



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

February 22, 2011

Mr. Barry Allen
Site Vice President
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2, Mail Stop A-DB-3080
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, EVALUATIONS OF CHANGES,
TESTS, OR EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS
BASELINE INSPECTION REPORT 05000346/2011009(DRS)

Dear Mr. Allen:

On January 27, 2011, the U.S. Nuclear Regulatory Commission (NRC) partially completed an Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications inspection at your Davis-Besse Nuclear Power Station. The inspection hours for this inspection were reduced, such that the remaining inspection hours would be completed during our inspection of your reactor vessel head replacement activities. The enclosed inspection report documents the inspection results, which were discussed on January 27, 2011, with you 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.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide

B. Allen

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<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
License No.: NPF-3

Enclosure: Inspection Report 05000346/2011009(DRS)
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 50-346

License No.: NPF-3

Report No: 05000346/2011009(DRS)

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Davis-Besse Nuclear Power Station

Location: Oak Harbor, OH

Dates: January 10 – 14, 2011, and January 24 – 27, 2011

Inspectors: George M. Hausman, Senior Reactor Inspector (Lead)
Ronald A. Langstaff, Senior Reactor Inspector

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

Enclosure

SUMMARY OF FINDINGS

IR 05000346/2011009(DRS); 01/14/2011 - 01/27/2011; Davis-Besse Nuclear Power Station; Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications.

This report covers a two-week announced baseline inspection of IP 71111.17, "Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications." The inspection was conducted by Region III based engineering inspectors. The baseline inspection resources were reduced, such that a third of the inspection hours would be completed during performance of IP 71007, "Reactor Vessel Head Replacement Inspection." As a result of this inspection's reduced resources, the baseline inspection program requirements were only partially completed. The remaining required inspection samples and hours shall be completed by the inspectors performing the IP 71007 inspection and will be charged to IP 71111.17 to complete this inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

No findings of significance were identified.

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (71111.17)

For this baseline inspection, the hours have been reduced to support the future performance of IP 71007, "Reactor Vessel Head Replacement Inspection." Specifically, the IP 71007 inspection procedure requires that other baseline inspection procedures, such as this inspection, be utilized to credit completion of the IP 71007 inspection. The licensee is currently scheduled to complete their reactor vessel head replacement activities sometime later this year. As a result of this inspection's reduced hours, the baseline inspection program requirements were only partially completed. The remaining required inspection samples (i.e., two evaluations) and inspection hours shall be completed by the inspectors performing the IP 71007 inspection and will be charged to IP 71111.17 to complete this inspection.

.1 Evaluation of Changes, Tests, or Experiments

a. Inspection Scope

From January 10, 2011, through January 27, 2011, the inspectors reviewed four safety evaluations performed pursuant to 10 CFR 50.59 to determine if the evaluations were adequate and that prior NRC approval was obtained as appropriate. The inspectors also reviewed 14 screenings where licensee personnel had determined that a 10 CFR 50.59 evaluation was not necessary. The inspectors reviewed these documents to determine if:

- the changes, tests, or experiments performed were evaluated in accordance with 10 CFR 50.59 and that sufficient documentation existed to confirm that a license amendment was not required;
- the safety issue requiring the change, tests or experiment was resolved;
- the licensee conclusions for evaluations of changes, tests, or experiments were correct and consistent with 10 CFR 50.59; and
- the design and licensing basis documentation was updated to reflect the change.

The inspectors used, in part, Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," Revision 1, to determine acceptability of the completed evaluations, and screenings. The NEI document was endorsed by the NRC in Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," dated November 2000. The inspectors also consulted Part 9900 of the NRC Inspection Manual, "10 CFR Guidance for 10 CFR 50.59, Changes, Tests, and Experiments."

This inspection constituted four samples of evaluations and 14 samples of changes as defined in IP 71111.17-04.

b. Findings

No findings of significance were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

From January 10, 2011, through January 27, 2011, the inspectors reviewed seven permanent plant modifications that had been installed in the plant during the last three years. This review included in-plant walkdowns for portions of the auxiliary feedwater modification associated with ECP 08-0571 and the Rosemount transmitters modification associated with ECP 05-0240-00. The modifications were selected based upon risk-significance, safety significance, and complexity. The inspectors reviewed the modifications selected to determine if:

- the supporting design and licensing basis documentation was updated;
- the changes were in accordance with the specified design requirements;
- the procedures and training plans affected by the modification have been adequately updated;
- the test documentation as required by the applicable test programs has been updated; and
- post-modification testing adequately verified system operability and/or functionality.

The inspectors also used applicable industry standards to evaluate acceptability of the modifications. The list of modifications and other documents reviewed by the inspectors is included as an Attachment to this report.

This inspection constituted seven permanent plant modification samples as defined in IP 71111.17-04.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

.1 Routine Review of Condition Reports

a. Inspection Scope

From January 10, 2011, through January 27, 2011, the inspectors reviewed seven corrective action process documents that identified or were related to 10 CFR 50.59 evaluations and permanent plant modifications. The inspectors reviewed these documents to evaluate the effectiveness of corrective actions related to permanent plant modifications and evaluations for changes, tests, or experiments issues. In addition, corrective action documents written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problems into the corrective action system. The specific corrective action documents that were sampled and reviewed by the inspectors are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting Summary

On January 27, 2011, the inspectors presented the inspection results to Mr. B. Allen, and other members of the licensee staff. The licensee personnel acknowledged the inspection results presented and did not identify any proprietary content. The inspectors confirmed that all proprietary material reviewed during the inspection was returned to the licensee staff.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

B. Allen, Site Vice President - Davis-Besse Nuclear
C. Atkinson, Advance Nuclear Engineer - Design Engineering (Mechanical/Structural)
A. Bless, Electrical Engineer - Design Engineering
K. Byrd, Director - Performance Improvement
J. Cuff, Manager - Maintenance
V. Kaminskas, Director - Site Engineering
P. McCloskey, Manager - Site Regulatory Compliance
M. Murtha, Staff Engineer - Design Engineering (Electrical/I&C)
G. Olson, Project Manager - Site Projects
S. Osting, Supervisor - Design Engineering (Mechanical/Civil)
C. Price, Director - Special Projects
J. Tabbert, Engineer - Procurement Engineering
V. Wadsworth, Nuclear Specialist - Regulatory Compliance
G. Wolf, Supervisor - Regulatory Compliance
K. Zellers, Engineering Analysis Supervisor - Design Engineering

Nuclear Regulatory Commission

J. Rutkowski, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened, Closed, and Discussed

None

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 of 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.

10 CFR 50.59 EVALUATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
07-00509	Dose Increase Caused by ECCS Leakage Into The Auxiliary Building and BWST, Revision 00	April 12, 2007
07-02986	DB-OP-02000 - RPS, SFAS, SFRCS Trip or SG Tube Rupture, Revision 20 and Supporting Documents, Revision 00	June 28, 20007
08-00442	36 inch Main Steam Line Break in Room 601 and 602, Revision 00	May 16, 2008
08-03618	Allowable SW Flow Diversion During Cold Weather, Revision 00	November 13, 2008

10 CFR 50.59 SCREENINGS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
07-03797	RPS Rx Power Related Field Trip Setpoints, Revision 00	December 19, 2007
08-01800	Replace RCP Seal Injection Flow Transmitters, Revision 00	August 29, 2008
09-01396	Reroute AFW Common Suction Piping, Revision 05	April 19, 2010
09-04856	TM – Add Boric Acid to CFT-2	November 19, 2009
10-00302	TM – Remove Valve Internals from SW110, Revision 00	February 1, 2010
10-02545	Revise AFW Pump Suction Pressure Switch Setpoint and Tolerance, Revision 00	June 7, 2010
10-04024	TRM Section 8.1.1 Changes, Revision 00	September 27, 2010
10-04028	TRM Section 8.3.7 Changes, Revision 00	September 27, 2010
10-04088	TRM Section 8.4.1 Changes, Revision 00	September 27, 2010
10-04088	TRM Section 8.4.4 Changes, Revision 00	September 27, 2010
10-04103	TRM Section 8.7.6 and TRM 8.7.6 Bases Changes, Revision 00	September 27, 2010

CALCULATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
C-ICE-050.03-003	AFW Low Pressure Suction Setpoint, Revision 1	June 7, 2010
C-ICE-058.01-008	RPS Rx Power Related Field Trip Setpoints, Revision 4	December 20, 2007
MPR-3332	Davis-Besse AFW Piping System Modification Analysis, Revision 0	July 2009
MPR-3373	Evaluation of Davis-Besse Modification ECP 08-0571, AFW System Modification, Revision 2	December 2010

CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
11-88717	NRC 2011, 50.59 Inspection	January 25, 2011
11-88784	2011 50.59 Inspection, ECP 08-0571-006 Confusing Statement	January 25, 2011
11-88850	2011 MOD/50.59 Inspection; Calculation and TRM Discrepancy on Calibration Period	January 27, 2011

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
CR08-37919	Contractor Signed 50.59 After Qualification Lapsed	April 8, 2008
CR08-42414	NRC MOD/50.59: 50.59 Review May Not Be Complete	June 26, 2008
CR08-47595	10CFR50.59 Review May Not Be Complete	October 9, 2008
CR08-48790	50.59 Reviews Performed After Qualifications Expired	October 31, 2008
CR10-70203	Matrix Not Updated For 50.59 Review Qualification	January 19, 2010
CR10-76194	MRB Comment Review Condition Identified for Past Operability	May 7, 2010
CR10-77485	Individual Signed 50.59 After Qualification Lapsed	May 28, 2010

MODIFICATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
ECP 05-0240-00	Replace RCP Seal Injection Flow Transmitters, Revision 00	September 5, 2008
ECP 08-0571-006	Replace Low AFW Suction Pressure Switches and Resolve Margin Issue Identified In MPR-3332, Revision 0	January 21, 2010

PART/COMPONENT EQUIVALENT REPLACEMENT PACKAGE (PERP)

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
00129	Replace Motor DB-MC58, Revision 01	February 6, 2009

PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DB-OP-02000	RPS, SFAS, SFRCS Trip, or SG Tube Rupture, Procedure Approval Form dated June 29, 2007	20
DB-OP-06015	BWST Operating Procedure	13 & 14
NOP-CC-2003	Engineering Changes	15

REFERENCES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
10 CFR 50.36	Technical Specifications	
A21672	Commitment Closeout / Extension DBE-10-00077 (TSTF - 493)	July 6, 2010
M-327AQ-00036	Vendor Manual: Rosemount Inc. Instruction Manual for Model 1152 Alphaline Pressure Transmitter for Nuclear Service (Revision BA, April 1, 2007)	5
Notification 600625175	Adopt TSTF - 493, Revision 4, Option B	July 6, 2010
TRM 8.7.6	TRM AFW System, Technical Verification Requirements	7

REGULATORY APPLICABILITY DETERMINATIONS (RADs)

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
08-01484	RPS Power Related Setpoint Changes for Measurement Uncertainty Recapture Power Up Rate, Including Addition To TRM, Revision 00	June 3, 2008
08-04589	Replacement Motor for DB-MC58, Revision 01	February 6, 2009
09-04014	BWST Operating Procedure, Revision 00	September 25, 2009

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
AFW	Auxiliary Feedwater System
BWST	Borated Water Storage Tank
CFR	Code of Federal Regulations
CFT	Core Flood Tank
DRP	Division of Reactor Project
DRS	Division of Reactor Safety
ECCS	Emergency Core Cooling System
ECP	Engineering Change Package
FENOC	FirstEnergy Nuclear Operating Company
I&C	Instrumentation and Control
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
MOD	Modification
MPR	MPR Associates
MRB	Management Review Board
NEI	Nuclear Energy Institute
NPF	Nuclear Power Facility
NRC	U.S. Nuclear Regulatory Commission
NUREG	NRC Technical Report Designation
OA	Other Activities
PARS	Public Available Records System
PERP	Part/Component Equivalent Replacement Package
RCP	Reactor Coolant Pump
RPS	Reactor Protection System
Rx	Reactor
SDP	Significance Determination Process
SFAS	Safety Features Actuation System
SFRCS	Steam and Feed Rupture Control System
SG	Steam Generator
SW	Service Water
TM	Temporary Modification
TRM	Technical Requirements Manual
TSTF	Technical Specification Task Force

B. Allen

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Documents Access and Management System (ADAMS), 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

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