 2020, the inspectors presented the Davis-Besse Emergency Preparedness inspection results to Mr. M. Bezilla, (Former) Site Vice President and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Corrective Action Documents	CR-2020-01407	S70, Security Battery Room 517A Air Conditioner Blowing Hot Air	02/23/2020
		CR-2020-03796	Milestone Exception for Order 200574481 (SW Pump #3 Rebuild) Will Impact Shops Ability to Appropriately Prepare for Work	04/29/2020
		CR-2020-03846	Seasonal Start-Up of Actibrom Injection Delayed	04/30/2020
	Procedures	DB-OP-06913	Seasonal Plant Preparation Checklist	35
71111.04	Corrective Action Documents	CR-2020-03817	Required VT-2 System Leakage Test Not Completed for EF3 Following Replacement of Pressure Boundary Subcomponents	04/29/2020
	Corrective Action Documents Resulting from Inspection	ATA-2020-4923	DB-OP-06316 Attachment 2	04/30/2020
		CR-2020-04561	Valve Labels Missing for Several Valves on EFW Instrument Lines	06/25/2020
	Drawings	M-017A	Diesel Generators	22
	Procedures	DB-OP-06234	Emergency Feedwater System	06
		DB-OP-06316	Diesel Generator Operating Procedure	63
71111.05	Corrective Action Documents	CR-2020-04064	Partial Blockage Noted in Auxiliary Building Room 124 Drains	05/07/2020
	Fire Plans	PFP-AB-105	Protected Area Pre-Fire Plan, ECCS Pump Room 1-1	08
		PFP-AB-113	Decay Heat Coolers Room and Hatch Area Rooms 113 and 113a Fire Area AB	08
		PFP-AB-123	Clean Waste Receiver Tank Room No. 2	04
		PFP-AB-124	Clean Waste Receiver Tank Room No. 1	04
		PFP-AB-328	Component Cooling Water Heat Exchanger and Pump Room	04
		PFP-AB-603	A/C Equipment Room and Records and Storage Area, Fire Area HH	04
71111.06	Corrective Action Documents	CR-2020-04109	Reverse Osmosis Machine Reject Water Causing Degradation to ECCS Sump Discharge Piping	05/08/2020
		CR-2020-04223	LS4623 ECCS Sump 1-3 Level Switch Malfunctioning	05/13/2020
		CR-2020-04253	Plug Found Missing in Discharge of P89-3B during Extent of	05/14/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Condition Inspection	
		CR-2020-05021	BACC: Through Wall Leak Near Weld on Spool Piece 46-HSC-155-6	06/11/2020
		CR-2020-05369	BACC: Through Wall Leak on Weld 46-HSC-145-31-SWC	06/30/2020
		CR-2020-09729	ECCS Room 1 Sump Pump 1A Degraded Operation	11/18/2019
	Miscellaneous	NORM-LP-7221	Davis-Besse Flooding Mitigating Strategy Assessment Support Document	12/19/2016
		NORM-LP-7222	Davis-Besse Nuclear Power Station Flooding Focused Evaluation	10/13/2017
	Procedures	DB-SP-04163	Decay Heat Exchanger Pit Sump Pump Functional Test	03
		RA-EP-02880	Internal Flooding	04
	Work Orders	200739272	Decay Heat Exchanger Pit Sump Pump Functional Test	05/22/2020
		200739285	Decay Heat Exchanger Pit Sump Pump Functional Test	05/23/2020
71111.11Q	Procedures	DB-OP-06401	Integrated Control System Operating Procedure	30
		DB-OP-06902	Power Operations	69
71111.12	Corrective Action Documents	CR-2020-01723	Error Identified in Containment Piping Over Pressurization Calculation	03/03/2020
	Procedures	ISTB2	Pump and Valve Basis Document	19
	Work Orders	200613637	PF3008-037 05.1/2 MU59A Penetration #56, Containment Vessel LLRT	03/09/2020
		200755849	PF3008-027 05.1/2 MU38 Penetration #56, Containment Vessel LLRT	03/09/2020
		200755854	PF3008-038 05.1/2 MU59B Penetration #56, Containment Vessel LLRT	03/09/2020
		200755855	PF3008-039 05.1/2 MU059C Penetration #56, Containment Vessel LLRT	03/09/2020
		200755856	PF3008-040 05.1/2 MU59D Penetration #56, Containment Vessel LLRT	03/09/2020
71111.13	Corrective Action Documents	CR-2020-04223	LS4623 ECCS Sump 1-3 Level Switch Malfunctioning	05/13/2020
		CR-2020-04763	CS1 Handwheel Spins Freely	06/02/2020
		CR-2020-04993	Unable to Restore Turbine Header Pressure SASS Instrument String to Auto	06/10/2020
	Drawings	M-007B	Piping & Instrument Diagram Steam Generator Secondary System	62

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		M-530-430-8	SASS Wiring Loop 1 & 2 Turbine HDR [Header] Pressure	T8
		M-530-430-8, Sheet 1	SASS [Smart Analog Selector Switch] Loop 1 & 2 Turbine HDR Press	T8
		OS-017A	Auxiliary Feedwater System	35
	Procedures	DB-OP-06407	Non-Nuclear Instrumentation Operating Procedure	19
		DB-SP-04163	Decay Heat Exchanger Pit Sump Pump Functional Test	03
		NOP-OP-1007	Risk Management	31
	Work Orders	200739272	Decay Heat Exchanger Pit Sump Pump Functional Test	05/23/2020
		200739285	Decay Heat Exchanger Pit Sump Pump Functional Test	05/22/2020
71111.15	Corrective Action Documents	CR-2020-01866	Gamma-Metrics Channel 1 Source and Wide Range Unexpected Indication	03/06/2020
	Operability Evaluations	FORM-2020-01723-3	Past Operability Evaluation for CR 2020-01723	04/03/2020
	Procedures	NOP-OP-1009	Operability Determinations and Functionality Assessments	08
71111.18	Corrective Action Documents	2020-01848	1R21 Framatome - Nuclear Instrument (NI) Well Covers Leaking	03/05/2020
		2020-01866	Gamma-Metrics Channel 1 Source and Wide Range Unexpected Indication	03/06/2020
	Drawings	01-304-763	Mechanical Seal Assembly John Crane Type 1B (4.250)	00
		CF-SP-70792	Type - 1B 4.25 D. Shaft Seal Hayward Tyler Pumps, INC.	T1
	Engineering Changes	001318	Replace Decay Heat Pump Seals with Cartridge Type Seals	01
		EC 19-0208-001	Alternate NI Cover Gaskets and Toggle Bolts Impact Review	01/24/2020
		EC 19-0208-001	Alternate NI Cover Gaskets and Toggle Bolts Design Equivalent Change Package	00
	Engineering Evaluations	PE-P9068	Operating and Maintenance Instructions for the MK-507 and MK-512 Quik-Lock Cavity Opening Closure System	02
		PE-R9066	Structural Analysis for the MK-507 and MK-512 Seal and Toggle Assembly	00
	Procedures	NOP-CC-2003	Engineering Changes	24
	Shipping Records	PO 45552002	Assembled Mechanical Seal and Sleeve	12/11/2019
	Work Orders	200755711	PERP 1318 Install Cartridge Seals P42-2	02/17/2020
71111.19	Corrective Action	CR-2020-04095	A level Schedule Deviation for AFW Testing	05/08/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Documents			
	Procedures	200739285	Decay Heat Exchanger Pit Sump Pump Functional Test	05/23/2020
		DB-OP-06334	Station Blackout Diesel Generator Operating Procedure	29
		DB-SC-03270	Control Rod Assembly Insertion Time Test	15
		DB-SC-04271	SBODG Monthly Test	30
		DB-SP-03160	Auxiliary Feedwater Pump 2 quarterly test	35
		DB-SP-03446	Decay Heat Train 1 Pump and Valve Test	09
		DB-SP-04163	Decay Heat Exchanger Pit Sump Pump Functional Test	03
	Work Orders	200739272	Decay Heat Exchanger Pit Sump Pump Functional Test	05/22/2020
		200756143	Rod Drop Control Rod Assembly Insertion Time Test	03/23/2020
		200757723	SBODG Monthly Test	06/11/2020
		200758696	DH/LPI 1-1 Quarterly Test	06/23/2020
71111.20	Corrective Action Documents	CR-2020-01954	Near Miss: D&Z Covered Worker (Pipefitter) Work Hour Control Challenge	03/08/2020
		CR-2020-02871	Procedure Non-Compliance: NOP-LP-4011 - Work Hour Controls	04/02/2020
		CR-2020-04182	Non-Inventory Related Errors Found in Approved Cycle 22 Core Map	05/12/2020
	Procedures	NOP-LP-4011	FENOC Work Hour Control	13
71111.22	Corrective Action Documents	CR-2020-04678	15-2-B EHC FLUID PRESS LO Alarmed Early	05/30/2020
	Corrective Action Documents Resulting from Inspection	CR-2020-05333	Computer Printouts were not Attached to Test Procedures During Turbine Valve Testing	06/29/2020
	Procedures	ISTB2	Pump and Valve Basis Document, Volume II	19
	Work Orders	200613637	PF3008-037 05.1/2 MU59A Penetration #56, Containment Vessel LLRT	03/14/2018
		200735437	EDG 2 184 Day Test	10/31/2019
		200744093	Main Turbine Stop Valve Testing	05/30/2020
		200744094	Main Turbine Control Valve Testing	05/30/2020
		200744095	Main Turbine Combined Intermediate Valve Test	05/30/2020

71111.22	Work Orders	200755849	PF3008-027 05.1/2 MU38 Penetration #56, Containment Vessel LLRT	03/09/2020
		200755854	PF3008-038 05.1/2 MU59B Penetration #56, Containment Vessel LLRT	03/09/2020
		200755855	PF3008-039 05.1/2 MU59C Penetration #56, Containment Vessel LLRT	03/09/2020
		200755856	PF3008-040 05.1/2 MU59D Penetration #56, Containment Vessel LLRT	03/09/2020
		200756745	EDG [Emergency Diesel Generator] 2 184 Day Test	05/14/2020
		200757186	Control Rod Drive Exercise Test	05/30/2020
		200760171	PF-3074 Component Cooling Water Pump 3 Test	04/28/2020
		200818985	Penetration 56 As-Left LLRT (MU38)	03/20/2020
71114.02	Corrective Action Documents	CR-2018-08647	Siren 202 Battery Failure	10/02/2018
		CR-2019-01348	Siren 402 Indicated Rotation Failure	03/13/2019
		CR-2019-01983	Siren 402 Indicated Rotation Failure	03/06/2019
		CR-2019-04526	Cover Missing from EP Siren 202	05/20/2019
		CR-2019-04959	Actual ANS Siren Actuation Due to Severe Weather	06/06/2019
		CR-2019-05328	Document Davis-Besse Siren Test Issues	06/20/2019
		CR-2019-08050	Ottawa City Dispatch Could Not Activate Davis-Besse EPZ	10/02/2019
	Miscellaneous		2018 Annual Siren PM Results	12/19/2018
71114.03	Corrective Action Documents		2019 Annual Siren PM Results	12/10/2019
			Prompt Notification System Design Report	0
		CR-2018-04615	Untimely CANS Activation for Emergency Plan Drill	05/15/2018
		CR-2018-07999	Individual did not Respond for an Off Hours Emergency Response Organization Drill	09/08/2018
		CR-2019-09434	ERO Curricula Required Activity Not Entered as Mandatory	11/07/2019
		CR-2019-09952	Individual Failed to Respond to Augmentation Drill	11/26/2019
		CR-2020-01103	Failure to Respond to the Call in Drill	02/12/2020
	Miscellaneous		First Quarter through Fourth Quarter Unannounced Call-In Drill	2018
71114.05	Corrective Action Documents		First Quarter through Fourth Quarter Unannounced Call-In Drill	2019
71114.05	Corrective Action Documents	CR 2019-03603	EP Drill - Objective F.4 Met with Comments – RMT Team Delayed in Obtaining Air Sample.	04/17/2019
		CR 2019-03607	EP Drill - Objective F.6 Met with Comments – Dose	04/17/2019

	Miscellaneous		Assessment Incorrectly Manually Entered Values for Rad Monitor	
		CR 2019-07712	EP Drill - Dose Assessment Failed Drill Objectives F.6 and Skill Objective U.12	09/18/2019
			Davis-Besse Nuclear Power Station Emergency Plan	34
		L-18-270	Assessment of the Davis-Besse Nuclear Power Station Interface with State and Local Governments	12/18/2018
		L-19-280	Assessment of the Davis-Besse Nuclear Power Station Interface with State and Local Governments	12/23/2019
		MS-C-18-11-24	Fleet Oversight Audit Report: Emergency Preparedness	12/07/2020
		MS-C-19-11-24	Fleet Oversight Audit Report: Emergency Preparedness	12/13/2019
		SA-BN-2019-1344	September 25, 2018 Integrated Drill Report	09/28/2019
		SA-BN-2019-1345	October 23, 2018 Integrated Drill Report	10/24/2018
		SA-BN-2019-1381	February 5, 2019 Emergency Preparedness Integrated Drill Performance	02/28/2019
		SA-BN-2020-1780	2020 Davis-Besse Pre-NRC EP Self-Assessment	03/03/2020
71151	Corrective Action Documents	CR 2018-05680	Missed DEP Opportunity During Simulator Evaluated Scenario	06/20/2018
	Miscellaneous		NRC Performance Indicator Data; Emergency Preparedness – Drill/Exercise Performance	1st quarter 2019 through 4th quarter 2019
			NRC Performance Indicator Data; Emergency Preparedness – Alert and Notification System	1st quarter 2019 through 4th quarter 2019
			NRC Performance Indicator Data; Emergency Preparedness – ERO Participation	1st quarter 2019 through 4th quarter 2019
		LER 2019-002-00	Auxiliary Feedwater Trains Inoperable due to Loss of Train Separation from Door Being Left Open	10/18/2019

71152	Corrective Action Documents	G201-2003-10730	DH [Decay Heat] Train 2 Pump Discharge Spring Hanger Set Outside Vendor Recommended Band	12/10/2003
	Corrective Action Documents Resulting from Inspection	2020-00013	Pipe Supports 33B-GCB-1-H3 and 33B-GCB-1-H5	01/02/2020
	Drawings	HL-233F	Hanger Location Drawing Low Pressure Injection System	08
	Procedures	NOP-LP-2001	Corrective Action Program	46
	Work Orders	200817316	Reactor Vessel Internal and Lifting Facilities	03/15/2020
71153	Corrective Action Documents	CR-2006-02569	Door 215 Requirements for Contacting CAS	06/17/2006
		CR-2017-05921	2017 NRC Access Control Baseline Inspection: Site Protection needs to Align Alarm Response Guidelines to 10 CFR 73.55	05/23/2017
		CR-2017-09868	Door 215 Shut Switch Requires Adjustment	09/26/2017
		CR-2019-06949	Door 215 Left Open for Extended Amount of Time Without Permission Resulting in Loss of Safety Function	08/19/2019
		CR-2019-07395	Safety Concern (Auxiliary Feed Pump Room 1 Emergency Escape Hatch)	09/06/2019
		CR-2020-02530	2019 2nd Half NSCMP: Trait 1-Personal Accountability, Area in Need of Improvement	03/23/2020
	Miscellaneous	LER 2019-002	Auxiliary Feedwater Trains Inoperable due to Loss of Train Separation from Door Being Left Open	10/18/2019
	Procedures	DB-OP-06233	Auxiliary Feedwater System	45