BALTIMORE
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March 7, 1990

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Readiness Assessment Team Inspection

REFERENCES:
(a) Letter from Mr. William F. Kane (NRC) to Mr. G. C. Creel (BG&E), dated January 29, 1990, NRC Region I Inspection Report No. 50-317/89-81 - Readiness Assessment Team Inspection

(b) Letter from Mr. G. V. McGowan (BG&E) to Mr. J. M. Taylor (NRC), dated July 31, 1989, Performance Improvement Plan Implementation Program

Gentlemen:

The Baltimore Gas and Electric Company (BG&E) has thoroughly reviewed the Readiness Assessment Team Inspection (RATI) report (Reference a). In the report, the Team concluded that improvements had been found in all areas within its scope of review. The Team also found that overall performance at Calvert Cliffs Nuclear Power Plant was at a level to provide adequate assurance of safe operation with the exception of one major area. The exception, Safety Tagging, has been re-evaluated by BG&E and aggressive and comprehensive actions were taken to identify and correct the weaknesses and their root causes. Corrective actions included a review of the Calvert Cliffs Performance Improvement Plan Implementation Program (Reference b) to ensure actions being taken would effectively prevent recurrence of this type of problem. Safety Tagging is discussed in Attachment (1).

We are also taking action to provide additional assurance that corrective action programs will continue to function effectively during operation following plant restart. Corrective action programs are discussed in Attachment (2).

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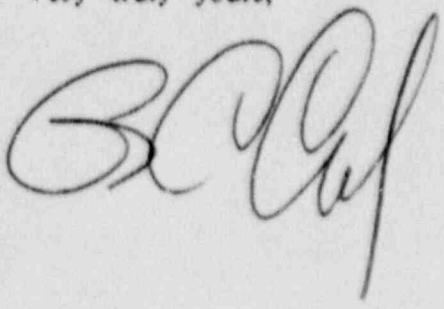
Should you have any further questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,



GCC/LSL/RHB/bjd

Attachments

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ATTACHMENT (1)

BALTIMORE GAS AND ELECTRIC COMPANY
RESPONSE TO INSPECTION REPORT 50-317/89-81

SAFETY TAGGING

Significant improvements in the conduct of safety tagging at Calvert Cliffs have been completed within the past year as a result of corrective actions to past events and near misses, most notably in the Spring of 1989. The November 1989 NRC Readiness Assessment Team Inspection (RATI) recognized these improvements and determined that tagouts were being properly researched, designed, approved, and installed. There were, however, weaknesses in program administration, self-assessment and management oversight. Symptomatic of these weaknesses were the failure to incorporate results of safety tagging audits into the corrective action system, and the failure to ensure that all monthly audits were completed in a timely manner. Another concern was the apparently insufficient examination of safety tagging activities during the internal restart verification process, which failed to recognize the lack of effective performance monitoring and management oversight.

The safety tagging process and the specific concerns of the Inspection Team have been evaluated. Discussions of the specific concerns follow:

1. Reasons for Weaknesses in the Safety Tagging Program:

   The Safety Tagging Supervisor (STS) recognized that tag audits subsequent to the August 1989 audit would require considerable resources due to the large number of tagouts. After reflecting on the purpose of the audit and discussing the problem with the Supervisor-Operations and Maintenance Coordination (OMC), the STS drafted a change to the safety tagging procedure that reduced the requirement for tag audits to once per quarter. This procedure change was postponed several times to allow incorporation of comments. Since previous tag audits had not identified significant safety or procedural concerns and the STS assumed the audit frequency would be changed, the STS believed allowing the audit completion to slip was acceptable.

   The STS did not inform higher level supervision about overdue audits because he rationalized that the proposed change to a quarterly frequency supported the delays in audit completion. Also, he did not believe another monthly audit during this time frame would make significant additional contributions to safety.

   The General Supervisor did not inquire about the Tag audit status, results, or documentation. This was due to insufficient attention to detail on his part and to a 1989 reorganization which removed a key second-line supervisor from the safety tagging organization, which reduced supervisory attention to safety tagging. This supervisory position has since been reinstated.

   Contributing to these errors was a failure by the General Supervisor to make clear to the STS management expectations consistent with our "Mutual Obligations" for the conduct of business in the safety tagging area. Specifically, this pertained to the obligations dealing with following

procedures, identifying problems, and providing the resources to do the job right. The "Mutual Obligations" at Calvert Cliffs Nuclear Power Plant are:

- o Problems must be identified.
- o A questioning attitude is an important part of safety.
- o When in doubt, proceed conservatively.
- o Procedures and safety practices must be followed.
- o Resources will be provided to do the job right.
- o Do the job right the first time.
- o Pay attention to detail.

The same lack of clear management expectations was the primary cause for instances where the Safety Tagging Supervisor resolved some tagging discrepancies using informal methods instead of formal corrective action programs.

2. Reasons Self-Assessment Failed to Identify Safety Tagging Weaknesses

The November 1989 RATI followed major initiatives which resulted in significant improvements in the safety tagging process. Deliberate action had been taken to identify the causes of earlier safety tagging weaknesses and correct them. This effort achieved a major improvement in the overall safety tagging process, yet the management controls associated with safety tagging did not receive the same level of scrutiny as other parts of the program. The safety tagging program contained provisions for audits but these kinds of management controls were not a significant factor in the safety tagging weaknesses experienced at the time. Therefore, they were not identified as an area of concern. The root cause analysis was incomplete in this respect.

Prior to the November 1989 RATI, a Restart Commitment Verification Team (RCVT) was charged with performing an overall and in-depth process evaluation. As with most evaluation processes, the team relied on sampling to achieve reasonable assurance that the desired improvements had been obtained and placed into practice, and that controls and procedures were properly followed. At the time the RCVT performed its evaluation, the tagging audits were being completed on time.

The Quality Assurance (QA) Surveillance of safety tagging performed just prior to the RATI concentrated on the corrective actions taken in response to the Confirmatory Action Letter. Again, the focus was on the major initiatives taken to improve the adequacy of safety tagging which did not include management controls such as tag audits.

As discussed earlier, problems identified during tag audits and the overdue audits were not elevated to the appropriate level of supervision for resolution in part due to the General Supervisor's failure to adequately convey management expectations to the Safety Tagging Supervisor.

Finally, problems, such as errors on laminated prints used as operator aids and staffing/resource levels, were brought to management's attention but were still under review and not yet resolved at the time of the RATI.

3. Root Causes and Corrective Actions for Weaknesses in Safety Tagging:

A team was assembled to perform a special assessment of the weaknesses in safety tagging and the restart verification process. The team identified two root causes for the weaknesses discovered in the November 1989 NRC Readiness Assessment Team Inspection:

a. Insufficient shared expectations; and,

b. Insufficient vertical communications.

SHORT TERM CORRECTIVE ACTIONS

1. The Manager-Calvert Cliffs Nuclear Power Plant Department (CCNPPD) issued a memorandum which re-emphasized the importance of management controls, specifically referring to the weaknesses discovered in the RATI. He then met with his General Supervisors and the Nuclear Maintenance Superintendent to clearly communicate his expectations regarding management controls and to inform them that this issue is to be addressed in their 1990 performance objectives. The General Supervisor-Nuclear Operations was counselled about the need to make his expectations clear regarding the importance of safety and quality.

2. The recently created position of Assistant General Supervisor-Operations Support (AGS-OS) is now an integral part of the communications and management controls processes.

3. Concurrent with the internal assessment conducted to analyze the NRC identified weaknesses, the General Supervisor-Nuclear Operations (GS-NO) took the following actions to ensure effective self-assessment of the Safety Tagging Program:

a. All Safety Taggers in the Safety Tagging Unit reviewed the safety tagging procedure, provided suggestions to clarify it, and certified that it is being complied with. In addition, the GS-NO and the AGS-OS met with safety tagging personnel to re-emphasize expectations (including full compliance with administrative procedures) and to improve vertical communications.

b. Approximately 25 "Operations Supervisory Job Observations", a Quality Control observation, and a QA surveillance were conducted to examine the tagging process, identify potential concerns, and make recommendations. The administrative discrepancies identified were documented and are being resolved.

c. The monthly Safety Tag Audit is now scheduled and tracked in accordance with CCI-303, "Operations Performance Evaluation Program", to ensure timely completion. The results of each Safety Tag Audit are now reported to higher level supervision. Significant discrepancies are documented on Nonconformance Reports.

d. Safety meetings covering safety tag audit discrepancies were conducted to improve communication of management's expectations.

e. A number of improvements to the safety tagging procedure were identified and a change to this procedure has been approved.

f. The use of laminated drawings as operator aids was discontinued because it proved to be ineffective.

4. The Manager-CCNPPD in a memorandum to the Safety Tagging Supervisor, reaffirmed the Safety Tagging Unit's primary responsibility toward safety of personnel and plant equipment, and directed him to frequently re-emphasize this priority to his personnel.

LONG TERM CORRECTIVE ACTIONS AND MEASURES OF SUCCESS

1. An evaluation will be performed to assess computer linking the Control Room Operator, Shift Supervisor, Control Room Supervisor, Safety Tagging Authority, and the Operations Maintenance Coordinator. This information link may provide more consistent communication of outage schedule information, system and equipment tagging and maintenance status, etc. This evaluation and resulting improvements will be implemented under Action Plan 3.6.3, Operations Improvement Plan which will be included in Revision 1 to the Performance Improvement Plan Implementation Program (PIP-IP).

2. As discussed previously, there are two root causes to the weaknesses in safety tagging which could have generic implications:

   a. Insufficient Shared Expectations: This root cause correlates to Performance Improvement Plan-Implementation Program (PIP-IP) Root Cause #1, Insufficient Expectations and Performance Standards.

      This root cause is addressed by PIP-IP Action Plans: Management Expectations; Performance Standards; Procedures Upgrade Program; Procurement Program Project, and Records Management/Document Control. More specifically, the Procedures Upgrade Program mandates the use of administrative procedures and contains a schedule for their systematic upgrade.

Improvements being implemented by the Action Plan for Site Integrated Scheduling (included as Action Plan 3.6.1 in Revision 1 of the PIP-IP) will improve scheduling deficiencies. These improvements will lead to better work control and more reliable schedules. This should lessen the likelihood of unanticipated schedule pressures which contributed to the weaknesses in safety tagging.

New Action Plans for Maintenance Work Control (Action Plan 3.6.2) and for Operations Improvement, are included in PIP-IP Revision 1, and will provide improvements in the work flow process and foster better cooperation between work groups.

Additionally, clear expectations regarding management's commitment to the "Mutual Obligations" will be the subject of a series of supervisor - employee "Focus Meetings" in the first quarter of 1990.

b. Insufficient Vertical Communications: This root cause corresponds closely to PIP-IP Root Cause #3, Insufficient Vertical and Horizontal Communications.

This root cause is addressed in a number of PIP-IP Action Plans. Collectively, these Action Plans will serve to assure that important information is shared both horizontally at the working level and vertically between workers and appropriate levels of supervision and management.

The success of these Performance Improvement Plan initiatives at correcting the causes of the weaknesses identified by the RATI will be measured by:

- Surveys of people involved in the process to determine whether "Mutual Obligations" are being met;
- QA audits and surveillances of the safety tagging process;
- Supervisory Job Observations of safety tagging;
- Communications "tailgate" meetings; and,
- Performance Improvement Plan verification techniques involving implementation, feedback, and effectiveness verifications.

We believe that the re-assessment of safety tagging and the corrective actions described above provide a high degree of assurance that the weaknesses in safety tagging have been corrected.

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CORRECTIVE ACTION PROGRAMS

BACKGROUND

The Readiness Assessment Team Inspection (RATI) noted that Calvert Cliffs Nuclear Power Plant uses a number of specialized corrective action programs. It was noted that these systems were for the most part functioning acceptably. The Team was also confident of the comprehensiveness of the current restart list because of the aggressive management attention. However, the team was concerned that:

- The number of corrective action systems would result in inconsistencies in the prioritizing, tracking, and management review of deficiencies during routine operation; and,

- The interactions between these systems were not well defined and were subject to interpretation.

The Baltimore Gas and Electric Company was requested to provide additional measures of assurance that deficiencies identified during routine operation will be properly classified, prioritized, and tracked to assure effective corrective actions are completed on a schedule commensurate with safety significance.

CURRENT PROCESSES

Historically, Calvert Cliffs has utilized a number of distinct corrective action systems to identify and track significant issues. Components of this process include:

- Nonconformance Reports (NCR)
- Maintenance Orders (MO)
- Quality Assurance (QA) Findings
- Licensee Event Reports
- Calvert Cliffs Instruction (CCI 218) (Nuclear Operations Section Initiated Reporting Requirements) Reports
- Calvert Cliffs Event Reports (CCER)
- Plant Operations and Safety Review Committee (POSRC) presentations
- POSRC member concerns
- Plant Operating Experience Assessment Committee (POEAC) concerns
- Off Site Safety Review Committee (OSSRC) concerns
- Interdepartmental Safety Committee (ISC) concerns
- Line organization concerns

The POSRC has served as a focal point for screening issues potentially affecting the safety of plant operations and making recommendations to the Plant Manager. Line supervision screened other issues and made appropriate recommendations. Critical examination of this process has revealed a number of areas for improvements.

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CORRECTIVE ACTION PROGRAMS

NEAR-TERM IMPROVEMENTS

A Significant Issue Management System (SIMS) is being developed building on the components of the existing corrective actions systems which, as noted earlier, are performing acceptably. The Manager-Calvert Cliffs Nuclear Power Plant Department (CCNPPD) is the sponsor of this system. He will receive recommendations for placing items on the Plant Manager's Significant Issues List from the POSRC, Operations Maintenance Coordinator, Interdepartmental Safety Committee, Work Management Committee, and the Director-Nuclear Regulatory Matters. Items placed on the list will be tracked until they are satisfactorily resolved.

The Manager-CCNPPD will authorize additions, deletions, and changes of estimated completion dates for all items on his Significant Issues List. He will ensure that the list is maintained current, published periodically, and that delinquent items are brought to the prompt attention of the appropriate department manager. Issues not selected for inclusion on the Plant Managers Significant Issues List will be prioritized, tracked, and resolved within the responsible organization. Our Commitment Management System will facilitate this process.

The POSRC will continue to serve as the focal point for reviewing nuclear safety issues and will make recommendations to the Plant Manager for additions to his Significant Issues List. To fulfill this role, POSRC will review candidate issues from the existing corrective action systems as described below. Since not all QA Findings, NCRs and POEAC concerns are reviewed by POSRC, screening criteria will be developed to define the threshold for presentation to POSRC and ensure correct and consistent presentation of appropriate items.

1. Nonconformance Reports
   Quality Engineering conservatively screens all NCRs to determine if the nonconforming condition could be mode restraining. These NCRs are presented to the Manager-CCNPPD for additional consideration. Safety significant issues identified in the process are presented to the POSRC.

2. Independent Safety Evaluation Unit (ISEU)
   The ISEU performs detailed reviews of plant events and trends plant operating experience. Adverse trends in plant operating experience are documented on NCRs which are screened and reviewed as described above. Recommendations from plant event investigations are reviewed and presented to POSRC if considered safety significant.

3. Quality Assurance (QA) Findings
   QA Findings are currently screened by the Supervisor-Quality Audits. QA Findings that affect nuclear safety, public safety or equipment operability (Level 1 Findings) are presented to the POSRC.

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4. Licensee Event Reports (LERs)
All LERs are reviewed by the POSRC.

5. CCI-118 (Checklist for Timely Notification) Forms
All CCI-118 (Checklist for Timely Notification) forms are screened by the Director-Nuclear Regulatory Matters (D-NRM) to assess reportability. The resulting LERs are reviewed by POSRC as stated above. CCI-118, Nuclear Operations Section Initiated Reporting Requirements, has been revised to require generation of NCRs in addition to initiation of the CCI-118 form. The resulting NCRs will be screened and reviewed as described in #1 above.

6. Calvert Cliffs Event Reports (CCERs)
All CCERs are currently reviewed by POSRC.

7. Plant Operations and Safety Review Committee (POSRC) Presentations
Safety concerns raised during routine presentations to POSRC may result in recommendations to the Manager-CCNPPD.

8. POSRC Member Concerns
Discussion of potential safety concerns is an agenda item during all regularly scheduled POSRC meetings. Concerns raised by the members may result in recommendations to the Manager-CCNPPD.

9. Plant Operating Experience Assessment Committee (POEAC)
The POEAC functions as a subcommittee of the POSRC to perform review of the operating experience of other nuclear power plants. This includes INPO Significant Operating Experience Reports. The POEAC regularly reports significant issues and recommendations to the POSRC. POSRC reviews all POEAC meeting minutes.

10. Off Site Safety Review Committee (OSSRC)
The OSSRC can remand a safety concern to the POSRC for further investigation or review.

11. Human Performance Evaluation System (HPES)
The HPES Coordinator performs detailed investigations into plant events involving human error. The results of all HPES investigations are given directly to the Manager-CCNPPD.

The Operations Maintenance Coordinator (OMC) is responsible for reviewing and prioritizing all maintenance requests. He will recommend which maintenance deficiencies should be placed on the Plant Manager's Significant Issues List. He will also determine which maintenance orders should be followed up with an NCR.

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CORRECTIVE ACTION PROGRAMS

The Interdepartmental Safety Committee (ISC) is responsible for making recommendations on issues which affect personnel safety. The ISC Chairman will recommend which of these issues should be placed on the Plant Manager's Significant Issues List.

The Work Management Committee (WMC) is responsible for recommending priorities for all Facility Change Requests (FCRs). The committee Chairman will be responsible for recommending which hardware modifications should be placed on the Plant Manager's Significant Issues List.

The Director-Nuclear Regulatory Matters (D-NRM) is responsible for the review of NRC Reports, Bulletins, and Generic Letters to identify significant regulatory issues and commitments. He will recommend which of these issues should be placed on the Plant Manager's Significant Issues List.

Specific screening criteria will be developed to assure that the OMC, ISC, WMC and D-NRM employ consistent thresholds for their selection of items to be recommended for inclusion on the Plant Manager's Significant Issues List.

LONG TERM IMPROVEMENTS

As stated above, a Significant Issue Management System (SIMS) is under development. The major components of SIMS are in place and performing adequately at this time. They provide assurance that problems are properly documented, prioritized, reviewed by management, and corrected on a schedule commensurate with their safety significance. Our intent is to continue the development of SIMS, including the formalization of screening criteria and proceduralization of interfaces to enhance the effectiveness of SIMS.

An advanced issue management system is also under development. It will build on the "Problem Report" concept and will provide a single document approach to the identification and documentation of deficiencies discovered at Calvert Cliffs. This single document will be screened using approved criteria to assure that questions of operability, reportability, and safety significance are promptly and consistently addressed. This system will replace SIMS on a schedule which allows for a smooth transition between systems.

A preliminary Action Plan for this advanced issue management system will be included in Revision 1 to the Performance Improvement Plan-Implementation Program (PIP-IP). A fully developed plan and schedule will be included in Revision 2 of the PIP-IP which is planned for April 30, 1990.