

BOSTON EDISON COMPANY
PERFORMANCE
IMPROVEMENT
PLAN

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BECO COMPREHENSIVE ACTION PLAN
FOR PERFORMANCE IMPROVEMENTS

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I. INDEPENDENT REVIEW AND EVALUATION

Discussion

By letter dated January 18, 1982 the Nuclear Regulatory Commission (NRC) issued a confirming order which identified commitments related to improvements in the regulatory performance of Boston Edison and specifically Pilgrim Nuclear Power Station. Part of this Order directed Boston Edison to provide for an independent appraisal of site and corporate organizations and functions. In response to this Order Boston Edison reviewed several qualified organizations; after careful consideration selected Management Analysis Company. MAC has considerable experience in conducting these specific evaluations and began its review of the Nuclear Organization on February 23, 1982. The focus of this review will be a thorough organizational analysis which includes the specific area identified in the NRC Order.

1. MANAGEMENT ANALYSIS COMPANY ASSESSMENT

Objective

To independently evaluate current organizational responsibilities, management controls, staffing levels and competence, training and retraining programs, communications, and operating practices both at the facility and the corporate office.

Discussion

MAC utilizes the diagnostic process as a means to develop action plans for clients aimed at enhancing performance of their companies, organizations and/or projects. The management diagnostic is a thoroughly planned effort directed at understanding the many aspects of the client's organization. The process utilizes observation, interviews, surveys and document/procedure review. An experienced MAC team analyzes the information gathered in this process to develop specific recommendations which are then translated into an action plan with the direct involvement of the client.

The standard diagnostic is conducted over an 8 week schedule. Weeks one through five are used to gather data and analyze its significance. The conclusion of this part of the diagnostic is marked by the development of findings, evaluations, and recommendations concerned with understanding and improving BECo's performance in the safe and effective operation of Pilgrim Nuclear Power Station. Weeks 6 to 8 are the second part of the program where a detailed plan is developed in conjunction with BECo to improve their performance relative to NRC requirements. This plan is likely to improve the scope and make concrete the schedule commitments of the BECo Performance Improvement Program. Implementation of this plan will enhance continual safe operation of the Pilgrim Station. In preparing the plan, the results of the diagnostic will be broken down

into discrete actions to correct the underlying causes of identified deficiencies. These actions will be further subdivided into subtasks where performance can be measured against identified milestones. Individuals will be identified who are responsible and accountable for completion of such tasks.

Responsible Individual

Senior Vice President-Nuclear/Management Analysis Company

Key Milestones

1. Commence diagnostic process In progress.
2. Complete diagnostic review April 1982.
3. Develop Action Plan May 1982.
4. Revise as necessary the BECo Performance Improvement Program July 1982.

2. ORGANIZATIONAL PEER GROUP REVIEW OF INDEPENDENT EVALUATION

Objective

To provide an oversight function throughout the performance of the diagnostic and to review and comment on the results of the diagnostic evaluation.

Discussion

Boston Edison Company has received commitment from other BWR operating utilities to provide executive participation as members of a review group. This "peer" review group will provide a broad scope of expert review of the independent diagnostic process and results.

Will meet on approximately biweekly basis at the end of the diagnostic, when MAC has what could be considered "working paper" which contains recommendations. These will be sent to each member of the Peer Review Group. The Peer Review Group will review these, make their own written comments, recommendations and priorities.

In addition, the Peer Review Group will prepare and submit to Boston Edison written notes of their meetings.

The Peer Review Group will review the final report and comment on this report in writing stating positions of consensus or disagreement. Further, they will provide a prioritized list of recommendations.

As a final assistance, the Peer Review Group will meet with Boston Edison and give their counsel on the development of the Action Plan.

Responsible Individual

Sr. Vice President - Nuclear

Key Milestones

1. Formation of Peer Group - Complete
2. Review of MAC Diagnostic Proposal - Complete
3. Monitor performance of the Diagnostic - In Progress
4. Review the Preliminary Diagnostic Results and prepare written comments - April 1982
5. Review Final MAC report and prepare written comments and recommendations - May 1982

II. ORGANIZATION

Discussion

Boston Edison Company is aware of the specific needs of its Nuclear Organization and has recently implemented several key changes to improve and enhance its performance.

On February 1, 1982 the Company announced a restructuring of the corporate functions within the Nuclear Organization. All nuclear activities at Boston Edison have been reassigned to an organizational unit headed by a Senior Vice President who has no other function or line responsibilities. Prior to this restructuring, the responsible Senior Vice President had responsibility for two other line organizations. Reporting to the Senior Vice President are two Vice Presidential positions; Vice President of Nuclear Operations and Vice President of Nuclear Engineering, Safety and Regulation.

Additionally, a new position of Director-Nuclear Operations Review has been established having responsibility for corporate management oversight of on-site safety related activities. The position has been staffed with an individual experienced in BWR operations and is assigned a continuing function on-site.

Additional key personnel and organizational changes shall be identified and implemented as deemed necessary subsequent to the MAC diagnostic currently underway.

1. CORPORATE ON-SITE REVIEW

Objective

To assure that responsible corporate management overview is provided for safety-related on-site activities.

Discussion

A Corporate On-Site Review Program is being developed to delineate the process elements to be employed by the Director-Nuclear Operations Review (DNOR). The Program shall specify

DNOR's involvement in scheduled meetings for plant operations and safety activity review and audit, physical inspection of control room activities and plant configuration on a scheduled basis. The program will provide access to internal reports and external regulatory correspondence. Reports shall be made to corporate management on a scheduled basis concerning perceived or potential operational problems with recommendations for problem resolution. Escalated action shall be available and utilized, if appropriate.

Responsible Individual

Vice President-Nuclear Operations

Key Milestones

1. Assign Director of Nuclear Operations Review (complete).
2. Develop preliminary program and review staffing - May 1982.
3. Develop final Corporate On-Site Review Organization and Program - September 1982.

2. SAFETY ORGANIZATION REVIEW

Objective

To provide an assessment of the safety review and assessment functions performed by various organizational units including the Operations Review Committee (ORC) and the Nuclear Safety Review and Audit Committee (NSRAC).

Discussion

1. General

The function and membership of the Operations Review Committee (ORC) and the Nuclear Safety Review and Audit Committee (NSRAC) will be evaluated. Where found necessary changes will be made. The charters of these review committees will also be evaluated and strengthened where necessary to improve performance in the review and approval functions.

2. Summary of Improvements Completed

More than 40 years of experience in Nuclear Operations, Engineering and Management has been added to the Nuclear Safety Review Audit Committee.

The Operations Review Committee (ORC) has established a review and assessment subcommittee to summarize data and recommend priorities to ORC.

Responsible Individual

Senior Vice President-Nuclear

Key Milestones

1. Expand NSRAC membership to include non-BECo individuals (complete).
2. Director of Nuclear Operations Review appointed NSRAC (complete).
3. Evaluate organization for safety review and assessment functions - November 1982.
4. Initiate implementation of changes - January 1983.

III. MANAGEMENT SUPPORT SYSTEMS

Discussion

Boston Edison Company has been evaluating the use of and need for improved management systems throughout its Nuclear Organization. This effort, recently expanded to respond to the subject Order, also encompasses the programs initiated as a result of the PAB. These systems provide the mechanisms by which our staff may identify, plan, schedule, implement and monitor actions through controlled processes and provides plant and offsite personnel ready access to an integrated information resource. Corporate management is provided a means for monitoring and controlling all organizational activities of safety consequence and thereby assuring prompt implementation of preventative or corrective measures.

1. COMMITMENT MANAGEMENT SYSTEMS

A. Commitment Control

Objective

To provide the Nuclear Organization management with an improved status tracking and reporting system for monitoring commitments.

Discussion

1. General

The development and implementation of an improved Commitment Control System is another part of our concerted effort to improve and control management performance in regard to timely resolution of regulatory issues. The system will provide the organization with commitment status through reports issued on a predetermined and as requested basis. Issues which exhibit potential for delay will be highlighted through exception reports. The primary purpose of these reports is to alert the responsible groups to allow prompt identification and resolution to problems. These reports will bring upper management attention to potential problem(s).

2. Summary of Improvements Completed

The detailed elements of the commitment control system have been identified and depicted on system flow charts. A specific section of the system has been implemented, on a prototype basis, to control station oriented commitments made in response to recent I&E Inspection Reports.

In addition, BECo commitments made to the NRC in LER's and responses to I&E Bulletins and Inspection Reports since January 1980 are being reviewed to identify those which remain open. The open commitments are being prioritized according to safety significance and those identified as affecting safety will be completed prior to restart.

Responsible Individual

Senior Vice President-Nuclear

Key Milestones

1. Initiate development of an NRC commitment data base and establish preliminary reporting format for NRC licensing commitments - April 1982.
2. Issue periodic status reports on NRC licensing commitments and issue exception reports to management - June 1982.
3. Prioritize other applications of Commitment Control system and establish plan for implementation - July 1982

B. Regulatory Change and Compliance System

Objective

To improve the system for identifying, reviewing and evaluating changes to NRC regulations to determine the potential impact upon the organization and assure appropriate actions are developed, implemented and documented.

Discussion

1. General

The expeditious and accurate identification, review, evaluation and disposition of changes to NRC regulation is necessary to assure Boston Edison Company's continued full compliance with the regulations. The organizational program elements of the Regulatory Change and Compliance System have been established. The specific interdepartmental elements shall be depicted upon flow charts and the implementing procedures, forms and checklists developed

from the charts. These procedures will describe organizational responsibilities and interfaces and provide the user with sufficiently detailed guidance to assure adequate and accurate implementation of the system. Elements of the Commitment Control System will be utilized to monitor to provide management with reports especially for the regulation of safety significance.

2. Summary of Improvements Completed

The organizational responsibilities for developing and implementing the regulatory change and compliance system have been identified. A draft procedure for assessing the impact of changes to NRC regulations has been developed.

Responsible Individual

Vice President-Nuclear Engineering, Safety and Regulation

Key Milestones

1. Feedback from MAC diagnostic - May 1982
2. Implement interim program - July 1982

C. Corrective Action Program

Objective

To improve the Corrective Action System so that identification, evaluation and actions are initiated and completed effectively.

Discussion

1. General

A corrective Action Program is necessary to identify effectively safety and reliability deviations. The present Corrective Action mechanisms will be consolidated into a single tracking system thereby avoiding conflicts, duplication and delays in closing out identified items. The improved system will receive input from the various internal and external sources which identify possible deficiencies. The system will contain mechanisms whereby trends can be detected and/or casually linked events are identified, and priorities for following actions are established.

2. Summary of Improvements Completed

A draft program description has been prepared with its attendant draft policy statement and a revision to the Boston Edison Company Quality Assurance Manual. A revision to the Trending Analysis Procedure has been prepared. This revision broadens the scope of the trending analysis

process and builds upon the experience gained during the trending analysis recently completed on LER's, Failure and Malfunction Reports (F&MR's), Non Conformance Reports (NCR's) and Deficiency Reports (DR's). The maintenance request procedure and the MR form are being revised to emphasize problem identification for corrective action. Each of these draft documents is undergoing management review.

Open BECo Qualify Assurance Department audit deficiencies have been reviewed and prioritized according to their safety significance. Deficiencies identified as affecting safety are being corrected prior to the planned restart from the current refueling utage.

Responsible Individual

Vice President-Nuclear Engineering, Safety and Regulation

Key Milestones

1. Implement short term improvements in the Corrective Action Program - July 1982.
2. Assessment of Corrective Action Program - November 1982.
3. Revision of Corrective Action System design - March 1983.
4. Develop implementation/training - May 1983.
5. Implement revised system - October 1983.

D. Correspondence Review

Objective

NRC correspondence submitted since issuance of the Operating License for Pilgrim Station will be reviewed where applicable to assure completeness and accuracy of reporting regarding compliance with regulations for systems important to safety.

Discussion

The revisions and additions to 10 CFR 50 since the issuance of the operating license will be reviewed and regulations affecting the designs of systems important to safety will be identified. These regulations will be screened for those applicable to Pilgrim designs. Correspondence from BECo to the NRC relating to the applicable regulation changes will be identified. With this material a review of BECo correspondence will be performed and documentation prepared which demonstrates the bases for the completeness and accuracy of prior correspondence regarding compliance of Pilgrim Station design with changes to NRC regulations. Corrective actions resulting from the review will be planned and implemented.

Responsible Individual

Vice President-Nuclear Engineering, Safety and Regulation

Key Milestones

1. Complete evaluation - May 1982.
2. Develop Corrective Action Plans as required - July 1982.

2. SAFETY MANAGEMENT SYSTEMS

A. Safety Review and Assessment

Objective

To assure design changes and safety related activities receive complete review and assessment by qualified individuals and appropriate 10 CFR 50.59 reviews are completed and documented.

Discussion

The present systems used in the safety review and evaluation function will be reviewed, evaluated and strengthened. This will specifically address 10 CFR 50.59 consideration and responsibilities under this Regulation.

Additionally, BECo is implementing an FSAR update program and the procedural system to maintain the FSAR as an up-to-date document in the future. In conjunction with this update an evaluation will be made as to whether design changes made without prior Commission approval involved an unreviewed safety question as defined by 10 CFR 50.59.

Finally, an evaluation of the existing Operational Experience Assessment function for routine review of Operating Data from Pilgrim Station as well as other industry data sources will be initiated. This evaluation will identify and make improvements to insure that lessons learned from past experiences receive timely review and corrective action.

Responsible Individual

Vice President-Nuclear Engineering, Safety and Regulation

Key Milestones

1. Evaluate plant design changes made without prior Commission approval to determine whether or not an unreviewed safety question was involved - July 1982.
2. Evaluate safety review and assessment process - November 1982.

3. Complete an improved Operating Experience Assessment Program - January 1983.

B. QA Audit Program

Objective

To upgrade the Qualify Assurance Program to include management systems.

Discussion

The Quality Assurance Department schedules and performs various audits of activities throughout the Nuclear Organization. The implementation and successful continued operation of the new management systems is contingent upon monitoring/auditing of its functions and the incorporation of data fed back to the system. Program descriptions of these management systems will be included into the Boston Edison Quality Assurance Manual to assure the control of future system revisions and will thereby serve as the basis for periodic system verification.

Responsible Individual

Vice President-Nuclear Operations

Key Milestones

1. Upgrade QA Audit Program to reflect revised management systems. (Complete within three months after implementation of a revised system.)

3. CONFIGURATION MANAGEMENT SYSTEMS

A. Modification Management

Objective

To assure design changes made to the plant are completely and accurately translated into plant procedures, drawings and training programs in a timely manner.

Discussion

1. General

The present startup management system which monitors the implementation of design changes made to the plant and assures that appropriated procedures, drawings and training programs reflect the completed design changes in a timely manner is necessary to provide the plant operator with the knowledge and tools he must have to continue safe and reliable operation of the facility. The modification management system shall provide the permanent process,

which by interacting with the other centralized management systems, provide the ability to maintain operator cognizance of the as-built plant.

2. Summary of Improvements Completed

Preoperational and system startup procedures were developed and implemented to verify proper installation and assure proper operation of the systems that were modified or newly installed during the current refueling outage. Affected procedures for these systems were reviewed, and revised as necessary to assure compatibility with the installed system. Of the approximately 1,200 operating, emergency, surveillance and discipline specific procedures reviewed, more than 120 were identified as requiring revision. Operator training has been conducted which addressed all of the system modifications and procedure revisions.

Responsible Individual

Vice President-Nuclear Operations

Key Milestones

1. Prepare plan to adopt the Modification Management System for permanent utilization - July 1982.

B. Plant Procedure and Drawing Evaluation Program

Objective

To establish a system whereby plant procedures and drawings are updated to reflect present plant conditions.

Discussion

1. General

A program has been initiated to conduct physical walk-downs of safety systems and to correct as required the Piping and Instrument Drawings, (P&ID's) and Electrical Distribution Drawings for Instrument and Control Circuitry (E-203-7A-8B). These walk-downs will be performed and verified by personnel experienced with Pilgrim Station and the details of the drawings and systems being walked-down. Discrepancies identified will be reviewed for acceptability against prior, outstanding design change packages and if any discrepancies not reflected in a previously approved design change are encountered, safety evaluation and corrective actions will be conducted.

2. Summary of Improvements Completed

The walk-downs have been completed for 18 of the 22 identified safety related systems and the walk-downs of

the remaining 4 systems are in progress and will be completed prior to restart. QC verification of the methods employed during the walk-downs have been completed and verification of the resultant changes (including the identification of vents and drains) is in progress. P&ID's, electrical distribution drawings and system operating procedures, including valve line ups, are being revised to reflect the as-built system configuration.

Responsible Individual

Vice President-Nuclear Operations

Key Milestones

1. Complete the walk-downs of safety related systems.
2. Complete procedures and drawing updates required for startup. (Including design changes made during current outage.) - (In progress.)
3. Continue system walk-downs and drawing updates - August 1983.

C. Testing Program

Objective

To assure operability of safety related systems.

Discussion

1. General

A program has been initiated to perform preoperational and startup tests for these systems modified or newly installed during the outage and to perform safety related system logic component operability surveillances.

2. Summary of Improvements Completed

The preoperational and startup tests for those systems modified or newly installed during the current refueling outage has been completed. The performance of the logic component operability surveillances for the safety related systems is nearing completion. This integrated test program, requiring the performance of more than 175 tests, will be completed prior to startup. In addition, as committed in our response to I.E. Bulletin 80-06, titled "Engineering Safety Feature (EFS) Reset Controls" testing procedures were developed and performed which verified that associated safety related equipment remains in its emergency mode upon removal of the EFS actuation signal and/or manual resetting of the various isolating or actuation signals.

Responsible Individual

Vice President-Nuclear Operations

Key Milestones

1. Complete preoperational, startup and system logic surveillance testing prior to startup - In progress.

D. Preventative Maintenance System

Objective

To improve the current preventative maintenance practices and to develop and implement an integrated preventative maintenance program.

Discussion

1. General

The current preventative maintenance practices are being reviewed and improved. The development and implementation of an integrated preventative maintenance program has been an ongoing project predating the PAB inspection. Consulting services have been procured to develop a master equipment list, a report of preventative maintenance requirements and completed data forms. Implementing plans and procedures will be prepared. These elements will consider the PM program as a dynamic process receiving input from operating experience gained through the upgraded Corrective Action System. A manual implementation will first evolve with a computerized system being concurrently and subsequently developed.

2. Summary of Improvements Completed

A Master List of mechanical equipment has been developed. This includes 2,000 individual major components identified by type, equipment designator and plan-location. Presently a PM schedule for these components is being developed.

In addition, a Master Surveillance Schedule has been developed and is being implemented on a test basis.

Responsible Individual

Vice President-Nuclear Operations

Key Milestones

1. Hire consultant - completed
2. Develop Master Equipment list and Requirement for an Integrated Preventative Maintenance Program - June 1982.

3. Complete Implementing Plan for Interim Improvements - August 1982.
4. Develop Procedures and Implement Interim Improvements August 1982.
5. Develop Plan for Implementing Integrated Preventative Maintenance Program

IV. INDIVIDUAL PERFORMANCE

Discussion

BECo recognizes that the successful implementation of this Performance Improvement Program will depend upon how well individuals apply their skills to the tasks of plant operation and support. Individual performance and management attention to performance improvement consequently should be a component of the Program itself.

1. IMPROVED TRAINING PROGRAM

Objective

To assure that the training essential to satisfying the needs of the Nuclear Organization is developed and implemented.

Discussion

The training group which has primarily existed to provide licensed operator training and retraining has recently been expanded into a department, a Manager of Training hired and a significant increase in its staffing level authorized. Authorization has also been obtained to expand the existing training facilities.

The Training Department is presently expanding its scope of programs and systems for both licensed and non-licensed personnel and developing programs which will fulfill the needs of the Nuclear Organization personnel performing safety related activities. Emphasis is being placed upon revising the training feedback mechanisms to encompass both site specific and industry related experience data for incorporation into the applicable training program update.

Operations personnel have recently received formal training concerning the modifications made to the facility during the recent refueling outage and applicable procedure and drawing revisions.

Boston Edison is committed to continuing to provide positive steps in training development and implementation to achieve the optimum balance of operational experience, practice and management techniques.

Training sessions have been developed and scheduled concerning personnel performance development and improvement. These sessions are part of a broader scoped personnel improvement program being developed for use throughout the Nuclear Organization.

Responsible Individual

Vice President-Nuclear Operations

Key Milestones

1. Authorized increase in staffing levels - complete.
2. Develop and expand preliminary plan - complete.
3. Authorize expansion of training facilities - complete.
4. Feedback from MAC diagnostic - May 1982.
5. Establish a 3 year training program - July 1982.