

August 29, 2003

MEMORANDUM TO: William D. Travers
Executive Director for Operations

FROM: R. William Borchardt, Acting Director */RA/*
Office of Nuclear Reactor Regulation

Ashok C. Thadani, Director */RA/*
Office of Nuclear Regulatory Research

SUBJECT: SEMIANNUAL REPORT - STATUS OF IMPLEMENTATION OF DAVIS-
BESSE LESSONS LEARNED TASK FORCE REPORT
RECOMMENDATIONS

By memorandum dated March 7, 2003, the Office of Nuclear Reactor Regulation and the Office of Nuclear Regulatory Research submitted an overall plan to implement the recommendations of the Davis-Besse Lessons Learned Task Force (LLTF). The overall plan contains four separate action plans to address, as a minimum, the high-priority items in the areas of (1) Stress Corrosion Cracking (SCC), (2) Operating Experience, (3) Inspection, Assessment, and Project Management, and (4) Barrier Integrity Requirements. The remaining lower-priority items are being addressed through the agency's Planning, Budgeting and Performance Management (PBPM) process. The overall plan also requires semiannual reports that provide the status of implementation of all LLTF recommendations and identify changes to the action plans.

This is the initial status report. Attachment 1 to this memorandum provides the status of implementation of all Davis-Besse LLTF Report recommendations as of August 22, 2003. Attachment 2 provides the latest update of the action plan milestones. We have also included a draft memorandum for forwarding the report to the Commission for information in accordance with the January 21, 2003, Staff Requirements Memorandum.

The following discussion summarizes the major activities since March 7, 2003. All activities scheduled for this period were completed. Some target dates for future activities were revised and some new milestones were added.

1. Assessment of Stress Corrosion Cracking

Activities in Part I (Reactor Pressure Vessel (RPV) Head Inspection Requirements) of this action plan during this period included monitoring spring outage inspection results pursuant to Bulletin 2002-02, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs," and Order EA-03-009, following up with plants discovering defects, and evaluating requests for alternatives to the Order. The staff will continue to review the results of future inspections performed in accordance with the Bulletin and Order until permanent inspection requirements are issued.

Part I of this action plan also calls for the development of revised requirements for licensee inspection of reactor pressure vessel heads. The staff has initiated a rulemaking plan to incorporate revised inspection requirements for RPV heads and vessel head penetration (VHP) nozzles in 10 CFR 50.55a. This rulemaking will be separate from an on-going routine revision of 10 CFR 50.55a to incorporate recent updates to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), so as to not unnecessarily delay that rulemaking. This rulemaking plan will be sent to the Commission by December 2003.

The requirements addressed in this rulemaking plan will be consistent with those provided in Order EA-03-009 or revisions to the requirements of the Order. Ultimately, the staff will endorse acceptable inspection requirements in the ASME Code, when such requirements are approved by the ASME.

Separate from the rulemaking plans, the staff continues to interact with the industry on the industry's proposed inspection guidelines. The staff will review the proposed industry guidelines once they are submitted, along with the technical basis for the guidelines, and these guidelines are expected to form the basis for changes to the ASME Code inspection requirements within 10 CFR 50.55a.

The staff completed an evaluation of the susceptibility model (time-at-temperature model) in July 2003. This evaluation considered modifications to the model that may improve its accuracy, such as inclusion of yield strength, residual stress and microstructural parameters, as well as time and temperature. This evaluation also found that the susceptibility categorization provided in Order EA-03-009 is consistent with the inspection findings to date.

Per Part II (Boric Acid Corrosion Control (BACC)) of this action plan, the staff completed its review of licensee responses to Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity," regarding BACC programs. This review included follow-up audits of the programs for five nuclear plants. In August, a summary of the staff's review and conclusions was published in Regulatory Issues Summary 2003-13, "NRC Review of Responses To Bulletin 2002-01." Based on its review, the staff concluded that inspection requirements for the reactor coolant pressure boundary need to be enhanced and development of a technical justification for new rulemaking will be initiated. As a near-term measure, the staff issued a bulletin in August 2003 to address inspection of reactor vessel lower head penetrations.

No milestones in Part III (Inspection Programs) were scheduled for completion in this period.

2. Assessment of Operating Experience

This action plan includes a comprehensive review of the Agency's operating experience function.

Parts I (Objective Phase) and II (Assessment Phase) of this action plan are being performed by an interoffice Task Force, which is being guided by an executive Steering Committee. In April, the Task Force completed all Part I activities associated with defining the objectives and attributes of an effective operating experience program. The Steering Committee endorsed these objectives and attributes in May. The Assessment Phase activities in Part II of the action plan are in progress and are targeted for completion in December 2003.

3. Evaluation of Inspection, Assessment, and Project Management Guidance

Part 1 of this action plan addresses improvements in inspection guidelines related to problem identification and resolution. A focus group of headquarters and regional personnel assessed the LLTF recommendations and developed draft procedure changes, which were distributed to the regions for review in April. Comments have been received and incorporated. The revised procedure is scheduled to be issued in September. Inspector training on the procedure changes will be conducted in parallel with issuance of the revised procedure.

Part 2 is an evaluation of the Inspection Manual Chapter (IMC) 0350 process. The staff completed an assessment of past IMC 0350 inspections and associated resource expenditures in June 2003. Efforts to define an enhanced inspection framework as a basis for procedure changes and improved budget projections are in progress.

Part 3 addresses the need for providing documentation when accepting deviations from generic communication recommendations. Guidance regarding documentation of decision making was added to the Division of Licensing Project Management Handbook in March 2003, and a training package emphasizing compliance with the requirements of Management Directive 3.53, "NRC Records Management Program," was developed and issued by the EDO to other NRC offices and regions in April 2003. A new milestone was added to follow up with the offices and regions on the effectiveness of this new training package in December 2003.

4. Assessment of Barrier Integrity Requirements

Part I of this action plan addresses improvements in leakage detection and monitoring. The first milestone - to identify pressurized water reactor (PWR) plants with non-standard reactor coolant pressure boundary leakage requirements - was completed in July 2003. Another activity that will re-evaluate the basis for Reactor Coolant System leakage requirements and examine the capabilities of various leakage detection systems is the development of the Barrier Integrity Research Program at Argonne National Laboratories.

Part II of this action plan will develop improved barrier integrity performance indicators. No Part II milestones were scheduled for completion in this period. Due to funding constraints in fiscal year 2004, the target date for determining the feasibility of establishing a risk-informed barrier integrity performance indicator was changed from June 2005 to TBD.

5. Low and Medium Priority Recommendations

With a few exceptions, these recommendations are not included in action plans. They will be scheduled and accomplished in accordance with the agency's PBPM process. Lead organization responsibility was assigned and target dates were established following discussions with office management, and are included in the attached matrix.

6. Significant Meetings

The staff gave briefings on the SCC and Barrier Integrity action plans to the Advisory Committee on Reactor Safeguards (ACRS) subcommittee for maintenance and material issues in April, and to the full ACRS in May. On May 16, 2003, the ACRS issued a letter to Chairman

Diaz commenting on plans by the staff to address vessel head penetration cracking issues. The staff issued a response to this letter in July 2003.

In May 2003, the Operating Experience Task Force chairman briefed the ACRS regarding operating experience action plan activities.

In June 2003, the staff conducted a public meeting with representatives of the Electric Power Research Institute, the Institute of Nuclear Power Operations, and the Nuclear Energy Institute in order to discuss action plan activities and to explore areas of mutual effort and sharing of information. This meeting with key stakeholders was a commitment made by the staff in the initial update. Future meetings will be held as needed to ensure related industry initiatives are considered.

The results of the Bulletin 2002-01 evaluation and plans to address lower-head inspections were discussed in a public meeting in August 2003.

Attachments: 1. Status of LLTF Recommendations
2. Action Plan Milestone Tables

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