September 15, 1989

Docket No. 50-346

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Mr. Donald C. Shelton
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Toledo Edison Company
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Dear Mr. Shelton:

SUBJECT: PROGRAMMATIC AUDIT OF THE SAFETY AND PERFORMANCE IMPROVEMENT PROGRAM (SPIP) AT DAVIS-BESSE NUCLEAR POWER STATION (TAC NO. 68201)

Enclosed is an evaluation report on the Davis-Besse Nuclear Power Station's implementation of the Babcock & Wilcox Owners Group (BWOG) safety and performance improvement program (SPIP). This evaluation is based on a staff audit at the Davis-Besse site from May 15 to 17, 1989.

The staff audit of SPIP implementation is planned for two phases: (1) a programmatic audit to evaluate the commitment and involvement of corporate management and the site organization in the SPIP, and the process for disposition fo SPIP technical recommendations (TR's), and (2) an implementation audit to perform more detailed review of the implementation and disposition of individual SPIP TR's. We have completed the programmatic audit and will schedule the implementation audit for a future date.

The staff found that Toledo Edison Company (TE) had established a formal process, governed by Davis-Besse's policies and procedures, that adequately controlled the disposition of BWOG TR's from identification on the BWOG Recommendation Tracking System (RTS) through final disposition. The staff also found that corporate and site management and site organizations were adequately involved in the SPIP process and were committed to ensuring that the process effectively controlled TR disposition. Also, the utility personnel involved in the SPIP process appeared to be knowledgeable with respect to their SPIP duties and responsibilities. In addition, the staff found that good communication channels existed between organizations; TR's were receiving adequate prioritization for disposition and/or modification; TR's were being closed out in a timely manner; the documentation presented in the files was complete, auditable, and adequately supported the decisions regarding TR disposition.

Based on the above, a review of SPIP and TR documents, a review of TE Davis-Besse policies and procedures, and discussions with TE Davis-Besse personnel, the staff determined that the SPIP program used at the Davis-Besse Nuclear Power Station satisfactorily controlled TR disposition and is, therefore, acceptable.

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We understand that it is TE's present intention to complete implementation of all applicable TR's by the end of Refueling Outage 7 in late 1991, contingent upon the emergence of higher priority work. Please keep us informed of any change in your plans.

The audit team appreciated the outstanding support your staff provided during the conduct of the audit. Those members of your staff who assisted in that effort are to be commended.

Sincerely,

/s/

Thomas V. Wambach, Sr. Project Manager
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Enclosure:
As stated

cc: See next page

DOCUMENT NAME: TAC 68201

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SAFETY AND PERFORMANCE IMPROVEMENT PROGRAM
PROGRAMMATIC AUDIT BY THE OFFICE OF NUCLEAR REACTOR REGULATION
TOLEDO EDISON COMPANY, ET AL.
DAVIS BESSE NUCLEAR POWER STATION
DOCKET NO. 50-346

1.0 SAFETY AND PERFORMANCE IMPROVEMENT PROGRAM AUDIT

1.1 Introduction

From May 15 to 17, 1989, the Nuclear Regulatory Commission (NRC) staff conducted a programmatic audit of Toledo Edison Company's (TE) Safety and Performance Improvement Program (SPIP) for its Davis-Besse Nuclear Power Station.

The Babcock and Wilcox Owners Group (BWOG) developed the SPIP program in order to reduce both the frequency of reactor trips and the complexity of post-trip responses. The purpose of this audit was to evaluate the TE's SPIP program for the Davis-Besse Nuclear Power Station.

1.2 Background

After the accident at Three Mile Island, Unit 2 (TMI-2), nuclear power plant owners made a number of improvements to their nuclear facilities. Despite these improvements, the U.S. Nuclear Regulatory Commission (NRC) staff was concerned that the number and complexity of events at Babcock & Wilcox (B&W) nuclear plants had not decreased as expected. This concern was reinforced by the total-loss-of-feedwater event at Davis-Besse Nuclear Power Station on June 9, 1985, and the overcooling transient at Rancho Seco Nuclear Generating Station on December 26, 1985.

By letter dated January 24, 1986, the NRC Executive Director for Operations (EDO) informed the Chairman of the B&W Owners Group (BWOG) that a number of recent events at B&W-designed reactors should be reexamined. In its February 13, 1986, response to the EDO's letter, the BWOG committed to lead an effort to define concerns relative to reducing frequency of reactor trip and the complexity of post-trip response in B&W plants. The BWOG submitted a description of the B&W program entitled "Safety and Performance Improvement Program" (BAW-1919) on May 15, 1986. Five revisions to BAW-1919 have been submitted. Included in BAW-1919 were specific tasks to be completed by each utility under a Safety and Performance Improvement Program (SPIP).

The NRC staff reviewed BAW-1919 and its five revisions and presented its evaluation in NUREG-1231, dated November 1987, and in Supplement No. 1 to NUREG-1231, dated March 1988. The NRC staff has previously performed an audit of the BWOG's disposition of the technical recommendations (TR's)

that were developed by various BWOG committees and task groups. The results of that audit, which were favorable, were reported in NRC Inspection Report 99900400/87/01. However, the staff determined that an NRC audit program to ensure the quality of each utility's program used to control the disposition and implementation of TR's is necessary since the majority of the recommendations developed by the BWOG did not provide specific design details.

Initially, a programmatic audit would be conducted to evaluate the adequacy of the SPIP programmatic process and TR disposition. This would be followed by an implementation audit to evaluate the adequacy of the TR implementation process.

The scope of the SPIP programmatic audit includes an evaluation of (1) the commitment and involvement of corporate management in the SPIP process (2) the commitment and involvement of site organizations in the SPIP process, and (3) the SPIP process for disposition of TR's. The SPIP programatic audit also included a review of the disposition of 34 selected TR's to determine the acceptability of the decisions regarding TR applicability and the evaluation for TR implementation. The acceptability of the TR implementation will be evaluated later during the SPIP implementation audit.

1.3 BWOG Recommendation Categories

All BWOG recommendations are to be tracked through closure. The following categories have been selected as the "bins" to be used by the utility when assigning tracking status. These categories, as well as the explanatory notes, are addressed in the BWOG Recommendation Tracking System (RTS), in BAW-1919, and in NUREG-1231.

Evaluating for Applicability (E/A)

The recommendation is being evaluated by the utility for applicability to its particular plant. The evaluation may conclude that the recommendation (a) is not applicable, (b) was implemented previously and is operable, or (c) if applicable, requires further evaluation to determine if it should be implemented.

Evaluating for Implementation (E/I)

An evaluation of the recommendation for applicability has been completed, and the recommendation is now being evaluated to determine if it should be implemented.

Implementing (I)

Utility evaluation is complete and the need for software/hardware changes to meet the intent of the recommendation has been identified.

Software changes have been assigned to the appropriate organization and are scheduled and budgeted. Hardware changes have been assigned to the appropriate organization for implementation, funding is approved, and the changes are included in a corporate plan for implementation.

Additional comments on implementation status or method of implementation are appropriate.

Closed/Operable (C/O)

Utility meets the intent of the recommendation, and implementation is complete.

Review of existing plant software or hardware results in the conclusion that intent of recommendation is already met. If software changes were required, new/revised procedures, training plans, etc. are approved and issued. Personnel are trained and procedures issued.

Closed/Not Applicable (C/NA)

Utility evaluation determines that the recommendation does not apply to plant-specific configuration; no past experience of underlying problems has occurred.

Software/hardware of concern does not exist, and existing software/hardware is such that a similar problem could not develop at their plant.

Additional comments on why it is not applicable are required.

Closed/Rejected (C/R)

Utility evaluation determines software/hardware changes meeting the intent of the recommendation are unacceptable and will not be implemented.

Recommendations may be unacceptable because:

(1) Implementation would not result in an overall improvement in plant safety or performance.

(2) Implementation of recommendation as described would not effectively resolve problem of concern.

(3) Resources required for implementation are excessive for expected plant improvement or benefit.

Additional comments on why it is rejected are required.

2.0 TOLEDO EDISON COMPANY'S SPIP TECHNICAL RECOMMENDATION AND IMPLEMENTATION PROCESS

Toledo Edison Company (TE) established a formal, proceduralized SPIP process to control TR disposition. TR files are maintained in accordance with existing plant procedures. The following description of TE's organizational policies and SPIP procedures is based on written information and flow charts (see Appendix A) provided by TE and verbal information obtained during interviews with TE Davis-Besse personnel.

2.1 Organizational Structure

The TE SPIP interface organization is shown in Appendix A, Figure 1. The Vice President, Nuclear, has the overall responsibility for the SPIP program at Davis-Besse. To assist the Vice President, Nuclear, in performing these duties, TE created the SPIP Senior Management Advisory Review Team (SPIP SMART), which provides management and schedular overview of the SPIP program. SPIP SMART also reviews the adequacy of decisions regarding TR disposition and implementation.

The SPIP SMART consists of TE managers (i.e., the Systems Engineering Manager, the Plant Operations Manager, and the Plant Maintenance Manager), an Industry Projects Senior Engineer, a Senior Nuclear Quality Engineer, the Transient Assessment Program representative, and three consultants from outside the company (one of whom chairs the SPIP SMART).

The SPIP SMART assesses the overall status and progress of TE's work on SPIP TR's to assure TR's are implemented in a satisfactory and timely manner. The SPIP SMART reports to the Vice President, Nuclear, and is responsible for the following:

(1) Reviewing and commenting on the proposed method of implementation for TR's.

(2) Reviewing and concurring with the disposition of TR's to be closed.

(3) Addressing the adequacy of the disposition and implementation of TR's without addressing the adequacy of the TR's themselves.

(4) Providing written notification to the Vice President, Nuclear, of any disagreement between the review team and other TE organizations.

The Davis-Besse Industry Projects Manager (DBIPM) interfaces with the BWOG in all matters pertaining to the BWOG SPIP TR's and the Recommendation Tracking System (RTS). The DBIPM is also responsible for the following:

(1) Assigning the responsibility for and the tracking of the implementation of TR's to the Responsible Manager.

(2) Scheduling SPIP SMART reviews of the TR's.

(3) Generating closure forms to document the disposition of TR's.

(4) Maintaining TR's status sheets for each TR.

(5) Issuing quarterly reports on the overall RTS status to the Vice President, Nuclear, the Engineering Director, and the Technical Services Director.

(6) Issuing monthly individual status reports to the Responsible Managers.

(7) Maintaining the formal Davis-Besse procedure that governs the processing of TR's (NG-EN-00315).

The Nuclear Group Managers are responsible for the following:

(1) Assigning personnel to function as Responsible Individuals (RI's) when requested by the DBIPM.

(2) Notifying the DBIPM of the assignment of RI's.

(3) Ensuring that the RI's provide appropriate information as required by the SPIP procedures.

The Responsible Individuals' duties include the following:

(1) Performing research and proposing actions regarding TR disposition and implementation. This includes an evaluation of the method of implementation used at other BWOG utilities, if possible.

(2) Providing implementation, status, and schedule information to the DBIPM.

(3) Providing presentations to the SPIP SMART when necessary to support conclusions regarding the recommended TR disposition and/or implementation action.

2.2 Processing of BWOG Technical Recommendations

This section describes the process used at TE to evaluate and implement the BWOG TR's.

The evaluation for applicability process is shown schematically in Appendix A, Figures 2 and 3. Each TR is screened by the DBIPM. The DBIPM reviews the basis for the TR and establishes a file which contains all documentation related to the TR. Based on this initial review, the DBIPM determines the applicability of the TR to the Davis-Besse plant design.

If the DBIPM determines that the TR is not applicable to the Davis-Besse plant, a closure form is prepared and the DBIPM schedules a review of the findings for presentation at a SPIP SMART meeting. If the SPIP SMART concurs with the DBIPM that the TR is not applicable to Davis-Besse, the DBIPM sends the C/NA status to the BWOG, updates the Davis-Besse SPIP data base with the new status, and forwards the recommendation file to the Davis-Besse Nuclear Records Management section.

If the SPIP SMART does not concur with the DBIPM that the TR is not applicable, or if the DBIPM determines that the TR is applicable to the plant, the DBIPM assigns the TR package to the appropriate Nuclear Group Manager for further disposition. The selected Nuclear Group Manager becomes the Responsible Manager for the TR.

The Responsible Manager then assigns the TR to a RI for further evaluation and possible implementation. The name of the RI is forwarded to the DBIPM for inclusion in the TR file. The DBIPM forwards all TR documentation necessary for the evaluation process to the RI.

The RI reviews the TR and proposes the means of implementation or recommends that the TR be rejected. If the RI determines that the TR should be implemented at Davis-Besse, an implementation schedule and the means of implementation are developed. The findings are transmitted to the DBIPM for review. The DBIPM then schedules a SPIP SMART review of the TR file. Following this review, SPIP SMART may request additional information from the RI to support findings regarding TR implementation. If the SPIP SMART does not concur with the proposed implementation (or rejection) the file is returned to the RI for further action. Otherwise, the RI is given approval to implement the TR and write the closure memo to the DBIPM.

After the TR is implemented, the DBIPM prepares the closure form and schedules a SPIP SMART review of the TR implementation actions. If necessary, the RI may be required to provide additional information at the SPIP SMART meeting and discuss the actions taken to implement or justify the rejection of the TR. If the SPIP SMART does not concur with the closure recommendation, the file is returned to the RI for further action. Otherwise, the DBIPM ensures the file is complete, forwards the file to the Davis-Besse Nuclear Records Management Group, and updates the BWOG RTS status to either Closed/Operable or Closed/Rejected.

If a TR is revised due to a BWOG recommendation, or additional information is received, or a plant experience is applicable, the DBIPM authorizes reopening of the TR for additional evaluation.

3.0 REVIEW OF SELECTED RECOMMENDATIONS

3.1 Selection Criteria

In order to have a in-depth understanding of TE's SPIP disposition process, the staff reviewed 34 TR files (see Appendix B) and evaluated the timeliness

and acceptability of TR disposition. These TR's were selected based on NUREG-1231, "Safety Evaluation Report Related to Babcock and Wilcox Owners Group Plant Reassessment Program," and on the most recent Recommendation Tracking System (RTS) report. A broad spectrum of TR's were selected so that representative TR's from the following categories were reviewed: 1) TRs designated "key" by the BWOG and also TR's which were considered high priority by the NRC although not designated key; 2) TR's associated with each of the plant systems (see Appendix B) having a bearing on the SPIP goal of reducing the number of reactor trips and the complexity of post trip responses; 3) TR's at each point in the disposition process (i.e., C/O, C/R, C/NA, E/A, E/I, and I).

3.2 Results of Staff Review

The staff found evidence of adequate corporate and site management commitment and involvement in the SPIP process. The staff also found that TE used a formal, well documented, procedure controlled, systematic process to evaluate SPIP TR's for disposition. In addition, the staff found that TE Davis-Besse personnel (i.e., members of SPIP SMART, Management for Engineering, Station, and Training, the Davis-Besse Industry Projects Manager, and the Responsible Individuals) involved in the SPIP processes were knowledgeable with respect to their duties and responsibilities and that good communication channels existed among these personnel. Also, the documentation contained in the TR packages reviewed was complete and auditable, and the Intra-Company Memorandums used throughout the SPIP TR disposition process provided adequate information regarding TR disposition decisions.

In addition, the recommended actions necessary to implement a TR appeared to adequately address the intent and basis for the TR. The engineering analysis for rejecting a TR or portions of a TR were also found to be adequate.

The staff found that SPIP SMART reviewed all TR's dispositioned prior to December 1987 to verify the adequacy of the TR disposition decisions. For those TR's dispositioned subsequent to December 1987, the adequacy of TR disposition was reviewed monthly during the SPIP SMART meetings. SPIP SMART also assists in reopening the TR disposition process following plant-specific events related to a TR and following BWOG TR revisions or BWOG recommendations. Even though this action is not specifically governed by procedure, a process is in place by which the DBIPM interfaces with the BWOG and SPIP SMART and places revised TRs back in the E/A phase. The staff found that the TR's revised after initial closure by TE were reopened and reevaluated in a satisfactory manner.

The staff also found that TR's closed out prior to implementation of the SPIP program were included in the SPIP SMART reviews to assure the SPIP program requirements were met and that the disposition results were acceptable. The results of these reviews were adequately documented on TR package closure pages and in the minutes of the appropriate SPIP SMART meeting. In addition

to the closure documentation, feedback, when required to resolve differences of opinion in the TR disposition process, appeared to be well documented and sufficiently detailed to support final TR disposition conclusions. The feedback process was conducted in accordance with SPIP procedures.

The staff found that cross-check provisions were included in the SPIP program to assure that all DBIPM decisions on TR applicability were confirmed or denied by the RI in the engineering, station, or training departments. Also, peer review of decisions made at the RI level was controlled using the existing TE Davis-Besse procedures for design review, quality assurance, and quality control.

The staff found that if schedular slippage occurred during any phase of TR disposition (TR status is tracked through the BWOG Steering Committee monthly report and the TE Davis-Besse site wide tracking system) the DBIPM investigated the basis for slippage and made a decision on the acceptability of the basis. A "telecon memo" addressing slippage acceptability was then placed in the TR package.

The staff also found that TR's were receiving adequate prioritization for final disposition and implementation (i.e., SPIP TR's were placed on the same prioritization level as other NRC commitments and Institute of Nuclear Power Operations (INPO) recommendations).

The staff found that only 49 (see Appendix C) of the approximately 222 TR's were still in the E/I or I phase. Twenty-three of the 49 TR's do not require plant modification for implementation. Of the remaining 26 TR's, 7 were under evaluation to determine if modifications were necessary, and 19 TR's had design paperwork in various stages of review and approval. Ten of the 19 TR's requiring plant modification were scheduled for implementation during Refueling Outage 6 and 9 were scheduled for implementation during Refueling Outage 7. TE stated that its present intention was to implement all BWOG SPIP TR's by the completion of Refueling Outage 7, contingent upon the emergence of higher priority work. This appeared to be acceptable as TE had already scheduled implementation of the Appendix R, Fire Protection Commitments, the Human Engineering Deficiencies (HED) commitments, and Anticipated Transients Without Scram (ATWS) commitments for Refueling Outage 6. In addition, 38 BWOG SPIP TR's (see Appendix D) involving modifications were closed prior to the SPIP programmatic audit.

4.0 CONCLUSIONS - SPIP PROGRAMMATIC AUDIT

The staff found that TE and its Davis-Besse Nuclear Power Station, using the SPIP Interface Organization and existing Davis-Besse policies and procedures, established a formal SPIP program that adequately controlled disposition of the B&W Owners Group SPIP TR's. The staff also found evidence of adequate corporate and site management and site support organization commitment and involvement in the SPIP process.

In addition, the staff found that personnel involved in the SPIP process appeared to be knowledgable with respect to their SPIP duties and responsibilities; good communication channels existed between organizations; TR files contained complete and accurate information regarding TR disposition decisions; the SPIP program included the necessary self assessment mechanisms to ensure the adequacy of decisions regarding TR applicability and intent; the SPIP program was adequately prioritized; TR's were being implemented in a timely manner, and TR status is satisfactorily tracked.

The following list shows the status of the 34 TR's reviewed by the staff during the SPIP programatic audit.

Closed Operable	23
Closed Rejected	0
Closed Not Applicable	3
Evaluating for Applicability	0
Evaluating for Implementation	1
Implementing	7

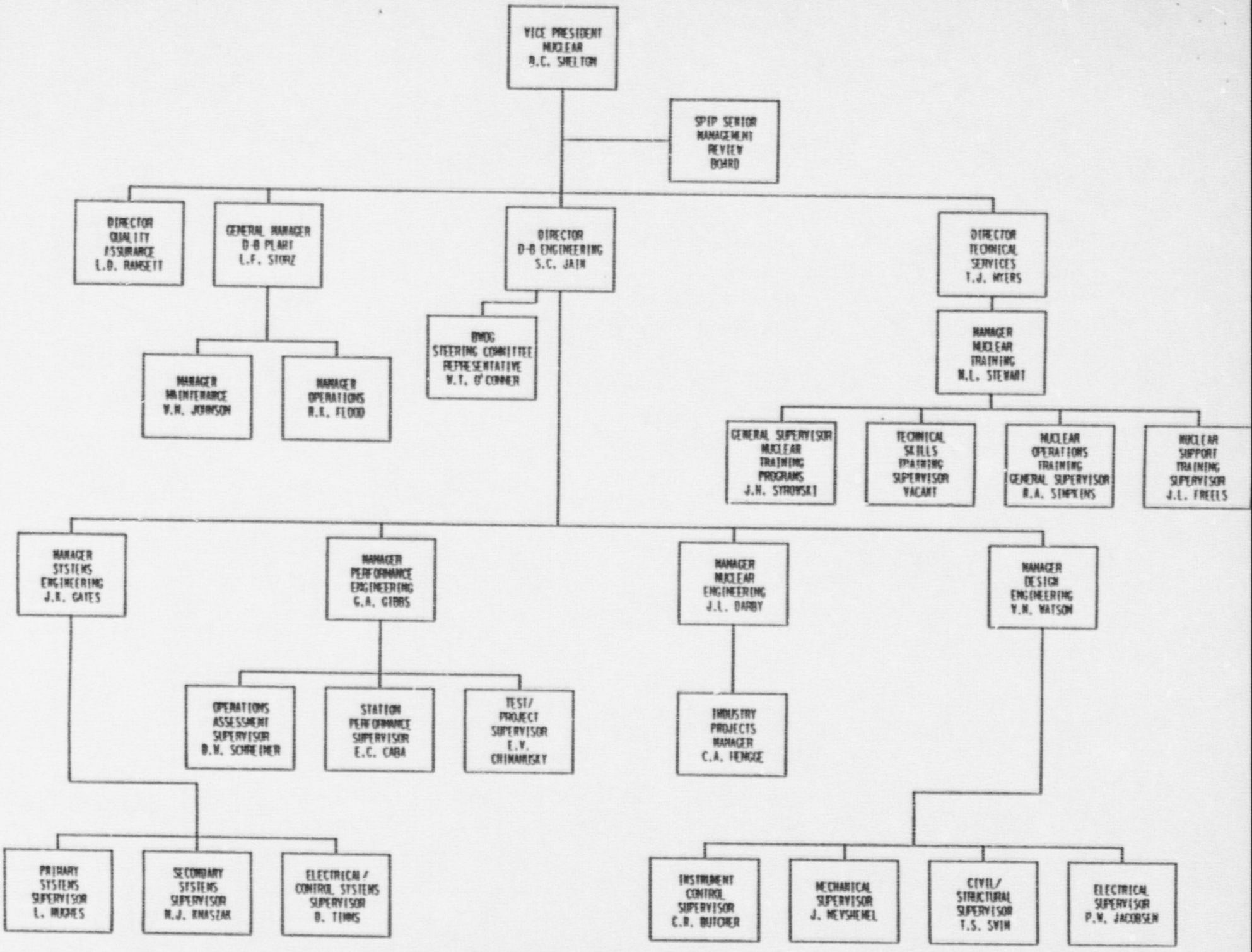
In addition to the above, the staff found that all of the approximately 222 total TR's were evaluated for applicability prior to this audit, and that 49 of these TR's were in the E/I or I phases; the remaining TR's have been implemented or rejected. The staff also found that of the 64 TR's requiring software and/or hardware modifications, 38 were implemented, 7 were being evaluated to determine if modifications were necessary, 10 were scheduled for implementation during Refueling Outage 6, and 9 TR's requiring major modifications were scheduled for implementation during Refueling Outage 7.

Based on the above, a review of SPIP and TR documents, a review of TE Davis-Besse policies and procedures, and discussions with TE Davis-Besse personnel, the staff determined that the SPIP program used at the Davis-Besse Nuclear Power Station satisfactorily controlled TR disposition and is, therefore, acceptable.

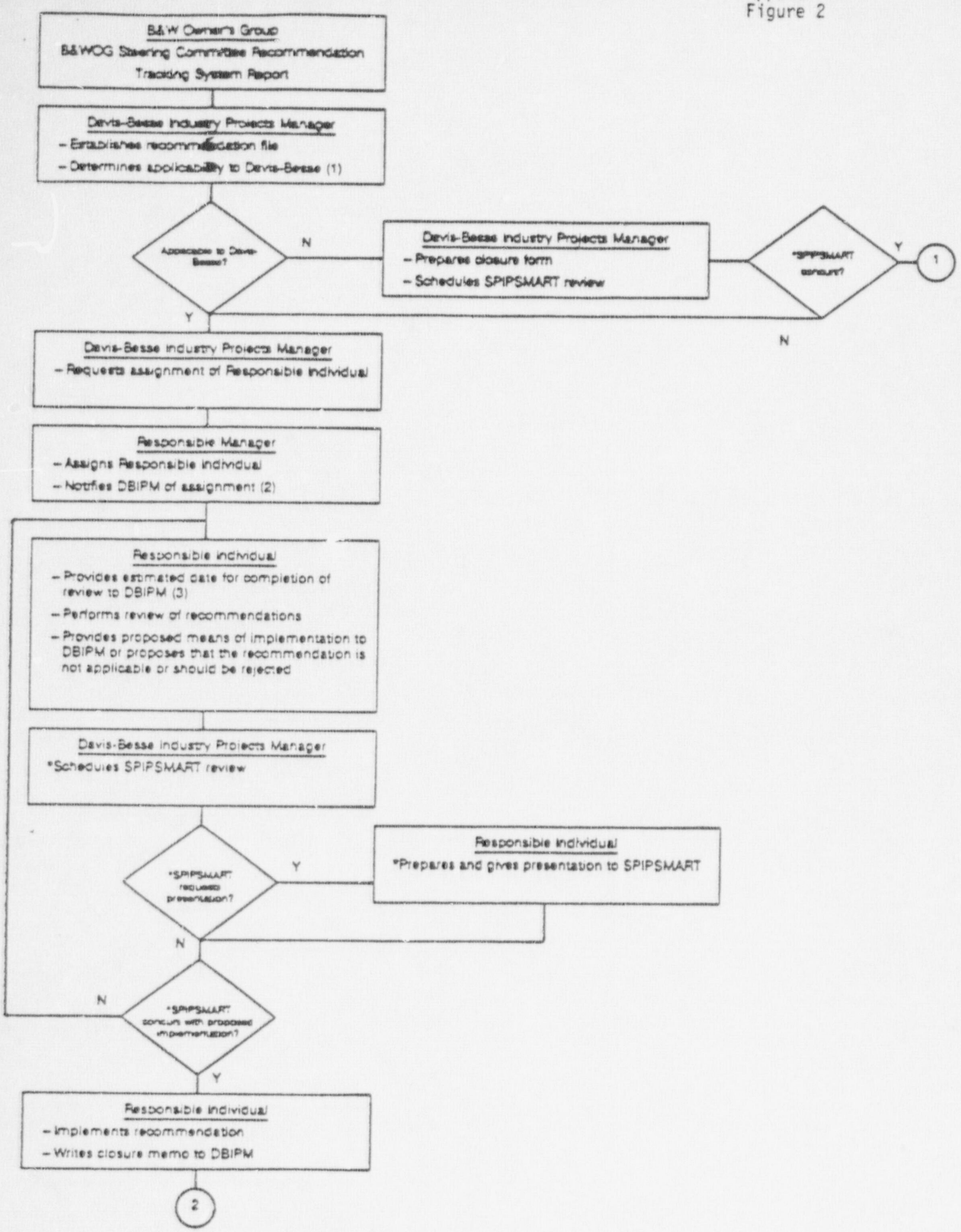
The adequacy of TR implementation will be evaluated later by the staff during the implementation audit.

TOLEDO EDISON SPIP INTERFACE ORGANIZATION

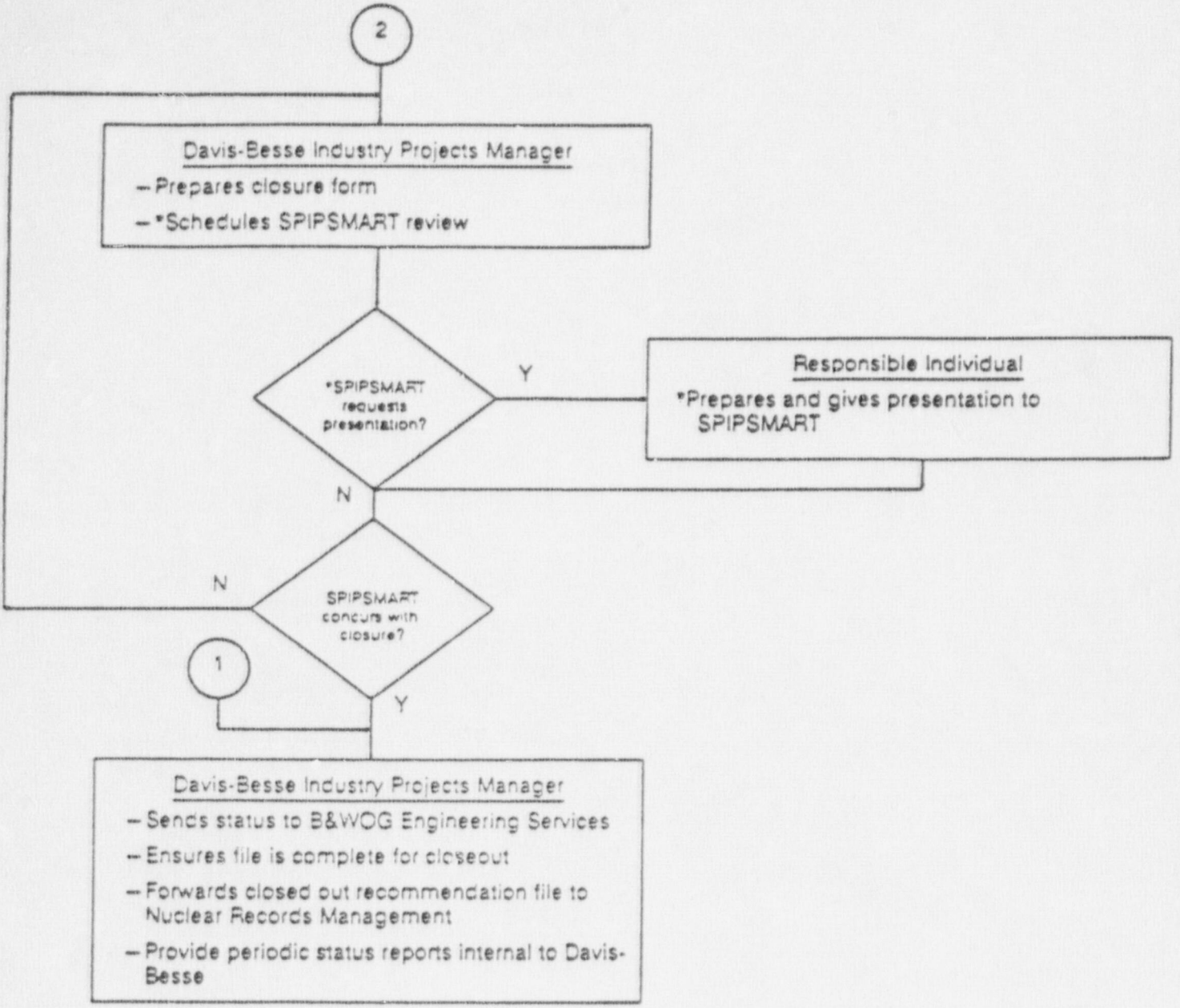
Appendix A
Figure 1



Appendix A
Figure 2



PROCESSING OF BWOG RECOMMENDATION TRACKING SYSTEM TRs



PROCESSING OF BWOG RECOMMENDATION TRACKING SYSTEM TRs

Appendix B

SAFETY AND PERFORMANCE IMPROVEMENT PROGRAM

DAVIS-BESSE PROGRAMATIC AUDIT

SELECTED PLANT SYSTEMS, TRS REVIEWED, AND TR STATUS

Integrated Control System (ICS)
Main Feedwater (MFW)
Administrative (ADM)
Main Steam System (MSS)
Operations (OPS)
Plant Electrical System (PES)
Instrument Air System (IAS)
Emergency Feedwater (EFW)
Primary Relief Valves (PRV)
Main Turbine System (MTS)

		STATUS Based on Handout	
*TR-001-ICS	Replace RC flow signal input to ICS with RC pump status.	C/O	07/86
TR-008-ICS	Restore high pressure reactor trip setpoint, change ULD setpoint and runback rate for loss of one MFWP.	E/I	07/89
TR-013-ICS	Prevent Loss of power to ICS or NNI. Rev. 2	C/O	03/86
*TR-014-MFW	Install a monitoring system in the MFWP trip circuitry.	C/O	09/87
*TR-015-MFW	Determine if a Low MFW pump suction pressure is needed.	C/NA	07/86
TR-020-MFW	Establish procedures for shifting MFWP oil supply.	C/NA	08/86
TR-034-ADM	Review of training records - assure Loss of ICS power is addressed.	C/O	10/87
TR-038-ICS	Develop and implement a preventive maintenance program for the ICS/NNI (this includes revisions). Rev. 3.	I	06/90

*TR-066-MFW	Ensure that a single electrical failure will not cause a loss of both feedwater trains.	C/O	03/89
*TR-067-MFW	Evaluate setpoints and functions of automatic MFWP trips.	C/O	10/88
*TR-071-MFW	Install valve position indication for the startup and MFW regulating valves.	I	09/90 RFO #6
TR-096-MSS	Minimize/Mitigate overcooling via control of TBVs and ADVs.	C/O	10/88
TR-099-OPS	Include guidance on excessive MFW, throttling AFW and throttling HPI in plant procedures.	CO	07/88
*TR-104-ICS	Incorporate automatic selection of valid input signals to ICS/NNI.	C/O	12/88
*TR-105-ICS	Perform field verification of ICS/NNI drawings.	C/O	11/88
TR-107-ICS	Improve maintenance and tuning of ICS. Rev. 4.	I	06/89
TR-119-PES	Implement preventive maintenance for electrical buses.	C/O	03/89
*TR-122-IAS	Instrument air should be systematically inspected for leaks.	C/O	08/87
TR-128-IAS	Review training and loss of air response procedures for instrument air system.	C/O	08/87
TR-144-IAS	Develop an Instrument Air loss of air Emergency Procedure. (See TR-128)	C/NA	08/87
*TR-153-IAS	A plant specific air system failure evaluation should be made.	E/I	**
TR-157-OPS	Validate EOPs to determine if adequate staffing and prioritization exist.	I	12/89
TR-159-OPS	Evaluate secondary system controls to achieve remote manual control in the Main Control Room of all post-trip steam flow paths, MFW, and EFW. Rev. 2.	C/O	10/88

TR-163-EFW	Review of Emergency Feedwater surveillance and periodic test procedures.	C/O	12/88
TR-164-EFW	Review EFW preventive maintenance programs to reduce common failures.	C/O	03/89
*TR-174-MSS	Response time improvement for TBVs and ADVs. (See TR-048)	C/O	03/89
TR-175-PRV	Ensure the PORV block valve functions as designed under transient conditions.	C/O	08/87
*TR-178-ICS	Ensure plant goes to a known safe state on loss of ICS/NNI power.	E/I	***
*TR-179-MFW	Identify areas to enhance the reliability of main feedwater and condensate control.	E/I	***
TR-181-OPS	Verify adequacy of instrumentation and displays used to assess and control the ATOG stability parameters.	C/O	12/88
*TR-190-ICS	Develop backup manual or automatic control for pressurizer level and pressure control.	C/O	10/88
TR-200-MTS	Install EHC oil system time delay or orifice to limit ARTS sensing line predications. Rev. 1.	C/O	12/88
TR-201-MTS	Review EHC overspeed and fast control and intercept valve circuits.	C/O	10/88
TR-203-PES	Establish preventive maintenance to increase reliability of inverters.	C/O	06/88

* TRs Selected for Implementation Audit Review
**EI Evaluation Complete, SPIP SMART review required prior to assigning implementing or closed status
*** Evaluation complete, approval of Budget and Schedule required prior to implementing

Appendix C

OPEN SPIP RECOMMENDATIONS
PROJECTED IMPLEMENTATION

REC NUMBER	RECOMMENDATION SUMMARY	IMPLEMENT
TR-008-ICS	IMPROVE REACTOR RUNBACK CAPABILITY	6 RFO
TR-025-MTS	REVIEW EHC SYSTEM FOR LOSS OF INPUT POWER	6 RFO
TR-030-MTS	RAISE ARTS ARMING SETPOINT	6 RFO
TR-071-MFW	INSTALL VALVE POSITION INDICATOR FOR STARTUP & MAIN FEEDWATER REGULATING VALVES	6 RFO
TR-077-MFW	REVIEW OPERATING HISTORY AND PREVENTIVE MAINTENANCE FOR AUXILIARY BOILERS	6 RFO
TR-090-MFW	ADD VALVE POSITION INDICATION IN CONTROL ROOM FOR DEAERATOR FEEDWATER TANK INLET VALVES	6 RFO
TR-100-MTS	REVIEW MOISTURE SEPARATOR REHEATER DRAIN TANK LEVEL CONTROL & DRAIN LINE CONFIGURATION	6 RFO
TR-158-OPS	RE-EVALUATE ANNUNCIATOR DESIGNS TO ENSURE ALARMS DO NOT GO UNNOTICED	6 RFO
TR-219-OPS	INCLUDE THE PLANT RESPONSE FOR A TURBINE TRIP BELOW 45% POWER IN OPERATOR TRAINING	6 RFO
TR-228-RPS	EVALUATE LOWERING OR ELIMINATING THE VARIABLE LOW RCS PRESSURE TRIP SETPOINT	6 RFO
TR-092-MFW	ASSESS THE CAUSE OF FREQUENT FEEDWATER BOOSTER PUMP LOW SUCTION PRESSURE ALARMS	7 RFO
TR-114-PES	EVALUATE HARDWARE TO ASSURE DIESEL GENERATOR CANNOT BE SYNCHRONIZED TO GRID OUT OF PHASE	7 RFO
TR-117-PES	MODIFY INVENTER OVERCURRENT PROTECTION SO THAT BREAKERS/FUSES OPEN BEFORE INVERTER FAILS	7 RFO
TR-178-ICS	ENSURE PLANT GOES TO A KNOWN SAFE STATE ON LOSS OF POWER TO ICS/NNI	7 RFO
TR-179-MFW	IDENTIFY AREAS FOR ENHANCING RELIABILITY OF MAIN FEEDWATER & CONDENSATE SYSTEM	7 RFO
TR-187-ICS	INSTALL CURRENT AND VOLTAGE METERS FOR NNIY POWER SUPPLIES	7 RFO
TR-205-RPS	EVALUATE LOWERING THE LOW RCS PRESSURE TRIP SETPOINT FROM 1985 TO 1900 PSIG	7 RFO
TR-221-ICS	REMOVE OVERPRESSURE PROTECTION CIRCUITS FOR THE TURBINE BYPASS VALVE OVERRIDE	7 RFO
TR-226-ICS	ENSURE PROCEDURES & TRAINING ADDRESS LOSS OF ICS/NNI POWER AT LESS THAT 50% REACTOR POWER	7 RFO
TR-085-MFW	MODIFY MFW PUMP RECIRC VALVE FOR AUTOMATIC CONTROL DURING STARTUP & SHUTDOWN	POSS MOD
TR-086-MFW	IMPROPER DRAINAGE OF FIRST STAGE FEEDWATER HEATER	POSS MOD
TR-091-MFW	ELIMINATE NEED FOR AUXILIARY OPERATOR TO OPEN A DEAERATOR FEED TANK DRAIN LINE AFTER TRIPS	POSS MOD

REC NUMBER	RECOMMENDATION SUMMARY	IMPLEMENT
TR-094-MFW	REDUCE EFFECTS OF FLASHING OF 4TH STAGE FEEDWATER HEATER DRAINS	POSS MOD
TR-137-IAS	CHECK ACCUMULATOR IN INSTR AIR SYSTEM FOR WATER BUILDUP & INSTALL DRAIN VALVES IF NEEDED	POSS MOD
TR-182-ICS	EVALUATE INSTALLING AUTOMATIC BUS TRANSFER ON MAIN FEED PUMP CONTROLLERS	POSS MOD
TR-227-PZR	MODIFY THE PRESSURIZER SPRAY VALVE CIRCUIT TO AUTOMATICALLY OPEN THE VALVE FULL OPEN	POSS MOD
TR-018-MFW	PROVIDE TRAINING ON MAIN FEEDWATER COMPONENTS	NO MOD
TR-038-ICS	IMPLEMENT A RECOMMENDED PREVENTIVE MAINTENANCE PROGRAM FOR ICS/NNI	NO MOD
TR-048-MSS	REVIEW TURBINE BYPASS VALVE PREVENTIVE MAINTENANCE PROGRAMS	NO MOD
TR-093-MFW	ALLOW FULL POWER OPERATION USING ONLY 2 HOTWELL PUMPS (OCONEE ONLY)	NO MOD
TR-103-ICS	FUSE EXTERNAL POWER LEAVING ICS/NNI CABINETS. REVIEW FUSE COORDINATION. FUSE AC NEAR ABTs	NO MOD
TR-107-ICS	IMPROVE MAINTENANCE AND TUNING OF ICS	NO MOD
TR-112-PES	REVIEW SWITCHYARD MAINTENANCE TO ENSURE THERE IS NO MECHANISM FOR LOSS OF OFFSITE POWER	NO MOD
TR-113-PES	REVIEW BREAKER CONTROL POWER DISTRIBUTION TO DETERMINE EFFECTS OF LOSS OF THE BATTERY BUS	NO MOD
TR-118-PES	EVALUATE LOADING ON VITAL BUSES TO ENSURE ADEQUATE MARGINS EXIST	NO MOD
TR-120-IAS	CHECK O-RINGS AND OTHER SEALS IN CRITICAL AIR OPERATED VALVES	NO MOD
TR-124-IAS	REPLACE METAL AIR SUPPLY LINES WITH FLEXIBLE TUBING	NO MOD
TR-125-IAS	TESTING OF CRITICAL AIR OPERATED VALVES SHOULD BE PERFORMED IN PREVENTIVE MAINTENANCE	NO MOD
TR-153-IAS	PERFORM A PLANT SPECIFIC AIR FAILURE ANALYSIS	NO MOD
TR-154-ICS	PROVIDE OPERATOR WITH UNAMBIGUOUS STATUS OF INDICATORS & RECORDERS ON LOSS OF ICS/NNI	NO MOD
TR-157-OPS	VALIDATE EOPs TO DETERMINE IF ADEQUATE STAFF & PRIORITY EXIST	NO MOD
TR-167-PES	INCLUDE IN OPERATING PROCEDURES WAYS TO RESTORE POWER TO BUSES	NO MOD
TR-177-OPS	REVIEW EOPs TO ASSURE THAT DRASTIC ACTIONS SPECIFIED ONLY WHEN NEEDED	NO MOD
TR-184-ICS	PROVIDE SEPARATE FUSES FOR HAND SWITCHES THAT USE AC POWER	NO MOD
TR-185-ICS	POWER FEEDWATER RECORDERS DIRECTLY FROM NNI	NO MOD
TR-218-OPS	INCORPORATE INTO PLANT PROCEDURES REQUIREMENTS TO CONDUCT AT VARIOUS TIMES DURING STARTUP	NO MOD
TR-222-ICS	DETERMINE IF DELAYS EXIST IN THE INSTRUMENTATION USED TO PROVIDE THE SUBCOOLING MARGIN	NO MOD
TR-224-MSS	EVALUATE THE SETPOINT TESTING PROCEDURES USING THE MSSV SETPOINT TESTING GUIDELINES	NO MOD
TR-225-OPS	INCLUDE A REQUIREMENT TO TREND THE POWER/ IMBALANCE VS TIME DURING XENON TRANSIENTS	NO MOD

CLOSED SPIP RECOMMENDATIONS INVOLVING MODIFICATIONS

REC NUMBER	RECOMMENDATION SUMMARY
TR-001-ICS	REPLACE REACTOR COOLANT SYSTEM FLOW INPUT TO ICS WITH PUMP STATUS
TR-003-ICS	REMOVE START-UP FEEDWATER FLOW CORRECTION TO MAIN FEEDWATER FLOW FUNCTION FROM THE ICS
TR-005-ICS	RELOCATE FLUX AUCTIONEERING CIRCUITRY TO ICS
TR-007-ICS	REMOVE BTU LIMITS FROM ICS
TR-011-ICS	DETUNE GRID FREQUENCY ERROR CIRCUIT
TR-013-ICS	PREVENT LOSS OF POWER TO ICS OR NNI
TR-014-MFW	INSTALL MONITORING SYSTEM ON MFW PUMPS TO DOCUMENT CAUSES OF PUMP TRIPS
TR-016-MFW	INVESTIGATE OIL SYSTEM PRESSURE FLUCTUATIONS IN MAIN FEEDWATER PUMPS
TR-019-MFW	ASSURE THERE ARE SUFFICIENT ANNUNCIATOR & TRIP SIGNALS FOR MAIN FEEDWATER SUPPLY SYSTEM
TR-022-EFW	REVIEW EMERGENCY FEEDWATER INITIATION CONTROL LOW S/G LEVEL SETPOINT
TR-023-MSS	DETERMINE NEED TO REPLACE MAIN STEAM SAFETY VALVE RELEASE NUT COTTER PINS
TR-031-RPS	INCREASE HIGH PRESSURE REACTOR TRIP TO 2355 PSIG
TR-037-ICS	EVALUATE MAIN FEEDWATER PUMP SPEED CONTROL ON LOSS OF ICS POWER
TR-043-MOV	ASSURE TORQUE SWITCH BYPASS LIMIT SWITCH IS SET TO OPEN AFTER VALVE UNSEATED
TR-044-MOV	POSITION OPEN DIRECTION TORQUE SWITCHES TO HIGHEST SETPOINTS FOR WEDGE SEATING VALVES
TR-052-SFI	AP & L, GPUN, SMUD-FILTER STEAM GENERATOR LEVEL SIGNALS IN SFRCS
TR-053-SFI	AP & L, GPUN, & SMUD TO CORRECT OVERHEATING PROBLEM - MALFUNCTION OF ELECTRIC POWER SUPPLY
TR-065-OPS	RANCHO SECO - REVIEW COMMUNICATION PROBLEM
TR-069-MFW	ELIMINATE AUTOMATIC CONTROL OF MFW BLOCK VALVE EXCEPT FOLLOWING A REACTOR TRIP
TR-072-MFW	ELIMINATE TRANSFER FROM STARTUP TO MFW FLOWMETER WHEN MFW BLOCK VALVE OPENS
TR-095-MFW	CLEAN/FLUSH CONDENSATE PUMP MOTOR COOLERS SUPPLIED BY TURBINE BUILDING COOLING WATER SYSTEM
TR-098-MFW	OVERFILL PROTECTION FOR MAIN FEEDWATER SYSTEM
TR-104-ICS	INCORPORATE AUTOMATIC SELECTION OF VALID INPUTS FOR ICS/NNI
TR-106-ICS	REMOVE UNUSED HARDWARE FROM ICS/NNI CABINETS
TR-110-MSS	DAVIS-BESSE TO PROVIDE CONTINUOUS EFW FLOW AS A FUNCTION OF LEVEL
TR-149-IAS	ENSURE INSTRUMENT AIR SYSTEM COMPONENTS DESIGNED TO WITHSTAND MAXIMUM FLOW
TR-155-EFW	LIMIT MAXIMUM FLOW RATE DELIVERED BY THE EFW SYSTEM

CLOSED SPIP RECOMMENDATIONS
INVOLVING MODIFICATIONS

REC NUMBER	RECOMMENDATION SUMMARY
TR-162-EFW	MODIFY EMERGENCY FEEDWATER CONTROL TO PROVIDE SMOOTHER FLOW CONTROL
TR-172-PRV	EVALUATE PORV CIRCUITRY TO DETERMINE IF MOMENTARY LOSS OR RESTORATION OF POWER CAN OPEN
TR-190-ICS	DEVELOP BACKUP CONTROLS FOR PRESSURIZER LEVEL & PRESSURE POWERED FROM ANOTHER SOURCE
TR-194-ICS	SIGNALS SUPPLIED TO THE PLANT COMPUTER, ETC SHALL BE BUFFERED
TR-199-ICS	RX COOLANT PUMP INTERLOCK CIRCUIT INPUT FAILURE MUST NOT PREVENT RESTART OF THE PUMP
TR-200-MTS	INSTALL TIME DELAY OR ORIFICE BETWEEN THE EHC OIL SYSTEM AND THE ARTS SENSING LINE
TR-204-ICS	REDUCE AUTOMATIC RUNBACK RATE ON ASYMETRIC ROD POSITION
TR-208-ICS	ESTABLISH PROGRAM TO MONITOR THE CONTROL SYSTEM (ICS AND NNI)
TR-209-ICS	ADD SIGNAL LIMITERS TO PREVENT CONTROL INTEGRALS FROM GOING INTO SATURATION
TR-213-ADM	PLACE PROTECTIVE DEVICES OVER LOCAL LEVEL-TRIP SWITCHES
TR-214-CRD	REVISE CRD MALFUNCTION PROCEDURE - INSTRUCTIONS ON STOPPING UNCOMMANDED CR GROUP INSERTIONS

Appendix E

LIST OF ATTENDEES AT ENTRANCE AND EXIT MEETINGS
FOR THE DAVIS-BESSE SPIP AUDIT

Attendee	Title	Entrance	Exit
Dale R. Wukko	TE Regulatory Affairs Supr Lic	X	
Thomas V. Wambach	NRC/NRR Project Mgr	X	X
Michael E. Waterman	INEL/EG&G Contractor	X	X
John M. Fehringer	INEL/EG&G Contractor	X	X
Brent L. Collins	INEL/EG&G Contractor	X	X
Craig Hengge	TE Fire Protection Supr	X	X
John Gates	TE Systems Engr	X	X
Mike Parker	TE OPS Engr Supr	X	
Vernon M. Watson	TE Design Engr Mgr	X	X
Paul Byron	NRC Senior Resident Inspector	X	X
Jim Magers	TE Licensing Tech	X	X
Andy Antrassian	TE Asst Engr Licensing	X	X
Sishil C. Jain	TE Director, Engr	X	X
Louis F. Storz	TE Plant Mgr	X	
Frank Turski	Cygna Energy Services	X	X
John Darby	TE Mgr Nuclear Engr	X	
D. C. Shelton	TE VP, Nuclear	X	
Don Kosloff	NRC Resident Inspector		X
R. Keith Walton	NRC Resident Inspector		X
R. W. Schraeder	TE Licensing		X
John E. Moyer	TE Design Engr Mgr		X