

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-346/86009 (DRS)

Docket No. 50-346

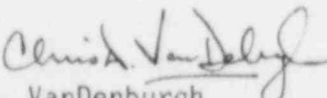
License No. NPF-3

Licensee: Toledo Edison Company
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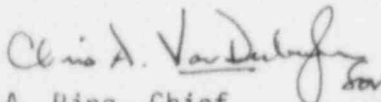
Facility Name: Davis-Besse Nuclear Power Station I

Inspection At: Oak Harbor, Ohio

Inspection Conducted: February 17 through May 9, 1986


Inspector: C. A. VanDenburgh

5-20-86
Date


Approved By: M. A. Ring, Chief
Test Programs Section

5-20-86
Date

Inspection Summary

Inspection on February 17 through May 9, 1986 (Report No. 50-346/86009(DRS))

Areas Inspected: Special announced inspection by one regional, one headquarters and three contractor inspectors to review licensee action on previous inspection findings; followup on Licensee Event Reports; evaluate the SRTP implementation; review the SRTP System Review Reports; perform SRTP test procedure review; perform SRTP test procedure witnessing; and perform SRTP test results review.

Results: Of the seven areas inspected, one violation was identified in section 3.b of the report. In addition, five open items and three unresolved items are documented in the body of the report which will require action by the licensee and the NRC.

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Q PDR

DETAILS

1. Persons Contacted

Toledo Edison Company

S. Smith, Assistant Plant Manager, Maintenance
W. O'Conner, Assistant Plant Manager, Operations
*J. Johnson, Operations Engineering Supervisor
*L. Ramsett, TED Quality Assurance Director
*J. Buck, Quality Assurance Lead Internal Auditor
*J. Paluzzi, Quality Assurance Auditor
J. Ligenfelter, SRTP Coordinator
O. Mavro, SRTP Manager
P. Hildebrandt, IPRC Chairman
*C. Hengge, IPRC
S. Piccolo, Assistant Restart Program Manager
*S. Batch, JTG Member
*T. Bloom, Licensing Staff
J. Stotz, Technical Support Group
*J. Faris, Administrative Coordinator
*C. Wylie, Station Corrective Action Coordinator

U. S. Nuclear Regulatory Commission

*C. VanDenburgh, RIII Inspector
P. Byron, Senior Resident Inspector
D. Kosloff, Resident Inspector
J. Gitter, Inspection and Enforcement
L. Minton, Battelle
L. Valenti, EG&G
J. Stoffel, EG&G

*Denotes those personnel attending the May 9, 1986 exit.

2. Previous Inspection Findings

- a. (Open) Open Item (346/85036-04): This item concerned SRTP-003 in that many Required for Restart (RR) and Not Required for Restart (NRR) problem reports had been deleted from the System Review Report (SRR) or had their classification changed from RR to NRR without documenting the reason in the SRR. Further review has identified that the SRRs in which the classifications had been changed were preliminary and had not been approved by the Independent Process Review Committee (IPRC). Extensive revisions of the classification of the problem reports in the draft SRRs were required in the approval process. The licensee has conducted a review to ensure that adequate written justification exists for changing the classification of problem reports and that adequate documentation exists for problems that are determined to be Third Category. The inspector has requested a copy of the results of this review. This item also

concerned a SRTP-003 requirement to list the unique document number for each document reviewed in the appropriate section of Exhibit 1 of SRTP-003. If no documents existed or no documents were reviewed for a particular type of document then this is required to be stated in Exhibit 1 of the SRR. This was not done in all cases. Eight SRRs were reviewed and four of these had no entry under one or two of the document types listed in Exhibit 1. The licensee has conducted a review to ensure that a unique document number is listed for each of the types of documents required to be reviewed. The inspector has reviewed the results of this review and is satisfied that the discrepancies have been satisfactorily addressed. This portion of the open item is considered closed. This item will remain open pending the receipt and evaluation of the licensee's review of problem report classifications discussed above.

- b. (Closed) Open Item (346/85036-05): This item concerned the classification of problem reports identified in the system review process into three categories: Required for Restart (RF), Not Required for Restart (NRR), and Category 3. The inspector was concerned that the screening guidelines and the final disposition of these problem reports are not documented. Revision 3 to SRTP-001 renames "Category 3" reports as "Third Category" and indicates that IPRC may place some problem reports in this classification to be evaluated in the long term. Problem reports placed by the IPRC in this category are required to be submitted under separate cover to the SRTP Coordinator. The licensee has conducted a review to verify that problems placed in the "Third Category" are documented and forwarded to the System Review and Test Program (SRTP) Coordinator for long term evaluation. This review has been discussed in Section 2.a and is being followed by Open Item 85036-04. This item is considered closed.
- c. (Closed) Open Item (346/85039-06): This item concerned the verification that the Gaseous Radwaste System, Post-Accident Sampling System, Miscellaneous Containment Isolation Valves and Fuel Handling Ventilation System received a "supervisory review" similar in nature to the SRTP. The inspector has verified that this review has been completed for the first three systems. The licensee has committed to perform this review for the Fuel Handling Ventilation System following restart and prior to the next refueling outage. The inspector finds this to be acceptable and will follow this commitment as an open item (346/86009-01).
- d. (Open) Open Item (346/85039-07): This item concerned a commitment to revise the Updated Safety Analysis Report (USAR) to clarify what systems and system functions are assumed to mitigate a letdown line pipe break discussed in USAR Section 15.4. The licensee has developed a change to the USAR which clarifies the function of the temperature switches for isolation of the letdown flowpath. This item will remain open pending the submittal of this revision.

- e. (Closed) Open Item (346/85039-08): This item concerned the verification of the proper operation of an interlock to prevent reset of the Anticipatory Reactor Trip System (ARTS) before the initiation signal has cleared. The inspector has verified that the interlock function has been included in the System Review Report (SRR) and that this function has been satisfactorily tested. This item is closed.
- f. (Open) Open Item (346/85039-09): This item concerned a commitment to revise the USAR to update the discussion provided in USAR Section 15.2 on the turbine trip analysis to indicate that the Anticipatory Reactor Trip System (ARTS) provides the mitigating functions for a turbine trip and to delete the discussion concerning reactor runback and turbine bypass as mitigating functions. The licensee has indicated that the function of reactor runback has not been deleted as a protective feature. However, it is anticipated that the ARTS will trip the reactor following a turbine trip before a turbine runback can be initiated. The licensee intends to revise the ARTS System Review Report (SRR) to more accurately describe the anticipated actions of these systems in response to a turbine trip and to address the operation of the ARTS as a function important to safe plant operation. Since the protective feature of the turbine runback has not been removed, the licensee does not intend to remove the discussion of this feature from the USAR. This item will remain open pending the revision to the SRR and further inspector evaluation of the USAR description of the turbine runback protection.
- g. (Closed) Open Item (346/85039-10): This item concerned a commitment to revise the Control Room Normal and Emergency Ventilation System SRR to address the function of control room isolation on high auxiliary building radiation. Further review has determined that the control room is not isolated on high radiation and as such this function is not applicable. This item is closed.
- h. (Closed) Open Item (346/85039-11): This item concerned a commitment to revise Abnormal Operating Procedure AB 1203.26 to include the disconnect switch installed by Facility Change Request FCR 84-0183 to isolate the Emergency Diesel Generator control circuits. Revision 6 to the procedure has been approved which revises Attachment 13 to include the operation of the disconnect switch. During the review of this revision the inspector noted that the identification number of the disconnect switch was left blank in the procedure. The licensee has corrected this discrepancy by a typographical change to the procedure. This item is considered closed.
- i. (Open) Open Item (346/85039-12): This item concerned a problem identified in the testing of the motor-driven feed pump in TP 850.03. During the troubleshooting for this test, the licensee identified that the suction strainer for the feed pump was not installed. Licensee investigation determined that adequate controls for the turnover of systems for functional testing did not exist. A

Functional Test Prerequisite Check List was developed and instituted on a temporary basis for all FCRs in process until a formal change to the Nuclear Mission Procedures (NMP) could be implemented. Nuclear Facility Engineering Procedure NFEP-010, will be revised to include the temporary checklist and delineate the responsibilities and actions required in the process of developing, reviewing and approving a FCR by the Nuclear Facilities Engineering Department (NFED). This item will remain open pending the development of this procedure.

- j. (Closed) Unresolved Item (346/85039-13): This item concerned a broken roll pin that was discovered in breaker HBBF-4 during the performance of step 6.2.9 of PT 5103.02, "13.8KV Bus B Lockout Test," which was performed by TP 850.12. Test personnel determined that the broken pin was a "common nail." The nail was used to replace the plug handle retaining pin (roll pin). Due to the use of the incorrect replacement part, the excess length of the nail prevented the proper operation of the control power plug. Test personnel documented this deficiency, initiated corrective action and proceeded with further testing. A Maintenance Work Order (MWO) was initiated to replace the nail with the correct replacement part. Subsequently, the licensee has reviewed the work history of breaker HBBF-4 for the last five years and has not been able to specifically identify when the nail could have been installed. As further corrective action, the licensee conducted a maintenance walkdown and inspection of all 13.8 KV and 4160 KV breakers to determine if any further examples of improper roll pins were in use. No further examples were identified.

An additional concern was identified by the inspector as a result of this problem. The inspector identified that the corrective actions initiated by the licensee for this deficiency and the subsequent generic investigations prompted by their review of this deficiency were not timely due to the delay in reviewing the test deficiency. Test deficiencies identified during the conduct of testing are documented for later review and evaluation by the Joint Test Group (JTG). Due to the time required for the completion of the remainder of the test procedure and the delay in the review of the test results by the JTG, a significant time period may pass before the test deficiency and the associated corrective actions are reviewed by the JTG. This resulted in delaying the corrective actions and subsequent investigation conducted by the licensee for similar uses of improper roll pins in this case, and has the potential for delaying similar corrective actions in other cases. The licensee has responded to this concern by implementing Restart Administrative Instruction RAI-4, "Resolution of Test Deficiencies." RAI-4 requires that test personnel inform the Shift Test Coordinator, Shift Supervisor or Test Manager of all test deficiencies whenever a test is completed or suspended. In this manner, the appropriate licensee management will be informed of all test deficiencies which may require additional engineering assistance. Based on the corrective actions taken in response to this concern and on the actions taken to resolve the use of a common nail in breaker HBBF-4, the inspector considers this item closed.

- k. (Open) Open Item (346/85039-14): This item concerned a problem with Technical Specification Surveillance Requirement 4.7.9.1.1 in that the fire pump suppression pool pressure was incorrectly specified to be less than or equal to 95 psig. The correct values should be greater than or equal to 95 psig. The licensee indicated that a Technical Specification revision would be submitted on June 1, 1986. This item will remain open pending this submittal.

There are five previous open items and one new open item identified in this section of the report which will require further licensee action to resolve. There were no violations identified in this section of the report.

3. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following Licensee Event Reports (LERs) were reviewed to determine that the reportability requirements were fulfilled; immediate corrective action was accomplished; and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications.

- a. (Open) LER 86-012, Lack of Venting HPI System High Point in Containment. During the review of the High Pressure Injection (HPI) System as part of the System Review and Test Program (SRTP), it was determined that the HPI System discharge piping high point vents (HP-75, HP-77 and HP-81) were omitted from the surveillance procedure. Prior to July 1980, the venting of HPI System discharge piping high point vents was required to be performed on a monthly surveillance frequency. However, due to the inaccessibility of the vent valves inside of containment during power operations, the surveillance requirement was not performed. Technical Specification 4.5.2b was revised in July 1980 by License Amendment 25, to require that the HPI System discharge piping high point vents be vented every 18 months or prior to operation after ECCS piping has been drained. Following the revision in July 1980 to change the surveillance periodicity, Surveillance Procedure ST 5051.11, "Venting Emergency Core Cooling System Surveillance Test," was not revised to include venting valves HP-75, HP-77 and HP-81. The omission was due to lack of an adequate detail review of the surveillance procedure.

The report indicates that there is no safety significance to the lack of venting of the high point vents based on a Bechtel Corporation evaluation of the mechanical effects on the piping downstream of normally closed valves HP-2B, HP-2C and HP-2D, as referenced in FSAR Questions and Answers p5.5.1-1. When requested, this evaluation was not available for review by the inspector. The licensee is in the process of obtaining this information from the Bechtel Corporation. The report also states that there is no reason to suspect that the discharge piping was void of water during operations. ST 5051.04, "ECCS Subsystem Refueling Test," which was performed on an

eighteen month schedule, established forward flow through the discharge lines and had the effect of filling the lines. Although ST 5051.04 would effectively ensure that the discharge lines were not voided, the inspector remains concerned that the LER does not address the safety consequences of the delay in the injection time for High Pressure Injection water to reach the core in the event of a LOCA. The injection time will be increased if the piping downstream of the normally closed injection valves is assumed to be drained. The licensee has been requested to address this concern in a revision to the LER. This will be followed as an unresolved item pending the inspector's receipt and review of the Bechtel Corporation evaluation and the revision of the LER to address the additional safety concern (346/86009-02).

- b. (Open) LER 86-014, Inadequate Auxiliary Feed Pump Turbine Steam Generator Level Control Functional Testing. During the review of the Auxiliary Feedwater System Test Procedure Outline, AFW-TPO-10, prepared as part of the SRTP, it was determined that the existing plant functional testing on the Auxiliary Feedwater Pump Turbine (AFPT) Steam Generator (SG) Level Control System is inadequate. The report states that Technical Specification Surveillance Requirement 4.7.1.2c requires a monthly channel functional test of the AFPT SG Level Control System when in modes 1, 2 and 3. Surveillance Test ST 5071.04, "Auxiliary Feedwater System Channel Functional Test," does not ensure that the level control system is tested with SG levels both above and below the level setpoint. With SG levels above the setpoint, the AFPT speed is required to be reduced and with SG levels below the setpoint, the AFPT speed is required to be increased. Based on the condition of the SG levels at the time the surveillance is performed, SG levels above or below the SG setpoint will be tested, but not both. Both conditions cannot be tested because test circuitry necessary to simulate both a high and low SG level is not available. This LER will remain open pending the licensee's action to modify the test circuitry of the AFPT SG Level Control System to permit full testing of the system on a monthly basis as required. This condition has existed since the plant entered Mode 3 on July 24, 1977 and was identified by the SRTP March 12, 1986.

A similar occurrence in which the Surveillance Test, ST 5071.04, was identified to be inadequate was identified in LER 78-108 on November 28, 1978. This report indicated that the surveillance requirement of Technical Specification 4.7.1.2c to test the AFPT SG Level Control System was not included in the surveillance test due to an inadequate technical review. Therefore, this is the second occurrence in which the Technical Specification surveillance requirement to test the AFPT SG Level Control System has been missed due to an inadequate review of the implementing surveillance test procedures.

Failure to comply with Technical Specification 4.7.1.2c due to an inadequate surveillance procedure is a violation (346/86009-03).

There was one violation and one unresolved item identified in this section of the report which will require further licensee action to resolve.

4. SRTP Program Implementation

With respect to the implementation of the SRTP that TED has identified in their COA, the inspector's reviewed the procedural requirements; interviewed licensee personnel performing the SRTP process; reviewed the System Review Reports (SRRs) and associated documentation in order to determine if licensee personnel were conforming to the program requirements and providing the documentation required to support the conclusions of the review process; and attended IPRC and JTG meetings to examine the licensee's process for evaluating System Review Reports and developing test procedures. The inspectors identified the following concerns with respect to this review:

- a. With respect to the review of SRTP-001, "System Review and Test Procedure Administrative Control Procedure," the inspector identified the following concern. SRTP-001 delineates, in part, the responsibilities of individuals and groups associated with the performance and implementation of the SRTP. These procedures ensure that the SRTP is completed in a consistent, organized manner. As an addendum to SRTP-001, the charter for the operation of the Independent Process Review Committee (IPRC) has been provided. In accordance with this charter, the IPRC meeting minutes are required to be prepared, reviewed and concurred with by the IPRC within one week of a meeting. The inspector was concerned that IPRC meeting minutes had not been provided from November 15, 1985, until the inspector questioned this omission in April, 1986. The licensee has indicated that the omission was an oversight and has since provided approved IPRC meeting minutes for all meetings up to April 15, 1986, and has committed to providing additional meeting minutes as they are approved. The inspector's concern is based on the use of the IPRC meeting minutes as a method in which to monitor the activities of the IPRC and therefore the approval of the SRTP System Review Reports. Without these minutes an independent audit of the performance of the IPRC cannot be performed. This item will be followed as an open item pending the inspector's review of the IPRC meeting minutes from November 15, 1985, to the present and the continued receipt of these minutes (346/86009-04).
- b. With respect to the review of SRTP-005, "Guideline for Test Review," the inspector identified the following concern. SRTP-005 delineates, in part, the responsibilities and the methods for developing test procedures to demonstrate functions determined to prove a function important to safe plant operations. Existing surveillance test procedures are reviewed and used to the maximum extent possible. In the process of reviewing these test procedures, deficiencies have been identified which require revisions to the existing surveillance procedures. After the IPRC has reviewed and approved the System Review Report (SRR) which describes the required changes to the

existing surveillance procedures, a method did not exist to ensure that these changes were implemented prior to the performance of the surveillance test. In response to this concern, the licensee has implemented a method of tracking the revision of the surveillance test initially reviewed by the IPRC and the revision of the surveillance test actually performed. This information is provided in a weekly test procedure status report. In addition, the IPRC has implemented a separate checklist of all the required changes to the surveillance tests as approved by the IPRC, which will be used by the IPRC in the process of their approval of test results. This checklist has also been provided to the system reviewers for their information. The inspector is satisfied that this concern has been adequately addressed.

- c. With respect to the review of Administrative Procedure AD 1801.00.06, "Station Modification Acceptance Test Program," the inspector identified the following concern. AD 1801.00.06 delineates in part, the responsibilities and procedures for the execution of test procedures. SRTP-001 states in Section F that this administrative procedure is applicable for the test program performed in accordance with the SRTP unless specifically modified by the SRTP administrative procedures. Section 5.2.2 of AD 1801.00.06 requires that the Test Leader maintain a Chronological Log of the significant steps and unusual occurrences during the test. This log is required to be sufficient in detail so that events during the test can be reconstructed and evaluated after the test.

In the process of developing test procedures to demonstrate functions determined important to safe plant operations, the licensee has elected to utilize the existing station surveillance and periodic test procedures to the maximum extent possible. For those surveillance tests where minor or no changes are required to be made prior to performance, the licensee will perform the testing using the station operating personnel and in accordance with the requirements for surveillance testing delineated in Administrative Procedure AD 1838.02, "Performance of Surveillance and Periodic Tests." However, AD 1838.02 does not require the test personnel to maintain a Chronological Log. The inspector is concerned that without a log the events during the test cannot be reconstructed and evaluated after the test and therefore the adequacy of the test results cannot be determined. The licensee has indicated that the Test Deficiency List and the Shift Supervisor's Log will contain some of the information necessary to reconstruct the test, however this information is not available for the Joint Test Group (JTG) to review in the process of approving the test results and is considered inadequate to meet these needs. In response to this concern, the licensee indicated that a Chronological Log will be required for the performance of existing periodic testing performed in the SRTP. The licensee is in the process of formalizing the requirements for this procedure. This item will be followed as an unresolved item pending the licensee's development and implementation of this procedure (346/86009-05).

- d. With respect to the review of Administrative Procedure AD 1805.00, "Procedure Preparation, Review, Approval and Revision," the inspector identified the following concern. AD 1805.00 requires in Section 6.5 that a safety evaluation be performed to establish whether an Unreviewed Safety Question exists during the development of station procedures. The safety evaluation is performed in accordance with AD 1845.01, "Safety Review and Evaluation Preparation." Both of these administrative procedures have recently been revised to include the requirement that a safety evaluation be specifically performed during the development of each test procedure in the SRTP. The inspector was concerned that a safety evaluation was performed for each of the test procedures developed prior to the issuance of these revisions. In response to this concern, the licensee has initiated a review to ensure that a safety evaluation was performed for each test procedure developed. This audit indicates that a safety evaluation had been performed for all but two of the SRTP test procedures. The inspector will follow this as an open item pending the receipt and evaluation of the licensee's review (346/86039-06).
- e. With respect to the review of the licensee's overall test program the inspector identified the following concern. Due to the failure of Main Coolant Pump (MCP) shafts at another facility, the licensee performed ultrasonic inspections to determine if a similar problem existed with their MCP shafts. These inspections have indicated that possibly three MCP shafts have some degree of cracking. The licensee has elected to replace one shaft with an available spare shaft and proceed with hot functional testing of the plant while additional replacement shafts are obtained. The inspector was concerned that a safety evaluation addressing the potential for a MCP shaft shear and the associated safety concerns, should be performed in accordance with Administrative Procedure AD 1805.00 for each of the tests to be performed during the hot functional testing. The licensee is presently developing a safety analysis to address this concern. This item will be followed as an open item pending the inspector's receipt and evaluation of this analysis (346/86009-07).

There were three open items and one unresolved item identified in this section of the report which will require further action by the licensee to resolve. There were no violations identified in this section of the report.

5. SRTP System Review Reports

The inspectors reviewed the following System Review Reports (SRRs) and associated Appendix A Test Review Reports, which document the results of the system reviews, the corrective actions plans, the implementation schedule of corrective actions, the list of system functions and the associated testing required to demonstrate these functional capabilities. The review verified that the implementation schedule for the corrective action plans was consistent with the guidance of SRTP-004, and that

sufficient testing was identified to demonstrate the functional capabilities of the system in the anticipated modes of operation.

- High Pressure Injection System
- Decay Heat Removal System
- 125/250 VDC System
- Safety Features Actuation System
- Security System
- Station Fire Protection System
- Component Cooling Water System
- Main Feedwater System

With respect to the review of the Station Fire Protection System SRR, the inspector identified that the emergency lighting function of the Fire Protection System was not addressed as a function important to safe plant operation. The licensee has indicated that the Emergency Lighting System was considered to be a separate system which was not included in the systems important to safe plant operation reviewed in the SRTP. This position has been discussed with NRR and is considered acceptable.

The inspector has no unresolved questions or concerns and no violations or deviations were identified in this section of the report.

6. SRTP Test Procedure Review

The inspectors reviewed the following Technical Specification required surveillance testing, periodic testing and one time performance testing which were utilized to verify the functional operability of the systems. This review verified that the test procedures adequately demonstrated the functional capabilities of the system in their anticipated operating conditions to the maximum extent practicable; were reviewed and approved by the appropriate management personnel; and contained appropriate acceptance criteria.

- TP 850.06, "ARTS Lamp Check"
- TP 850.12, "Integrated Electrical Testing"
- TP 850.12, "480 V Unit Sub-Station Live Transfer (PT 5105.01)"
- TP 850.23, "Containment Spray System 57% Valve Test"
- TP 850.48, "Auxiliary Feed Pump Turbine Admission Valve Cold Test"
- TP 850.55, "Containment Normal HVAC Performance Test"
- TP 850.59, "Component Cooling Pump Room Ventilation Test"
- TP 850.65, "Auxiliary Feedwater Steam Line Break Alarm"
- TP 850.83, "Anticipatory Reactor Protection System Logic Verification"
- TP 850.86, "Nitrogen System / RCS Leakage Test-HAFA"
- TP 850.88, "H2 Gas Trailer Supply"
- TP 850.90, "Condenser Vacuum Discharge Radiation Monitor Flow Test"
- TP 850.96, "AFW Pump Room Ventilation"
- TP 851.01, "Decay Heat Valve Pit Level Alarm Test"

TP 851.02, "DH-49 Check Valve Test (ST 50151.10)"
 TP 851.05, "Reactor Polar Crane Load Trip"
 TP 851.21, "DH-9A(B) Open Operational Check"
 TP 851.23, "Cross Tie of MCC E11B and F11A"
 TP 851.24, "RCS Vent Path Operability (ST5031.19)"
 TP 851.25, "MU-33 Valve Opening Delta-P"
 ST 5031.03, "Containment Pressure to SFAS Channel Calibration"
 ST 5031.04, "Containment Radiation Monitor input to SFAS
 Channel Calibration"
 ST 5031.05, "BWST Level Input to SFAS Channel Calibration"
 ST 5075.01, "Service Water System Monthly Test"
 ST 5075.02, "Service Water System Refueling Test"

With respect to the review of TP 850.90, the inspector was concerned that sufficient operating precautions were not provided for the Condenser Vacuum Pumps in System Procedure SP 1104.35, to prevent the operation of both vacuum pumps simultaneously. Facility Change Request FCR 85-217, implemented a change intended to eliminate a nuisance alarm which commonly occurred when switching from one pump to another. As a result of this FCR, if both pumps are run simultaneously, the low and high flow alarms on the downstream radiation monitor will be blocked. Based on this concern, the licensee has added a procedural precaution to SP 1104.35 and mounted a placard near the controls for the pumps warning of this operational limitation. The inspector has no further concerns in this area.

There were no unresolved or open items and no violations or deviations were identified in this section of the report.

7. SRTP Test Procedure Witnessing

The inspectors observed the following Technical Specification required surveillance testing, periodic testing and one time performance testing which were performed to verify the functional operability of the systems. This review verified that the testing was performed in accordance with approved procedures; limiting conditions for operation were met; and that deficiencies encountered during the performance of the procedure were adequately documented and resolved prior to proceeding.

TP 850.20, "ICS/MFW Integrated Test"
 TP 850.37, "EDG 1-1 Air Start Test"
 TP 850.50, "Auxiliary Feedwater Pump Turbine Overspeed Test"
 TP 850.41, "CCW CRD Booster Pump Trouble Alarm"
 TP 850.52, "Auxiliary Feedwater System Test (ST 5071.01)"
 TP 850.55, "Containment Normal HVAC Performance Test"
 TP 850.60, "Main Feed Pump Turbine Drain System"
 TP 850.59, "Component Cooling Pump Room Ventilation Test"
 TP 850.75, "Control Room EVS HVAC Performance Test"
 TP 850.84, "Makeup Valves Air System Integrity Test"
 TP 850.86, "Nitrogen System / RCS Valve Leakage Test"
 TP 851.05, "Reactor Polar Crane Load Trip"
 TP 851.24, "RCS Vent Path Operability"

TP 851.25, "MU-33 Valve Opening Delta P"
ST 5011.04, "Boric Acid Inj Flowpath Pump Test"
ST 5031.03, "Containment Pressure to SFAS Channel Calibration"
ST 5031.04, "Containment Radiation Monitor Input to SFAS
Channel Calibration"
ST 5075.01, "Service Water System Monthly Test"
ST 5075.02, "Service Water System Refueling Test"

- a. With respect to the observation of TP 850.55, the inspector witnessed the performance of step 7.1 for train 1 and noted that the procedure was incorrect in two instances. Breaker BF-2322 for the control room air handling unit was incorrectly specified in the procedure as BF-2332 due to an incorrect station operating procedure. In addition, the test specified the incorrect positions for air dampers HV-5300A, HV-5300B and HV-5306. Both errors were identified and corrected by the test personnel prior to the performance of the test procedure. The inspector has no further concerns.
- b. With respect to the observation of TP 850.59, the inspector noted on February 25 and 26, 1986, that the hydromotor actuators for ventilation dampers on both trains of the Component Cooling Water (CCW) Pump Room Ventilation System did not operate properly. On March 6, 1986, the inspector observed that the train 2 ventilation dampers, HV-5443A and HV-5443B, did not open when required and after manual positioning did not fully close when actuated. Test personnel initiated test deficiencies as required. Further investigation by the inspector has determined that Deviation Reports (DVRs) 86-017 and 86-028 were initiated on January 22, 1986, and February 9, 1986, to require the repair of the hydromotor actuators of the ventilation dampers for both ventilation trains. These DVRs had initially indicated that the CCW Pump Room Ventilation System was inoperable due to the failure of these components and that this was a reportable occurrence. On February 10, 1986, this conclusion was revised based on the system engineer's assumption that the CCW Pump Room Ventilation System would still provide adequate cooling. The DVRs were annotated with this information and the reportability requirement deleted.

On April 17, 1986, the inspector questioned the operability of the CCW system based on the hydromotor actuator failures. The CCW System Review Report indicates that the CCW Pump Room has two safety related ventilation trains and that with the failure of either train, the associated CCW pump and cooling train is considered inoperable. System Procedure SP 1104.12.16, indicates that the ventilation dampers modulate to control room temperature and that the CCW Pump Room cannot be maintained below the required temperature if both ventilation trains are lost. The loss of both trains is not considered a credible event and is not postulated in the safety analysis. Therefore, based on the failure of the hydromotor actuators in both trains of the CCW Pump Room Ventilation System, the inspector believed that both trains of the CCW Pump Room Ventilation System and therefore both trains of the CCW System were inoperable.

Based on this concern, the licensee initiated DVR 86-081 on April 17, 1986. This DVR indicates that due to component failures in the hydromotor actuators, the CCW Pump Room and Emergency Diesel Generator Ventilation Systems were determined to be inoperable. The DVR also indicates that a 10 CFR Part 21 report on the failure of the hydromotor actuators is required. In addition, the licensee notified Region III of the potential 10 CFR Part 21 report concerning the hydromotor actuators on April 18, 1986, and followed this notification with a letter dated April 30, 1986, from Williams to Kepler. The licensee is presently investigating the extent of the hydromotor failures and the associated effects on equipment operability. This item will be followed as an unresolved item pending the completion of this investigation and issuance of the LER and 10 CFR Part 21 Report (346/86009-08).

- c. With respect to the observation of ST 5075.01, the inspector witnessed the performance of step 8.2.6 which obtained vibration readings for Service Water (SW) Pump 1-3. Vibration readings were observed to reach the alert category and the pump was taken out of service because of the increased vibrations. Subsequent to this testing, on March 9, 1986, SW Pump 1-1 received a low discharge pressure alarm, pump motor currents dropped from 63 to 20 amps and the pump motor coasted down for 5 minutes. This behavior is indicative of pump shaft shear or impeller detachment. The licensee is currently investigating the failure of SW Pump 1-1. This item will be followed as a part of the test results review.
- d. With respect to the observation of ST 5075.02, the inspector witnessed the verification that each automatic valve in the flow path actuates to its required position and each Service Water (SW) Pump starts automatically on receipt of an SFAS signal for SW Pumps 1-2 and 1-3. SW Pump 1-1 could not be tested due to the apparent failure of the pump shaft discussed in Section 7.c.

One unresolved item which will require action by the licensee to resolve was identified in this section of the report. No violations or deviations were identified.

8. SRTP Test Results Review

The inspectors reviewed the following Technical Specification required surveillance testing, periodic testing and one time performance testing which were performed to verify the functional operability of the systems. The review verified that the licensee is performing an adequate evaluation of test results; that all test data is either within previously established acceptance criteria or that deviations are properly documented and evaluated; and that test results are reviewed, evaluated and approved by the appropriate management personnel.

TP 850.01, "RPS Response Time Calculations"
TP 850.06, "ARTS Lamp Test Circuitry Check"

- a. With respect to the results review of TP 850.01, the inspector has not completed the review. The results of this effort will be documented in a later inspection report.
- b. With respect to the results review of TP 850.06, the inspector noted that a permanent jumper is planned to be added to the Anticipatory Reactor Trip System (ARTS) circuitry to prevent a trip if the Test Trip Bypass Switch (TTBS) is placed in the Spare position. The inspector is concerned with what the effects will be on the ARTS if the TTBS is placed in the Spare position following this modification. This will be followed as an open item pending the inspector's evaluation (346/86009-09).

There was one open item which will require additional effort by the inspector identified in this section of the report. No violations or deviations were identified.

9. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of NRC or licensee or both. Open items identified during the inspection are discussed in Sections 2.c, 4.a, 4.d, 4.e and 8.b.

10. Unresolved Items

An unresolved item is a matter about which more information is required in order to ascertain whether it is an acceptable item, an open item, a deviation, or a violation. Unresolved items identified during the inspection are discussed in Sections 3.a, 4.c, and 7.b.

11. Exit Interview

The inspector met with licensee representatives (denoted in Section 1) throughout the inspection period and at the conclusion of the inspection on May 9, 1986, and summarized the scope and findings of the inspection activities. The licensee acknowledged the findings. After discussions with the licensee, the inspector determined there is no proprietary information contained in this inspection report.