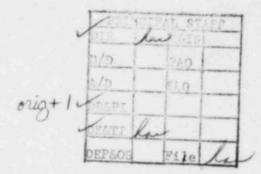


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S. W. Strietds Senior Vice President Nuclear Division

James G. Keppler Regional Administrator U.S. Nuclear Regulatory Commission 799 Roosevelt Road Glen Ellyn, IL 60137



May 11, 1982 SVP-0026-82

Docket Nos: STN 50-546 STN 50-547

Const. Permit Nos.: CPPR-170 CPPR-171

MARBLE HILL NUCLEAR GENERATING STATION, UNITS 1 and 2

Dear Mr. Keppler:

This is in response to NRC's Audit Report Number 81-22, dated April 13, 1982. That report identified three areas of noncompliance in the Materials Management Area and directed Public Service Company of Indiana, Inc. (PSI) to address all of the examples of the noncompliances set out in the Appendix and in Paragraphs 2 and 3 of the Inspection Report.

In early 1981, PSI recognized difficulties in Contractor-administered Material Maintenance Programs with regard to consistency of maintenance and records keeping activities. PSI issued PMP 8.04 in May, 1981, to implement a PSI controlled maintenance program; that Procedure replaced the Contractor controlled program defined in PMP 6.03. PMP 8.04 was intended to provide explicit instructions to Site Contractors for performance and documentation of specific maintenance activities.

Shortly after issue of PMP 8.04, problems were encountered in implementation. To control continuing maintenance of equipment, PMP 6.03 was maintained in effect while the PSI-controlled program was de-bugged. The noncompliances cited by the NRC arose as a result of differences between the two programs. PMP 8.04 was withdrawn and PSI reinstituted the program defined in PMP 6.03 which was less desirable in the long run than the intended PMP 8.04 program. However, SPP-17 provides a reverification of the storage and maintenance of all PSI-furnished items received prior to 01/15/82. The following material add assess the noncompliances and examples as requested in the NRC Report.

VIOLATION #1 - (TRAINING - MATERIALS PROGRAM)

A. Description of Violation

10 CFR 50, Appendix B, Criterion II states in part "The program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained."

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Marble Hill PSAR Chapter 17 dated April 28, 1980, Section 1.2.5 states in part "The training program applies to all PSI personnel who perform project-related activities affecting quality. Participation in the program is mandatory. The selection of participants and the degree of required participation is determined by the responsible Section Manager." Marble Hill Project Quality Assurance Manual Revision 6, Section 2.3.6 states in part "The Quality Assurance Program requires indoctrination and training to assure that personnel are instructed to the purpose, scope, and implementation of 10 CFR 50, Appendix B related and code related manuals, instructions, and procedures, and to assure that they are trained in the principles and techniques of the activity being performed." Procedure PMP 1.04, "Training," implements these training commitments.

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Contrary to the above, the licensee failed to fully implement the training program for Materials Program personnel by not following procedure PMP 1.04, Revision 5, in the following areas:

- . Training Plan was incomplete and incorrect.
- . Work was commenced prior to completion of indoctrination/orientation training.
- . Personnel were not trained to revised procedures.
- . Training Plan revisions were not approved.
- . Training records were incomplete.
- . Procedure training was not conducted.
- B. Examples of Violation and PSI Responses
 - NRC Example The Materials Department Training Plan did not identify specific training requirements for all personnel as required by Section 4.2. As a result, one individual had not received any training.
 - a. Corrective Action Taken and the Results Achieved.

Prior to the ARC Inspection team's exit, PSI commenced a review to determine the adequacy of the Materials Section training. The main focus of the review was to assure the appropriateness and adequacy of the training required for individuals assigned to the Materials Section and to relate it to their specific functional responsibilities. As a result the Training Plan was revised and approved by the Section Manager on 12/3/81. All required training to implement the revised Training Plan was completed on 1/25/82.

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b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

PMP 1.04 will be revised to include a new form (New Employee Required Training Notice) which will ensure that employees newly assigned to the Materials Section contact the Department Training Coordinator for assignment of initial required training.

c. Progress Achieved and Date of Full Compliance.

PMP 1.04 will be revised, approved, and issued by June 1, 1982.

 NRC Example - Training to support specific activities was not completed prior to start of some activities as required by Section 4.1.5. For example:

Orientation/indoctrination training (Level A) was not being performed prior to allowing personnel to go to work. Some employees worked for two weeks and were not trained.

Training was not conducted for specific procedures required by the Training Plan (e.g., "reterial Engineers to PMP 8.04).

a. Corrective Action Taken and Results Achieved.

The Materials Section Training Plan was revised on 12/3/81 and all required training, including Level A was completed by 1/25/82.

- b. Corrective Action Thich Has Been or Will Be Taken to Avoid Further Noncompliance.
 - (1) PMP 1.04 will be revised to include a new form (New Employee Required Training Notice) which will ensure that employees newly assigned to the Materials Section contact the Department Training Coordinator for assignment of initial required training.
 - (2) Level A and B indoctrination has been re-scheduled to be conducted once each week instead of once every other week.
- c. Progress Achieved and Date of Full Compliance.
 - All Training Plan required training was completed on 1/25/82.
 - (2) PMP 1.04 will be revised, approved, and issued by 6/1/82.



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- 3. NRC Example Training and/or required reading required by Section 5.1.3 was not being performed for some individuals to the latest or correct revision of a required procedure identified on the Training Plan developed persuant to Section 4.2. The required Reading Notification for some personnel did not reflect the latest procedure revisions documented in several Procedures Effective Date Forms for PMP 6.03 and PMP 8.04. Some Procedure Effective Date Forms for revised procedures were incorrectly identified by the Contract Panager Materials as "None" when reading or classroom training were required.
 - a. Corrective A tion Taken and Results Achieved.
 - (1) The Materials Section Training Plan was revised to reflect appropriate training for applicable personnel and training was completed to the revised Training Plan. The latest effective revision of the applicable procedures were utilized to conduct that training.
 - b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - (1) Interim Procedure Change Notice (IPCN) #1 to PMP 1.01, Revision 4, Preparation and Control of Project Management Procedures, revised the Procedure Effective Date Form. The "None" block has been deleted. The responsible Section Manager no longer issues required training assignments for a new or revised procedure. Per IPCN #1 the Project Training and Development Manager initiates the form and lists personnel to receive training in accordance with the approved Section Training Plan.
 - (2) The Required Reading Notification form of PMP 1.04 has been revised to require that Project Training personnel identify the procedure revision as indicated on the Procedure Effective Date form prior to issuance to those individuals identified by the Training Plan. In this manner the individual required to accomplish the required reading need only document the date the reading was accomplished, and sign the form.
 - c. Progress Achieved and Date of Full Compliance.
 - The Materials Section Training Plan was revised and approved on 12/03/81.
 - (2) Training to the revised Training Plan was completed on 01/25/82.



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- (3) IPCN #1 to PMP 1.01, Revision 4, was effective on 04/16/82.
- (4) PMP 1.04 was revised to include the revised Required Reading Notification Form via Revision 6, which was effective on 04/21/82.
- (5) Corrective actions are complete.
- NRC Example The Training Plan had training assigned for eighteen individuals without Section Manager review as required by Section 4.2. Some sheets were signed but not dated.
 - a. Corrective Action Taken and Results Achieved.

The Materials Section Training Plan format has been revised to delineate the Sections functional titles versus listing individuals. Training plans are now maintained indicating number of included pages along with a revision number and date to assure proper control. The Training Plan has been reviewed and approved as indicated by the signature of the Section Manager. In addition the Quality Administration Superintendent has reviewed and approved the Training Plan to assure prior approval signature and date by the Section Manager.

- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - PMP 1.04 will be revised to require the Quality Administration Superintendent's review and approval of the Section Training Plan.
 - (2) PMP 1.04 revision will also include a requirement for the Department Training Coordinator to periodically review the Training Plan to assure that it is maintained current relative to the organization and procedures.
- c. Progress Achieved and Date of Full Compliance.

PMP 1.04 will be revised, approved and issued by 06/01/82.

5. NRC Example - Training records to show proof of maintaining up-to-date training did not, as required by Section 10.2 document the revision of procedures on which training was conducted. Also, some records did not contain a signature or date as required by the forms. Instead, ditto marks or lines were used to indicate completion.

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a. Corrective Action Taken and Results Achieved.

The Project Training Department has reviewed training records for errors in completion. Documents found to be incorrect were forwarded to the responsible individual for completion of the required training and proper completion of the documents. Each corrected document was returned to Project Training, and reviewed for completeness and correctness.

b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

Individual Required Reading Notification forms have been revised with specific instructions on the back of each form for proper completion. The form will be initiated by Project Training and the proper procedure revision to be read will be entered by Project Training personnel per PMP 1.04, Revision 6, Section 5.1.3.

c. Progress Achieved and Date of Full Compliance

Corrective actions are complete.

- 6. NRC Example Material Engineers were not trained as required by Section 5.1.3 to the necessary procedures. The Training Plan, although reviewed and approved, failed to include PMP 8.04 for 9 of the 18 individuals reviewed. In some cases the required training was incorrectly identified as "Cancelled" for procedures which were not cancelled and in use.
 - a. Corrective Action Taken and Results Achieved.
 - (1) PMP 8.04 was formally cancelled.
 - (2) The Section Training Plan was revised and approved and required implementing training was accomplished to include all appropriate personnel and procedures.
 - b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - (1) PMP 1.04 will be revised to include a new form (New Employee Required Training Notice) which will ensure that employees newly assigned to the Materials Section contact the Department Training Coordinator for issuance of initial required training.

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- (2) PMP 1.04 will be revised to require that the Department Training Coordinator periodically review the Training Plan to ensure that it is maintained current relative to the organization and procedures.
- c. Progress Achieved and Date of Full Compliance.
 - (1) PMP 8.04 was formally cancelled on 12/09/81.

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- (2) The Material Training Plan was revised and approved on 12/03/81.
- (3) All training required to implement the revised Training Plan was completed by 01/25/82.
- (4) PMP 1.04 will be revised, approved, and issued by 06/01/82.

VIOLATION #2 - (STORAGE AND PRESERVATION PROCEDURES AND INSTRUCTIONS)

A. Description of Violation

10 CFR 50, Appendix B, Criterion V states "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Marble Hill PSAR Chapter 17 dated April 28, 1980, Sections 1.5 and 1.13 state in part "PSI Project Quality Assurance Manual includes procedures governing the handling and storage of owner furnished materials at the construction site. Instructions will be developed by the PSI Marble Hill Project organization to supplement special procedures and requirements issued by the suppliers and principal contractors" and "For activities where specific qualitative or quantitative standards exist, itemized acceptance criteria shall be included in the instructions, procedures, or drawings governing the activity. Inclusion of appropriate acceptance criteria shall be assured during review and approval of specifications, procedures, or drawings." Marble Hill Project Quality Assurance Manual, Section 5 also states in part, "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Contrary to the above, the licensee failed to assure that adequate procedures and instructions, controlling storage and preservation of material and equipment were implemented to properly control those activities. The following items exemplify inadequacies identified in these procedures and instructions.



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a. Procedures

- . Procedure PMP 6.03 required actions to be performed that were contrary to manufacturer's instructions.
- Procedure SPP-17 referenced the use of two procedures (PMP 6.03 and PMP 8.04) to control the same activity.
- b. Instructions
 - . Instructions SSM Nos. Y-2702-041, Y-2720-001 and Y-2702-006 failed to specify the number of pieces of equipment requiring maintenance.
 - Instructions SSM Nos. Y-2702-041, Y-2758C-001, Y-2805-001, Y-2804-001, and Y-2702-025-012 specified inspection and maintenance frequencies and acceptance criteria that were contrary to manufacturers' instructions. The bases for deviations from manufacturers' instructions were not documented.
 - Instruction SSM No. Y-2702-014 designated safety related material as being nonsafety-related.
 - Instructions SSM Nos. Y-2702-025-015 and Y-2702-025-013 did not include requirements for temperature and humidity for Level A storage.
 - Instructions SSM Nos. Y-2702-041, Y-2720-001, Y-2758C-001, Y-2804-001, and Y-2702-025-012 did not comply with procedures PMP 6.03 or PMP 8.04 for acceptance criteria and testing.
- B. Examples of Violation and PSI Responses
 - 1. NRC Example PMP 6.03, Revision 4, dated August 27, 1981, <u>Storage</u>, Handling and Maintenance of Plant Equipment and Materials:

Paragraph 7.4.4 states in part "....spray....coating is to be removed with a suitable solvent such as kerosene." According to the NSSS vendor, kerosene is not an acceptable cleaning agent for NSSS equipment and may degrade certain gasket materials.

Rather than using manufacturer's recommendations and ANSI requirements, Paragraph 7.8.1 allows "discretion" in determining storage area for components such as termination kits, cable lugs, transformer connectors, key interlocks, and similar equipment.



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a. Corrective Action Taken and Results Achieved.

- PMP 8.11 replaces PMP 6.03 and deletes direction of specific maintenance activities and materials to be used in those activities. The identified solvent has not been utilized on the equipment referenced in PMP 6.03, Revision 4, Paragraph 7.4.4.
- (2) Implementation of SPP-17 requires verification that all items are in the appropriate storage environment.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Revisions of SMIs which provide maintenance direction for all safery category I equipment on Site have been completed to identify maintenance actions and acceptable materials to be utilized in these actions based on recommendations obtained from equipment vendors.
 - (2) In the event PSI determines maintenance during equipment storage will not be in accordance with vendor recommendations, these variations will be documented and maintained on file in accordance with PMP 8.11.
- c. Progress Achieved and Date of Full Compliance.
 - PMP 6.03 has been cancelled and PMP 8.11 has been issued with an effective date of 4/30/82.
 - (2) SPP-17 will be closed out by December 30, 1982.
- NRC Example SPP-17, Revision 3, dated October 2, 1981 <u>Integrated</u> <u>Plan for Laydown Area Upgrade Material Storage and Maintenance and</u> <u>Sequential Receipt Inspection:</u>

There is a conflict between Paragraphs 5.4, 6.4, 6.6.3, 6.7, and 6.9 as to the correct Procedure (PMP 6.03 or PMP 8.04) to control storage and maintenance activities. Paragraph 6.3.2 states in part, "Contact the Responsible Organization and applicable Contractors to obtain historical Storage and Maintenance Records, open NCRs....and any other pertinent information." To have a complete history on an item, all open and closed NCRs and CARs (i.e., pertinent information) are required to provide all necessary historical information.

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- a. Corrective Action Taken and Results Achieved.
 - SPP-17, Revision 5 deletes review of open Nonconformance Reports since these documents are individually processed in accordance with current PMPs.
 - (2) A review of storage and maintenance records is required by Quality Engineering prior to release for installation per PMP 8.05. This review is conducted per PMP 3.27 to ensure compliance with SMIs. NCRs would only be reviewed if any operation required by the SMI was not performed or the associated records were not in the maintenance history file. A review is made by Resident Engineering Materials per PMP 8.05 on open NCRs prior to release. This review is to ensure that nonconforming items are not released without proper maintenance documentation. Therefore, copies of open and closed NCRs are not required to be included in the maintenance history records.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - SPP-17 is being revised to provide direction to prepare SMI revisions in accordance with PMP 8.11. All references to PMP 6.03 or 8.04 will be deleted.
 - (2) PMP 6.03 and 8.04 have both been cancelled and have been replaced by only one procedure (PMP 8.11) which provides further clarity by having only one possible reference.
- c. Progress Achieved and Date of Full Compliance.
 - (1) PMP 8.04 was formally cancelled on 12/09/81.
 - (2) PMP 6.03 was formally cancelled on 04/30/82.
 - (3) SPP-17, Revision 6 is to be revised, approved, and issued by May 24, 1982.
- NRC Example SSM No. Y-2702-041, Revision 3, Positive Displacement Pumps:

Insulation resistance testing of motors is not in compliance with procedure PMP 6.03, Section 7.3.7. The instruction implies that there is only one motor per unit.



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a. Corrective Action Taken and Results Achieved.

- PMP 8.11 has been revised to replace PMP 6.03 and to delete direction of specific maintenance activities. Specific maintenance instructions are provided in SMIs for the particular equipment.
- (2) SMI Y-2702-041, Revision 5, (currently effective) provides explicit identification, specific direction and acceptance criteria for insulation resistance testing of each motor.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

Revisions of SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to state specific actions to be performed on equipment.

- c. Progress Achieved and Date of Full Compliance.
 - (1) SMI Y-2702-041 was issued 05/10/82.
 - (2) PMP 8.11 was issued and PMP 6.03 was cancelled on 04/30/82.
- NRC Example SSM No. Y-2702-006, Revision 4, NSSS Motor Operated Valves:

The instruction does not identify the specific valves to be inspected by unique number or the total number of valves to be inspected.

- a. Corrective Action Taken and Results Achieved.
 - SMI Y-2702-006 has been revised to specify applicability to 249 listed valves. Revision 5 is currently effective.
 - (2) Revisions have been completed for SMIs providing maintenance direction for safety category I equipment as of March, 1982 which provide equipment number identification derived from design contractor specifications and designations.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - PSI will review contractor maintenance reports for equipment stored in-place to determine that all equipment within the maintenance responsibility of a particular Site contractor has been accounted for.

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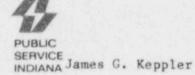
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- (2) PSI will review maintenance records in accordance with PMP 8.05 for all safety category I equipment prior to release from Warehouse storage to ensure that the equipment has been adequately maintained in accordance with approved SMIs.
- c. Progress Achieved and Date of Full Compliance.
 - PSI will fully implement procedures for the review of contractor maintenance reports for in-place stored items by 09/30/82.
 - (2) PMP 8.05, Revision 1, was issued and became effective 03/12/82.
- 5. NRC Example SSM No. Y-2720-001, Revision 8, Containment Cranes:

The instruction implies that there is only one motor per unit and only discusses the Main Hoist Motor. The licensee's contractor has identified at least ten motors per unit. The instruction should specify the items to be inspected. Insulation resistance testing of motors is not in compliance with Procedure PMP 6.03, Section 7.3.7.

- a. Corrective Action Taken and Results Achieved.
 - SMI Y-2720-001 has been revised to provide a listing of all motors on the unit and maintenance actions required for each. Revision 9 is currently effective. SMI Y-2720-001, Revision 9, provides specific direction and acceptance criteria for insulation resistance testing of each motor.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment.
 - (2) PMP 8.11, Revision 0, replaces PMP 6.03 and deletes direction of specific maintenance activities.
- c. Progress Achieved and Date of Full Compliance.
 - (1) SMI Y-2720-001 was revised prior to 03/01/82.
 - (2) PMP 8.11 has been issued and became effective on 04/30/82.
 - (3) Corrective actions are complete.



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 NRC Example - SSM No. Y-2758C-001, Revision 3, <u>Auxiliary Feed Water</u> Pumps and Electric Motors:

The inspection frequency requirements for the pumps are not in accordance with the manufacturer's requirements. There is no documented justification for this deviation. Insulation resistance testing of motors is not in accordance with requirements of Procedure PMP 6.03, Section 7.3.7.

- a. Corrective Action Taken and Results Achieved.
 - SMI Y-2758C-001 has been revised (Revision 5) to include maintenance intervals concurred to by the equipment vendor. Documentation of this concurrence has been placed in PSI files.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - (1) PMP 8.11 replaces PMP 6.03 and deletes direction of specific maintenance activities. Specific maintenance activity direction is provided in the SMI for that equipment. SMI Y-2758C-001, Revision 5, provides specific direction and acceptance criteria for insulation resistance testing of the motors.
 - (2) Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment.
- c. Progress Achieved and Date c. Full Compliance.
 - (1) SMI Y-2758C-001 was revised prior to 03/01/82.
 - (2) PMP 8.11 has been issued and became effective on 04/30/82.
 - (3) Corrective actions are complete.
- NRC Example SSM No. Y-2805-001, Revision 5, <u>Steam Generator Snubber</u> System:

The inspection requirements for oil level are not in accordance with the manufacturer's requirements. There was no documented justification for this deviation. PUBLIC SERVICE INDIANA James G. Keppler

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a. Corrective Action Taken and Results Achieved.

No vendor recommendation is provided for checking or maintaining a fluid level in this equipment during extended storage. In order to provide a maintenance direction for an extended storage period which exceeds vendor recommendations, PSI has revised SMI Y-2805-001 to direct checking of snubber fluid levels annually. This check is in accordance with vendor short duration storage recommendations. Revision 6 of SMI Y-2805-001 is current'y effective.

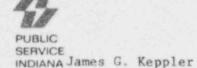
b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment.

- c. Progress Achieved and Date of Full Compliance.
 - (1) SMI Y-2805-001 was revised prior to 03/01/81.
 - (2) Corrective actions are complete.
- 8. NRC Example SSM No. Y-2804-001, Revision 6, Electrical Penetrations:

Nitrogen purge pressure is not in accordance with manufacturer's requirements. The annual inspection frequency of the pressure gauges is not in accordance with the semiannual frequency of PMP 6.03. The 2 psig accept/reject criterion for pressure gauges is not in accordance with 1 psig criterion of PMP 8.04.

- a. Corrective Action Taken and Results Achieved.
 - (1) SMI Y-2804-001, Revision 7 revises the nitrogen pressure range from "12 to 18 psig" of Revision 6 to read "report conditions to Resident Engineering, Materials when indicated gauge pressure is less than 10 psig". Specific direction will be provided at that time for the contractor to recharge penetration assemblies to 15 to 18 psig indicated. This change is concurred with by the equipment manufacturer.
 - (2) PMP 8.11 replaces 6.03 and deletes direction of specific maintenance activities; gauge calibration direction is provided by SMI Y-OGEN-001.



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- (3) PMP 8.04 has been cancelled; gauge calibration direction is provided by SMI Y-OGEN-001.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment.
 - (2) PMPs controlling storage maintenance activities have been revised to preclude ambiguity.
- c. Progress Achieved and Date of Full Compliance.
 - (1) SMI Y-2804-001 was issued prior to 04/01/82.
 - (2) PMP 8.11 has been issued and became effetive on 04/30/82.
 - (3) SMI Y-OGEN-001 was revised prior to 03/01/82.
 - (4) Corrective action is complete.
- 9. NRC Example SSM No. Y-2702-014, Revision 6, NSSS Heat Exchangers:

Spare parts (gaskets) are listed as safety category II for category I heat exchangers.

a. Corrective Action Taken and Results Achieved.

SMI Y-2702-014 has been revised to list spare gaskets as safety category I.

b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

Revisions to SMIs which provide maintenance direction for all designated safety category I equipment on Site have been completed to identify appropriate safety category.

c. Progress Achieved and Date of Full Compliance.

Corrective actions are complete.

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 NRC Example - SSM No. Y-2702-025-012, Revision 0, NSSS Rod Drive Motor Generator Sets:

Insulation resistance test frequency for the motors is not in accordance with PMP 6.03, Section 7.3.7, and the acceptance values are not in accordance with the manufacturer's requirements. There was no documented justification for this deviation. Insulation resistance test frequency and acceptance values are not

given for the generator.

The lubricant specified is not one of the acceptable lubricants listed in the manufacturer's instructions. There was no documented justification for this deviation.

The instruction states that "the generator brushes should be lifted", but there are no brushes in the generator.

The manufacturer's instructions states that "space heaters should be energized", but this instruction lists space heaters as "Not Applicable". There was no documented justification for this deviation.

a. Corrective Action Taken and Results Achieved.

- PMP 8.11 replaces PMP 6.03 and deletes direction of specific maintenance activities.
- (2) Acceptable insulation resistance values specified in Revision 0 of SMI Y-2702-025-012 for the motor and generator are 20% more stringent than those recommended by the equipment vendor; no justification or corrective action is necessary when imposing stricter quality standards.
- (3) SMI Y-2702-025-012 has been revised to direct an insulation resistance test interval of six months for both the motor and generator contrary to the vendor recommended monthly interval. PSI has determined six month testing provides adequate assurance of equipment condition while in Level B storage.
- (4) PSI has determined the lubricant specified in SMI Y-2702-025-012 is compatible with the requirements of the MG sets; vendor concurrence with the use of this lubricant has been obtained and is documented in PSI files.
- (5) SMI Y-2702-025-012 has been revised to delete mention of generator brushes and to direct energizing motor heaters during storage.



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- (6) SMI Y-2702-025-012, Revision 2, (currently effective) reclassifies the Rod Drive MG Sets from safety category I to safety category II; failure of this equipment will not put the plant in an unsafe condition.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment.
 - (2) The design contractor has been requested to provide clarification of the Mechanical Equipment Classification Criteria as it relates to smaller pieces of equipment then those presently identified in the Classification Criteria.
- c. Progress Achieved and Date of Full Compliance.
 - (1) SMI Y-2702-025-012 was revised prior to 03/01/82.
 - (2) PMP 8.11 has been issued and became effective on 04/30/82.
 - (3) A "Q-List" identifying detailed equipment classification was received prior to 11/17/81.
 - (4) Corrective action is complete.
- 11. NRC Example SSM No. Y-2702-025-015, Revision 0, Main Control Boards:

Temperature and humidity limits are not specified for Storage Level A.

a. Corrective Action Taken and Results Achieved.

Warehouse storage environments are currently maintained to direction provided in PMP 8.08. This PMP is in accordance with ANSI N45.2.2-1972 recommendations. PSI has determined Level "A" storage is compatible with vendor recommendations for storage of this equipment. Explicit statement of particular equipment storage environmental parameters in an SMI beyond specifying Level "A" serves no useful purpose. No change to SMI Y-2702-025-015 is required.



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Corrective Action Which Has Been Taken or Will Be Taken to Avoid b. Further Noncompliance.

PSI reviews vendor technical manual recommendations for preservation of equipment in order to transcribe the appropriate directions into PSI controlled instructions. These instructions are reviewed periodically for accuracy and maintained in accordance with PMP 8.11.

Progress Achieved and Date of Full Compliance. c.

Corrective actions were not required.

12. NRC Example - SSM No. Y-2702-025-013, Revision 0, MSSS Pressurizer Heater Controller:

Temperature and humidity limits (≤ 30%) recommended by the manufacturer are not specified.

Corrective Action Taken and Results Achieved. a.

> Revision 0 of SMI Y-2702-025-013 referenced an incorrect equipment technical manual. SMI Y-2702-025-013 has been revised to delete this incorrect reference. PSI has determined Level "A" storage is compatible with vendor recommendations for storage of this equipment.

- Corrective Action Which Has Been or Will Be Taken to Avoid b. Further Noncompliance.
 - (1) Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify appropriate storage environments.
 - (2) SMI Y-2702-025-013 has been revised to designate the pressurizer heater controllers as safety category II. Failure of this equipment will not put the plant in an unsafe condition.
 - (3) The design contractor has been requested to provide clarification of the Mechanical Equipment Classification Criteria as it relates to smaller pieces of equipment than those presently identified in the Classification Criteria.



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c. Progress Achieved and Date of Full Compliance.

- (1) SMI Y-2702-025-013 was revised prior to 03/01/82.
- (2) A "Q-List"identifying detailed equipment classification was received prior 11/17/81.
- (3) Corrective action is complete.

VIOLATION #3 - (PROGRAM IMPLEMENTATION)

Description of Violation

10 CFR 50, Appendix B, Criterion XIII states "Measures shall be established to control the handling, storage and shipping, cleaning and preservation of material and equipment in accordance with work and inspection instructions to prevent damage and deterioration. When necessary for particular products, special protective environments, such as inert gas atmosphere, specific moisture content level and temperature levels, shall be specified and provided." Marble Hill PSAR Chapter 17 dated April 28, 1980, Section 1.13 states in part "PSI has delegated responsibility for specifying handling, storage, shipping, cleaning, and preservation of material and equipment requirements to its principal contractors and contractors." Procedures PMP 6.03 and PMP 8.04 implement these requirements.

Contrary to the above, the licensee failed to fully implement the storage and preservation program for materials and equipment by not following procedures PMP 6.03 and PMP 8.04 in the following areas:

- . Material and equipment were being improperly stored to the incorrect level, i.e., Level C in lieu of Level B.
- Humidity levels were being exceeded in lieu of maintaining the correct levels.
- Rain water was noted to be falling directly on equipment requiring Level B storage.
- . Electric space heater which was required to be energized was observed to be unplugged.
- . Equipment requiring a nitrogen blanket was observed to have no blanket installed.



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- Equipment requiring maintenance to be performed had no maintenance performed.
- The incorrect revision of a storage and maintenance instruction was being utilized to perform that activity.
- Inspections required to be performed by the storage and maintenance instruction were not being performed.
- Equipment and materials requiring covering with tarps were not covered.
- NRC Example Contrary to SSM No. Y-2900-001, Revision 3, Cubicle Coolers 1VA01SB, 2VA01SB, 2VA02SA, 2VA03SA, 2VA03SB, and 2VA02SB located on the 330' elevation in the Auxiliary Building were not stored per Level B. Additionally, 1VA01SB was uncovered and the filters were damaged and water was falling on 2VA02SB.
 - a, Corrective Action Taken and Results Achieved.
 - (1) SMI Y-2900-001 has been revised to change the required storage level from "B" to "C" for the cubicle coolers. Level "C" storage conditions are consistent with vendor recommendations.
 - (2) The damaged filters have been scrapped. An NCR, 181-QES-0040, has been issued and dispositioned to document this damaged condition. This NCR was resolved and closed on April 2, 1982.
 - (3) Actions have been completed to preclude further exposure of these cubicle coolers to falling water by covering them.
 - b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - (1) Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site were completed prior to March 1, 1982 to identify specific actions to be performed on equipment. In-place storage environments of installed equipment have been addressed in order to provide instructions compatible with vendor recommendations and to adequately protect equipment.

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- (2) PSI has assigned personnel to perform surveillance of equipment in an in-place storage location to ensure no unauthorized personnel uncover or otherwise alter the storage configuration from that directed in the appropriate SMI.
- c. Progress Achieved and Date of Full Compliance.

Corrective actions are completed.

- 2. NRC Example Contrary to the SSM No. Y-2702-038, Revision 4, requirement to replace the desiccant and indication inside the Waste Gas Decay Tanks located on the 340' elevation in the Auxiliary Building when humidity reading exceeds 50%, the following conditions were observed:
 - . OGW01TA indicated 60% humidity
 - . OGWOITC open to atmosphere, no indicator
 - . OGW01TE indicated 55% humidity
 - . OGWOITF indicated 65% humidity

(Licensee's contractor failed to take corrective action when humidity level indicated 50% in Waste Gas Decay Tank OGW01TF on September 8, 1981.)

a. Corrective Action Taken and Results Achieved.

NCRs have been initiated and dispositioned to replace the expended desiccant in the tanks listed.

TANK	NCR
0GW01TA	181QES0033
OGW01TC	181QES0071
OGW01TE	181QES0036
0GW01TF	181QES0034

- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Revisions of SMIs which provide maintenance direction for all safety I equipment on Site have been completed to state specific actions to be performed on equipment.



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- (2) SMI Y-2702-038 has been cancelled. Tanks OGWOITA, C, E, and F are now addressed by SMI Y-2702-050, Revision 4 (currently effective). SMI Y-2702-050 provides a range of acceptable relative humidity when desiccant must be replaced of between 50% and 60%.
- (3) SPP-17 provides a determination of the current physical condition of safety category I equipment on Site. Implementation of this procedure will identify any equipment with noncomplying conditions.
- c. Progress Achieved and Date of Full Compliance.
 - Corrective actions are complete for OGWOITA, E & F. NCR 81 QES 0071 regarding OGWOITC is being implemented, completion is expected 06/30/82.
 - (2) SPP-17 will be completed and closed out by 12/30/82.
- NRC Example Contrary to SSM No. Y-2702-001, Revision 3, Component Cooling Water Pumps OCCOIP, 1CCOIPA, 1CCOIPB, 2CCOIPA, and 2CCOIPB located on the 346' elevation in the Auxiliary Building were not stored per Level B. Additionally, the following conditions were observed.
 - . OCCOIP Water standing in framework
 - . 1CCO1PA Water standing on motor
 - a. Corrective Action Taken and Results Achieved.
 - NCRs have been initiated and dispositioned to correct identified nonconforming conditions with this equipment.

EQUIPMENT	NCR
OCCO1P	181QES0066
1CCO1PA	181QES0067

- (2) In-place storage direction of SMI Y-2702-001 provides a localized storage environment of level "B".
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

SPP-17 provides a determination of the current physical condition of safety category I equipment on Site. Implementation of this procedure will identify any equipment with a noncomplying condition.



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c. Progress Achieved and Date of Full Compliance.

- Corrective actions will be completed for 1CCO1PA by May 31, 1982.
- (2) Corrective actions will be completed for OCCO1P prior to turnover of equipment for test scheduled for June 24, 1985.
- (3) SPP-17 will be completed and closed out by 12/30/82.
- 4. NRC Example Contrary to SSM No. Y-2702-041, Revision 3, Positive Displacement Charging Pumps 1CV02P and 2CV02P located on the 364' elevation in the Auxiliary Building were not stored per Level B. Additionally, the motor space heater for 2CV02P was unplugged and the motor pot head was open allowing dirt to enter motor windings.
 - a. Corrective Action Taken and Results Achieved.
 - NCRs have been intiated and dispositioned to correct identified nonconforming conditions with this equipment.

EQUIPMENT	NCR
1CV02P	181QES0083
2CV02P	181QES0077

- (2) SMI Y-2702-041 has been revised to provide storage direction creating a localized level "B" storage environment.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

PSI has assigned personnel to perform surveillance of equipment in an in-place storage location to ensure no unauthorized personnel uncover or otherwise alter the storage configuration from that directed in the appropriate SMI.

c. Progress Achieved and Date of Full Compliance.

Corrective actions will be completed for this equipment by June 30, 1982.

 NRC Example - Contrary to SSM No. Y-2702-014, Revision 6, Component Cooling Water Heat Exchangers OCCOLA and LCCOLA located on the 364' elevation in the Auxiliary Building did not have nitrogen blankets.



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a. Corrective Action Taken and Results Achieved.

NCRs have been initiated and dispositioned to correct the noted nonconforming conditions.

EQUIPMENT	NCR	
OCC01A	181QES0045 and 181QES0087	
1CC01A	181QES0049	

- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - (1) Revisions of SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment. In-place storage environments of installed equipment have been addressed in order to provide instructions compatible with vendor recommendations and to adequately protect equipment.
 - (2) PSI has assigned personnel to perform surveillance of equipment in an in-place storage location to ensure no unauthorized personnel uncover or otherwise alter the storage configuration from that directed in the appropriate SMI.
- c. Progress Achieved and Date of Full Compliance.

Corrective actions are complete for NCRs 181QES0045 and 181QES0049; NCR 181QES0087 corrective actions will be completed by May 31, 1982.

- NRC Example Contrary to SSM No. Y-2702-006, Revision 4, and Y-2702-027, Revision 3, maintenance had not been performed for NSSS motor operated valves since date of receipt.
 - a. Corrective Action Taken and Results Achieved.
 - SPP-17 has provided a determination of the current physical condition of these safety category I valves.
 - (2) NCRs generated through SPP-17 regarding the values have been dispositioned.



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- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - PSI will review contractor maintenance reports for equipment stored in-place to determine that all equipment within the maintenance responsibility of a particular Site contractor has been accounted for.
 - (2) PSI will review maintenance records in accordance with PMP 8.05, Revision 1, for all safety category I equipment prior to release from warehouse storage to ensure that the equipment has been adequately maintained in accordance with approved SMIs.
- c. Progress Achieved and Date of Full Compliance.

Procedures to provide maintenance accountability will be fully implemented by September 30, 1982.

- NRC Example Contrary to SSM No. Y-2852A-001, Revision 3, instrument cable located in the cable yard were not stored per Level C. Tarps were torn, water was standing on tarps, and tarps were blown off of cable.
 - a. Corrective Action Taken and Results Achieved.

SMI Y-2852A-001 has been revised to direct level "D" storage. Vendor concurrence with this storage level is documented and in PSI files.

- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Revisions of SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment.
 - (2) SPP-17 will provide a determination of the current physical condition of safety category I equipment on Site. Implementation of this procedure will identify if this or any other equipment has a noncomplying condition.
- c. Progress Achieved and Date of Full Compliance.

SPP-17 will be completed and closed out by 12/30/82.



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- NRC Example Contrary to SSM No. Y-2720-001, Revision 8, the licensee's contractor did not megger the containment crane motors in November 1981, failed to check the fluid level of Unit #1 pull-a-hoist gear case, and failed to rotate 13 shafts.
 - a. Corrective Action Taken and Results Achieved.
 - SPP-17 provides a determination of the current physical condition of safety category I equipment on Site. Implementation of this procedure will establish whether this equipment has a physically deficient condition.
 - (2) The containment crane motors shall be maintained in accordance with SMI Y-2720-001, Revision 9 (currently effective). The responsible contractor shall provide reports of maintenance activities in accordance with approved procedures.
 - b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.

PSI will review contractor maintenance reports to determine that all equipment within the maintenance responsibility of a particular Site contractor has been accounted for.

c. Progress Achieved and Date of Full Compliance.

Procedures to provide formal maintenance accountability will be fully implemented by July 30, 1982.

- 9. NRC Example The licensee's contractor was working to Revision 5 of SSM No. Y-2804-001 (electrical penetrations) instead of Revision 6.
 - a. Corrective Action Taken and Results Achieved.
 - The contractor has been directed (via CAR 281 PSI 0226) to change their procedures to provide control of SMIs in the same manner as other quality-affecting documents.
 - (2) SPP-17 provides a determination of the current physical condition of safety category I equipment on Site. Implementation of this procedure will establish if this equipment has a noncomplying condition.



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- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Distribution of new and revised SMIs is accomplished through PSI Site Document Control and SMI implementation is verified through the PSI Surveillance and Audit Program.
 - (2) Contract obligations have been revised to require contractor compliance with the requirements of the SMIs. Approved Project Procedures and Special Project Procedures are utilized to verify the condition of material and equipment prior to release for installation.
- c. Progress Achieved and Date of Full Compliance.

Corrective actions are complete.

- NRC Example Contrary to SSM No. Y-2805-001, Revision 5. maintenance had not been performed for steam generator snubbers since date of receipt.
 - a. Corrective Action Taken and Results Achieved.

SPP-17 has provided a determination of the current acceptable condition of steam generator snubbers.

- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Contractor obligations have been revised to require contractor compliance with the requirements of the SMIs.
 - (2) Approved Project Procedures and Special Project Procedures are utilized to verify the condition of material and equipment prior to release for installation.
- c. Progress Achieved and Date of Full Compliance.

Corrective actions are complete.

11. NRC Example - Contrary to SSM No. Y-2702-025-015, Revision 0, the licensee's contractor was working to an out-of-date revision of this instruction for Main Control Boards which resulted in the contractor checking to Level B storage when Level A was currently required. Additionally, the quarterly check for desiccant, rodent infestation, discoloration of wires, and corrosion were not performed.



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a. Corrective Action Taken and Results Achieved.

- The contractor has been directed (via CAR 281 PSI 0226) to change their procedures to provide control of SMIs in the same manner as other quality affecting documents.
- (2) SPP-17 will provide a determination of the current physical condition of the Main Control Boards.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Contract obligations have been revised to require contractor compliance with the requirements of the SMIs.
 - (2) Approved Project Procedures and Special Project Procedures are utlized to verify the condition of material and equipment prior to release for installation.
 - (3) PSI will review contractor maintenance reports for equipment stored in-place to determine that all equipment within the maintenance responsibility of a particular Site contractor has been accounted for.
 - (4) PSI will review maintenance records in accordance with PMP 8.05, Revision 1, for all safety category I equipment prior to release from warehouse storage to ensure that the equipment has been adequately maintained in accordance with approved SMIs.
- c Progress Achieved and Date of Full Compliance.

Procedures to provide maintenance accountability will be fully implemented by September 30, 1982.

- NRC Example Contrary to SSM No. Y-2752-002, Revision 5, the monthly storage and maintenance requirements for 480V Substation Transformer 1AP10E were not checked in August and September, 1981.
 - a. Corrective Action Taken and Results Achieved.
 - Deficiencies in performance of storage and maintenance on this equipment have been identified and documented in a PSI generated CAR, 281 PSI 0226.



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- (2) This item has been inspected in accordance with SPP-17 and nonconforming conditions have been documented on NCR 182QES0217. Subsequent corrective actions will be per approved PSI procedures.
- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Contract obligations have been revised to require contractor compliance with the requirements of the SMIs.
 - (2) Approved Project Procedures and Special Project Procedures are utilized to verify the condition of material and equipment prior to release for installation.
 - (3) PSI will review contractor maintenance reports for equipment stored in-place to determine that all equipment within the maintenance responsibility of a particular Site contractor has been accounted for.
 - (4) PSI will review maintenance records in accordance with PMP 8.05, Revision 1, for all safety category I equipment prior to release from warehouse storage to ensure that the equipment has been adequately maintained in accordance with approved SMIs.
- c. Progress Achieved and Date of Full Compliance.
 - Procedures to provide maintenance accountability will be fully implemented by September 30, 1982.
 - (2) NCR 182GES0217 was closed on 04/30/82.
- NRC Example Contrary to SSM No. Y-2812-001, Revision 4, the monthly storage and maintenance requirements for Control System Cabinet iPA20JA were not checked in Augus: and September, 1981.
 - a. Corrective Action Taken and Results Achieved.
 - Determination has been made by PSI that this equipment is safety category II.
 - (2) SMI Y-2812-001 has been revised to provide this information.
 - (3) Physical condition of this equipment will be determined during SMI-directed periodic inspections.



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- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Contract obligations have been revised to require contractor compliance with the requirements of the SMIs.
 - (2) Approved Project Procedures and Special Project Procedures are utilized to verify the condition of material and equipment prior to release for installation.
 - (3) PSI will review contractor maintenance reports for equipment stored in-place to determine that all equipment within the maintenance responsibility of a particular Site contractor has been accounted for.
 - (4) PSI will review maintenance records in accordance with PMP 8.05, Revision 1, for all safety category I equipment prior to release from warehouse storage to ensure that the equipment has been adequately maintained in accordance with approved SMIs.
- c. Progress Achieved and Date of Full Compliance.

Procedures to provide maintenance accountability will be fully implemented by September 30, 1982.

- NRC Example Contrary to SSM No. Y-2752-001, Revision 6, the monthly storage and maintenance requirements for 480V Switchgear 2AP10E were not checked in August and September, 1981.
 - a. Corrective Action Taken and Results Achieved.
 - Deficiencies in performance of storage and maintenance on this equipment have been identified and documented in a PSI generated CAR (281 PSI 0226).
 - (2) These items will be inspected in accordance with the implementation schedule of SPP-17 and any nonconforming conditions will be documented.
 - (3) Subsequent disposition and corrective action will be initiated per approved PSI procedures.



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- b. Corrective Action Which Has Been or Will Be Taken to Avoid Further Noncompliance.
 - Contract obligations have been revised to require contractor compliance with the requirements of the SMIs. Approved Project Procedures and Special Project Procedures are utilized to verify the condition of material and equipment prior to release for installation.
 - (2) PSI will review contractor maintenance reports for equipment stored in-place to determine that all equipment within the maintenance responsibility of a particular Site contractor has been accounted for.
 - (3) PSI will review maintenance records in accordance with PMP 8.05, Revision 1, for all safety category I equipment prior to release from warehouse storage to ensure that the equipment has been adequately maintained in accordance with approved SMIs.
- c. Progress Achieved and Date of Full Compliance.

Procedures to provide maintenance accountability will be fully implemented by September 30, 1982.

NRC Areas For Licensee Consideration

Consideration #1

Requirements in instructions should be stated rather than reference being made to another document. For example, SSM No. Y-2702-006 states an action shall be completed per PMP 6.03 rather than stating the action.

PSI Response

Revisions to SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify specific actions to be performed on equipment.

Reference in SMIs to other documents is minimal and utilized only in cases where an action must be performed in accordance with an existing, controlled document such as a vendor technical manual or another SMI.

Consideration #2

The requirement in PMP 6.03, Section 6.1.15, states that purge gauges are to be calibrated every 6 months (minimum). This requirement should be included in any SMIs to assure contractor awareness of this requirement.



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PSI Response

PMP 8.11 replaces PMP 6.03 and deletes direction of specific maintenance activity. SMI Y-OGEN-001 provides contractor direction for semiannual gauge calibration. SMIs of the Y-OGEN-XXX series provide technical direction applicable to all equipment SMIs.

Consideration #3

The type and amount of desiccant to be placed in each tank, heat exchanger, valve, etc. should be specified in instructions.

PSI Response

Revisions of SMIs which provide maintenance direction for all safety category I equipment on Site have been completed to identify the quantity of desiccant to be maintained in equipment requiring localized reduction of moisture, and the acceptable relative humidity levels in the local environment.

Consideration #4

Motor/Generator voltages and horsepower/kVA ratings should be stated in the instructions to aid contractor/craftsperson in the performance of storage and maintenance program.

PSI Response

Revisions of SMIs which provide maintenance direction for all safety category I equipment on Site have been completed which provide motor, generator and other electrical ratings as appropriate.

Please advise if you have questions on the above material.

Sincerely,

Milla

S. W. Shields

SWS/RPK/sko

cc: J. Konklin J. Harrison



STATE OF INDIANA)) SS: COUNTY OF JEFFERSON)

S. W. SHIELDS, being duly sworn upon his oath, deposes and says that the foregoing response to NRC Audit Report No. 81-22 is true and accurate to the best of his information, knowledge and belief.

Shills

of May, 1982.

Judy K. Spiller Sudy K. Spillmen Notary P. Public

My Commission Expires:

12.16.85

My County of Residence:

Seguran