

POLICY ISSUE (Information)

August 24, 2009

SECY-09-0121

FOR: The Commissioners

FROM: Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

SUBJECT: STATUS OF THE DEVIATION FROM THE REACTOR OVERSIGHT
PROCESS ACTION MATRIX FOR DAVIS-BESSE NUCLEAR POWER
STATION AND INDIAN POINT ENERGY CENTER

PURPOSE:

This paper provides the response to Staff Requirements Memorandum M090514, "Briefing on the Results of the Agency Action Review Meeting," dated June 1, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML091520150), to inform the Commission of the status of the two facilities (Davis-Besse Nuclear Power Station and Indian Point Energy Center) currently receiving increased United States Nuclear Regulatory Commission (NRC) oversight because of deviations from the Reactor Oversight Process (ROP) action matrix. This paper also provides the plans and schedules for satisfying the criteria to return to normal NRC monitoring efforts. This paper does not propose any new actions or commitments and there are no resource implications.

DISCUSSION:

Davis-Besse Nuclear Power Station

Davis-Besse Nuclear Power Station entered the oversight process described in NRC Inspection Manual Chapter 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," as a result of the issues that led to wastage of the reactor pressure vessel head discovered during the 2002 refueling outage. The staff identified significant programmatic concerns in the areas of operations, engineering, the corrective action program, and safety-conscious work environment (SCWE) through inspections conducted after the wastage was discovered.

CONTACT: Armando S. Masciantonio, NRR/DIRS
(301) 415-1290

To address the programmatic issues that resulted in the degradation of the reactor head before restart of the facility, the licensee, FirstEnergy Nuclear Operating Company (FENOC), submitted its report, "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval." This report documents specific corrective actions that were implemented and commitments for actions that targeted sustained performance improvement at Davis-Besse. Before authorizing restart, the NRC performed inspections that were sufficiently comprehensive and beyond the provisions contained in Inspection Procedure (IP) 95002, "Inspection for One Degraded Cornerstone or any Three White Inputs in a Strategic Performance Area," and in IP 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input." Based on its inspection program, the NRC staff concluded that it had reasonable assurance that the licensee had taken appropriate corrective actions to safely operate the Davis-Besse facility. However, to ensure that the licensee had implemented lasting corrective actions, the NRC issued a confirmatory order that formalized the licensee's commitment to conduct annual external independent assessments for 5 years in the areas of operations, engineering, the corrective action program, and SCWE.

Confirmatory Order EA-03-214 contains the following two multiple-part requirements for the licensee to implement:

- (1) FENOC shall contract with independent outside organizations to conduct comprehensive assessments of Davis-Besse operations performance; the organizational safety culture, including SCWE; implementation of the corrective action program; and the effectiveness of the engineering program. The licensee must submit the identity and qualifications of the assessment team members, the assessment plans, and the results of the completed assessments to Region III, along with any action plans to address issues raised by the assessment results.
- (2) FENOC shall conduct a visual examination of the reactor pressure vessel upper head bare metal surface, including the head-to-penetration interfaces; the reactor pressure vessel lower head bare metal surface, including the head-to-penetration interfaces; and the control rod drive mechanism flanges during the cycle 14 midcycle outage.

To evaluate Davis-Besse's implementation of Confirmatory Order EA-03-214, dated March 8, 2004, Region III was granted deviations from the ROP action matrix from May 2005 through July 2009.¹ The deviations allowed the performance of inspections beyond those prescribed by the ROP baseline inspection program to evaluate the independent assessments

¹ Soon after the approval of the deviation request, the staff reissued IP 92702, "Followup on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmatory Orders," dated January 10, 2008. Following the issuance of IP 92702, the NRC has conducted all followup inspections in accordance with IP 92702, rather than IP 95003, as approved in the deviation request. In accordance with NRC Inspection Manual Chapter 2515, "Light-Water Reactor Inspection Program—Operations Phase," dated May 1, 2008, the Regional Administrator grants approval to implement IP 92702 at the end-of-cycle and middle-of-cycle review meetings. In addition, with the issuance of IP 92702, the NRC no longer requires regional managers to seek approvals of deviation requests to address the followup of confirmatory orders.

conducted in the four areas of concern. Inspection activities associated with the evaluation of the independent assessments included the following:

- a review of each independent assessment plan before each assessment
- an in-process evaluation/observation of the assessment activities
- a review of each independent assessment report and the licensee's action plans to resolve any areas for improvement as detailed in the reports

Additional background information and a detailed description of the basis for the current deviation are documented in a memorandum from James L. Caldwell to Luis A. Reyes, "Request for Renewal of Deviation to the Reactor Oversight Process Action Matrix for Davis-Besse Nuclear Power Station," dated August 2, 2007 (ADAMS Accession No. ML072210843).

From 2004 through 2008, FENOC arranged for outside independent assessments to be conducted in the areas of operations; engineering; the corrective action program; and safety culture, including SCWE. The last of the 20 independent assessments ended in December 2008, and the NRC received the assessment report in January 2009. In addition, the licensee completed all visual inspections of the reactor pressure vessel required by the confirmatory order during the cycle 14 midcycle outage in 2005. In a letter dated May 12, 2009 (ADAMS Accession No. ML091680122), the licensee informed the NRC that it had completed all required actions stipulated by the confirmatory order and provided a summary of its letters containing the independent reports and action plans.

The staff has reviewed all of the assessment plans, observed the assessment activities in progress, and reviewed all of the final reports issued by the independent assessment teams. In addition, the staff reviewed the licensee's action plans associated with areas for improvement documented in the individual independent assessments. The staff has completed all of its inspection activities associated with the 2004 confirmatory order. The enclosure to this SECY paper provides a list of the inspection reports and ADAMS accession numbers in which the results of the inspections are documented.

The licensee has complied with all requirements of the confirmatory order, and the NRC staff has documented this in integrated inspection reports. There are currently no additional actions required by the confirmatory order. No further actions are required of the licensee and Davis-Besse has now returned to NRC monitoring efforts consistent with the ROP action matrix.

The status of the confirmatory order was discussed among internal stakeholders from the Office of Nuclear Reactor Regulation, Region III, and the Office of Enforcement on July 9, 2009, and again at the end-of-cycle public meeting held on July 15, 2009. The staff intends to issue a letter to the licensee that confirms the licensee's compliance with the confirmatory order and indicates that no further actions are required.

Indian Point Energy Center

On September 1, 2005, Entergy Nuclear Operations, Inc. (Entergy), the licensee for the Indian Point Energy Center, informed the NRC that it had discovered cracks in a Unit 2 spent fuel pool wall during excavation work inside the spent fuel pool building. Low levels of radioactive contamination were found in the vicinity of the crack. Entergy's initial investigation revealed that ground water in the vicinity was contaminated with tritium. On September 20, 2005, Region I initiated a special inspection to examine the licensee's performance and to determine if the contaminated ground water affected, or could affect, public health and safety. Subsequently, in early 2006, Entergy discovered additional leakage attributable to the Unit 1 spent fuel pool system, which contained strontium-90. Accordingly, the scope of Entergy's investigation effort was greatly expanded to effect a comprehensive site characterization of the contaminated ground water conditions, identify the sources, mitigate the consequence, and effect appropriate remediation.

About this time, Entergy also experienced difficulties in meeting various regulatory commitments and requirements relative to effective establishment, implementation, and maintenance of its Alert Notification System, a matter having regulatory implications relative to public health and safety, and significant public and government stakeholder interest and concern.

In order to accommodate the additional inspection effort necessary to provide inspection oversight of the licensee's performance and progress in these two areas of concern, Region I requested approval to deviate from the Reactor Oversight Process (ROP) to provide increased NRC oversight of Indian Point licensee activities in memorandum dated October 28, 2005, from Samuel J. Collins to Luis S. Reyes, "Request for Deviation from the Reactor Oversight Process Action Matrix to Provide Increased NRC Oversight of Specific Issues at Indian Point Energy Center," (ADAMS Accession No. ML053010404).

Subsequently, the NRC Region I renewed its request for approval to deviate from the ROP in memoranda dated December 11, 2006 (ADAMS Accession No. ML063480016), December 19, 2007 (ADAMS Accession No. ML073480290), and December 16, 2008 (ADAMS Accession No. ML083590057), to continue enhanced oversight until Entergy successfully completed the actions necessary to meet the established exit criteria for the issues associated with the Alert Notification System and Ground Water contamination.

In 2008, the issues concerning the Alert Notification System were successfully resolved which terminated the need for any further deviation from the ROP relative to that matter. With regard to the ground water contamination issues, the staff established the following three exit criteria:

- (1) Entergy has completed characterization of the onsite contaminated ground water condition and has established appropriate measures to mitigate and monitor the condition, including formal procedures, processes, and controls.
- (2) Entergy has formalized changes to its environmental monitoring program to provide early detection of ground water contamination that has the potential to migrate to the environment.

- (3) Entergy has taken reasonable actions to determine the source(s) of the current ground water contamination and has addressed the condition.

The NRC staff confirmed that Entergy met criterion 1, as documented in the memorandum dated December 16, 2008. To meet exit criteria 2 and 3, the NRC staff identified the following specific performance objectives that remained to be verified and confirmed:

- Entergy has completed sufficient data collection and assessment to establish a new ground water contaminant baseline now that the Unit 1 spent fuel pool source term has been terminated.²
- Entergy has determined whether active leakage has been terminated or whether it continues to persist in regard to the Unit 2 spent fuel pool and has implemented appropriate monitoring and control measures, as necessary.
- Entergy has established and implemented effluent control and environmental monitoring procedures that provide reasonable assurance that the existing ground water conditions will continue to be effectively monitored and assessed, that the procedures will detect new or changed conditions in a timely manner, and that the procedures are sufficient to monitor natural attenuation of the Unit 1 and Unit 2 ground water contamination plumes.

Some processes and procedures important to the overall quality of Entergy's long-term monitoring program relative to these objectives were not sufficiently developed and implemented in time for the NRC to assess their effectiveness in 2008. Subsequently, Entergy informed the NRC that it has effectively completed the actions necessary to meet the NRC's exit criteria. Accordingly, the NRC has scheduled an inspection at Indian Point in August 2009 to independently verify and confirm the adequacy of the licensee's efforts to satisfy the two remaining criteria.

In addition, as stated in the memorandum dated December 16, 2008, the NRC staff is continuing limited split sampling of selected monitoring wells on a quarterly basis through calendar year 2009 to verify the quality of Entergy's analytical capability. Upon completion of the planned inspection activity and assessment of the licensee's performance, the NRC staff will determine if Entergy's processes, plans, and performance relative to long-term monitoring of the ground water conditions and liquid release to the environment are effectively established and implemented in accordance with NRC regulatory requirements. If the conditions are found to be acceptable, Region I will resume inspection of the licensee in accordance with the ROP action matrix, and will terminate split sampling activities by the end of calendar year 2009. If conditions are not as expected, the staff will inform the Commission and implement appropriate actions in accordance with the NRC's regulatory policies and processes.

² On November 3, 2008, Entergy completed Unit 1 spent fuel pool system drainage and sludge removal activities and essentially terminated the source from that facility. Given the change in conditions, Entergy intends to establish a new ground water contaminant baseline and thereby enhance its long-term monitoring program.

RESOURCES:

This SECY paper is provided for information only to inform the Commission of the status of the two facilities that are currently receiving increased NRC oversight because of deviations from the ROP action matrix. The staff is not proposing any new actions requiring unbudgeted resources and all work is presently within the FY 2010 budget.

COORDINATION:

The Office of the Chief Financial Officer has reviewed this paper and concurs. The Office of the General Counsel has reviewed this paper and has no legal objection.

/RA by Bruce A. Boger Acting for/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Enclosure:
Davis-Besse Inspection Documentation/Schedule

Enclosure 1

Davis-Besse Inspection Documentation/Schedule
**Status of the Deviation from the Reactor
Oversight Process Action Matrix for Davis-Besse
Nuclear Power Station and Indian Energy Center**

Davis-Besse
Confirmatory Order EA-03-214
Report Number/ML Number
Index

Davis-Besse Report Number 05000346/	ADAMS ML Number
2004-008	ML042150150
2004-012	ML042720142
2004-013	ML042960187
2004-015	ML043550256
2004-016	ML050480651
2004-017	ML050310426
2005-005	ML051240115
2005-006	ML051640125
2005-007	ML052100103
2005-008	ML053000247
2005-009	ML060340155
2005-012	ML051400049
2005-016	ML053390362
2006-002	ML061250202
2006-003	ML062230354
2006-004	ML062920233
2006-005	ML070310182
2006-011	ML062780065
2007-002	ML071240115
2007-003	ML072060137
2007-004	ML072990514
2007-005	ML080360447
2008-002	ML081270558
2008-003	ML082040478
2008-004	ML082970783
2008-005	ML090220196
2009-002	ML091180141