September 29, 2005

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

FROM: J. E. Dyer, Director ***/RA by R. W. Borchardt for/***
Office of Nuclear Reactor Regulation

Carl J. Paperiello, 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 (NRR) and the Office of Nuclear Regulatory Research (RES) submitted an overall plan for implementation of the recommendations of the Davis-Besse Lessons Learned Task Force (LLTF) by the U.S. Nuclear Regulatory Commission (NRC). The plan requires semiannual reports on the status of implementation of all LLTF recommendations. This is the fifth status report, covering the period from March to August 2005.

During this period, we continued to make substantial progress and the initial actions to address 48 of the 49 LLTF recommendations are now complete. The one remaining recommendation is being addressed by industry initiatives to update the reactor pressure vessel (RPV) head inspection requirements in the American Society of Mechanical Engineers (ASME) Code. Appropriate inspection requirements will be incorporated into NRC regulations. The RPV inspection requirements, currently required by First Revised Order EA-03-009 (the order), are adequate until the completion of this remaining item.

The following discussion summarizes the significant activities in each of the four major categories during this report period. The attached table contains detailed information on the current status of implementation of all Davis-Besse LLTF recommendations.

1. Assessment of Stress Corrosion Cracking

Activities related to RPV head inspection included continued monitoring of licensee outage inspection results pursuant to the order, following up on plants that discovered defects, and evaluating requests for alternatives to the order. NRC inspectors reviewed licensee inservice inspection activities and boric acid corrosion control (BACC) programs using the revised inspection procedures developed in response to the LLTF recommendations.

CONTACT: Brendan T. Moroney, NRR/DLPM
415-3974

The interim requirements of the order continued to provide adequate protection of public health and safety while the staff monitored the efforts of the ASME to develop alternative requirements for inspection of RPV upper heads and upper head penetrations during refueling outages. The industry moved forward on several items during this period. In June 2005 the ASME Board on Nuclear Codes and Standards approved Code Case N-729, which provides additional inspection requirements for RPV upper heads. The ASME Board on Nuclear Codes and Standards also approved Code Case N-722, which recommends bare metal visual examination of all ASME Code Class 1 Alloy 600/82/182 components at frequencies that depend on the component location temperature. ASME fully accepted both code cases during the August 2005 ASME Code meetings. We expect the ASME to formally publish these code cases by December 2005. The staff is developing a basis for incorporating these code cases into Title 10 of the Code of Federal Regulations (10 CFR), Part 50.55a. The inclusion of Code Case N-729, with conditions, into the amended 10 CFR 50.55a will inform the decision to rescind the order. The final rule is expected to be published in FY07.

Separately, a meeting to discuss actions for lower RPV head and associated penetration inspections is scheduled for September 29, 2005. This discussion will assist staff in the regulatory assessment of ASME Code Case N-722's lower RPV head inspection recommendations. In addition to the ASME activities to develop Code Case N-729, the Electric Power Research Institute Materials Reliability Project is developing alternative visual inspection and evaluation guidelines. This initiative is expected to be completed by the end of 2006.

2. Assessment of Operating Experience

The revised operating experience program based on Management Directive 8.7, “Reactor Operating Experience Program,” and the associated handbook have been implemented in draft form since January 2005. The program establishes a clearinghouse to systematically collect, communicate, and evaluate operating experience information. Also, a task group is performing a benchmarking review to identify best practices consistent with regional programs and to strengthen the interface between the clearinghouse and other technical organizations.

The new program has advanced the use of information technology in making operating experience information available to internal users and members of the public. There is a new database for managing all reported events, as well as a new operating experience information gateway that consolidates a large collection of individual databases and Web sources of information onto a single Web access page. It is also easier for the public to search operating experience in generic communications, event reports, morning reports, and preliminary notifications. A new communication tool to promptly notify NRC staff members of new operating experience in their areas of expertise or practice has been developed. Users may also use this tool to examine recent or emergent operating experience in their respective areas. The office is in the process of creating teams of technical staff by October 2005 to automatically receive and systematically assess the operational data in the team members’ specialized areas to identify trends and recommend appropriate action.

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

The staff completed a review of 80 previously deleted inspection procedures to determine if any should be reactivated. This action was, essentially, an effectiveness review of the previous

decision, as recommended by the LLTF. Four inspection procedures were determined to have continuing applicability and were reactivated.

Inspection Manual Chapter (IMC) 0040, which governs changes to the Inspection Manual, was revised in February 2004 to ensure that inspection requirements developed in response to a generic issue are not inadvertently removed when making subsequent changes. A look-back period of 4 years was established by the February 2004 revision. An effectiveness review of the change in August 2005 determined that no requirements had been inadvertently deleted, and also identified a procedure improvement that will enable historical tracking of generic issues beyond 4 years. IMC 0040 will be updated by February 2006 to incorporate these improvements.

The team formed to develop an agency-wide corrective action program is creating a program that will institutionalize the agency's most important lessons learned by applying a rigorous and formal process to the development and closeout of the associated corrective actions. Program definition and draft documentation are scheduled to be developed by December 31, 2005. Following a pilot program and staff training, the base program is scheduled to be implemented by June 2006. A status report on the program development effort was provided to the Commission by memorandum on July 22, 2005. In addition, the team is creating a list of previous lessons learned reports containing significant recommendations for the agency. The program offices will be asked to perform effectiveness reviews on selected samples from this list to verify that the original corrective actions are still effective. Additional reviews may be assigned depending on the results obtained from this sample. This effort will also be used to organize information about these lessons learned reports so that it can be more easily accessed and used by the staff in the future.

On the office level, existing processes are being used to address corrective actions. For example, within NRR, the process improvement program was revised to serve as the office corrective action program. Office Instruction ADM-101, Revision 1, “Office of Nuclear Reactor Regulation Corrective Action Program,” was issued in March 2005. The NRR corrective action program leverages existing programs to capture lessons learned in one place and establishes a requirement for effectiveness reviews of completed corrective actions. Specific items that were identified for additional followup in the effectiveness review of previous lessons learned reports have been entered into the NRR corrective action program and will be tracked to completion by that process.

4. <u>Assessment of Barrier Integrity Requirements</u>

A working group of NRR and RES staff completed an evaluation to examine whether the NRC should revise RCS leakage limits and require plants to install enhanced leakage detection equipment. The staff identified techniques that could improve localized leak detection and online monitoring. The staff also identified several possible improvements to leakage detection requirements that could provide increased confidence that plants are not operated at power with reactor coolant pressure boundary leakage. However, implementing these increased capabilities would likely result in only a very modest reduction in loss-of-coolant accident frequencies. As a result, the staff concluded that the risk reduction would not justify the costs

of installing and maintaining such equipment (i.e., the cost-benefit criteria for applying the backfit rule, 10 CFR 50.109, could not be satisfied) and recommended no further action.

Nevertheless, even small leaks that are below Technical Specifications limits could result in large boric acid deposits if left for long periods, such as a complete plant operating cycle between refueling outages. Currently, actions to address leakage vary among licensees. Therefore, the staff is monitoring a pressurized-water reactor Owners Group initiative to develop a uniform method for calculating RCS leakage and is working with other industry groups that are developing uniform responses to RCS leakage. In addition, the implementation of ASME Code Case N-722, which specifies bare metal visual inspection requirements for all dissimilar metal welds in the RCS, will limit the amount of boron in containment that might otherwise accumulate from one outage to the next. Finally, staff audits have verified that licensees are implementing BACC programs that look for evidence of RCS leakage, and have been sensitized to look for smaller amounts of boron as part of these programs. Despite these positive activities, there continue to be examples of boric acid accumulation inside containment. The staff is considering follow up activities, potentially through a generic communication, to address this issue.

A second working group of NRR and RES staff addressed the recommendation to evaluate the adequacy of analysis methods for assessing risk of passive component degradation and integrating the results of the analyses into the regulatory decisionmaking process. In general, the group found that the methods used to assess risk are adequate; however, in most cases there is insufficient data to use these methods alone to produce robust results. Also, an understanding of the limitations and uncertainties of any risk assessment method is crucial for responsible risk-informed regulatory decisionmaking. The available risk assessment models by themselves are usually inadequate to provide strong support for many types of decisions. The inability of the risk models to predict degradation rates and structural integrity effects and the limited information about plant-specific conditions often make it difficult to make reliable predictions very far beyond the latest available measurements. However, the group concluded that decisions made on the basis of a proper combination of inspection results and predictive modeling can be successfully used to adequately control the risk to the public and recommended training on incorporating risk assessment results in regulatory decisionmaking. The staff expects to complete training and an effectiveness review by September 2006.

The staff continued its participation with industry representatives in the working group that evaluates improvements to the Reactor Oversight Process (ROP) performance indicators (PIs). In particular, the staff participated in a subgroup formed to assess the feasibility of creating a PI to track the number, duration, and rate of primary system leaks that have been identified but not corrected. The group concluded that creation of a new PI is not feasible at present, partly because it is hard for licensees to determine small leak rates accurately and partly because the quarterly data reporting makes it hard for the staff to determine the number, rate, and duration of leaks. However, the staff will continue to follow progress in leak detection capability and industry efforts in this area. As part of the ongoing effort to improve the ROP and the PIs, the staff is working with external stakeholders, and an NRC staff/industry subgroup has been established to explore possible improvements in the RCS leakage PI.

Other Activities

As part of the original implementation plan, action plans were developed to track the high-priority LLTF recommendations in each of the four categories. All activities in the action plans for operating experience, inspection and project management, and barrier integrity have been completed and the final updates of these plans were included in the Director's Quarterly Status Reports (DQSR) in April and July 2005. The action plan to address stress corrosion cracking will remain open to track follow-up regulatory actions resulting from completion of the LLTF recommendations regarding the staff analysis of nozzle cracking and boric acid corrosion experience, and the changes to ASME Code inspection requirements.

As previously reported, the original plan was augmented to include effectiveness reviews subsequent to the completion of initial LLTF actions - typically, approximately 1 year after completion. The staff determined that effectiveness reviews are appropriate for 31 of the 49 LLTF recommendations. Eighteen effectiveness reviews have been completed. In general, the actions were found to be effective in responding to the LLTF recommendations. Revisions to inspection program guidance will continue to be evaluated in the annual ROP self-assessments. The staff also plans to enter the LLTF recommendations into the NRR corrective action program, which has a provision for annual effectiveness reviews of a sample of completed actions.

As directed in the staff requirements memorandum dated December 15, 2004, the staff developed a summary report on the significant improvements that resulted from the LLTF. The report was posted on the NRC public Web site in June 2005.

Summary

In summary, only one LLTF recommendation remains open. It will be closed when industry initiatives to improve RPV inspection requirements in the ASME code are completed. The current inspection requirements of the order are adequate to ensure public safety until the revised ASME guidelines are subsequently incorporated into NRC regulations.

Attachment: Status of LLTF Recommendations

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

Dated: September 29, 2005

DISTRIBUTION:
NON-Public
NRR Mail Room (WITS20030006)
EDO Reading File
PDII-2 Reading File
RidsEdoMailCenter
RidsNrrOd
RidsNrrAdpt
RidsOgcRp
RidsOpaMail
RidsOcaMailCenter
RidsNrrPmas
RidsNrrDlpm
RidsNrrDe
RidsNrrDrip
RidsNrrDipm
RidsNrrDssa
RidsNrrDlpmLpdii
RidsNrrDlpmLpdii-2
RidsNrrPMBMoroney
RidsNrrLABClayton
PHiland
MRoss-Lee
SRichards
JAndersen
RGibbs
RidsResOd
JWiggins
RBarrett
RCroteau
JUhle
ALee
CAder
MSrinivasan
TClark
RidsRgn1MailCenter
RidsRgn2MailCenter
RidsRgn3MailCenter
RidsRgn4MailCenter
RSchroll, SECY
ALipuma, OIG
ABlanco, OIG

Status of Davis-Besse Lessons Learned Task Force Recommendations

Last Update: August 31, 2005

Category: Stress Corrosion Cracking

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.1.1(1)	*Assemble foreign and domestic information concerning Alloy 600 (and other nickel based alloys) nozzle cracking and boric acid corrosion. Analyze nickel based alloy nozzle susceptibility to stress corrosion cracking (SCC), including other susceptible components, and boric acid corrosion of carbon steel, and propose a course of action and an implementation schedule to address the results.*	High	SCC	Complete	~~TBD~~ Not Required	RES (DET) for data collection NRR (DE) for other actions

STATUS: Data collection was accomplished in two phases. Collection of information on cracking was completed 03/31/04 (, ML040910354). A test program on boric acid corrosion was completed on 10/22/04 and was published in NUREG/CR-6875, "Boric Acid Corrosion of Light Water Reactor Pressure Vessel Material" (ML050410026). The information contained in these two reports and a third report on Alloy 600 cracking susceptibility (ML032461221), which was issued on 3/31/04 to address LLTF 3.1.4(1), have been compiled in NUREG-1823, "U.S. Plant Experience with Alloy 600 Cracking and Boric Acid Corrosion of Light-Water Reactor Pressure Vessel Materials" (ML050390139).

Based on the reports, the staff concluded that additional inspections are warranted for identifying leakage from primary water stress corrosion cracking (PWSCC) and for precluding boric acid corrosion as a result of such through-wall leakage. The RES reports provide a comprehensive set of information that supports and confirms the appropriateness of these conclusions and does not change the staff's basic perception of the problem. The staff concluded that definitive actions are needed to address shortcomings with the current framework for these inspections and proposed a plan and schedule for accomplishing them. This completed the LLTF recommendation. Actions to implement the plan are being tracked through an NRR action plan that addresses stress corrosion cracking and boric acid corrosion issues.

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.2.2(1)	*Inspect the adequacy of PWR [pressurized-water reactor] plant boric acid corrosion control programs, including their implementation effectiveness, to determine their acceptability for the identification of boric acid leakage, and their acceptability to ensure that adequate evaluations are performed for identified boric acid leaks.*	High	SCC	~~05/05~~ Complete	05/06	NRR (IIPB)
STATUS: The evaluation of responses to Bulletin 2002-01, which included audits of boric acid corrosion control (BACC) programs at five plants, determined that plants appeared to be complying with requirements at the programmatic level. The results of the evaluation were summarized in Regulatory Issues Summary (RIS) 2003-13 (ML032100653). The RIS concluded that existing monitoring programs may need to be enhanced to ensure early detection and prevention of leakage from the RCPB and provided suggestions for improving existing programs. Subsequent inspections conducted at all operating reactor plants have reviewed licensee BACC programs using new inspection guidelines. Temporary Instruction (TI) 2515/150, issued on October 18, 2002, which provides guidance for inspecting licensees' reactor pressure vessel (RPV) head inspections pursuant to Order EA-03-009, also includes instructions for follow-up on findings of boric acid accumulation. Inspection Procedure (IP) 71111.08, "Inservice Inspection Activities," was revised on 5/11/04 to add periodic inspection requirements and guidance for BACC. Staff review of inspection results from TI 2515/150 and IP 71111.08 and feedback from Region inspectors indicate that licensees' current programs are generally adequate for locating and evaluating and/or correcting boric acid leaks and the NRC inspection guidance is adequate and effective for oversight of BACC programs. All inspection findings have been categorized as very low safety significance. The effectiveness of IP71111.08 will continue to be evaluated as part of annual ROP self-assessment and appropriate improvements will be made as needed.					
3.3.2(1)	*Develop inspection guidance for the periodic inspection of PWR plant boric acid corrosion control programs.*	High	SCC	Complete	Not required	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Temporary Instruction (TI) 2515/150, issued in 08/03, supports the review of licensees' RPV head and vessel head penetration nozzle inspection activities that are implemented in accordance with the requirements of NRC Order EA-03-009. This TI validates that a plant conforms to its inspection commitments and requirements, during refueling outages, using procedures, equipment, and personnel that have been demonstrated to be effective in the detection and sizing of PWSCC in VHP nozzles and detection of RPV head wastage. TI2515/152, issued in 11/03, provides interim inspection guidance for follow-up to Bulletin 2003-02, which includes BACC programs. In addition, IP 71111.08, "Inservice Inspection Activities", was revised in 05/04 to add NRC inspection samples to observe and evaluate licensee inspection of PWR RPV head and VHP nozzle inspection activities on a periodic basis consistent with the guidance in TI 2515/150. This revision also included guidance and requirements to perform a performance based inspection of licensee's boric acid program implementation. The effectiveness of these inspection procedures will be evaluated as part of LLTF 3.2.2(1) and a separate effectiveness review is not required.						
3.3.4(3)	*Develop inspection guidance or revise existing guidance to ensure that VHP [vessel head penetration] nozzles and the RPV head area are periodically reviewed by the NRC during licensee ISI [inservice inspection] activities.*	High	SCC	Complete	Not required	NRR (IIPB)
STATUS: TI2515/150, issued 08/03, provides interim inspection guidance for follow-up to Order EA-03-009. IP 71111.08, "Inservice Inspection Activities," was revised on 5/11/04 to add periodic inspection requirements and guidance for PWR vessel head penetration inspections. The effectiveness of these inspection procedures will be evaluated as part of LLTF 3.2.2(1) and a separate effectiveness review is not required.						

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.3.4(8)	*Encourage ASME [American Society of Mechanical Engineers] Code requirement changes for bare metal inspections of nickel based alloy nozzles for which the code does not require the removal of insulation for inspections. Also, encourage ASME Code requirement changes for the conduct of non-visual NDE [nondestructive examination] inspections of VHP nozzles.* *Alternatively, revise 10 CFR 50.55a to address these areas.*	High	SCC	TBD	TBD	NRR (DE/DRIP)

STATUS: Completion of this recommendation depends on industry and ASME actions. Staff will review EPRI/MRP guidelines, which are expected to form the basis for ASME code changes, when issued. Issuance has been delayed several times. NRC management has communicated with industry to encourage timely issuance of proposed guidelines. The NRC Staff also participates in ASME Code committees. Once the ASME Code requirements are updated, the staff will evaluate them for inclusion by reference into 10 CFR 50.55a.

Interim inspection requirements have been established by issuance of First Revised Order EA-03-009. Due to the delay in updating the ASME Code, the NRC staff initiated action to incorporate Order EA-03-009 guidelines into 10 CFR 50.55a and submitted a rulemaking plan for Commission approval in 07/04. The Commission decided not to proceed with separate rulemaking and directed the staff to continue working with the industry to revise the ASME code (SRM-SECY-04-0115, 8/6/04). The target date for separate rulemaking was deleted. Any changes to 10 CFR 50.55a will be done following NRC staff review of industry actions. In June 2005 the ASME Board on Nuclear Codes and Standards approved Code Case –729, which provides additional inspection requirements for RPV upper heads.

Separately, the ASME Board on Nuclear Codes and Standards approved Code Case –722, which recommends bare metal visual examination of all ASME Code Class 1 alloy 600/82/182 components at frequencies that depend on the temperature of the location. The NRC supported development and approval of these code cases. Once these code cases are formally published, the staff will evaluate endorsing them in a revision to 10 CFR 50.55a. These actions will be tracked along with the follow-on actions for LLTF 3.1.1(1) through an NRR action plan that addresses stress corrosion cracking and boric acid corrosion issues.

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.1.4(1)	*Determine if it is appropriate to continue using the existing SCC models as a predictor of VHP nozzle PWSCC [primary water SCC] susceptibility given the apparent large uncertainties associated with the models. Determine whether additional analysis and testing are needed to reduce uncertainties in these models relative to their continued application in regulatory decision making.*	Medium	SCC	Complete	Not required	RES (DET)
STATUS: In its current form, the model is based on time and temperature effects alone and is adequate for prioritizing reactor VHP inspections. It has been used in the development of inspection requirements in Order EA-03-009 and the bulletins that preceded it. Inspection results to date have been consistent with model predictions and do not indicate a need for revising the model in the near term. A report by the Office of Nuclear Regulatory Research, issued 7/21/03 (ML032461224 and ML032461221), identified refinements that could be made to the model. These improvements are not needed to satisfy this recommendation and will require research activities that are beyond the scope of the LLTF recommendation. The report will be issued in a NUREG together with the reports required for LLTF 3.1.1(1).					
3.3.7(6)	*Determine whether ISI summary reports should be submitted to the NRC, and revise the ASME submission requirement and staff guidance regarding disposition of the reports, as appropriate.*	Low	SCC	~~05/05~~ Complete	~~05/06~~ Not Required	NRR (DE/DLPM)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: The staff has reviewed the uses of the ISI reports and concludes that it is appropriate to continue to have the reports submitted to the NRC, so that there is no need to revise the ASME requirements. In particular, the Regions use the ISI reports for inspection planning and to follow up on issues associated with inspection procedure IP 71111.08, "Inservice Inspection Activities." In addition, the Office of Nuclear Regulatory Research reviews the ISI reports to trend aging effects and material degradation, in order to develop recommendations for codes and standards activities. The staff has determined, however, that the NRR practice of reviewing the ISI reports is unnecessary. In the future, the NRR staff will not review the ISI reports; rather, since the reports should still be submitted for other reasons, the reports will be available when it is determined that the NRR staff should use them as references in support of the operating experience program. No effectiveness review is required.						

Category: Operating Experience

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.1.6(1)	*Take the following steps to address the effectiveness of programs involving the review of operating experience: (1) evaluate the agency's capability to retain operating experience information and to perform longer-term operating experience reviews; (2) evaluate thresholds, criteria, and guidance for initiating generic communications; (3) evaluate opportunities for additional effectiveness and efficiency gains stemming from changes in organizational alignments (e.g., a centralized NRC operational experience "clearing house"); (4) evaluate the effectiveness of the Generic Issues Program; and (5) evaluate the effectiveness of the internal dissemination of operating experience to end users.*	High	OpE	Complete	12/05	NRR(IROB) and RES
STATUS: This action required the evaluation of various aspects of the agency's operating experience program. This action item became the foundation of the charter for to Operating Experience Task Force (OETF) [ML031200535]. The OETF documented its evaluation of items (1) through (5) of the recommendation in its report dated 11/26/03 (ML033350063). The OETF made 23 recommendations for improving the effectiveness of the agency's operating experience program that are currently being implemented in accordance with the Operating Experience Action Plan dated 4/29/04 (ML041180024).						

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.1.6(2)	*Update NRC operating experience guidance documents.*	High	OpE	Complete	12/05	NRR (IROB) and RES
STATUS: This LLTF recommendation is directed at the fact that Management Directive (MD) 8.5, "Analysis and Evaluation of Operational Data" had not been updated since the dissolution of the Analysis and Evaluation of Operational Data organization and the transfer of Operating Experience Program responsibilities to NRR and RES. However, NRR Office Instruction, LIC-401, "NRR Operating Experience Program," was issued in March 2003 to reflect the current practices of NRR's Operating Experience Section located in the Division of Inspection Program Management. As part of the Operating Experience Action Plan (ML041180024), which implemented the recommendations of the Operating Experience Task Force (ML033350063), the staff developed MD 8.7, "Reactor Operating Experience Program" (ML043570013, ML043570032) and Revision 1 to NRR Office Instruction, LIC-401 (ML043570075) as the framework for a new operating experience program. On December 22, 2004, the Office Directors of NRR and RES authorized the staff to begin implementation of MD 8.7, in its draft form for one year prior to its final issuance. Also, the Director of NRR authorized implementation of NRR Office Instruction, LIC-401, Rev. 1, in draft form pending completion of final editing and administrative processing.						
3.1.6(3)	*Enhance the effectiveness of NRC processes for the collection, review, assessment, storage, retrieval, and dissemination of foreign operating experience.*	High	OpE	Complete	12/05	NRR (IROB) and RES

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: At the time of this recommendation, foreign operating experience, such as that received through the IAEA Incident Reporting System (IRS), was only communicated and distributed in an ad hoc fashion. Today, it is a formal element of the NRC Operating Experience Section screening process and available on the internal web site. NRR Office Instruction LIC-401, "NRR Operating Experience Program," was issued on 3/31/03. This office instruction incorporates action to enhance the effectiveness and utilization of foreign operating experience within the Operating Experience Section. This process will be further enhanced upon implementation of the Operating Experience Action Plan (ML041180024). An overall effectiveness review will be performed approximately one year following implementation of the action plan.						
3.2.4(1)	*Assess the scope and adequacy of requirements governing licensee review of operating experience.*	High	OpE	Complete	12/05	NRR (IROB)
STATUS: This assessment was performed as part of the Operating Experience Task Force Report (ML033350063), which was issued November 26, 2003. Section 5 of this report concludes that the scope and adequacy of the requirements related to the licensee review of operating experience are currently acceptable. Inspection Procedure 71152, "Identification and Resolution of Problems," is the key baseline procedure for evaluating licensee utilization of operating experience, and the Operating Task Force found that recent changes to that procedure (Change Notice 03-032) enhanced NRC baseline inspection efforts.						

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.3.1(1)	*Provide training and reinforce expectations to NRC managers and staff members to address the following areas: (1) maintaining a questioning attitude in the conduct of inspection activities; (2) developing inspection insights stemming from the DBNPS [Davis-Besse Nuclear Power Station] event relative to symptoms and indications of RCS [Reactor Coolant System] leakage; (3) communicating expectations regarding the inspection follow-up of the types of problems that occurred at DBNPS; and (4) maintaining an awareness of surroundings while conducting inspections. Training requirements should be evaluated to include the appropriate mix of formal training and on-the-job training commensurate with experience. Mechanisms should be established to perpetuate these training requirements.*	High	OpE	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: The focus of this recommendation is on regional staff. The Inspection Program Branch developed a web-based training course based on the Columbia Space Shuttle Accident to (1) illustrate the importance of maintaining a questioning attitude toward safety and the potential negative consequences that can occur when such a questioning attitude is lost or compromised; (2) provide examples of how issues concerning an organization's safety culture can lead to technological failures; (3) provide insights into investigation techniques that can be used to assess safety significant issues or events; and (4) illustrate the importance of a robust corrective action program and highlight the corrective action program weaknesses that contributed to the shuttle accident. The Regions provided documentation that all managers and inspectors required to complete the training on the Columbia Accident had completed the training. In addition, IMC 1245, "Qualification Program for the Office of Nuclear Reactor Regulation Programs," was revised to include this web-based training program as an individual study activity for future inspectors. The IMC 1245 Management Steering Group and IMC 1245 Working Group annually review the effectiveness of inspector training through feedback forms submitted, results of the inspector oral boards, and regional experience. Improvements and revisions are recommended and implemented as appropriate. In addition, the Regions encourage a questioning attitude during semiannual inspector counterpart meetings, in newsletters discussing value-added findings, and during periodic reactor oversight process refresher training. The training associated with this recommendation was effectively implemented in 2003 and will be continually reviewed as part of the inspector training program reviews and regional management attention.					
3.3.4(2)	*Strengthen inspection guidance pertaining to the periodic review of operating experience.*	High	OpE	Complete	~~05/05~~ Complete	NRR(IROB and IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: The inspection guidance pertaining to the periodic review of operating experience has been strengthened through the revision of Problem Identification and Resolution Inspection Procedure 71152 on 9/8/03. This revision specifically requires the review, on a sampling basis, of the issues identified through the past NRC generic communications. A fundamental goal of the NRC's reactor oversight process is to establish confidence that each licensee is detecting and correcting problems. This inspection procedure's purpose is to supplement the other baseline inspection procedures and the performance indicators to provide assurance that licensees adequately identify and correct problems. Issues identified through operating experience are an integral part of that assessment. The effectiveness of the changes to IP 71152 was reviewed by verifying that: (1) the planned procedure revisions were issued and distributed to inspectors, (2) the latest version of the inspection procedure was being used, (3) the inspection guidance pertaining to the periodic review of operating experience was strengthened, and (4) there were no unintended consequences. The staff reviewed 30 inspection reports that documented the results of completing IP 71152 inspections (fifteen reports each from 2004 and 2005 with a mix from each of the four regions). The review determined that the four criteria were met. In addition, a pilot inspection program conducted in 2005 resulted in enhancements to the procedures for inspecting licensee use of operating experience in the design and engineering areas. The staff concluded that the changes were effectively implemented and the inspection guidance pertaining to the periodic review of operating experience has been strengthened. IP 71152 will continue to be evaluated on an ongoing basis as part of the annual ROP self-assessment process.					
3.3.5(1)	*Maintain expertise in the subject areas by ensuring that NRC inspector training includes: (1) boric acid corrosion effects and control; and (2) PWSCC of nickel based alloy nozzles.*	High	OpE	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Training modules on these topics have been included in the web-based training described under 3.3.1(1). The training focuses on the current NRC understanding and approach to monitoring boric acid corrosion and shows photographs of the Davis-Besse head and a cutaway drawing of the degradation. A training module on the "Effects of Corrosion," which includes both PWSCC and BACC, was completed by all current inspectors. Also, Inspection Manual Chapter (IMC) 1245, "Qualification Program for the Office Of Nuclear Reactor Regulation Programs," Appendix B, "General Proficiency-Level Training and Qualification Journal" (ML041820014), was revised to include an individual study activity requiring all qualifying inspectors to review the technical subject web-based training, which includes the training on PWSCC and BACC, as well as future web-based training items. This action was effectively implemented in 2004 and the Regions documented that all appropriate managers and inspectors completed the training. In the long term, the training was added to the IMC 1245 requirements. In addition, during 2005, the Inspection Program Branch will work with the Materials Engineering Branch of the Division of Engineering Technology in the Office of Nuclear Regulatory Research to update the training material. The training associated with this recommendation will be continually reviewed as part of the inspector training program reviews and regional management attention.					
3.1.2(1)	*Revise NRC processes to require short-term and long-term follow-on verification of licensee actions to address significant generic communications (i.e., bulletins and GLs).*	Medium	OpE	Complete	12/05	NRR (IROB)
STATUS: NRR Office Instruction LIC-503, "Generic Communications Affecting Nuclear Reactor Licensees," was revised on 7/23/04. This revision incorporates actions to address the requirement for short-term and long-term follow-on verification of licensee actions to address significant generic communications. As part of the development of a bulletin or generic letter, LIC-503 requires the staff to determine what actions will be necessary for closure of the issue.						
3.1.2(2)	*Establish review guidance for accepting owners group and industry resolutions for generic communications and generic issues. Guidance should include provisions for verifying implementation of activities by individual owners groups and licensees.*	Medium	OpE	Complete	~~06/05~~ 10/05	NRR (DLPM, DE, DSSA)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: NRR Office Instruction LIC-503, "Generic Communications Affecting Nuclear Reactor Licensees," was revised in July 2004 to include guidance regarding review of owners group and industry resolution to generic communications. Guidance for acceptance review was added to the sections addressing origin and closeout of generic communications. The revision requires the staff to establish review guidance for accepting owners group and industry proposals during the preparation of a generic communication and to establish criteria for accepting owners group and industry resolutions during closeout. NRR Office Instruction LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC," was revised in August 2004 to include guidance on accepting regulatory commitments made by third parties such as owners groups. With regard to verification, LIC-503 requires an assessment of the method to be used for verifying licensee responses during the development of a generic communication. One method is by use of a temporary instruction (TI) and guidance for the preparation of a TI is provided. An alternative to a TI is verification of licensee responses through DLPM Project Managers' audits of regulatory commitments, conducted in accordance with LIC-105. LIC-105 provides detailed guidance for conducting the audits. LIC-105 also directs lead PMs for generic communications to provide guidance for verification of owners group or industry commitments in conducting periodic audits, if they were accepted in response to the generic communication, and directs PMs to review generic communication guidance in the selection of the audit sample. The "Commitment Management Program," section of the DLPM Handbook provides an overview of DLPM management expectations and NRR staff guidance for handling regulatory commitments made by licensees for commercial nuclear reactors, and provides a link to LIC-105. The target date for the effectiveness review was extended to allow a full year of experience with the new procedures before starting the review.					
3.1.2(5)	*Conduct follow-on verification of licensee actions associated with a sample of other significant generic communications, with emphasis on those involving generic communication actions that are primarily programmatic in nature.*	Medium	OpE	Complete	Not Required	NRR (IROB, IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.

STATUS: A task force performed a screening process of candidate generic communications in 07/03 using criteria approved by management. Selection of generic communications and focus areas was completed in 11/03 following management review and input on priorities. Verification plan was presented to NRR LT in 12/03 and revised to address comments. Five focus areas were initially identified. All but one (Service Water) were being addressed by other initiatives. Through TI 2515/159 (issued 7/29/04) a sample review of three plants in each region was conducted to verify licensee actions in response to GL 89-13, "Service Water Problems Affecting Safety-Related Equipment." In addition, a follow-up to RIS 2004-05, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power," was conducted through TI 2515/156 to determine if the RIS accomplished its purpose of raising industry awareness of the potential impacts of grid operation on nuclear power plants.

The staff concluded that GL 89-13 was generally effective in addressing issues associated with service water systems, although some isolated deficiencies exist and licensees continue to address operational issues. The staff believes that the effectiveness of this GL was enhanced by the comprehensive follow-on NRC inspections after the issuance of the GL and by the ongoing inspection program oversight. Additionally, TI2515/159 was an effective method for assessing GL 89-13 effectiveness.

The staff concluded that RIS 2004-05 was effective in informing licensees of NRC expectations in the area of offsite power in a timely manner. Additionally, TI 2515/156 was an effective method of collecting additional operational data.

3.1.3(2)	*Conduct follow-on verification of licensee actions pertaining to a sample of resolved GIs.*	Medium	OpE	Complete	Not Required	NRR (DLPM, IIPB)

STATUS: The staff obtained a list of all resolved GIs, which indicated that 20 GIs have been resolved since 1983. All but three of these were resolved by issuance of generic communications (GCs). One remaining issue was resolved by plant-specific backfits, and two were closed without further action. Thus, a follow-on verification of resolved GIs would essentially require a verification of GCs.

However, a follow-on verification of GCs was conducted separately in response to LLTF Item 3.1.2(5), which selected GCs for review by a screening process of all GCs that considered safety significance, risk significance, functional area and other factors, and included input from the NRR, RES and Region Offices in establishing priority for follow-up. Only two of the 19 GCs used to resolve GIs matched those in the final priority list determined for LLTF Item 3.1.2(5), and one of these is the subject of one of the TIs being used to close out LLTF 3.1.2(5). It was concluded that the response to LLTF 3.1.3(2) would be effectively implemented by the completion of LLTF 3.1.2(5) and a separate sampling activity was unnecessary.

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.2.3(1)	*Review a sample of NRC safety evaluations of owners' group submissions to identify whether intended actions that supported the bases of the NRC's conclusions were effectively implemented.*	Medium	OpE	Complete	Not Required	NRR (DLPM, IIPB)
STATUS: The basis for this recommendation was a 1993 request from the NRC to pressurized-water reactor owners groups to provide a safety evaluation (SE) documenting why no unreviewed safety question existed for Alloy 600 nozzle cracking. The Babcock & Wilcox (B&W) Owners Group provided a report that included a statement that B&W plants had developed plans to visually inspect control rod drive nozzles for boric acid deposits. The applicable commitment was not effectively incorporated at Davis-Besse. In general, the NRC staff does not accept owners' group commitments on behalf of licensees, and it appears that the particular example cited as the basis for Davis-Besse LLTF recommendation 3.2.3(1) was unique. The DLPM lead project managers for each of the owners' groups, through individual research and discussion with their respective vendors, were unable to identify any other NRC SEs of owners group submissions related to a generic issue that required an action to be implemented by industry. The NRR technical staff also stated that they did not know of any documentation of this nature. Therefore, after a thorough search by the owners group lead project managers, vendors, and NRR technical staff, it was concluded that other SEs similar to the one described in the recommendation are not available, and LLTF 3.2.3(1) was closed.					
3.2.3(2)	*Develop general inspection guidance for the periodic verification of the implementation of owners groups' commitments made on behalf of their members.*	Medium	OpE	Complete	~~06/05~~ 10/05	NRR (DLPM, IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: NRR Office Instruction LIC-503, "Generic Communications Affecting Nuclear Reactor Licensees," was revised in July 2004 to include guidance regarding review of owners group and industry resolution to generic communications. Guidance for acceptance review was added to the sections addressing origin and closeout of generic communications. The revision requires the staff to establish review guidance for accepting owners group and industry proposals during the preparation of a generic communication and to establish criteria for accepting owners group and industry resolutions during closeout. NRR Office Instruction LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC," was revised in August 2004 to include guidance on accepting regulatory commitments made by third parties such as owners groups. With regard to verification, LIC-503 requires an assessment of the method to be used for verifying licensee responses during the development of a generic communication. One method is by use of a temporary instruction (TI) and guidance for the preparation of a TI is provided. An alternative to a TI is verification of licensee responses through DLPM Project Managers' audits of regulatory commitments, conducted in accordance with LIC-105. LIC-105 provides detailed guidance for conducting the audits. LIC-105 also directs lead PMs for generic communications to provide guidance for verification of owners group or industry commitments in conducting periodic audits, if they were accepted in response to the generic communication, and directs PMs to review generic communication guidance in the selection of the audit sample. The "Commitment Management Program," section of the DLPM Handbook provides an overview of DLPM management expectations and NRR staff guidance for handling regulatory commitments made by licensees for commercial nuclear reactors, and provides a link to LIC-105. The target date for the effectiveness review was extended to allow a full year of experience with the new procedures before starting the review.					
3.1.2(3)	*Establish process guidance to ensure that generic requirements or guidance are not inappropriately affected when making unrelated changes to processes, guidance, etc. (e.g., deleting inspection procedures that were developed in response to a generic issue).*	Low	OpE	Complete	~~08/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Language was added to IMC 0040, “Preparing, Revising and Issuing Documents for the NRC Inspection Manual” to ensure that inspection requirements are not removed that were previously inserted to emphasize licensee performance in areas identified in a Generic Letter or Nuclear Regulatory Commission (NRC) Bulletin (IMC 0040, Change Notice 04-003, ADAMS Accession # ML040690184, dated 2/2/04). This is a permanent modification to the NRC Inspection Manual, applicable to all changes. The revised Manual Chapter requires that the previous four (4) years of changes be reviewed. An effectiveness review in August 2005 determined that no requirements had been deleted, and also identified a procedure improvement that will enable historical tracking of generic requirements beyond 4 years. The Inspection Manual change process will be updated with the new requirements.						
3.1.3(1)	*Evaluate, and revise as necessary, the guidance for proposing candidate GIs.*	Low	OpE	Complete	05/06	RES
STATUS: The staff has completed an evaluation of the guidance for proposing candidate Generic Issues (GIs) in Management Directive (MD) 6.4, "Generic Issues Program." A revision of the Handbook 6.4 to address the DBLLTF recommendation to enhance and simplify the process was completed by 10/04 and inter-office/regional review and comments were obtained in accordance with MD 1.1, "NRC Management Directive System." That action met the intent of DBLLTF recommendation and closed out this task.						
3.3.4(7)	*Reassess the basis for the cancellation of the inspection procedures that were deleted by Inspection Manual Chapter, Change Notice 01-017 to determine whether there are deleted inspection procedures that have continuing applicability. Reactivate such procedures, as appropriate.*	Low	OpE	~~03/05~~ Complete	~~05/06~~ Not required	NRR (IIPB)
STATUS: A review of 80 procedures deleted by Change Notice CN01-017 was conducted to determine if there were any deleted inspection procedures that have continuing applicability. Four inspection procedures were determined to have continuing applicability and were reactivated. These were IP56700, “Calibration,” IP82201, “Emergency Detection and Classification,” IP82202, “Protective Action Decision Making,” and IP90700, “Feedback of Operating Experience Information at Operating Power Reactors.” This action was essentially an effectiveness review of the previous decision and no additional effectiveness review is required. The procedures will be evaluated as part of the annual ROP self-assessment.						

Category: Inspection Programs

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.2.5(2)	*Revise inspection guidance to provide assessments of: (1) the safety implications of long-standing, unresolved problems; (2) corrective actions phased in over several years or refueling outages; and (3) deferred modifications.*	High	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Inspection Procedure (IP) 71152, "Identification and Resolution of Problems," was revised to require the resident inspector to perform a screening review of each item entered into the corrective action program. The intent of this review is to be alert to conditions such as repetitive equipment failures or human performance issues that might warrant additional follow-up through other baseline inspection procedures. IP 71152 was also revised to require a semi-annual review to identify trends that might indicate the existence of a more significant safety issue. Included within the scope of this review are repetitive or closely related issues that may have been documented by the licensee outside the normal corrective action program, such as in trend reports or performance indicators, major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, maintenance rule assessments, or corrective action backlog lists. To address the issue of deferred modifications, the staff revised IP 71111.15, "Operability Evaluations." The objective of this procedure is to review operability evaluations affecting mitigating systems and barrier integrity to ensure that operability is properly justified and the component or system remains available, such that no unrecognized increase in risk has occurred. The procedure was revised to include deferred modifications as one of the areas an inspector can assess to ensure that structures, systems, and components are capable of performing their design function. The effectiveness of the changes to IP 71152 was discussed during a problem identification and resolution focus group meeting held on March 11, 2005. The consensus of the group members was that the changes have resulted in no unintended consequences, have reinforced expectations that inspectors have a questioning attitude, and provide a method for highlighting issues that might be indicative of a more significant problem. In addition, semiannual trend reviews have successfully identified negative equipment trends. In some cases, these negative trends may not have been documented if the inspection guidance had not been changed. There has been some feedback from inspectors requesting additional guidance on how to conduct the semiannual trend reviews. The inspection guidance in this area was deliberately kept non-prescriptive to afford inspectors ample opportunities to follow up on issues that might not fit well elsewhere in the inspection program. Overall, the changes were effectively implemented and addressed the recommendations. IP 71152 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process.					
3.3.5(4)	*Develop guidance to address the impacts of IMC 0350 implementation on the regional organizational alignment and resource allocation.*	High	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: The Inspection Program Branch completed an evaluation of the IMC 0350, “Oversight of Operating Reactor Facilities in a Shutdown Condition with Performance Problems," process in June 2003, (ML031890873). It identified the need for specifically budgeting resources for IMC 0350 inspections and providing prescriptive inspection guidelines for the process. The budget estimate was increased for FY2005 and beyond (ML033010385) to account for one IMC 0350 plant per year. IMC 0350 was revised in December 2003, to provide additional inspection guidelines. Davis-Besse remained the only plant under the IMC 0350 process during CY 2004. At the time of the effectiveness review, no additional plants had been considered for IMC 0350 oversight since the implementation of the DBLLTF recommendations. However, feedback from the Davis-Besse Oversight Panel and other stakeholders indicated that the procedural and budgetary changes have been generally effective in addressing the concerns noted by the DBLLTF, particularly in the allocation of resources and implementation of the comprehensive inspection and oversight guidance. In addition, in accordance with the guidance in IMC 0350, the Davis-Besse Oversight Panel is developing a report of recommended improvements to the process based on additional lessons learned. Accordingly, the staff will revise IMC 0350 in CY 2005 to address these recommendations and further improve the process. The IMC 0350 process, including these procedural and budgetary changes, will also continue to be evaluated for efficiency and effectiveness as part of the annual ROP self-assessment process.					
3.3.7(2)	*Establish guidance to ensure that decisions to allow deviations from agency guidelines and recommendations issued in generic communications are adequately documented.*	High	Insp	Complete	~~05/05~~ Complete	NRR (DLPM)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Guidance on documenting decision making and a training package containing applicable reference material were issued through a DLPM Handbook update and placed on the Project Managers web site in 02/03. In 04/03, the NRR Director distributed the training package to other NRR divisions by e-mail, and the Deputy EDO for Reactor Programs forwarded it by memorandum (ML030300106) to other offices and the regions. Office Instruction LIC-503, "Generic Communications Affecting Nuclear Reactor Licensees," issued in 06/03, contains guidance on documenting review and closeout of generic communications. A revision in 07/04 added the specific requirement for documenting the basis for allowing deviations from generic communications. The intent of the LLTF 3.3.7(2) was met by the above actions. An effectiveness review of distributing the guidance indicated a need for refresher training for licensing Project Managers. This was conducted at DLPM staff meetings in 06/04 and 03/05. The guidance has also been included in the Project Manager qualification program, so all new PMs will be made aware of the requirements. An effectiveness review for generic communication closeout recommended more specific guidance in LIC-503, which was added in the 07/04 revision.					
3.2.5(1)	*Develop inspection guidance to assess scheduler influences on outage work scope.*	Medium	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)
STATUS: Operability of plant structures, systems, and components was considered to be the fundamental operative regulatory requirement. Therefore, Inspection Procedure (IP) 71111.15, "Operability Evaluations," was modified (IP 71111.15, Change Notice 04-003, ML040690184, dated 2/2/04) to include deferred modifications (potentially deferred due to outage schedular pressure as well as other reasons) as part of the population of items from which to sample for the adequacy of a licensee's process for ensuring operability of all plant systems by surveillance and continuous monitoring. In addition, existing IP 71111.20, "Refueling and Other Outage Activities" assesses the adequacy of the licensee's actions to mitigate and control the changes in plant risk during outage activities. The effectiveness of the regional implementation of these inspection procedures are evaluated annually and the results are documented in the annual Reactor Oversight Process self assessment SECY paper. The staff's review of inspection results and region feedback regarding implementation of these changes did not identify any implementation issues or findings resulting from the IP revisions. IPs 71111.15 and 71111.20 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process and as part of the procedure feedback process in accordance with IMC 0801, "Reactor Oversight Process Feedback Program."					

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.3.1(2)	*Develop inspection guidance to assess repetitive or multiple TS action statement entries, as well as, the radiation dose implications associated with repetitive tasks.*	Medium	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)
STATUS: IMC 2515, Appendix D, Plant Status, was revised in 05/04 to evaluate licensee actions when operating with multiple or repetitive or unplanned Technical Specification (TS) action statements, and included inspection guidance for assessing radiation dose implications associated with repetitive tasks. These procedure changes were reviewed and commented on by the regional staff and approved for implementation. The staff's review of inspection results and feedback from each Region regarding the implementation of these changes indicates that the licensees were neither operating with excessive repetitive or multiple TS action statement entries nor causing any significant radiation dose to workers as a result of repetitive tasks. The licensees' actions were consistent with TS requirements and occupational radiation exposure guidance. No implementation issues or findings were identified in this area. IMC 2515 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process and as part of the procedure feedback process in accordance with IMC 0801.					
3.3.3(1)	*As an additional level of assurance, identify alternative mechanisms to independently assess plant performance as a means of self-assessing NRC processes. Once identified, the feasibility of such mechanisms should be determined.*	Medium	Insp	Complete	05/06	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: The staff researched plant assessments performed by independent parties and identified two (Institute of Nuclear Power Operations (INPO) and International Atomic Energy Agency (IAEA) that could be used as a means of self-assessing the NRC inspection and plant performance assessment process. Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," was revised on December 21, 2004 (ML043560249), to include consideration of these independent assessments during the mid-cycle and end-of-cycle assessment preparations. During the assessment preparations, the staff will determine if there are possible plant performance deficiencies not identified by the NRC, and if so, make a determination if baseline inspection resources should be directed to evaluate the possible deficiencies. In addition, this information will be assessed during the annual reactor oversight process self-assessment to determine if any process changes are warranted.						
3.3.4(1)	*Review inspection guidance pertaining to refueling outage activities to determine whether the level of inspection effort and guidance are sufficient given the typically high level of licensee activity during relatively short outage periods. The impact of extended operating cycles on the opportunity to inspect inside containment and the lack of inspection focus on passive components should be reviewed. This review should also determine whether the guidance and level of effort are sufficient for inspecting other plant areas which are difficult to access or where access is routinely restricted.*	Medium	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Inspection Procedure (IP) 71111.20 "Refueling and Other Outage Activities" was revised to include containment walkdowns and consideration of walkdowns in other restricted areas (IP 71111.20, Change Notice 04-011, ADAMS Accession #ML041280018, dated 5/6/04). In addition, the inspection of passive component integrity is being increased in response to DBLLTF items 3.3.2(1) and 3.3.4(3), which enhanced inspection of licensee inservice inspection activities, including boric acid corrosion control. The effectiveness of the regional implementation of these inspection procedures are evaluated annually as part of the annual Reactor Oversight Process self assessment. Region feedback identified a need to expand on the IP 71111.20 guidance to ensure proper focus during outages on structures, systems, and components that are inaccessible during power operations. However, prior to the 5/6/04 revision, the Regions had used outage periods as opportunities to inspect plant areas that are only accessible during outages. This includes inspections under other IPs in the ROP. ALARA and environmental conditions (i.e., high temperature) were identified as limiting factors for containment walkdowns in several boiling water reactors, which indicates that containment type should be factored into containment walkdown guidance. This is being evaluated as a potential IP 71111.20 revision. IP 71111.20 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process and as part of the procedure feedback process in accordance with IMC 0801.					
3.3.4(4)	*Revise IMC 0350 to permit implementation of IMC 0350 without first having established that a significant performance problem exists, as defined by the ROP.*	Medium	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)
STATUS: IMC 0350 was revised 12/31/03 to state that a plant can be considered for oversight under the IMC 0350 process when a significant operational event has occurred. The next revision to IMC 0350 will revise the title to reflect this change. Davis-Besse remained the only plant under the IMC 0350 process during CY 2004. At the time of the effectiveness review, no additional plants had been considered for IMC 0350 oversight since this change was made in December 2003. However, feedback from the Davis-Besse Oversight Panel and other stakeholders indicates that this change and those noted under DBLLTF item number 3.3.5(4) have been effective in addressing the concerns noted by the DBLLTF, particularly in the allocation of resources and implementation of the comprehensive inspection and oversight guidance. The IMC 0350 process, including this particular change, will continue to be evaluated for efficiency and effectiveness as part of the ROP self-assessment process on an annual basis.					

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.3.4(5)	*Review the range of NRC baseline inspections and plant assessment processes, as well as other NRC programs, to determine whether sufficient programs and processes are in place to identify and appropriately disposition the types of problems experienced at DBNPS. Additionally, provide more structured and focused inspections to assess licensee employee concerns programs and safety conscious work environment (SCWE).*	Medium	Insp	Complete	~~TBD~~ Not Required	NRR (IIPB)

STATUS: The Inspection Program Branch (IIPB) reviewed the NRC baseline inspection program and plant assessment processes as part of the annual Reactor Oversight Process (ROP) self-assessment in April 2004, and also reviewed completed DBLLTF items related to the ROP. Based on these reviews, the staff has enhanced the baseline inspection program by (1) requiring the screening of all licensee corrective action items, (2) performing a semi-annual trend review focused on recurring equipment issues, (3) requiring containment walkdowns during outages, (4) reviewing deferred modifications, and (5) evaluating licensee actions when operating with multiple, repetitive, or unplanned technical specification action statements. The staff has enhanced the plant assessment process by (1) strengthening the oversight of plants in extended shutdowns, (2) requiring more complete documentation of important staff decisions, and (3) budgeting resources for Inspection Manual Chapter 0350 plants. The staff has also enhanced the ROP by (1) requiring training on boric acid corrosion, stress corrosion cracking, and the importance of a questioning attitude, and (2) requiring annual refresher training on different aspects of the ROP. Based on these actions, the first half of this DBLLTF action item is complete.

Regarding the second half of this item, on August 30, 2004, the Commission issued a Staff Requirements Memorandum (SRM) that disapproved an option to develop an inspection process to systematically assess safety culture. Instead the SRM requires the staff to enhance the ROP treatment of cross-cutting issues to more fully address safety culture. The SRM noted that the staff should rely on inspector observations and other indicators already available to the NRC, should develop tools that allow inspectors to rely on more objective findings, should consider including enhanced problem identification and resolution initiatives, and should ensure that the inspectors are properly trained in the area of safety culture. Based on this direction from the Commission, the staff will work with the appropriate stakeholders to provide more structured inspection and guidance in the area of safety culture, which encompasses SCWE. As a result of the Commission's direction, the DBLLTF item to provide more focused inspections on employee concerns programs and SCWE has been superseded and expanded upon and will be tracked separately in response to the SRM. Therefore, the second half of this recommendation is complete. The effectiveness of any changes made to the ROP will be evaluated as part of the annual ROP self-assessment.

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.3.7(1)	*Reinforce expectations for the implementation of guidance in the PM handbook for PM site visits, coordination between PMs and resident inspectors, and PM assignment duration. Reinforce expectations provided to PMs and their supervisors regarding the questioning of information involving plant operation and conditions. Also, strengthen the guidance related to the license amendment review process to emphasize the need to consider current system conditions, reliability, and performance data in SERs. In order to improve the licensing decision-making process, the NRC should strengthen its guidance regarding the verification of information provided by licensees.*	Medium	Insp	Complete	~~05/05~~ Complete	NRR (DLPM)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Several of these recommendations are addressed, at least in part, by existing procedures. The “Site Visits” section of the DLPM Handbook provides guidance to PMs on activities to be conducted during site visits. The “Morning Calls” section discusses interactions with Region personnel. Office Instruction LIC-100, Rev. 1 (issued 01/04) provides guidance on considering current conditions during licensing action reviews. Office Instruction LIC-101 provides guidance on the amendment review process and use of Requests for Additional Information (RAI)for obtaining information. IP 71005 (issued 08/03) provides a mechanism for PMs to obtain resident inspector (RI) support in obtaining plant information. In addition, a memo from the DLPM Director to the DLPM staff (6/25/04) provided clarification of management expectations for PM site visits, coordination between PMs and resident inspectors, PM assignment duration, questioning of information, and verifying information provided by licensees. This also has been discussed at division and management meetings. The DLPM handbook and appropriate Office Instructions were updated to include this additional guidance . The effectiveness review determined that this recommendation was successfully implemented. In general, PMs visited their sites consistent with the expectation, although travel and budget constraints, special assignments such as the security plan review team, and other resource issues resulted in some PMs not visiting their sites. With regard to PM assignment duration, a review of 34 PM reassignments that occurred between May 2004 and June 2005 revealed that 16 were due to medical reasons, retirements, resignations, permanent rotations to other divisions, and temporary rotations to special task groups. Of the 18 remaining transfers, the average time the previous PM was assigned to the plant was 3.44 years. PM assignment duration (that was less than the desired length but within the control of the office) was documented in memos from Project Directors. Most PMs include the Region and RI during the licensing review and when drafting the safety evaluation. Verification of information submitted by licensees is being accomplished, as evidenced by the identification of deficiencies with licensee submittals on a few occasions. Prompt action and attentiveness by several PMs resolved complicated issues by supplying plant operational information to the technical staff before sending the licensee an RAI. Communications between the PM, RI and the technical staff took various forms. Sharing of information between the Resident and the PM led to many successful reviews and the capturing of potential safety issues. Some examples are: PM and RI cooperation on heavy loads accident analysis; an RI provided operational information that the licensee's foreign material exclusion (FME) program had deficiencies and the licensee took steps to correct those issues prior to approval of an amendment that relied on its FME program; and, an RI provided information on the lack of margin for the ultimate heat sink and an emergency TS change was denied. These examples demonstrate that the PMs work with RIs and the region to consider current plant conditions, question and verify data provided by licensee, and improve the licensing decision-making process.					
APP. F	*Conduct an effectiveness review of the actions taken in response to past lessons-learned reviews.*	Medium	Insp	Complete	~~05/06~~ Not Required	NRR(IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: A task force conducted the recommended review and issued its report on 8/2/04 (ML042110287). This completed the scope of work required by this LLTF recommendation and, since the Appendix F effort was itself an effectiveness review, an additional effectiveness review is not required. However, the report findings and recommendations are being addressed. The task force found that, while previous lessons learned reviews were thorough and produced good recommendations, they were not always effectively implemented. It recommended development of an agency-wide corrective action program. This recommendation was accepted by management and endorsed by the Commission in its 12/15/04 SRM (ML043500639). The EDO formed a team to develop a corrective action program that addresses the task force report and the SRM. The team is developing a program that will address lessons learned selected for special attention from high-level, multi-office or agency level lessons that stem from organizational failures. The program will be implemented through a phased approach. Program definition and draft documentation will be developed by December 31, 2005. Following a pilot program and staff training, the base program will be implemented by June 2006. The team's activities are being tracked and reported separately from the Davis-Besse LLTF recommendations. Specific items from the previous lessons learned reports that were identified for additional follow-up have been entered into the NRR corrective action program and will be tracked to completion by that process.					
3.3.2(2)	*Revise the overall PI&R inspection approach such that issues similar to those experienced at DBNPS are reviewed and assessed. Enhance the guidance for these inspections to prescribe the format of information that is screened when determining which specific problems will be reviewed.*	Low	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: The Inspection Program Branch issued a revision in 09/03 to Inspection Procedure (IP) 71152, "Identification and Resolution of Problems," to include an inspection requirement to perform a semi-annual review to identify trends that might indicate the existence of a more significant safety issue. Training to inform the inspection staff of this change to IP 71152 was conducted using web-based training and follow up conference calls between the regions and the program office. The training was documented as complete in May 2004. The effectiveness of the changes to IP 71152 addressing the DBLLTF recommendations was discussed during a problem identification and resolution focus group meeting held on March 11, 2005. The consensus of the group members was that the changes have resulted in no unintended consequences, have reinforced expectations that inspectors have a questioning attitude, and provide a method for highlighting issues that might be indicative of a more significant problem. In addition, the regional inspection procedure leads, in conjunction with the NRR program office, have highlighted and communicated semiannual trend reviews that have been successful at identifying negative equipment trends. In some cases, these negative trends may not have been documented if the inspection guidance had not been changed. There has been some feedback from inspectors requesting additional guidance on how to conduct the semiannual trend reviews. The inspection guidance in this area was deliberately kept non-prescriptive to afford inspectors ample opportunities to follow up on issues that might not fit well elsewhere in the inspection program. Overall, the changes were effectively implemented and addressed the recommendations. IP 71152 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process.						
3.3.2(3)	*Provide enhanced Inspection Manual Chapter guidance to pursue issues and problems identified during plant status reviews.*	Low	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: IP 71152, "Problem Identification and Resolution," was revised in 09/03 to require the resident inspector to perform a screening review of each item entered into the corrective action program. The intent of this review is to be alert to conditions such as repetitive equipment failures or human performance issues that might warrant additional follow-up through other baseline inspection procedures. The effectiveness of the changes to IP 71152 addressing the DBLLTF recommendations was discussed during a problem identification and resolution focus group meeting held on March 11, 2005. The consensus of the group members was that the changes have resulted in no unintended consequences, have reinforced expectations that inspectors have a questioning attitude, and provide a method for highlighting issues that might be indicative of a more significant problem. In addition, the regional inspection procedure leads, in conjunction with the NRR program office, have highlighted and communicated semiannual trend reviews that have been successful at identifying negative equipment trends. In some cases, these negative trends may not have been documented if the inspection guidance had not been changed. There has been some feedback from inspectors requesting additional guidance on how to conduct the semiannual trend reviews. The inspection guidance in this area was deliberately kept non-prescriptive to afford inspectors ample opportunities to follow up on issues that might not fit well elsewhere in the inspection program. Overall, the changes were effectively implemented and addressed the recommendations. IP 71152 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process.					
3.3.2(4)	*Revise inspection guidance to provide for the longer-term follow-up of issues that have not progressed to a finding.*	Low	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: IP 71152, "Problem Identification and Resolution," was revised in 09/03 and includes enhanced requirements regarding routine PI&R reviews conducted by the resident inspectors, biennial reviews of longstanding issues, and biennial reviews of licensees' operating experience issues. The effectiveness of the changes to IP 71152 addressing the DBLLTF recommendations was discussed during a problem identification and resolution focus group meeting held on March 11, 2005. The consensus of the group members was that the changes have resulted in no unintended consequences, have reinforced expectations that inspectors have a questioning attitude, and provide a method for highlighting issues that might be indicative of a more significant problem. In addition, the regional inspection procedure leads, in conjunction with the NRR program office, have highlighted and communicated semiannual trend reviews that have been successful at identifying negative equipment trends. In some cases, these negative trends may not have been documented if the inspection guidance had not been changed. There has been some feedback from inspectors requesting additional guidance on how to conduct the semiannual trend reviews. The inspection guidance in this area was deliberately kept non-prescriptive to afford inspectors ample opportunities to follow up on issues that might not fit well elsewhere in the inspection program. Overall, the changes were effectively implemented and addressed the recommendations. IP 71152 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process.					
3.3.3(2)	*Perform a sample review of the plant assessments conducted under the interim PPR [Plant Performance Review] assessment process (1998-2000) to determine whether there are plant safety issues that have not been adequately assessed.*	Low	Insp	Complete	Not Required	NRR (IIPB)
STATUS: An audit of eight PPRs (2 PPR per Region) was completed in 06/04. It did not identify any issues that had not been adequately addressed. No additional follow-up is necessary.						
3.3.4(6)	*Provide ROP refresher training to managers and staff members.*	Low	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Based on the Davis Besse LLTF Report, ROP Refresher Training was provided at each of the Regional Inspector Counterpart Meetings in 05/04. The topic of the ROP Refresher Training session was an individual's role in developing and maintaining a questioning attitude. The slide presentation can be found at ADAMS (ML041320101). The IMC1245, "Qualification Program For the Office of Nuclear Reactor Regulation Programs" (ML04180012), was revised to include a requirement for annual ROP Refresher Training. IMC 1245 requires that topics for ROP refresher training will be solicited during the Spring Regional Inspector Counterpart Meetings. The IMC 1245 Management Steering Group will select the topic(s), determine the method of training, and determine the timing of the training. The NRR Inspection Program Branch will be responsible for ensuring the training is developed and implemented during the fall of each year. This action was effectively implemented in 2004. The Inspection Program Branch provided the initial ROP refresher training during the spring regional inspector counterpart meetings. The training focused on maintaining a questioning attitude. In the long term, IMC 1245 was revised to include a requirement for annual ROP refresher training. The IMC 1245 Management Steering Group and IMC 1245 Working Group annually review the effectiveness of inspector training through feedback forms submitted, results of the inspector oral boards, and regional experience. Improvements and revisions are recommended and implemented as appropriate. In addition, the Regions discuss current ROP issues during inspector counterpart meetings and in newsletters discussing value-added findings. Further, the IMC 1245 Management Steering Group, comprised of Regional Division/Deputy Division Directors, discusses potential ROP refresher training topics and chooses the topic to be discussed during formal training. In summary, the training associated with this recommendation was effectively implemented and will be continually reviewed as part of the inspector training program reviews and regional management attention.					
3.3.5(2)	*Reinforce IMC 0102 expectations regarding regional manager visits to reactor sites.*	Low	Insp	Complete	~~05/05~~ Complete	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: During the July 2003 Regional Division Director Counterpart Meeting, the Inspection Program Branch reinforced the IMC 0102 expectations for site visits. During a general discussion of reactor oversight process topics, a hand out was distributed which outlined the site visit responsibilities for the senior resident and resident inspectors, each line manager, Division of Reactor Project (DRP) managers, the Operator Licensing manager, the DRP Division Director or Deputy, and the Regional Administrator or Deputy Regional Administrator. The site visit responsibilities were discussed and are outlined in detail in IMC 0102,"Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities," This action was effectively implemented in 2003. The training was provided during the August 2003 regional Division Directors counterpart meeting and focused on the requirements of IMC 0102. In addition, as part of regional efforts to improve consistency and communicate value-added inspection activities, IMC 0102 is being revised to improve the expectations and requirements for regional managers regarding reactor site visits. In summary, the training associated with this recommendation was effectively implemented and will be continually reviewed as part of the inspector training program reviews and regional management attention.					
3.3.5(3)	*Establish measurements for resident inspector staffing, including the establishment of program expectations to satisfy minimum staffing levels.*	Low	Insp	Complete	Not Required	NRR (IIPB)
STATUS: A "Site Staffing" metric (ML032410588) was developed in 12/03, with regional input, to monitor gaps in permanent resident and senior resident inspector staffing at reactor sites. This metric was pilot tested in calendar year 2004, adjustments have been made based on the results of the pilot, and a revised metric was issued to the regions in 12/04. A criterion of maintaining at least 90% staffing program-wide has been established for this metric. In addition, any single site that falls below 90% will be specifically evaluated as part of the Reactor Oversight Process self-assessment process. This new metric will be used as an input to the annual Reactor Oversight Process self-assessment process. Since the effectiveness review for this change will be an ongoing assessment of usefulness as the metric is used as an input to the process, no additional effectiveness review is required.					

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.3.7(5)	*Fully implement Office Letter 900, "Managing Commitments Made by Licensees to the NRC," or revise the guidance if it is determined that the audit of licensee's programs is not required.* *Further, determine whether the periodic report on commitment changes submitted by licensees to the NRC should continue to be submitted and reviewed.*	Low	Insp	Complete	~~05/05~~ Complete	NRR (DLPM)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.

STATUS: Office Letter 900 was revised and incorporated into NRR Office Instruction LIC-105, "Managing Commitments Made by Licensees to the NRC," which was issued on 05/27/03. LIC-105 requires periodic audits (every 3 years) by the DLPM Project Managers (PMs) that consist of two major parts. The first is a verification of the licensee's implementation of NRC commitments by reviewing a sample of commitments. LIC-105 provides criteria for selection of the sample. The second is a verification of the licensee's program for managing changes to commitments. Program controls will be verified to be consistent with industry guidelines in Nuclear Energy Institute document NEI 99-04, which has been found by the NRC (SECY-00-045, dated 2/22/00) to provide acceptable guidance for managing regulatory commitments. NEI 99-04 also directs licensees to submit periodic reports of changes to commitments. This part of the audit will be done through additional samples of changes to commitments. It also includes a sample to confirm that the licensee's program ensures commitments are maintained following initial implementation. The results of the audit will be documented in a report from the PM.

In the discussion of the basis for this recommendation, the LLTF also noted that the DLPM handbook did not reference the office letter or discuss requirements for periodic audits of licensees' commitment management programs. The DLPM Handbook has been revised and the sections on "Site Visits" and "Commitment Management Program" reinforce the requirement for the periodic audits by PMs, and provides a link to LIC-105.

The intent of the LLTF recommendation has been met by the issuance of the guidance documents in 2004. An effectiveness review in 2005 found that, consistent with the guidance and management expectations, one-third of the reviews were completed during the first year. Some PMs suggested that having the resident inspectors perform the audits as part of 10 CFR 50.59 reviews would retain the benefit of the audit, improve efficiency, and reduce travel costs. Most PMs were in agreement that the audit documentation requirements should be reduced. These items will be considered and the staff will determine whether changes to the audit procedures are needed when audits have been performed at all sites.

In the course of the audits, PMs generally gained confidence that the licensees' commitment management programs are robust and reliable. Some items identified for future consideration include : (1) Some licensee do not have a dedicated system to track regulatory commitments and, instead, rely on several plant tracking subsystems to manage regulatory commitments, which results in the licensee not having a comprehensive listing and current status of all regulatory commitments, (2) Enforcement of commitments can be difficult since commitments can be eliminated in a 50.59 review, (3) Licensees typically do not formally identify regulatory commitments in submittals to the NRC.

The commitments to evaluate the efficiency of the audit process and the need for procedure changes have been entered into the NRR corrective action program and will be tracked through that process.

Category: Barrier Integrity

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.1.5(1)	*Determine whether PWR plants should install on-line enhanced leakage detection systems on critical plant components, which would be capable of detecting leakage rates of significantly less than 1 gpm.*	High	BI	~~03/05~~ Complete	~~05/06~~ Not required	RES (DET) for research report NRR/RES for remaining actions

STATUS: This recommendation focuses on determining if improvements can be made in leakage detection requirements. To accomplish this, a comprehensive review and evaluation of plant experiences and current leakage detection systems was performed by updating a similar study that was performed by Argonne National Laboratory (ANL) in the late 1980's. There are three main tasks associated with this effort. The first task is an assessment of the leakage associated with the degradation of various reactor coolant pressure boundary components. The second task is a review of leakage operating experience by developing a database of leakage events. The third task is an evaluation of the capabilities of various leakage detection systems. ANL submitted a draft report in 05/04. The RES and NRR staffs reviewed this draft report and provided comments to ANL. The final report was published as NUREG/CR-6861 in12/04.

A working group consisting of members of the NRR and RES staff was formed to address this recommendation.
In evaluating the need for additional requirements pertaining to leakage detection, the staff considered past operating experience related to reactor coolant system integrity and the performance deficiencies that led to the degradation that occurred at Davis-Besse. The staff identified techniques that could improve localized leak detection and on-line monitoring and several areas of possible improvements to leakage detection requirements that could provide increased confidence that plants are not operated at power with reactor coolant pressure boundary leakage. However, implementing these increased capabilities would most likely result in a very modest reduction in loss-of-coolant accident frequencies. As a result, the staff concluded that the associated risk reduction that may be realized would not justify the costs associated with the installation and maintenance of such equipment (i.e., the cost-benefit criteria associated with implementation of the backfit rule [10 CFR 50.109] could not be satisfied). Issuance of the working group report completed the recommendation and, since no further action was proposed, an effectiveness review is not required.

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.2.1(1)	*Improve the requirements pertaining to RCS unidentified leakage and RCPB leakage to ensure that they are sufficient to: (1) provide the ability to discriminate between RCS unidentified leakage and RCPB leakage; and (2) provide reasonable assurance that plants are not operated at power with RCPB leakage.*	High	BI	~~TBD~~ Complete	~~TBD~~ Not required	RES (DET) for research report NRR/RES for remaining actions
STATUS: This item was implemented in conjunction with LLTF 3.1.5(1) above. In evaluating the need for additional requirements pertaining to leakage detection, the staff considered past operating experience related to reactor coolant system integrity and the performance deficiencies that led to the degradation that occurred at Davis-Besse. The staff identified techniques that could improve localized leak detection and on-line monitoring and several areas of possible improvements to leakage detection requirements that could provide increased confidence that plants are not operated at power with reactor coolant pressure boundary leakage. However, implementing these increased capabilities would most likely result in a very modest reduction in loss-of-coolant accident frequencies. As a result, the staff concluded that the associated risk reduction that may be realized would not justify the costs associated with the installation and maintenance of such equipment (i.e., the cost-benefit criteria associated with implementation of the backfit rule [10 CFR 50.109] could not be satisfied). Since no changes were recommended, an effectiveness review is not required.					
3.2.1(2)	*Develop inspection guidance pertaining to RCS unidentified leakage that includes action levels to trigger increasing levels of NRC interaction with licensees in order to assess licensee actions in response to increasing levels of unidentified RCS leakage. The action level criteria should identify adverse trends in RCS unidentified leakage that could indicate RCPB degradation.*	High	BI	Complete	05/06	NRR (IIPB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: IMC 2515, Appendix D, "Plant Status," was revised in 05/04 to require inspectors to trend leak rates and monitor unidentified leakage for adverse trends, and, if any are noted, to inform licensee management and regional management. The guidance also requires inspectors to review licensee procedures and action plans to identify source(s) of RCS unidentified leakages when RCS leakages are suspected and to review licensee procedures for action steps, as unidentified leakage approaches licensee administrative limits or technical specifications allowed values. IMC 2515, Appendix D, was revised again in 01/05 to provide guidance and techniques necessary for assessing potential adverse trends and action levels in response to increasing levels of RCS unidentified leakage. The effectiveness review was deferred to provide an adequate period of time to use the new guidance.						
3.2.1(3)	*Inspect plant alarm response procedure requirements for leakage monitoring systems to assess whether they provide adequate guidance for the identification of RCPB leakage.*	High	BI	Complete	~~05/05~~ Complete	NRR (IIPB)
STATUS: To address this recommendation, inspection guidance has been revised to verify that licensees have programs and processes in place to (1) monitor plant-specific instrumentation that could indicate potential RCS leakage, (2) meet existing requirements related to degraded or inoperable leakage detection instruments, (3) use an inventory balance check when there is unidentified leakage (4) take appropriate corrective action for adverse trends in unidentified leak rates, and (5) pay particular attention to changes in unidentified leakage. The revised procedures include Inspection Manual Chapter 2515 Appendix D (Plant Status Review), Inspection Procedure 71111.22, and Inspection Procedure 71111.08. These revisions were issued in 05/04 and inspections have commenced. The assessment of the adequacy of licensee procedure requirements was completed as part of the annual ROP self assessment process. The staff's review of inspection results and feedback from each Region regarding the implementation of these changes indicated that the licensees' alarm response procedures and operating procedures provide adequate guidance for the identification and corrective actions for reactor coolant system boundary leakage. No implementation issues or findings were identified in this area. IPs 71111.22 and 71111.08, and IMC 2515 will continue to be evaluated on an ongoing basis as part of the annual ROP assessment process and as part of the procedure feedback process in accordance with IMC 0801.						

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
3.3.3(3)	*Continue ongoing efforts to review and improve the usefulness of the barrier integrity PIs [Performance Indicators]. These review efforts should evaluate the feasibility of establishing a PI which tracks the number, duration, and rate of primary system leaks that have been identified but not corrected.*	High	BI	~~05/05~~ Complete	~~05/06~~ Not Required	NRR(DIPM)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: The review and improvement of PIs is on ongoing process, which is performed by a working group that includes NRC and industry representatives. The PI program is a voluntary program for the industry in that there are no regulatory requirements associated with the program. Changes to the program generally require consensus between the NRC staff and industry. The first part of LLTF 3.3.3(3) is satisfied by the continuation of this ongoing process. The second part of the recommendation requires a feasibility evaluation of establishing an additional PI for tracking number, duration and rate of primary system leaks. The existing Reactor Coolant System (RCS) Leakage PI already monitors identified leakage as a percentage of the plant technical specifications limit. The intent of the PI is to call attention to those plants that have identified primary system leaks but have not corrected them in a timely manner. Only five plants have crossed the green-white threshold (greater than 50 percent of TS limit) in five years. The industry and NRC staff established a subgroup composed of NRC staff and industry representatives to assess the feasibility of creating a PI to track the number, duration, and rate of primary system leaks that have been identified but not corrected. The group concluded that it is not feasible at present due, in part, to the difficulty licensees have in determining small leak rates accurately, and, in part, to the quarterly data reporting, which makes it difficult for the staff to determine the number of leaks, the rate, and the duration. However, the staff will continue to follow progress in leak detection capability and industry efforts in this area. As part of the continuing effort to improve usefulness of the barrier integrity PIs and the Reactor Oversight Process, the staff/industry working group agreed to have the subgroup explore possible improvements to the RCS leakage PI. The subgroup has met on a number of occasions and is currently interacting with the Westinghouse Owners Group to understand the efforts being undertaken by that group. In summary, the staff has assessed the feasibility of establishing the PI which tracks the number, duration, and rate of primary system leaks that have been identified but not corrected and has determined that it is not feasible at this time. As part of the ongoing efforts to improve the Reactor Oversight Process and PI Program, the staff is working with its external stakeholders and has established a NRC staff/industry subgroup to explore and possibly improve the RCS Leakage PI. Since this is a continuing process and no specific changes were made, there is no need for an effectiveness review.					
3.3.4(9)	*Review PWR plant technical specifications to identify plants that have non-standard RCPB leakage requirements.* *Pursue changes to those technical specifications to make them consistent among all plants.*	High	BI	Complete	Not Required	NRR (IROB)

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: Plants with nonstandard RCPB technical specifications (TSs) were identified in a 07/03 study (ML031980277). The study indicated that only one plant did not have TSs for RCPB leakage. Subsequently, this plant submitted a technical specification change request that will bring it into alignment with the standard TSs. This change was approved on 5/7/04. Now all PWR TSs have RCPB leakage limits consistent with standard TSs. The requirements for shutdown, if leakage exists, are not identical, but all plants require appropriate conservative action to place the plant in cold shutdown within the time frame of the standard TSs.						
3.3.7(3)	*Evaluate the adequacy of analysis methods involving the assessment of risk associated with passive component degradation, including the integration of the results of such analyses into the regulatory decision-making process.*	Medium	BI	~~05/05~~ Complete	~~05/06~~ 09/06	RES

LLTF No.	LLTF Recommendation	Priority	Category	Target Date	Effectiveness Review	Lead Org.
STATUS: A working group consisting of members of the NRR and RES staff addressed this recommendation. In general, the WG found that the methods used to assess risk are adequate; however, in most cases there is insufficient data to use those methods to produce robust results. Also, an understanding of the results of any risk assessment, as well as its limitations and uncertainties, is paramount for responsible risk-informed regulatory decisionmaking. The WG report, dated March 31, 2005, found that the available risk assessment models alone are usually inadequate to provide strong support for many types of decisions. The portions of the risk models that predict degradation rates and structural integrity effects, and the limited information about plant-specific conditions often make it difficult to make reliable predictions very far beyond the latest available measurements. However, the WG concluded that decisions made on the basis of a proper combination of inspection results and predictive modeling can be successfully used to adequately control the risk to the public. The steam generator tube integrity program that has recently been developed in cooperation with industry, is suggested as a model for success in other portions of the pressure boundary components that are important to safety. The Division Directors agree that the methods used to assess risk are adequate and data limitations need to be well understood. An understanding of the limitations and uncertainties is necessary to make the appropriate decision. Degradation issues are not unique with respect to the need for decision makers to carefully consider the degree of uncertainty of and the level of confidence in the available information and analytical results. But, it is more difficult than usual to do so for degradation issues, because of the greater reliance on predictive models in place of empirical reliability data. Based on the WG findings, the evaluation recommended by DBLLTF 3.3.7(3) is considered complete. The Division Directors generally endorsed the WG recommendations and noted that the implementation of the recommendations should be consistent with the NRR/DSSA effort to assess the May 2004 GAO report on the Davis-Besse shutdown. NRR and RES will develop a strategy to implement the training identified by the WG for incorporating the risk assessment results in regulatory decision-making. The overall training and other items required to implement these recommendations, and the effectiveness review are projected to be completed by September 2006.					