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April 4, 1997

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
Reply to Notice of Violations -- Inspection Report Nos. 50-317(318)/96-10

REFERENCE: (a) Letter from Mr. L. T. Doerflein (NRC) to Mr. C. H. Cruse (BGE), dated February 27, 1997, NRC Region I Integrated Inspection Report Nos. 50-317/96-10 and 50-318/96-10 and Notice of Violation

In response to Reference (a), Attachments (1), (2), and (3), detail our response to the violations in the subject Nuclear Regulatory Commission Inspection Report concerning control of activities associated with spent fuel handling operations, an unloading procedure for our Independent Spent Fuel Storage Installation dry shielded canisters, and corrective actions associated with a cable separation issue resolution plan.

Due to outage-related activities, this response was not submitted within 30 days as requested in Reference (a). An extension was discussed with the Nuclear Regulatory Commission Resident Inspectors.

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

080046

Very truly yours,

Charles H. Cruse

CHC/CDS/bjd

Attachments: As stated

cc: L. T. Doerflein, NRC
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ATTACHMENT (1)

NOTICE OF VIOLATION 50-317/96-10-01 AND 50-318/96-10-01

INADEQUATE PROCEDURE AND FAILURE TO FOLLOW PROCEDURES DURING SPENT FUEL HANDLING OPERATIONS

Notice of Violation Nos. 50-317/96-10-01 and 50-318/96-10-01 describes a single case of an inadequate procedure and two cases of failure to follow procedures associated with spent fuel handling operations. The notice of violation states, in part:

a. *The procedures used for spent fuel handling were not appropriate to the circumstances in that fuel handling was performed without verification that the fuel pool ventilation system would filter all of the radioactive material released during a fuel handling accident through charcoal adsorbers prior to discharge to the atmosphere. Instead, due to ventilation system imbalance, some of the flow of air in the vicinity of the spent fuel pool was diverted to the auxiliary building ventilation system, which did not include charcoal adsorbers.*

b. *Spent fuel handling was not accomplished in accordance with procedure FH-340 in that the controlled copy of the procedure was not maintained in the control room. Instead, the controlled copy was maintained by the Nuclear Fuel Management Group.*

c. *Spent fuel handling was not accomplished in accordance with procedure FH-340 in that a briefing between the work group and control room supervisor (CRS) on the moves to be performed was not done. Instead, a briefing of the work group personnel only was conducted by nuclear fuels engineering personnel.*

Part A: FUEL HANDLING PERFORMED WITHOUT VERIFICATION THAT SPENT FUEL POOL VENTILATION SYSTEM WOULD FILTER ALL RADIOACTIVE MATERIALS RELEASED DURING A FUEL HANDLING ACCIDENT.

I. REASON FOR THE VIOLATION

On January 10, 1997, a Nuclear Regulatory Commission Resident Inspector noted that air from the spent fuel pool (SFP) area was leaking through an open door into the Auxiliary Building while fuel was being moved in the SFP. Operations personnel were notified, the door closed, and fuel movement was secured due to air still escaping under the door. Operations declared the system inoperable and fuel movement in the area was ceased.

Calvert Cliffs Unit 1 and 2 share a common SFP area. Ventilation of the SFP area is accomplished by the exhaust system which draws SFP air through high efficiency particulate air (HEPA) filters and charcoal adsorbers and discharges it into the main plant vent of Unit 1. Technical Specification 3.9.12 requires the SFP ventilation system be operable whenever irradiated fuel is in the SFP. An operable system consists of one HEPA filter bank, two charcoal adsorber banks, and two exhaust fans. The SFP ventilation system normally maintains a negative pressure in the SFP area with respect to ambient pressures and the pressure in other areas surrounding the SFP area.

ATTACHMENT (1)

NOTICE OF VIOLATION 50-317/96-10-01 AND 50-318/96-10-01

INADEQUATE PROCEDURE AND FAILURE TO FOLLOW PROCEDURES DURING SPENT FUEL HANDLING OPERATIONS

The Auxiliary Building ventilation system draws outside air through two supply fans and discharges it to the main plant vent via two exhaust fans. The flow path of this ventilation system includes a HEPA filter and radiation monitoring equipment but no charcoal adsorber banks.

On Monday, January 6, 1997, the Auxiliary Building supply fans No. 11 and No. 12 were tagged out-of-service for replacement of their discharge dampers. This placed the Auxiliary Building ventilation system in a lineup with only one supply fan in operation. Historically, this lineup was not considered a problem because the Auxiliary Building is maintained at a negative pressure with respect to the atmosphere. An unknown effect of this line-up, however, was that the Auxiliary Building pressure became more negative than the SFP area pressure. This resulted in air leakage from the SFP area into the Auxiliary Building.

Fuel movement began on Wednesday, January 8, 1997. Fuel was being moved in preparation for the Spring 1997 Unit 2 refueling outage. Fuel movement was suspended on Friday, January 10, 1997 upon identification of the air leakage through a door from the SFP into the Auxiliary Building.

After the event, a review of the Technical Specification requirements and Updated Final Safety Analysis Report (UFSAR) descriptions for the SFP ventilation system determined that all of the SFP ventilation system requirements and interactions with other ventilation systems had not been previously recognized and thus not properly tested. In the past, we performed the SFP area test with the Auxiliary Building ventilation system running normally (2 supply and 2 exhaust fans). We never performed the SFP test with only one set of Auxiliary Building fans running. Specifically, initial startup testing, the SFP area surveillance test, and subsequent special testing performed in the late 1980s had not considered that the Auxiliary Building could be at a more negative pressure than the SFP area. These tests focused on the ability of the SFP exhaust fans to discharge enough inleakage air to maintain a negative pressure in the SFP area relative to the outside ambient pressure. Based on this focus, the most conservative plant configurations, including opening a 45' elevation roll-up door to maintain areas around the SFP area with as much positive pressure as possible to allow the most inleakage, were established to adequately test the SFP exhaust fan air removal capability. It was not realized that a test of the SFP ventilation system to maintain the most negative pressure when both: 1) roll-up door is closed and 2) Auxiliary Building exhaust fan capacity greatly exceeds supply fan capacity; was also appropriate to validate the capability of the SFP ventilation system to perform its safety function.

A thorough review was performed to ensure that the opening created by the replacement of the Nos. 11 and 12 Auxiliary Building supply fan discharge dampers (about one square foot) would not affect the ability of the SFP ventilation system fans to maintain a negative pressure in the SFP area relative to the outside ambient. The review determined that it would not. However, troubleshooting results, subsequent to discovery of this issue, showed that with the Auxiliary Building Nos. 11 and 12 supply fan discharge dampers reinstalled, a single Auxiliary Building supply fan was insufficient to maintain the SFP area at a negative pressure with respect to the Auxiliary Building.

In conclusion, the primary reason for this event was a less than adequate understanding of the SFP system interactions. This resulted in allowing conditions to exist which were adverse to the requirements of the Technical Specification 3.9.12, the system design basis and the UFSAR descriptions.

II. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

Following discovery of this issue, we initiated a review of the SFP ventilation system. A troubleshooting plan was implemented during the week of January 13-17, 1997 to re-create the adverse conditions and bound the problem. A formal troubleshooting procedure was performed which demonstrated that with any one Auxiliary Building supply fan running, Auxiliary Building pressure was able to become more negative than the SFP area pressure. It was also found that during certain conditions, the SFP area could regain "most negative" status with a single supply fan running. All combinations of two Auxiliary Building supply fans running resulted in the SFP area being at the most negative pressure.

Based on the results of the above tests, a ventilation configuration policy was developed to prevent recurrence of this event. Subsequently, appropriate operations procedures and the surveillance test procedure (STP-M-542-O) were revised to incorporate the lessons learned from the root cause investigation. These procedures were re-performed to establish a valid current test.

Licensee Event Report 317-97-001, Spent Fuel Moved with Ventilation System Inoperable and Missed Surveillance," was issued on February 10, 1997 concerning this event.

III. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

A permanent modification is being developed to add locally mounted manometers in the SFP area for ease of pressure verification. As part of our preparations for moving fuel during the current Unit 2 refueling outage, we have reviewed the potential impact of the Containment Purge System with personnel airlock interlocks defeated on the operability of the SFP area ventilation. This review has resulted in additional procedure changes to prevent unwanted interactions between the SFP and Containment Purge systems.

This issue is being reviewed for possible applicability to the Emergency Core Cooling System exhaust and Penetration Room exhaust systems.

The lessons learned from this event will be submitted to Operations Training for consideration of incorporation into a training lesson plan. Additional procedure changes will be made based on these lessons learned. This information is also being given to the Plant Risk Assessment Unit for consideration and appropriate incorporation into our plant risk model.

IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on January 10, 1997, when fuel movement was secured.

Part B. CONTROLLED COPY OF FUEL HANDLING PROCEDURE.

I. REASON FOR THE VIOLATION

At the time of this event, Fuel Handling Procedure FH-340, "Component Movement in the Auxiliary Building," required that a controlled copy of the procedure be maintained in the Control Room when core components were being moved in the SFP. During fuel movement on January 8-10, 1997, this requirement was not met due to personnel error on the part of the Nuclear Fuel Management personnel responsible for conducting the fuel movement. The controlled copy of the procedure had at one time been stored in the Control Room, but at some point, that copy of the procedure was removed. Nuclear Fuel Management engineers believed it was still there, but did not ensure that it was there by positive verification, resulting in non-compliance with the procedure. The requirement was contained within the administrative controls (Applicability/Scope) section of the procedure, which was not conducive to prompting the engineers to verify its presence each time fuel movement in the pool resumed. Because the procedure had routinely been kept in the Control Room, engineers over time did not display a questioning attitude by verifying its continued presence in the Control Room.

Subsequent review determined that this requirement should not have been included in FH-340. This procedure is of recent vintage and was adapted from a previous procedure (FH-17, "Fuel Movement within Spent Fuel Pools"). Fuel Handling Procedure FH-17 was divided into FH-340 and Operating Instruction OI-25A, "Spent Fuel Handling Machine." Part of the intent of dividing FH-17 into FH-340 and OI-25A was to put the procedure steps needed by the Control Room operators into OI-25A. Controlled copies of Operating Instructions are kept continually in the Control Room. Since no steps directing operation of plant equipment associated with moving fuel are contained within FH-340 it did not need to be kept in the Control Room. The requirement to keep FH-340 in the Control Room was erroneously left in FH-340 after it was broken out of FH-17.

II. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

Upon discovery of the procedure violation, plant management reiterated its expectation of strict procedure compliance with the personnel involved. Prior to resumption of fuel movement in the SFP, a multi-disciplined team was assembled to review fuel handling practices in the SFP area. This team consisted of a licensed Senior Reactor Operator, the System Engineer for the SFP ventilation system, and an Engineer from Nuclear Fuel Management. This team determined that FH-340 should be revised to eliminate the requirement to place a copy of FH-340 in the Control Room. This change was made on February 26, 1997.

III. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The above-mentioned multi-discipline team reviewing fuel handling practices in the SFP area is evaluating other similar events in the 1993-1997 time frame and will recommend additional actions as appropriate.

We will conduct a formal root cause analysis concerning this event and implement any additional corrective actions from the root cause analysis.

IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on January 10, 1997, when fuel movement was secured.

Part C. OPERATIONS INCLUSION IN PRE-EVOLUTION BRIEFINGS.

I. REASON FOR THE VIOLATION

Procedure FH-340 also required that the Control Room Supervisor (CRS) be included in the pre-evolution brief. While Control Room personnel were aware that fuel movement was underway, (they had placed the SFP ventilation system charcoal adsorbers in service and were informed when fuel handling operations had started or stopped) the CRS had not reviewed the fuel handling precautions and procedures and had not been briefed concerning actions required in the event of a fuel handling incident. This missed requirement was the result of lack of attention to detail on the part of Nuclear Fuel Management personnel.

With the onset of the Operations Work Control Center, detailed briefs concerning fuel movement activities were conducted with Operations Work Control personnel as opposed to Control Room personnel (CRS) as had been the case in the past. The fuel handling procedure requirement was incorrectly interpreted by the engineers as being met by the briefs that were performed with the fuel handling crew and the Operations Work Control Center. The intent of briefing the CRS on details concerning actions required in the event of a fuel handling incident was lost. The change from interfacing directly with the Control Room to interfacing with the Operations Work Control Center was not reflected in the procedure, and inattention to detail led to the non-compliance with this procedural administrative requirement.

II. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

We revised procedure FH-340 to further clarify which Control Room Supervisor is to be briefed on fuel movement prior to the resumption of SFP movement. Awareness training on the briefing requirements was given to all Nuclear Fuel Management personnel.

Plant management has reiterated its expectation of strict procedure compliance with the personnel involved.

III. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Procedural compliance is one of our core values at Calvert Cliffs. The requirement for procedure compliance is reinforced on a continuous basis throughout our organization. However, based on several recent cases of less than adequate procedural compliance, we have established a team to assess this issue at Calvert Cliffs. This team has been tasked with identification of the underlying causal factors that lead to procedural non-compliances and recommending methods to improve performance in this area.

Additional procedure enhancements are scheduled to ensure proper CRS briefings are conducted for other fuel handling operations.

We will conduct a formal root cause analysis concerning this event and implement any additional corrective actions from the root cause analysis.

IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on January 10, 1997, when fuel movement was secured.

ATTACHMENT (2)

NOTICE OF VIOLATION 50-317/96-10-02 AND 50-318/96-10-02

FAILURE TO DEVELOP DOCUMENTATION TO SUPPORT DRY FUEL STORAGE CASK UNLOADING

Notice of Violation Nos. 50-317/96-10-02 and 50-318/96-10-02 states, in part, that;

> *Calvert Cliffs Nuclear Power Plant Technical Procedure ISFSI-02, Rev 3, "Independent Spent Fuel Storage Installation (ISFSI) Unloading," was not appropriate in that it did not contain instructions to prevent over pressurization of the dry shielded canister during reflood operations, prior to unloading.*

I. REASON FOR VIOLATION

On October 9, 1996, the Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, Spent Fuel Project Office performed an inspection of Calvert Cliffs Independent Spent Fuel Storage Installation (ISFSI) activities. One of the issues that came to light based on the Inspector's previous inspection experiences at other facilitates was that the reflood steps in the ISFSI Unloading Procedure (ISFSI-02) has the potential to overpressurize the DSC from a steam flash transient.

On December 4, 1996, the Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, Spent Fuel Project Office performed an inspection of the Calvert Cliffs 10 CFR 72.48 activities and followed-up on the above issue from the October 9, 1996 inspection. Between the inspections on October 9 and December 4, 1996, we changed the ISFSI-02 procedure to require that a calculation be performed to determine the maximum flow rate of water into the DSC to maintain the internal pressure below 10 psig. However, the inspector was concerned that there was no calculation to support the procedure.

Before our Independent Spent Fuel Storage Installation (ISFSI) site went operational in 1993, an unloading procedure was written as required by regulation. It was developed with information provided by the ISFSI vendor, and was similar to unloading procedures developed at other ISFSI sites designed by Baltimore Gas and Electric Company's vendor. A underlying cause of the violation was the fact that the knowledge base existing at the time for unloading procedures did not support the development of a more refined procedure. While industry experience with ISFSI loading has resulted in more mature loading procedures, the same is not true for ISFSI unloading procedures.

A second underlying cause is the fact that communication of and internalization of industry experience is weaker for ISFSI issues than for other aspects of nuclear power plant operations. There has not been a good broad-based industry communications network for ISFSI issues. Issues relative to ISFSI unloading procedures were not effectively communicated to utilities with ISFSI sites.

A third underlying cause was a lack of effective communications from the vendor concerning ISFSI issues. The vendor has not consistently communicated improvements and lessons learned concerning its products to its customers.

II. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

We initiated a detailed calculation to bound the reflood rate of the DSC assuming design bases fuel temperatures. The results of the calculation will be incorporated into the ISFSI-02 procedure and will be complete prior to the start of the next ISFSI loading. There is very little likelihood that a DSC will need to be unloaded prior to the next loading.

III. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

We will facilitate more effective industry use of existing communication tools. We are aggressively looking for opportunities to share ISFSI related information with other ISFSI utilities, and will encourage other utilities to do the same. We are currently soliciting utility interest in formation of an ISFSI users group that could meet to exchange experience concerning ISFSI equipment, procedures, and audit results. We have informed the vendor of our expectations concerning effective communication of ISFSI related information to utilities who have installed their products.

We will conduct a formal root cause analysis concerning this event and implement any additional corrective actions from the root cause analysis.

IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved when the detailed calculation to bound the DSC reflood rate is implemented and the ISFSI-02 procedure is changed This is scheduled to be completed by June 13, 1997. In any event the ISFSI-02 procedure will be changed prior to the next ISFSI loading. There is very little likelihood that a DSC will need to be unloaded prior to the next ISFSI loading.

ATTACHMENT (3)

NOTICE OF VIOLATION 50-317/96-10-04 AND 50-318/96-10-04

INCOMPLETE CORRECTIVE ACTIONS FOR
ELECTRICAL SEPARATION BARRIERS

Notice of Violation Nos. 50-317/96-10-04 and 50-318/96-10-04 states a violation of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action. The notice of violation states, in part, that;

> *As of December 1, 1996 corrective action as specified in BGE response letter to NRC violation 50-317/89-27-05, was not taken in that: (1) design documents, including cable and raceway drawings, were not revised to reflect the as-built configurations for Unit 2, and (2) fourteen examples were identified where the as-built configurations did not meet design criteria and were inadequate to preclude the challenge to electrical separation resulting from damaged or missing marinite separation barriers.*

I. REASON FOR VIOLATION

In 1989, Nuclear Regulatory Commission Inspection Report 50-317/89-27-05 documented violations regarding the Calvert Cliffs electrical cable separation configuration requirements. A project was implemented to correct the deviations and actions were implemented to prevent the deviations from occurring again. This violation was closed in Inspection Report 95-08 (October 16, 1995). The closure was based on a review of the status of corrective actions, walkdown inspection results, and tours of various areas of the plant to inspect a sample of cable tray installations.

During Nuclear Regulatory Commission Inspection 96-08, the Resident Inspector identified three examples where electrical separation barriers in the 45 foot electrical penetration rooms did not appear to meet the plants electrical separation criteria. These deficiencies involved missing or broken marinite board separation covers. Follow-up inspections by Calvert Cliffs personnel and the Resident Inspector identified deviations and discrepancies between the field and drawings. Each of these deviations and discrepancies fell into three general categories: (1) issues involving missing, broken, or cracked marinite board; (2) issues concerning electrical separation barrier/drawing fidelity; and (3) issues questioning the adequacy of certain specific plant cable separation configurations. In each case we concluded that no equipment operability concerns existed.

Our evaluation of this issue indicates that some corrective actions implemented to address the 1989 violation had not been incorporated into plant drawings as intended. Additionally, corrective actions that addressed the 1989 violation did not go far enough to: (1) ensure that the design documents reflected the as-built configurations; and (2) minimize the potential for personnel to challenge the plant's compliance to the Updated Final Safety Analysis Report (UFSAR) electrical separation criteria during normal plant activities.

The electrical separation problems found in the plant were caused by a combination of inadequate ownership of the plants electrical separation requirements and an apparent insensitivity of plant personnel to the UFSAR requirements for cable separation. No one was assigned specific responsibility for overseeing the effectiveness of activities which impacted cable separation design configurations. As a consequence, the inadequate field practices which caused electrical separation barrier degradation to occur were not always promptly identified and corrected. Some marinite barriers were found cracked and some were found not restored properly following work activities.

The failure to update the cable and raceway drawings was caused by personnel error. We failed to adequately document and track the completion of the drawing change requests (DCRs) submitting the marked-up Unit 2 Auxiliary Building electrical cable and raceway drawings.

The project to ensure that our facility electrical separation configuration was in accordance with our configuration requirements was implemented between 1990 and 1994. This work was split up into the following plant areas: Unit 1 Containment, Unit 1 Auxiliary Building, Unit 1 Cable Spreading Room, Unit 2 Containment, Unit 2 Auxiliary Building, and Unit 2 Cable Spreading Room. As each area was completed, the associated plant drawings showing electrical separation requirements were marked-up to reflect the electrical separation work that was performed to disposition any non-conforming conditions. The marked-up drawings were submitted via DCRs to revise the affected controlled drawings. Interviews with site personnel indicate that the DCRs were submitted for all plant areas as required during the project implementation.

A recent review of these controlled drawings revealed that all areas except the Unit 2 Auxiliary Building reflected the DCRs. A search was conducted to determine if the DCRs for Unit 2 Auxiliary Building were submitted or may have been misplaced or overlooked. No documentation has been found to determine what happened to the drawing mark-ups for the Unit 2 Auxiliary Building. During recent walkdowns, we determined that, in some instances, the Units 1 and 2 Auxiliary Building drawings were not marked-up to reflect the electrical separation barriers that existed. If the pre-existing barrier condition conformed to the separation criteria, the existing cable and raceway drawings were not marked up to reflect their existence in all cases.

Failure to update drawings to reflect the "as-built" configuration of electrical separation barriers in the Auxiliary Building complicated our ability to ensure control of the plants electrical separation barrier configuration in that building. Plant personnel did not have accurate cable raceway drawings detailing the plant's electrical separation configurations. This could have potentially resulted in the plant being returned to an unapproved or non-conforming configuration. However, plant walkdowns performed as part of current corrective actions found only one instance where this may have occurred. Based on this, we believe that the drawing status was not a significant causal factor in the failure to maintain electrical separation barriers.

II. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

A system engineer has been assigned responsibility for "electrical separation" and has commenced regular walkdowns of systems which are affected by electrical separation requirements. He is the point of contact for issue reports documenting electrical separation deficiencies. Assignment of an "electrical separation" owner has helped ensure a good understanding for the scope of the current program and provided more assurance that causes and generic implications for electrical separation problems are being consistently addressed.

As previously stated, during the walkdowns established to recreate the Unit 2 Auxiliary Building marked-up drawings, we determined that the Units 1 and 2 Auxiliary Building drawings were not marked-up to reflect electrical separation barriers that previously existed but were not reflected on the drawings. Based on this we expanded the walkdown scope.

Walkdowns were conducted to verify, mark-up, and resubmit all Unit 1 and 2 Auxiliary Building area drawings to accurately reflect electrical cable tray and raceway separation barriers. All marked-up drawings from the Unit 1 and 2 Auxiliary Building area walkdowns have been submitted for engineering review and incorporation into the controlled drawing file at this time. We plan to complete the drawing updates for these walkdowns by May 23, 1997.

Walkdowns were also conducted in the Unit 2 Containment to ensure no problems existed. The Unit 2 Containment area drawings were found to accurately reflect all separation barrier criteria.

It has been determined that our current processes of drawing and controlled document changes will prevent recurrence of similar failures to update drawings in a timely fashion. Our new process requires that drawing and controlled document changes are updated via our engineering and corrective action computer tracking processes. These processes require that configuration document changes are statused and controlled from the time they are issued until they are complete.

The current process, which became effective 995, has enhanced our ability to prioritize drawing changes and monitor and control drawing chang. backlogs. All submitted changes are quickly statused in our computer tracking system, to ensure that no drawing change's will be missed.

III. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The system engineer assigned responsibility for electrical separation barriers will provide training to appropriate plant personnel. This training will include a review of electrical separation requirements, problems that have been experienced, and the need to protect the plant's electrical separation design configuration.

Following this training, as human performance issues are identified with regards to electrical separation, the system engineer will generate an issue report for appropriate organizations to address. In accordance with our existing corrective action process, these organization(s) will determine causes and implement corrective actions for ensuring their work practices protect electrical separation barriers and/or their knowledge level ensures identification of pre-existing problems.

We expect training to be completed by August 30, at which time we also expect to be in full compliance based on having:

⇒ Provided the training necessary to identify separation issues;
⇒ Reinforced the work standards necessary to prevent separation issues;

⇒ Established a feedback loop (system engineer oversight) that monitors long-term effectiveness;
⇒ Established expectations for necessary action when effectiveness is identified as declining; and
⇒ Addressed the immediate deficiencies identified in the violation.

IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

We expect to be in full compliance by August 30, 1997.