U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 87-16

Docket No. 50-410

License No. NPF-54

Licensee: Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Facility: Nine Mile Point, Units 1 and 2

Location: Scriba, New York

Dates: June 1, 1987 to June 12, 1987

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Inspection Summary:

Areas Inspected: Special Operational Readiness Team inspection conducted by both resident and region-based inspectors as well as an NRC consultant and project manager. The inspection evaluated routine low power operations, testing, training, and maintenance and assessed the licensee's readiness for full power operations. The inspection involved 632 hours by the inspectors including four days of around-the-clock coverage including all shifts on Saturday and Sunday, June 6 and 7, 1987.

Results: Overall the inspection team found that licensed activities were being conducted in a safe manner and that the licensee would be ready for full power operations upon completion of testing and issuance of the full power license. One violation was identified regarding operating the feedwater system outside the bounds of approved procedures (paragraph 7.5.3); and one unresolved item was identified regarding the licensee's policy of allowing validation of portions of licensed operator requalification (paragraph 6.1.1).. A summary of significant strengths and weaknesses is also included in paragraphs 1.1 and 1.2 respectively.

TABLE OF CONTENTS

1.0 Inspection Summary, Strengths and Weaknesses

The team found that plant hardware and licensee management programs were adequate to support full power operations at the conclusion of the startup test program. Management attention to the plant was evident during the inspection period, dealing effectively with routine power ascension program problems.

1.1 Significant Licensee Strengths

The following significant strengths were noted:

- Licensed and nonlicensed operators were knowledgeable, deliberate, and exhibited a clear sense of responsibility.
- Management control over radiological controls was aggressive and effective.
- QA surveillance over operations was evident and included shift coverage.
- Plant equipment was clearly identified with tags and important safety instruments were appropriately protected with cages.
- Surveillance test schedules were actively used and trusted by the operators.
- Security personnel were alert and fully checked identification badges before issuing them.
- Operators were observed doing a thorough drywell closeout tour.
- The site operations review committee (SORC) focused on safety and the technical aspects of problems.
- Management was effective in resolving problems in the power ascension program. Although the feedwater thermal stratification problem was not resolved initially because management was not made aware of the problem, subsequent actions were effective.
- Safety-related fuses that had been temporarily removed from equipment were clearly identified and properly controlled.

1.2 Significant Licensee Weaknesses

Several categories of weaknesses in licensee programs and activities were noted.

1.2.1 Management Oversight

Although plant management personnel were frequently observed in the control room and plant, their presence and oversight of inplant activities was not always effective in identifying and correcting problems. Specific examples below are discussed in detail elsewhere herein.

- Control of formality, operating atmosphere and distraction in the control room. (3.2) (9.5) *
- Control of operator overtime per Technical Specifications. (3.1)
- Control of integration of temporary procedure changes into procedures. (3.8)
- Control of temporary scaffolding over/near safety related and Seismic I permanent equipment. (3.9)
- Control and identification of temporary modifications (jumpers and lifted leads). (3.8)
- Control of operator aids (temporary labels, drawings, etc.) (3.8)
- Control of watertight doors. (3.9)
- Control of loose equipment in plant. (3.9)

1.2.2 Management Followup and Corrective Actions

The following examples represent apparent weaknesses in licensee followup to previously identified problems:

- Corrective action for late occurrence reports and licensee event reports was not supplemented per Vice President's written direction. (9.4)
- Site Operations Review Committee (SORC) open action items are not promptly closed (several years old). (9.3)
- Nuclear Safety Review and Audit Board audit reports are not submitted to the Vice President, Nuclear Operations in a timely fashion. (9.3)

* Numbers in parentheses indicate paragraph where details are provided.

1.2.3 Training

Several examples of weaknesses in personnel training were identified:

- Management responses to operator training questions are not timely. (6.1.1)
- Health Physics and Shift Supervisors were unaware of a procedure for control of high radiation area keys although procedure had been in effect for 2-1/2 months. (8.1.7)
- Operators were unfamiliar with procedures and could not locate keys for emergency equipment boxes throughout the plant. (3.9) (6.3)

1.2.4 Other Weak Policies

The following are general observations of practices which appear to detract from optimum licensee performance.

- No written background/chronology was provided for SORC review of a rather complex feedwater system thermal stratification problem. (9.3)
- Lifted leads in electrical equipment are not required to be tagged or otherwise physically marked at the wire location. (3.9)
- A licensee consultant is functioning in a line, middle management role but does not have specific responsibilities, and authorities prescribed. (9.5)
- Procedures for testing and operating Emergency Diesel Generators do not include logging operating parameters. (3.6)
- No procedure exists for recording the running time of Standby Gas Treatment and Control Room Ventilation System filters which have Technical Specification time limits. (3.6)

2.0 Inspection Purpose and Scope

2.1 Purpose

The purpose of this inspection was to assess the licensee's readiness for full power operations. During the inspection period, the licensee was authorized to operate the facility at up to 5% of rated

thermal power. Recent NRC Systematic Assessment of Licensee Performance findings included a recommendation that this inspection be conducted after initial criticality and prior to NRC issuance of a full power license.

2.2 Inspection Team

The inspection team consisted of an NRC manager as team leader, eight NRC inspectors, one NRC consultant and one NRR licensing project manager. The team included senior resident inspectors from Regions I and III, an operator license examiner, a test programs specialist and a health physics specialist.

2.3 Scope

The inspection consisted of observation of licensee activities and review of licensee program implementation in the following general areas:

- Plant Operations Activities
- Maintenance Activities
- Engineering and Technical Support
- Surveillance and Inservice Testing
- Quality Assurance and Quality Control
- Training and Training Effectiveness
- Safety Review
- Operations Management Oversight
- Radiation Protection
- Fire Protection
- Startup Test Program Management
- Security Program Implementation, and
- Licensee Action on Previous Findings

The inspection included around-the-clock coverage of shift operations by three teams of two inspectors from June 4 - 8, 1987.

In each area inspected, the licensee's programs and procedures were reviewed for general conformance to regulatory requirements and implementation. Observation of licensee activities was emphasized. Activities observed, documents reviewed, licensee meetings attended and areas toured are listed in Attachment 2 of this report.

3.0 Operations Activities

3.1 Shift Staffing

Shift staffing was reviewed against staffing requirements of the Technical Specifications and against potential special needs associated with Unit operational readiness. Shift staffing is in compliance and at this time the licensee is staffing in excess of the normal compliment due to the large workload involved with the startup program. The administrative workload on the operating crew has been greatly reduced by the creation and manning of a shift clerk position. At this time, the shift clerk is a temporary position and may be deleted in the future.

Staff working hours controls for the Operations Department were reviewed and found to be consistent with established standards. A review of documented working hours for selected operators showed overtime levels to be within acceptable limits, although high overtime levels were common up to a few weeks prior to this inspection.

A potential problem was noted in this area in that overtime controls are exercised via a scheduling system which takes these limits into account. However, personnel are apparently free to trade off overtime assignments among themselves, and the practice is fairly common. The potential thereby exists for this relatively unsupervised practice to result in an operator inadvertently volunteering for excessive working hours by substituting for another. The licensee has a program in place which audits overtime worked by monitoring individual time cards. While this program would identify any instances of allowable hours being exceeded, it would only do so after the fact. In addressing these concerns raised by the inspectors, the licensee has issued a memorandum to plant personnel stating management policy which prohibits unauthorized swapping of assigned overtime hours.

3.2 Control Room Discipline

Control room access is restricted, requiring authorization for entry into the control area. Likewise, access to the Station Shift Supervisor is regulated, and, during prescribed shift turnover times, prohibited. Exceptions were operations staff members, including equipment operators, who have their central standby area at the east end of the room. Because the equipment operator standby area is in the control room, and because of the generally heightened interest in activities being conducted from the control room during this

inspection, having a total of 15 or more people in the control room simultaneously, and up to thirty people during turnover, was not unusual.

Control room operations were observed through a spectrum of shifts and Unit operating conditions:

- Shift operating and supervisory personnel displayed a sensitivity to the need for continuous, unimpeded visual and physical access to their control panels. A twin stack of radio equipment currently impedes viewing of the central panels from the office of the Station Shift Supervisor (SSS) and his assistant. Response to annunciators was typically timely, with focused attention on any item not immediately understood.

- The large number of personnel present in the control room at shift turnover creates, despite the relatively large size of the room, a rather high noise level, with a significant contribution from numerous equipment operator turnovers. The SSS and his assistant conduct turnover to their respective reliefs behind closed doors in relative quiet.

- Communications among and between operators in the plant and in the control room were clear and concise. Heavy reliance on a two-way radio system posed little observable difficulty. PA-type broadcasts through the plant were not used for routine or trivial communications.

- While control room activities were conducted in a professional manner by those individuals assigned to the area, implementation of access control and control room layout have reduced the formal atmosphere of the control area.

- Access to controlled drawings is necessary for the conduct of control room day-to-day business; however placement of the drawing racks inside at the controls area has greatly increased the traffic flow in this area. Instrument and Control technicians, personnel preparing markups, General Electric Company engineers and off shift operations personnel have been observed inside at the controls area in order to gain access to these drawings.

- Establishment of a break area behind the fire protection cabinets on the east end of the controls area creates additional traffic through the controls area. Auxiliary operators routinely transverse the controls area to gain access to this area. This increased traffic and the increase in background noise reduce the formal atmosphere in the control room.

- Security personnel while on rounds and when responding to door alarms routinely enter at the controls area without permission of the CSO.

In response to the teams observations in this area, the licensee has issued a memorandum to all personnel that require control room access on a routine basis. The licensee has also moved the auxiliary operator break area to a location outside the control room and has initiated actions to better define the controls area with rope barriers and posts. Implementation of the instructions contained in this memo and continued management attention in this area will be necessary to address this weakness.

3.3 Annunciators and Off Normal Response

Operator awareness of control room annunciators was generally good with the inspector noting that, with few exceptions, the on-shift personnel were cognizant and responsive to off normal annunciators.

While operator response to annunciators received during normal plant operations was prompt and appropriate, operator response to annunciators received during the performance of surveillance testing was not always adequate. During the performance of surveillance testing on the Division III diesel generator and the Standby Gas Treatment System, annunciators were received that were not properly addressed by the individual performing the surveillance. In both instances, acknowledgement and follow-up to the received alarms was taken only after the inspectors questioned the individuals about the alarm. The inspection team believes that this insensitivity to surveillance generated annunciators is a weakness that could cause a detrimental effect on plant systems and components.

The licensee's performance in this area improved during the course of the inspection.

3.4 Attentiveness to Plant Conditions and Activities

The team conducted observation of control room activities throughout the period of the inspection and noted that operator awareness and knowledge of ongoing activities was very good.

- Operators performing startup activities were attentive to the activity at hand and did not allow themselves to be distracted.

- Review of procedures before the conduct of an evolution, especially for nonroutine activities, was thorough and in depth.

- Expected plant/system response to operator manipulation was discussed between on-shift personnel prior to actuation and indications were monitored to verify that response. In only one observed instance did response appear to be outside the

expected indications and the operators were quick to react to the situation.

- Operator attentiveness during reactivity manipulations was noted and the licensee's use of an independent verifier is good.

- Overall plant knowledge by individuals questioned appears to be very good. On-shift personnel have extensive experience and (coupled with the plant knowledge level) the result is a strong on-shift staff.

3.5 Shift Turnover and System Status

The team monitored shift turnovers to identify whether the operators were aware of the plant conditions, equipment status, limiting conditions for operations and shift staffing. Turnovers were generally thorough and operators were well aware of plant conditions when complete. Reviews of the equipment status log, shift logs, equipment markups, night order book and panel walkdowns were completed by all personnel observed. The practices of having personnel read and understand major TCNs, plant modifications and temporary procedures and having the CSO complete a rounds sheet on control room instrumentation prior to shift relief are a strength.

3.6 Logs and Records

Review of available logs and records was conducted to assess clarity, utility, comprehensiveness and compliance with licensee procedures.

Review of the CSO and SSS logs showed that entries were generally clear and concise and contained sufficient information to establish what activities and events occurred during the shift. Logs are kept by the Radiation Protection Section and Chemistry Section concerning on-shift events, and review of these logs showed consistent recording of activities. Personnel responsible for logkeeping activities are aware of the importance of accurate, detailed records of shift activities and the logs are evidence of this awareness.

The recently developed Lessons Learned Log appeared to be a promising tool for timely distribution of a variety of information concerning pertinent events at Nine Mile Point or elsewhere.

The team also reviewed operations records for implementation of the Operator Aid procedure, Temporary Modification procedure, operator timesheets and run times for Standby Gas Treatment. Records kept in these areas were generally good. However, a weakness in the review and follow-up of these records was noted and is discussed in detail in Section 3.8.

Audits of selected Technical Specifications (TS) were performed to ensure understanding and compliance with TS. With one exception, compliance was evident and individual understanding of TS was adequate. The requirement for charcoal sampling of filter beds for Standby Gas Treatment System and Control Room Emergency Ventilation System requires that a record of operating hours be kept. It was not initially evident that these records were being kept and although the records were eventually produced, there is no documentation which delineates responsibility in this case.

During the running of the Division III diesel generator for surveillance testing it was noted that no written logs are taken during the diesel operation. The operating procedure N2-OP-100B for this diesel contains a section for operating checks, however this information is not recorded. In addition, these operating checks do not include a check of the diesel cylinder temperatures during operation. No logs are taken on the Division I and II diesel generators when they are operated either. The technical manual for the Division I and II diesel recommends that logs be taken and reviewed to recognize deteriorating trends. The licensee stated that operating logs for the diesels will be taken in the future.

3.7 Safety Tagging and System Valve Lineups

Review of safety tagging and valve lineup programs by the team discovered no weaknesses and concluded that implementation of these programs is a strength. The use of a single licensed individual to prepare markups during day shift relieves the operating crew of this additional administrative burden and is a good practice. An additional strength identified by the team is the positive control of fuses removed by markups and replacement fuses.

- Walkdowns of the low pressure core spray system and a partial walkdown of the service water system identified no deviation from required positions as outlined in the valve lineup sheets.

- In-plant labeling of systems and components was comprehensive and concise. The team feels that this program is a strength and that incorporation of Operator Aids into the permanent labeling program will further enhance ease of plant operations.

3.8 Procedure Controls and Adherence

A variety of procedures or other instructions was reviewed and in selected cases was discussed with licensee personnel. The reviews and discussions were oriented towards determinations concerning clarity, utility, comprehensiveness, consistency and/or technical adequacy.

System operating procedures were found to be available at selected control panels/stations in the plant. In at least two instances, these procedures (which are "controlled" documents) were found with associated Temporary Change Notices (TCNs) attached but not integrated into the procedure. This is not contrary to the licensee's requirements for posting TCNs, but it reduces the useability of the procedure if too many TCNs accumulate without integration. Discussions with licensee representatives indicated a sensitivity to the potential for confusion, but they retained a preference for dealing with situations on a case basis rather than developing generic criteria. In response to the team's concerns in the area of TCN integration into the procedure body, the licensee has retrained the personnel responsible for the incorporation in the desired method and has integrated all TCNs into their respective procedures. In a separate matter (see Paragraph 3.9) some apparently uncontrolled drawings, prints or schematic diagrams were noted in some locations.

One procedure (N2-OP-22A "Turbine Generator Lube Oil System") was found to lack three recent (all since May 24, 1987) Temporary Change Notices (TCNs) at the controlled copy posted at the associated local turbine building control panel. This is contrary to the intent of procedural control requirements (AP-2.0, Paragraph 10.2) that no unmarked or superseded copies of procedures be used. The licensee was informed of this and updated the local control panel copy. The placement of controlled procedures at local control stations is a recent licensee action and was performed without first establishing controls to ensure that field controlled documents were updated continually. In response to the team's concerns in this area, the licensee has updated AP 2.0, Production and Control of Procedures, and has updated all field controlled documents.

A review of Control Room copies of a number of procedures showed that TCNs were not being accumulated on these documents without integration.

Selected instructions in the form of Standing Orders were reviewed. Standing Order No. 11 (N2-50-11) entitled "Control of Operator Aids" addresses means for review, approval and issuance of "operator aid" information. These instructions appeared to be closely followed for operator aids posted in the main control room, with a single exception. The exception was an advisory concerning bad cabling to a pair of radiation monitors, adversely affecting their reliability. Several examples were noted at locations outside the main control room, however, involving operator aids not controlled (reviewed, approved, documented) as prescribed by Standing Order No. 11. In response to this observation, the licensee conducted a survey to identify unauthorized operator aids and either eliminate them from use or include them in the formal system. The licensee has corrected those aids identified, however plant staff personnel still appear to be developing aids without using the plant procedure. Management has issued a memorandum for the plant staff which includes a copy of

Standing Order 11 and management's position that this procedure must be adhered to.

Standing Order 3.8.3 "Five Percent Power Limit Compliance" describes a potential brief transient above five percent power, should such an event occur due to equipment problems, as not being in violation of the intent of the License limit. The Standing Order was silent, however, concerning reportability; a matter the licensee agreed to evaluate.

The licensee conducts reviews of all records/programs on a periodic basis and although the team found that the reviews were being conducted in a timely manner, effectiveness of these reviews appears to be weak. Quarterly reviews of the Temporary Modification log identified in December 1986 that records were missing for five temporary modifications, however these problems had not been rectified. Review of the operator aid program only verifies installed aids but does not make a sweep of plant areas to identify unauthorized aids. The licensee's immediate actions to identify known deficiencies in both programs is complete and reviews of these programs will additionally be conducted by the Quality Assurance department in the future.

3.9 Plant Tours

Tours of the reactor building, turbine building, radwaste building and control building were conducted for assessment of plant and equipment material conditions and operational performance or readiness. Some tours were in company with operations staff while others were independent.

Equipment was, in general, found to be adequately identifiable, with clearly legible tags affixed to most components. Some tags are color-coded by "train" association.

- Protective cages have been constructed around selected sensitive instrumentation. Several tours in various areas early in the inspection, however, noted a variety of wheeled carts, tool boxes, and storage cabinets which were not properly stored or secured. The licensee had addressed the need to control items of this type in a Site Services Memorandum (SSM) dated March 20, 1987 (No. NO60-0022) which established controls to assure that operating equipment would be protected. Upon discussion of the matter with licensee representatives on June 2 (prior to plant startup on June 5) the licensee conducted a survey throughout the plant and stored, blocked or otherwise properly secured items found not conforming to the SSM. Follow-up tours by NRC inspectors noted no further apparent problems with the exception of gas bottles stored in the Reactor Building. The team expressed its concern that the presence of gas bottles in the reactor building could constitute a missile hazard if the bottles are not stored in a permanent rack. The licensee has

acknowledged this concern and is conducting an engineering evaluation to determine the safety impact of the temporary storage now in practice.

- In a related matter, the inspector noted no special demarcations in use to create "keep clear" zones in immediate proximity to operating panels, breakers, motor control centers or like locations. An exception is fire protection equipment located throughout the plant. Licensee representatives indicated their practices have proved satisfactory in application in Unit 1 over many years.

- During follow-up of missing records for jumpers and lifted leads, the inspectors noted that the licensee does not identify (tag or label) the lead which is lifted at the field location. This is considered a weakness. The licensee stated that there was not much room to attach labels, and the labels were only temporary.

- In several areas, penetrations were noted through walls or the floor which raised questions of integrity under the fire protection plan. The licensee investigated the items in question and determined none of the items were contrary to fire protection requirements. In two cases, the penetrations were open, but the barriers through which they penetrated proved not to be credited as fire barriers under the plan.

- A number of water-tight doors were noted in various locations throughout the plant. Discussions with the operations department staff indicated that no mechanism had been established to assure design separation and flooding protection (against postulated line breaks) would be continuously maintained. Pending possible further evaluation to precisely establish which doors need regular verification, the licensee commenced shiftwise checks of door integrity for hot, pressurized plant conditions.

- As noted in Paragraph 3.8 above, schematic diagrams, drawings or prints were observed in various plant locations. In several cases, these apparently uncontrolled documents were construction or vendor drawings reposed in small bins attached to breaker or motor control center cabinets. A sweep of numerous areas to collect such items was conducted in concert with the survey to store, block or secure loose items as discussed above.

- During a drywell tour on June 6, the inspector noted aluminum blocks (travel stops) secured to many piping spring hangers with hand-twisted wire. The blocks (approximately 2" x 3" x 1/2") are used to block the spring hangers in place for system hydrostatic testing etc. The wire loops used to secure the blocks were, in several cases, made of very malleable wire and only loosely secured.

The inspector requested the licensee to review the acceptability of the condition with respect to creating missile or debris hazards during high energy line break (and similar) accident scenarios.

The licensee provided excerpts of Specification NMP2-P301P, Field Fabrication and Erection of Pipe Supports, Revision 4, which specified that the travel stops be permanently stored as described above. Further, the NMPC Licensing Engineer advised that the matter had been referred to NMPC Engineering with the conclusion that this configuration is similar to other analyzed configurations (e.g., equipment qualification metal identification tags) and does not present a credible hazard.

The inspector acknowledged the above and advised the licensee that, notwithstanding the lack of safety implications as concluded above, some of the stops are very loosely secured such that the blocks will come loose with very light contact and could become lost or adrift in the drywell resulting in future ALARA and lost parts (availability) considerations.

- During plant heatup on June 7-8, Annunciator 601/537, "ADS Valves/Safety Valves Leaking" was continuously annunciated. The alarm function is generated from circuits which include Temperature Recorder B22-R614 which monitors the eighteen SRV tailpipe temperature elements and two main steam drain line temperatures.

The alarm was caused by alarm conditions for the steam line drain temperature setpoints being less than the normal steaming temperature of the lines. The licensee indicated that the annunciator was equipped with reflash capability (subsequent alarms would re-annunciate).

The inspector requested confirmation that this condition had been previously identified and included in the licensee's corrective action systems. Problem Report No. 06913, dated May 27, 1987, was provided the inspector on June 9. The Problem Report recommended removal of the drain line alarm function from the annunciator. No engineering disposition was available at the close of the inspection. The inspector had no further questions on this matter.

During a plant tour of the Emergency Diesel Generators, the inspector observed scaffolding above the air receiver tanks in the Division II, Emergency Diesel Generator room. A scaffolding request form was attached to the scaffolding which indicated the approval to construct the scaffolding. The request form indicated no engineering review was required to determine if a safety evaluation was necessary. Upon questioning by the inspector, the licensee determined the scaffolding was not properly authorized and removed it. The inspector questioned

what guidelines or basis is used to determine when an engineering evaluation was required prior to erecting scaffolding. The inspector was informed that no procedure currently controlled the approval and construction of scaffolding. The licensee began drafting a procedure for controlling temporary scaffolding.

The inspector accompanied an Assistant Shift Supervisor on a drywell tour prior to final drywell closeout during the first week of the inspection. The operator appeared to do a careful, thorough check of equipment during the tour. He promptly reported problems to the shift supervisor.

Following the tour, the inspector noted that onshift operations personnel did not know how to open Emergency Operating Procedure (EOP) lockers in the reactor building. These lockers contained hoses and fittings that could be used to connect the fire water system to the residual heat removal (RHR) system, providing a backup method to inject water into the reactor. At the time of this finding, control room personnel believed that they were responsible to make the system connections but were not sure how and where the connections should be made. Subsequently, the licensee modified their procedures to identify the key to the EOP lockers and specify that operations personnel in conjunction with the site fire brigade would be responsible for making the connection. Night orders were issued which required that onshift operations personnel be promptly trained in the modified procedures. In addition, the licensee indicated that these changes would be incorporated into the operator training and requalification program.

The EOPs for an Anticipated Transient Without Scram (ATWS) required that operators hook up a designated hydro pump to the supply tank for the Standby Liquid Control (SLC) system and use the pump to put boron solution into the reactor. However, the operators did not know where the designated pump was located. Subsequently, the licensee found that no pump had been placed in the reactor building for this application. A pump was placed near the supply tank, tagged, and chained in place with a break away lock. The operating procedure was modified to indicate the proper key to the lock and night orders were issued to train operations personnel on the equipment. In addition, the licensee stated that the changes would be incorporated into the operator training and requalification program.

In light of the operator's lack of familiarity with this EOP equipment, the inspector questioned the adequacy of EOP training. The licensee acknowledged this problem and indicated the EOP training would be reviewed and appropriate corrective actions taken.

4.0 Maintenance and Technical Support

The inspector reviewed site administrative controls, conducted interviews with maintenance, planning, technical services, and engineering personnel, reviewed records, and observed work in progress to determine whether the licensee is implementing an effective program for maintenance and technical support activities.

4.1 Maintenance Management and Organization

The Site Superintendent Maintenance, Nuclear is responsible for electrical, mechanical and structural maintenance. The Technical Superintendent, Nuclear is responsible for instrumentation and controls maintenance.

Each unit at the Nine Mile Point Station has its own dedicated staff for each discipline. Within the unit staff, a supervisor is designated to report to the department superintendent for administrative matters and technical support, and functionally to the Station Superintendent for day-to-day activities. Station administrative procedure, AP 5.2, Unit 2 Procedure for Repair, describes the program for corrective maintenance of structures, systems, and components including identifying, establishing priorities, authorizing, scheduling, performing, and documenting the activities. The Work Tracking System (WTS) is a computerized system utilized to track and document all corrective maintenance, modifications, and problem reports. The system is capable of providing adequate status reports for effective management oversight of the program.

4.2 Maintenance Procedures and Programs

4.2.1 Planning of Work Requests

Work Requests (WR) can be initiated by any member of the plant staff to perform corrective maintenance. The preprinted form is completed providing all the necessary information and approvals to perform the maintenance activity. Only a Senior Licensed Operator can approve safety related work requests. The WR form also documents the required post work testing required and applicable procedures. Upon completion of the WR form, the WR is entered into the WTS and assigned a priority.

Each morning a meeting is held with department planning representatives and station management to discuss progress and emphasize importance of key work requests. This meeting is very effective for directing and controlling the high priority work requests. Problems are uncovered and resolution sought. Personnel attending the meeting are knowledgeable and prepared to discuss ongoing work. It is evident from this meeting that high priority WRs are being aggressively pursued.

The WR system is an effective tool for identifying, correcting, testing and returning equipment to service. The form used assures that the required approvals, notifications and support for the maintenance such as markups or radiation work permits are obtained. The WTS provides an excellent tracking and historical data file for corrective maintenance. The computerized system provides many search options for review of both completed and pending work.

The inspector found the planning of routine work activities by the work request meeting and abilities of the WTS to be a strength. The inspector also noted the total number of open work requests is about 1100 which has been reduced by several hundred over the past several months. This backlog of work requests is considered to be low and reflects the attitude discussed above.

4.2.2 Preventive Maintenance Program

The inspector reviewed site administrative procedure AP 8.1, Preventive Maintenance, and interviewed personnel involved with the development and implementation of the Preventive Maintenance (PM) program.

The PM program is controlled by each department responsible for plant equipment. A master schedule was developed and is maintained on a plant computer system. The program contains an extensive data base of preventive maintenance which was developed considering vendor recommendations, regulatory requirements and operating experience. The planning department provides a schedule of preventive maintenance activities to each department and each department completes the activities and updates the master schedule through the scheduling department. Preventive maintenance activities which can not be worked must be approved by the department superintendent prior to the item being deferred.

The inspector found the program to be adequately controlled to assure the proper preventive maintenance of equipment is conducted.

4.3 Review of Work Activities

4.3.1 Review of Completed Work Requests

The inspector reviewed recently completed, safety-related Work Requests (WR) for evidence of proper planning and conduct of work and QA/QC involvement. The inspector reviewed the WRs to determine if the administrative procedures established in procedure AP 5.2 had been followed.

For all of the WRs sampled, procedural controls for authorization and documentation were verified to have been adequately followed. In all cases, each WR clearly documented the problem and job description, quality requirements, and actual work accomplished. The completed WRs included the required administrative approvals; documentation of functional testing and calibration prior to returning the equipment, and documentation for parts and materials used. No unacceptable conditions were noted.

4.3.2 Observation of Maintenance Activities

The inspectors observed portions of selected safety-related corrective maintenance activities to ascertain that these maintenance activities were being conducted in accordance with approved administrative and maintenance procedures, Technical Specifications, and appropriate vendor documents. During the observation, the inspector verified that: the required administrative approvals and tagouts were obtained prior to initiating the work; approved procedures were being used; the procedures used were adequate to control the activity; activities were being accomplished by qualified personnel; radiological controls were properly implemented; and replacement parts were properly certified.

The following work activities were observed:

- WR 120142 Replace and recalibrate the Reactor Water Cleanup System suction flow transmitter.
- WR 120187 Troubleshoot leaking/lifting relief valve on Nitrogen supply for Automatic Depressurization System.
- WR 110828 Troubleshoot and repair blown fuses on 2B Uninterruptable Power Supply.
- WR 120147 Repair of Safety Relief Valve 129 acoustic monitor.
- MWR Installation of globe valve in Reactor Water Cleanup system.

4.4 Engineering and Technical Support

The inspector reviewed the organizations which supply the plant with engineering or technical support. The technical support group contains about six engineers with diverse experience who provide special project support, assist in implementing modifications and procedure writing. The Site Services Support group provides engineering support for modifications and design work.

The architect engineer maintains an engineering organization which directly supports the licensee.

Plant modifications are controlled by site administrative procedure AP-6.1, Procedure for Modification and Addition - Unit 2. The inspector reviewed the procedure and discussed the implementation of the program with engineering personnel.

The inspector reviewed the modification process for modification 122, the addition of a manual throttle valve on the Reactor Water Cleanup Blowdown line. The basis for this modification is discussed in Section 7.5.2. This review included the development of the modification from the modification request through the installation and documentation of the modification including the safety evaluation. The inspector determined that all activities were conducted in accordance with the station procedure and were adequate for proper implementation of this modification.

In addition, the inspector observed engineering support to resolve other technical issues such as the feedwater stratification and main steam line flow indication problems. Engineering support actively pursued resolution of these issues by reviewing all possible solutions and exhibiting a conservative approach. The licensee demonstrated a clear understanding of these technical issues and took appropriate corrective actions.

4.5 Interface with Operations

AP 5.2 Unit 2 procedure for repair directs the control of work activities. This procedure requires the interaction of all departments required to perform maintenance with the operations department for the control of the plant equipment. The inspector observed and discussed the coordination of maintenance activities between the operators and individuals conducting maintenance. The inspector found very good cooperation between these organizations. Maintenance personnel are supportive of the operating staff in timely resolution of equipment problems, and there are good communications between departments in resolving problems.

5.0 Surveillance Program Management

5.1 Surveillance Program

The Surveillance Program was reviewed, on a sampling basis, to confirm that surveillance and test activities required by Technical Specifications (TS) were adequately addressed. The administrative procedures listed in Attachment 2 were reviewed with respect to the TS, the NMPC QA Program, and relevant USNRC Regulatory Guides and national concensus standards applicable to TS Surveillance Testing: AP-3.7, 4.0, 8.0, 8.2, 8.3, 8.4, and 8.7.

The procedures listed above collectively addressed overall conduct of the program including assignment of responsibilities; development, approval, and validation of procedures, scheduling of surveillances; conduct of testing and inspection activities; review and trend analysis of test results; disposition of identified deficiencies; NRC reporting requirements; and, periodic management review of program activities. The procedures identified interface relationships between organizational units and specified discrete responsibilities and authorities for each.

No violations were identified.

5.2 Program Implementation

Program implementation was reviewed by a combination of document review and observation of in process surveillance testing as discussed in Section 5.3 below.

Implementation of various elements of the administrative procedures listed in Section 5.1 above was confirmed by review of the surveillance procedures listed in Attachment 2, Section 3. The procedures were also compared to the applicable TS, verifying that the procedures functionally demonstrated compliance with the TS. Surveillance performance dates were reviewed to verify conformance with TS Surveillance Frequency Requirements and, where indicated, performance of testing was observed.

Certain TS require that Surveillance Requirements be satisfied as prerequisites to changes in Operational Conditions or other plant evolutions. The licensee has included such requirements in the Operating Procedures governing the operational activities. OP 101A, Plant Startup, was reviewed, confirming that the the Surveillance Requirements pertinent to startup were included or referenced for performance in the proper sequence. TS requirements for the Rod Sequence Control, Rod Worth Minimizer, Reactor Core Isolation Cooling, RCS Pressure Temperature Limits, and Neutron Monitoring were verified.

No violations were identified.

Except as noted below, all inspector questions regarding the procedures and data were acceptably resolved.

The inspector noted that the March 28, 1987 performance of OSP-CSL-Q002, included inservice testing of LPCI Pump miniflow recirculation line check valve 2CSL*V9. The test, performed pursuant to TS 4.0.5 and the ASME Boiler and Pressure Vessel Code, Section XI, Article IWV-3520, Inservice Testing for Valves, requires that valve V9 be exercised in the reverse flow direction, verifying that the valve disc moves to the closed position.

The above test accomplishes this by pressurizing the downstream side of the valve and observing for excessive flow on the upstream side of the valve via an open tap.

Section 7.2.26 of the procedure states that observation of "minimal or no flow from" the open tap verifies that the valve is closed under reverse flow pressure, satisfying the TS and IST requirements. The procedure step includes checkoff blocks for "zero flow", "minimal", "moderate", and "excessive" flow. These criteria were not defined nor quantified by the procedure. Neither Section 8.6, Acceptance Criteria, nor Attachment 2, Valve Data Sheet, include quantitative acceptance criteria but require the performer to check a block indicating satisfactory or unsatisfactory test results.

For the March 28 test performance, Section 7.2.26 was checked to indicate "moderate" flow from the tap, appearing to indicate an unsatisfactory test. Section 8.6, Attachment 2 and the procedure review and approval sections were all signed off indicating satisfactory test performance.

The matter was referred to the Superintendent, Operations, for resolution. The test performers were interviewed, determining that the flow observed from the test tap was minimal, clearly indicating that valve V9 had seated. The ambiguity of and lack of objective or quantitative criteria had resulted in the performers and reviewers misreading and misapplying the procedure.

The Superintendent, Operations, advised the inspector that: 1) the March 28 test was considered acceptable, but 2) this and three other corresponding procedures for LPCS/LPCI pump testing would be revised to clarify and quantify acceptance criteria, 3) the above test would be scheduled for reperformance using the new criteria.

A "one time only" Temporary Change Notice (TCN) was issued on June 6, 1987 which provided a quantitative method of valve position determination (leakage collection and measurement). This method would be validated during the next performance of the test and, if successful, would be incorporated permanently into the affected procedures. The licensee's actions and plans in this regard appear acceptable.

5.3 Observations

The inspectors observed in process performance of the surveillance activities as noted in Attachment 2, Section 3. The observations included: proper use of current procedures, personnel qualifications, conformance of procedures with TS and administrative control requirements, calibration and condition of measuring and test equipment, coordination with concurrent plant operations, communications between test locations and the control room operators, and acceptability of test data.

On June 6, OSP-RMC-004, Rod Sequence Control System Operability Test, and-003, Rod Worth Minimizer Operability Test, were observed by the inspector. The shift crew performing the tests were clearly doing so for the first time. They proceeded quite slowly after carefully reviewing the procedures but still did not appear sure what system responses to expect from the test action steps. The test was satisfactorily performed.

ISP-CMT-SA-003, Airlock Operability Test, was performed and observed by the inspector on June 6. This test satisfies TS 4.6.1.3.b.1 for an overall air leakage test each six months and was performed following repairs to the outer door equalizing valve. Initially, the licensee was unsure whether the testing of TS 4.6.1.3.a for the door seal only was also required to be performed. The latter test (ISP-CNT-0002) was subsequently successfully completed demonstrating that removal and installation of the inner door strongbacks had not adversely affected the inner door seals.

During a review of surveillance test procedure (N2-OPS-ICS-R002), Reactor Core Isolation Cooling (RCIC) System Flow Test, the inspector questioned the adequacy of the surveillance test to determine RCIC operability. The RCIC system is designed to automatically supply 600 gpm of makeup water to the reactor vessel if the level reaches a low level setpoint. The RCIC controller is normally set at 600 gpm in automatic. In this mode of operation, discharge flow is sensed and provides a signal to the turbine governor to control the desired flow. In the manual mode, the output signal is controlled using pushbuttons on the controller with no feedback signal from the discharge flow.

The inspector review of the RCIC system flow test found that the test is performed with the flow controller in manual. Therefore the feedback function of the automatic controller is not tested. This test was performed to meet Technical Specification surveillance requirement 4.7.4.c.2 which requires verification that the system can develop a flow of 600 gpm when reactor steam pressure is 150 psig.

The inspector reviewed surveillance tests N2-OSP-ICS-Q001, RCIC Pump and Valve Operability Test and System Integrity Test, and N2-OSP-ICS-R001, RCIC System Functional Test, which are used to meet TS 4.7.4.6 and 4.7.4.C.1 respectively. TS 4.7.4.6 requires a quarterly verification that the RCIC pump provides at least 600 gpm with a reactor vessel operating pressure of 1000 psig. N2-OSP-ICS-Q001 is run the same as N2-OSP-ICS-R002 in that the pump controller is controlling in manual throughout the test. TS 4.7.4.C.1 requires a system functional test which includes simulated automatic actuation and restart, and verification of the automatic actuation of valves in the flowpath. N2-OSP-ICS-R001 is run such that steam never enters the turbine, and the turbine is not actually run.

None of the surveillances described above test the RCIC system ability to start and control flow in automatic. The licensee made a temporary change to N2-OSP-ICS-R002 which after manually starting the RCIC system switches the controller to automatic and increases system flow with the controller in automatic. The licensee will conduct RCIC quick starts as part of the startup program in addition to RCIC tuning which is planned for early in the startup test program. The licensee is also considering changes to surveillance test for future quick start testing.

5.4 Interface with Operations

AP-8.2, Surveillance Testing and Inspection Program assigns responsibilities for surveillance activities to various plant departments and groups, including operations, mechanical and electrical maintenance, instrumentation & control, chemistry, radiation protection, fire protection, etc.

The inspector reviewed interdepartmental coordination of these activities as they affect conformance to TS surveillance frequency requirements (scheduling); control of performance of multiple, concurrent tests and their effect on plant conditions; staff communications; flow of completed surveillance results to cognizant management; and disposition of unacceptable surveillance results.

Test scheduling is accomplished via a computerized system which is sensitive to TS frequency limits and automatically reschedules surveillance activities based on date of last performance and the TSs. Typically, the computer generated schedule is reviewed at weekly scheduling meetings, is then revised and distributed to the cognizant departments, and is manually maintained current in the control room between new issues.

The scheduling system is in place and functional but is undergoing continuing debugging. Several minor errors in scheduling data information were noted, identified to the licensee and corrected.

The scheduling process is not proceduralized but is in place as a management information system tool. The licensee is taking measures to ensure the integrity of the system. For example, a test is not officially noted as complete and rescheduled until the planning and scheduling group is notified in writing by a QA Level II qualified individual responsible for acceptance of the test results.

The inspectors reviewed schedule conformance with respect to TS frequency requirements, finding them acceptable.

Coordination among the departments and with control room operations were observed periodically throughout the inspection. The routine level of coordination for test scheduling, release for performance, control of testing and plant conditions, and restoration of test conditions was acceptable.

Completed surveillance documents are reviewed by departmental management, copies are retained in the respective departments, and original records are periodically shipped for archival storage.

Irregularities or anomalies in test documentation were consistently identified and corrected by the review process; examples of test reperformance to confirm acceptable surveillance results were noted. No unidentified, anomalous test results were found by the inspector and with the exception of OSP-CSL-Q002, discussed above, the supervisory test data review process appeared effective.

Storage facilities in the Operations Department were observed, noting that original test data is stored in fire rated cabinets pending copying and/or forwarding to archives.

6.0 Effectiveness of Training

6.1 Licensed Operators

The Licensed Operator Training Program is outlined in the NMP Training Procedure NTP-11 and has received INPO accreditation. To evaluate the effectiveness of the program, the inspector attended training lectures, observed simulator training given, and interviewed Operators and Senior Operators. The inspector also conducted interviews with training supervisors and instructors to discuss the progress of program development towards a practical performance based training approach to reinforce classroom training. The inspector reviewed ten (10) Operator and Senior Operator training records to verify compliance to Section 5 of NTP-11, (documentation). Discussions were held with licensee operators both in training and onshift.

As a team, the inspectors observed on shift SSS and ASSS Senior Operators using and conforming to Technical Specification issues. This was evident during the (4) four days of shift observation. During this period observation of T.S. compliance was considered for the following operational conditions:

- Failed Nuclear Instrumentation during criticality.
- Failed Main Steam Line temperature detector.
- Standby Gas Treatment System operation and subsequent alarm failures.
- Reactor Water Cleanup System isolations.
- RCIC system operability and subsequent failure of automatic operation.

- HPCS operability (72 hr. LCO) during investigation of a pipe snubber maintenance activity, and

- ADS acoustic monitor operability.

6.1.1 Observations

Classroom training appeared to be effective. Instructor preparation was good and the lesson plan content was complete. The depth of knowledge being presented was adequate and student participation was encouraged.

One area of concern was noted by the inspector. The Technical Specification interpretations of two operational conditions for the RCIC system were discussed and not resolved. These interpretations had been addressed during previous lectures and were not resolved. The inspector discussed this problem with training supervision immediately following the lecture.

The formal mechanism for resolving these issues is the issuance of a Training Modification Request form (TMR), however this problem was not addressed using this form and had been left unresolved for several weeks. The NMP training department took immediate corrective action to obtain clarification from licensing and inform all training and onshift personnel. The inspector discussed the need for immediate feedback and resolution of safety related questions with training supervision. The simulator training observed appeared to be content valid covering required control manipulations and recent LERs.

One area of concern was discussed with Training Supervision. There was an abnormally high number of students participating in the simulator scenarios (eight). This created confusion for shift responsibilities and communication. This problem was corrected by training supervision immediately following discussion with the inspector.

Interviews with licensee personnel indicated that the training program has improved over the past year. The simulator has been modified to more closely represent the actual plant configurations. Most operators feel that more training is needed for both the classroom and simulator if NRC administered requalification examinations are going to be required for renewal of licenses.

The inspector had one concern from reviewing the license training program, NTP-11. License personnel, who score 80% or better in each category of the annual written examination, are exempt from attending lectures on those

categories until the next annual examination (Section 4.1.4 of NTP-11). This policy of "testing out" does not appear to be consistent with the intent of the continuing training requirements outlined in 10 CFR 55.53 and 55.59 effective May 26, 1987. The inspector noted that most licensed personnel are attending requalification training every five weeks and participating in required lectures on EOPs and mitigation of core damage, however the balance of systems and procedural training are not all required.

The purpose of an annual comprehensive examination is to identify those individual and generic weaknesses, develop training on the identified weaknesses, and restructure the following cycles of continuing training to correct the training deficiencies. The annual examination is not intended to exempt individuals from continuing training.

An NRC licensed Operator and Senior Operator requalification examination is scheduled for the week of July 7, 1987. Twenty (20) percent of the licensed personnel are scheduled to participate in the examinations. Further, licensed operator training program evaluation will be determined following the results of this evaluation.

The acceptability of the licensee's "testing out" is considered unresolved with respect to the criteria in 10 CFR 55 (50-410/87-16-01).

6.2 Nonlicensed Staff Training

Technical Manager Training is outlined in NTP-8 (Training for Technical Staff and Managers). The first cycle of training for the NMP-2 Technical staff (5 weeks) has just been recently completed.

NTP-8 outlines the various levels of management, required training, responsibilities and program evaluation. Continued training is conducted every five weeks and attendance has been almost 100%. At the present time, it is too early to determine the effectiveness of the training received, although discussions with several technical staff personnel has produced positive feedback.

6.2.1 Maintenance Training

The Nuclear Training Procedures (NTP) were reviewed for Electrical/Mechanical maintenance and Instrument and Control Technician training. The inspector reviewed the training evaluation and feedback forms from lectures and laboratory assignments conducted over the past year. Positive feedback from students and corrective actions taken on deficiencies (via TMR - Training Modification Request) indicated an ongoing commitment to high quality.

Several, on shift, I&C technicians and auxiliary operators were interviewed to determine program effectiveness. Feedback from these interviews was very positive with only one exception noted. One I&C technician felt that the initial training received was a repeat of his college instruction and more time could have been spent in the instrument and control laboratory training.

Maintenance and Surveillance activities were observed by inspectors. Equipment repair and troubleshooting techniques were observed to be conducted professionally and in accordance with approved procedures. This was evident during the repair of the RWCU suction flow transmitter, installation of a manual valve on the RWCU system and numerous I&C surveillance calibration procedures.

6.3 Knowledge of Equipment, Policies, Technical Specifications

The inspectors observed Operators/Senior Operators, Maintenance, I&C, Health Physics, Chemistry and Technical Staff on four (4) days of consecutive shift rotation. The following observations were made:

- Operators use of procedures was good.
- Operations personnel had not been trained on O.I. #12, Key Control for High Radiation Area.
- Operators were not aware of responsibility or location of Keys for EOP boxes in Reactor Building. (EOP-C-6 directs operators to OP-43).
- Nonlicensed operators appeared to be familiar with inplant system location and valve lineups. This was observed by a LPCS walkdown.
- Shift supervisors and assistant shift supervisors were not incorporating procedure TCNs into the body of procedures. They were only updating the cover sheet of procedures.
- Fire protection alarms were addressed immediately by Chief Shift Operators (CSO) and were corrected promptly. The CSO is responsible for notifying the onsite Fire Brigade. This responsibility could impact on the CSOs operational duties due to the number of "sensitive" area alarms received.
- The NRC inspection team noted several instances of control room alarms not being responded to in a timely manner. This finding does not explicitly represent a training deficiency although the lack of attention to detail was contributed by the noise level and activities in the control room at that time.

- The inspectors noted that the Operators and Senior Operators were unaware of the location of the dedicated Hydro-Pump in the reactor building. Emergency Operating Procedures direct the installation of this pump during RPV level and power control. This is a second instance of the Operators and the Senior Operators unaware of location and responsibility for inplant equipment during emergency shutdown conditions (see also Section 3.9).

- Both Operators and Senior Operators conducted Shift Turnovers in a thorough and professional manner. Time was spent reviewing CSO and SSS logs, system walkdowns and power ascension test status.

- Several inspectors noted that the operators were very cautious performing "first time" surveillance tests and that, when questioned, were not sure of system response. This was evident during the RCIC operability test and during the special tests being conducted on the Reactor Water Cleanup System and Feedwater System.

  Although Operator system knowledge was good on normal system operation, the operators felt that special tests and abnormal system lineups were the responsibility of the onsite test engineering group.

6.4 Feedback on Operating Experience

The inspector reviewed the procedure for factoring industry events and operating experience back into the licensed training program. This action is being conducted via the Training Modification Request Form, Lessons Learned Log, and night orders.

The effectiveness of this effort was determined by interviewing operators, shift supervisors, and reviewing selected LERs generated by NMP-2 during fuel loading. The inspector concluded that the method being used was acceptable, however the timeliness of feedback into the licensed operator training program was determined to be a weakness.

During observation of simulator training exercises it was noted that specific training was conducted on LERs that had been generated, as a result of operator error, during fuel loading.

Discussions with licensed personnel indicated that they were kept informed of current industry and NMP-2 operational events.

Observation Summary

The NTPs and lesson plans have been developed and implemented for all disciplines.

The licensed operator continuing training is being conducted every five weeks. Simulator use is maximized. Technical Specifications are being used during simulator scenarios.

Operators are very concerned about random NRC requalification examinations versus the amount and depth of training received to keep current in all aspects of knowledge competencies.

Performance observed by all inspectors during operational events and testing indicated a high degree of responsibility and compliance with procedures.

Input from all inspectors indicated quality performance by support groups during plant modifications and maintenance activities.

Discussions with Nuclear Training staff personnel indicated sufficient staffing to conduct training programs. Contractor support to conduct Operator License programs is still being actively used. Emphasis should be placed on integrating experienced Nine Mile Point instructors into the Operator Licensing programs.

7.0 Power Ascension Test Program (PATP) Management

7.1 References

- Regulatory Guide 1.68, Revision 2, August 1978 "Initial Test Program for Water Cooled Nuclear Power Plants."
- ANSI N18.7-1976 "Administrative Controls and Quality Assurance for Operations Phase of Nuclear Power Plants."
- Nine Mile Point Unit 2 (NMP-2) Technical Specification, Revision 0, October 31, 1986.
- NMP-2 Final Safety Analysis Report (FSAR), Chapter 14, "Initial Test Program"
- NMP-2 Safety Evaluation Report
- NMP-2 AP-1.4, Startup Test Phase, Revision 3.

7.2 Overall Power Ascension Test Program

The inspector held discussions with the Power Ascension Manager (PAM), the Lead Startup Test, Design and Analysis (STD&A) Engineer and other members of the PATP staff to assess the status of low power testing, the test results evaluation process, and preparation and approval of test procedures. In addition, the inspector attended the daily power ascension management meetings and Station Operations Review Committee (SORC) meetings involving the PATP.

On May 31, 1987, power ascension testing was halted, and the reactor was shutdown to facilitate correction of deficiencies of drywell seismic restraints identified during the performance of Power Ascension Test N2-SUT-78-HU, BOP System Expansion (discussed in Section 7.4). During the shutdown, the licensee also addressed several other problems identified during initial low power operation up to a reactor pressure of 140 psig (see discussion in Section 7.5). The licensee has completed four low power tests and the test results are undergoing detailed review prior to presentation to SORC and the General Superintendent for acceptance. The inspector verified that the review process was in accordance with applicable administrative procedures. All test procedures required for testing through Test Condition 2 (approximately 50% rated thermal power) have been formally reviewed and approved with the exception of N2-SUT-31-2, Loss of Turbine Generator and Offsite Power, which has been delayed to allow modifications due to the MSIV replacement. With few exceptions, the balance of the required PATP procedures to support testing to rated power and flow have been issued.

7.3 Power Ascension Test Procedure Review

Scope

The procedures listed in Attachment 2 were reviewed for conformance with the requirements and guidelines of the references listed in Section 7.1 and the attributes previously defined in NRC Inspection Report No. 50-410/86-38.

Discussion

The procedures reviewed were found to be acceptable. Four of these procedures (identified by an asterisk) were revisions of previously reviewed procedures which reflect an ongoing licensee followup review of issued procedures.

Findings

No deficiencies were identified.

7.4 Power Ascension Test Results Evaluation

Scope

The Power Ascension Test Results of N2-SUT-78-HU, BOP System Expansion, which was still in progress during this inspection, were evaluated for the attributes identified in NRC Inspection Report 50-410/86-64.

Discussion

N2-SUT-78-HU, BOP System Expansion, is performed throughout the initial heatup from ambient conditions to rated temperature to assess the response of various piping systems during thermal expansion. The completed testing conducted between ambient conditions and a reactor pressure of 140 psig (approximately 350 degrees F) identified several problems. The inspector reviewed the Test Exceptions (TEs) which documented these problems and the corrective actions taken to resolve them.

During the initial ambient temperature piping walkdown on May 17, 1987, five Level 2 TEs were identified involving snubbers with insufficient travel, incorrect spring hanger settings and instances of interferences and insufficient clearances. All identified problems were evaluated and either "accepted-as-is" or reworked prior to commencement of heatup.

On May 24, 1987, during testing at a reactor temperature of 275 degrees F, test exceptions were identified for 15 snubbers which had failed to move as predicted (TE #6 - Level 1), one hanger outside its operable range (TE #7 - Level 1) and one hanger with a potential interference (TE #8 - Level 2). Both hangers were reset and retested satisfactorily. The snubbers were evaluated, and it was determined that four snubbers were satisfactory (initial prediction movement was found to be in error) and the remaining eleven snubbers required further heatup to resolve the apparent deficiencies. To resolve TE #6, SORC authorized continued heatup but required that additional testing be performed at intermediate temperatures.

Additional testing was performed at a reactor temperature of 350 degrees F on May 28, 1987. Of the eleven snubbers identified in TE #6, six were found to be moving satisfactorily, while five did not respond as expected. These five snubbers were documented in TE #9. An evaluation determined that three of these snubbers, located on RCIC instrument lines, were acceptable since the original predictions assumed an unrealistic temperature for these lines. One snubber was determined to be acceptable when a transcription error was discovered in the predicted movement. The failure of the fifth snubber (2MSS-PSSP264A1) to move as expected was caused by binding in the horizontal direction of the adjacent vertical restraint (BZ-139BK). In addition, a similar support (BZ-139U) on the same line was found with an insufficient gap to allow further horizontal movement.

As a result of the identified restraint binding, it was decided to review and examine all similar supports. A total of 24 supports were identified, and a walkdown was performed. Six areas of potential binding were identified, and the decision was made to shutdown and cooldown the reactor to facilitate repairs. Following cold shutdown, two additional areas of potential binding were found. The eight supports were reworked during the shutdown to provide sufficient gap to allow normal thermal expansion.

On June 4, 1987, the inspector attended a SORC meeting at which the test results of N2-SUT-78-HU were discussed and the actions taken to resolve the identified test exceptions were reviewed. SORC reviewed Site Services Memorandum (SSM) N062-0047 which evaluated the pipe stress resulting from the identified binding and all rework to correct the deficiencies following this review. SORC authorized the continuation of heatup testing from the 350 degree F test plateau and required that additional monitoring of the piping systems be performed at intermediate temperatures of 400, 450, and 500 degrees F to ensure that all deficiencies have been resolved.

Findings

The inspector found that the process by which identified test deficiencies were evaluated and resolved was both thorough and comprehensive.

No violations were identified during this review.

7.5 Management and Engineering Support for Testing

Scope

The inspector followed the resolution of several problems which were encountered during the initial low power testing but which were identified outside of the formal test program. The review was performed to ensure that appropriate management and engineering support were being allotted to these items.

Discussions

The inspector selected three identified problems for review. These are discussed separately below:

1. Main Steam Line Flow Indication

   On May 26, 1987, at a reactor pressure of 48 psig, it was noted that the main steam line flow indication was greater than 20% rated flow even though power was known to be approximately 1% of rated. It was also noted that the Rod Worth Minimizer (RWM) had been automatically bypassed, as designed, by the steam flow indication of greater than 20%. The RWM is required to be operable below 20% rated power to enforce conformance with rod patterns designed to minimize rod worths and mitigate the consequences of a rod drop accident. Compensatory actions were taken, as required by Technical Specifications, for the inoperable RWM and reactor pressure was reduced to 27 psig, at which time indicated main steam line flow decreased and the RWM automatically initiated.

The decision was made to continue plant heatup, with compensatory measures for the RWM, while an engineering analysis was performed. The analysis postulated that steam, condensing in the low pressure instrument tap to the condensing chamber, was being prevented from draining back to the steam line due to the small (1/4 inch) penetration in the flow element. It was also determined that the current design of the instrument line which employs a condensing pot was not necessary when using the installed type of differential pressure transmitter. A design modification was developed which would eliminate the condensing pots and thus the problem of steam condensing in these lines. The modification will be available at the end of the low power testing phase. The inspector will evaluate this instrumentation during a future routine inspection.

2. Reactor Water Cleanup (RWCU) Blowdown Flow Indication

During initial plant heatup, erratic indication was noted for blowdown flow to the main condenser. Since RWCU blowdown flow is one input into the RWCU leak detection circuity, erratic indication has the potential to cause spurious isolations of the RWCU system. An engineering evaluation determined that the erratic indication was probably due to flashing in the flow element sensing lines caused by exposure of these lines to main condenser vacuum.

Several solutions were proposed and plant management decided to install a globe valve in the blow down line between the flow element and the main condenser to provide back-pressure at the flow element and thereby inhibit flashing. It was also determined that this would represent an interim solution, and that the permanent design would involve relocation of the flow element upstream of the blowdown flow control valve. The inspector will review the permanent solution to this problem during a future routine inspection.

3. Feedwater Line Temperature Stratification

During review of Problem Report No. 06911, dated June 1, 1987, the inspector became aware of a feedwater temperature stratification problem that was first experienced on May 24, 1987. On that date a test engineer noted that a temperature differential of approximately 60 degrees F existed between the water inside the top and bottom of the 'B' feedwater line near check valve V-104B. There was no indication of stratification in the 'A' feedwater line and it was also noted that the 'A' line was significantly cooler than the 'B' line (approximately 90 degrees F difference at check valves V-104A/B). These readings were obtained from thermocouples mounted on the feedwater lines to support the performance of test N2-BOP-15, Feedwater System Stratification, which was planned to be performed following turbine trips and reactor scrams in the Power Ascension Test Program.

The cause of the stratification was believed to be no or low feedwater flow in the 'B' line and resultant back flow of hot RWCU water in the 'B' line. Shift personnel decided to attempt to correct the problem by shutting feedwater isolation valve MOV21A, thus forcing all feedwater flow through the 'B' line. MOV21A was closed early in the morning of May 25, 1987, and was apparently successful in eventually eliminating the stratification of the 'B' line although initially the stratification got worse. At approximately 2:48 a.m. on May 25th, MOV21A was reopened, returning the feedwater system to its normal alignment.

Following the events of May 24th and 25th, test personnel began informally taking temperature data on the feedwater lines to monitor for further evidence of stratification. On May 30, 1987, stratification was noted in the 'A' feedwater line. At approximately 9:00 p.m., engineering personnel advised the shift operators to cycle the feedwater isolation valves MOV21A/B in an attempt to correct the stratification problem. At approximately 4:40 a.m. on May 31, 1987, a reactor shutdown was commenced due to unrelated problems discussed in Section 7.4 of this report. Entries in the Shift Test Supervisor's Log indicated that, between approximately 9:00 p.m. on May 30th and 4:40 a.m. on May 31st, MOV21A and MOV21B were alternately closed at approximately hourly intervals.

The inspector determined that neither operations nor test procedures existed to authorize or control the cycling of the feedwater system isolation valves to correct a temperature stratification condition. 10 CFR 50, Appendix B, Criterion XI, Test Control, requires that all testing required to demonstrate that structures, systems and components will perform satisfactorily in service be performed in accordance with written test procedures. Technical Specification 6.8 and 10 CFR 50, Appendix B, Criterion V also require implementation of approved operating procedures. The inspector also determined that a written safety evaluation was not performed, as required by 10 CFR 50.59, prior to conducting a test not described in the Safety Analysis Report to ensure that an unreviewed safety question did not exist. This is considered a violation (50-410/87-16-02).

Prior to the identification of this violation by the inspector, the plant management, in response to PR #06911, had instituted appropriate immediate corrective actions. A safety evaluation was performed to verify that an unreviewed safety question did not exist for plant operations with one feedwater line isolated. Operating procedures were modified to control this feedwater alignment and mitigate the possibility of temperature stratification; and a test procedure was developed to monitor feedwater temperature differentials, including requirements to notify operations personnel if temperature stratification were to recur and limits on maximum allowable temperature differentials.

On June 4, 1987, the inspector attended a SORC meeting at which the safety evaluation (SER #87-073, "Operating With One Feedwater Line in Service for Reactor Power Level Between 0 and 5%", dated June 4, 1987) was reviewed and at which the required test procedure (including additional monitoring points) and modified operating procedures were approved.

Finding

The inspector determined that appropriate engineering support and management attention was allotted to resolving problems identified during low power testing. One violation was identified for failure to have a written test and operating procedure and failure to perform a written safety evaluation prior to performing a test not described in the safety analysis report.

8.0 Program Implementation

8.1 Radiation Protection Program

8.1.1 General

The inspectors reviewed the adequacy, implementation, and effectiveness of selected aspects of the Radiological Controls Program. The following areas were reviewed:

- Management oversight.
- Communications.
- Organization and staffing.
- Training and qualifications.
- Procedure establishment and implementation.
- High Radiation Area Access Control.
- Contamination Control including personnel frisking.
- Status of Process, Effluent and Area Radiation Monitoring System.
- Facilities and equipment.

The licensee's performance in this area was evaluated against criteria contained in applicable Technical Specifications and procedure requirements.

8.1.2 Management Oversight

The licensee is implementing generally acceptable management oversight of the Radiological Control Programs. The principal method is via first line supervisory oversight of ongoing activities. Experienced contractors have been hired as advisers to augment the staff and provide backshift coverage. The contractors have been provided written directives about their responsibilities and are performing audits of radiological work activities in accordance with written audit checklists. Audit findings are acted on in a timely manner.

Appropriate individuals within the Radiological Control Organization meet periodically to discuss and assess current on-going activities with the Superintendent Chemistry and Radiation Protection Management. Appropriate action items are issued as needed.

The licensee has recently established and implemented a Radiological Performance Monitoring Report. The report, copies of which are provided to the General Superintendent Nuclear, provides simple graphical and detailed information relative to identified radiological deficiencies. The report is independently reviewed by the corporate radiological control group and assessed for trends.

The effectiveness of the program is also evaluated via the recently established Management Effectiveness Meeting with the Senior Vice President - Nuclear.

Since the Performance Monitoring Report and Management Effectiveness Meeting were recently established, their effectiveness has yet to be fully evaluated.

In addition to these new initiatives, the licensee is developing a Radiological Control Organization Goals Program.

No apparent weaknesses were identified.

8.1.3 Communication

The licensee is maintaining generally acceptable inter and intra-Radiological Group communications. Appropriate radiological controls personnel attend planning and briefing meetings to keep up with ongoing plans and activities. Radiological Controls personnel attend operational shift briefings on all shifts.

Log books are used to provide written information. First line Radiological Controls supervision and radiation protection technicians interchange copies of each others log books to provide for better understanding of ongoing activities.

Radiological control personnel, including technicians, provided positive comments regarding the work relations with other station groups.

One example of unclear communications between Radiological Controls Supervisors was identified. This involved release of liquids in containers from the station. The communication provided appears to supersede established chemistry procedures guidance. This matter was immediately corrected by the licensee.

8.1.4 Organization and Staffing

The Radiological Controls Organization and Staffing including personnel responsibilities is defined in appropriate station administrative procedures. A detailed organization chart is established and distributed.

The organization and staffing level was considered adequate to implement program requirements. However, two observations were identified. The Unit 1 and Unit 2 ALARA coordinator recently was terminated. His responsibilities were absorbed by the Internal Dosimetry/Respiratory Protection Supervisor. The effectiveness of this change could not be evaluated due to its recentness. The licensee is unsure as to whether this change would be permanent. Administrative procedures should be updated if so.

The licensee has submitted a Technical Specification change request to reflect a recent reorganization (splitting the combined chemistry and radiation protection group into two separate groups). However, the change is awaiting approval by the NRC.

8.1.5 Training and Qualification

The inspector reviewed the training and qualification of selected radiological controls personnel.

The licensee has assured that all individuals in responsible positions (e.g. shift radiation protection technicians) were trained or qualified through use of a training and qualification matrix prior to fuel load. Appropriate personnel are provided training in procedure changes, new procedures, and industry problems through either required reading or a formal training program.

However, one problem was identified in that appropriate personnel had not been made aware of a group of documents entitled Office Instructions. One of these instructions (e.g. High Radiation Area Key Control) contained instructions that both operations and health physics personnel were required to implement. The licensee issued the instruction as required reading.

The licensee has not yet fully established a retraining and requalification program for the radiological controls program.

8.1.6 Procedure Establishment and Implementation

The inspector reviewed the establishment and implementation of selective radiological controls procedures and programs. Procedures reviewed included those for inplant radiation surveys, radiation work permit establishment and adherence, posting of radiological controls areas, and audits.

Within the scope of the review, no deficiencies were identified. Appropriate Unit 1 radiological control procedures were established and implemented at Unit 2. The radiation work permit program was found to be implemented. The licensee was conservative and established radiation work permits for use when breeching the primary system despite low radiation/contamination. The permits were cancelled when the radiological conditions were fully determined to be minimal on system breeching.

8.1.7 High Radiation Area Control

There currently are no high radiation areas in Unit 2. However, the licensee has conservatively locked the access to those areas that are anticipated to require controls. Key card readers will not read personnel ID cards of individuals not authorized access to such areas.

The licensee controls access by a key/lock method described in procedures S-RP-1 and OI-12. Procedure OI-12 describes key control for areas greater than 10R/hr. The keys to these areas are controlled by the Station Shift Supervisor (SSS) via OI-12. However, some supervisors and their assistants were not aware of the procedure. Also, some radiation protection technicians were unaware of the procedure.

The licensee immediately initiated action to train personnel on the contents of procedure OI-12. The failure to ensure that all personnel responsible for implementing the procedure were aware of it is considered poor management oversight of high radiation area access control.

8.1.8 Contamination Control Including Frisking

The inspectors reviewed the Contamination Control Program and the adequacy of personnel frisking practices. A special review was performed of the licensee's program for control of personnel exposure to "hot particles" relative to guidance contained in NRC Information Notice 86-23.

Review indicates there are essentially no contaminated areas. However, the licensee has established and is implementing routine radiological surveillance program to identify potentially contaminated areas. The program is continually reviewed for adequacy relative to plant status. Additional surveillance is performed at supervisory direction during various plant evolutions. A dedicated crew is available to clean up any contaminated areas identified. The licensee plans on tracking and trending the total square footage of contaminated area. No deficiencies were identified.

Regarding frisking, no inadequacies in personnel performances were identified.

Review of the licensee's program for hot particle control indicate some weaknesses. These are as follows:

- The ALARA Program does not include guidance/ suggestions for reviewing this matter when performing job planning.

- The training program does not specifically address this matter, either for workers or radiation protection personnel.

- Improvement in personnel frisking capabilities may be needed (Note: The licensee is aware of the need and is obtaining whole body friskers. Some have been obtained and are being set up at access control points).

- The licensee sends his protective clothing to a vendor for processing. The acceptability of the checks of clothing performed by the vendor has not been verified (e.g. vendor site visits). In addition, technicians were not performing checks of the returned laundry using the acceptance criteria contained in procedures. The licensee immediately corrected the situation. In addition, the licensee plans to visit the vendor laundry to evaluate the adequacy of its laundry checking.

8.1.9 Facilities and Equipment

During tours of the facility the inspector reviewed the status of radiological control facilities and equipment. No inadequacies were identified. The review of selected Final Safety Analysis Report described facilities found them to be in place. Inspector review of radiation survey equipment, air supply equipment and air sample analysis equipment indicated sufficient equipment was available.

8.1.10 Status of Process, Effluent and Area Radiation Monitors

The inspectors periodically reviewed the status of process effluent and area radiation monitors. Review indicated that overall the licensee's Radiation Monitors were operable. However, the licensee was experiencing some problems with selected monitors. These are as follows:

- The Drywell High Range Monitor Channels C and D are out of service due to cable problems.
- The B Drywell Atmosphere monitor (Gas and Particulate) was out of service due to electrical problems.
- The A Drywell Atmosphere monitor was experiencing monitoring problems resulting in damage to the filter paper.
- The Reactor Building Vent and Stack Vent flow measuring device has been declared inoperable due to questionable calibrations of the flow device.

However, the licensee is implementing appropriate action statements in Technical Specifications and is implementing action to correct the deficient conditions.

8.2 Security Program

Elements of NMPC's Security Program implementation were inspected with special attention to impact on plant operations and compliance of observed activities with program requirements.

Integrity of vital area barriers, protected area fence and isolation zones, compensatory measures, general access controls, and vital area emergency access and egress were observed during plant tours.

No discrepancies were identified with respect to vital and protected area barriers. Where barrier degradation was observed, adequate compensatory measures were applied.

On June 2, employee vehicles were observed in a "no parking" zone adjacent to the security fence near the former Unit 1 guardhouse. The observation was referred to the licensee and the inspector confirmed that the protected area isolation zone was not affected (the above fence is the outer perimeter of the isolation zone).

Access and egress provisions for vital areas during emergency operations were observed and discussed with operations personnel and found acceptable.

While entering the protected area on June 3, an inspection team member inadvertently reversed his security badge number when requesting the badge from the badge issue guard. The guard noted the incorrect badge prior to its issuance and did not issue the badge.

No violations were identified.

8.3 Fire Protection Program

Fire protection program implementation was reviewed in conjunction with shift observations, surveillance reviews and other related activities. Observations were based upon TS 3/4.7.7, Fire Suppression Systems, AP 3.5, Station Fire Protection Program, Revision 1, and the procedures listed in Attachment 2. Specific TS Surveillance tests were reviewed for conformance to TS as listed in Attachment 2.

Observations of program implementation included: control room fire protection computer/alarm console operation, shift crew response to alarms, inspection of fire suppression water systems, carbon dioxide systems, halon systems, fire hose stations, and general station fire prevention and housekeeping conditions. Specific observations are discussed below.

General housekeeping and fire prevention conditions observed throughout the plant were acceptable. Only one minor case of combustible material control problems was identified. A piece of untreated wood was found beneath the Division III diesel generator.

On June 8, the Fire Protection office was visited and the cognizant supervisor was interviewed. The supervisor appeared knowledgeable of his duties and department responsibilities. The office was a combined administrative office, equipment storage and test room, and foam equipment/pump room. The facility had recently been converted to include the office spaces, and was noted to be cluttered with equipment and miscellaneous material. The conditions were brought to the attention of the Station Fire Protection Superintendent for correction. The Superintendent advised that such efforts were ongoing and that conditions were continuing to improve.

Fire detection and actuation panels in the Turbine Building, Reactor Building and Control Building were routinely observed on several plant tours. All systems observed appeared to be properly aligned for service and any alarm or abnormal conditions had been previously identified and scheduled for correction.

No violations were identified.

9.0 Assurance of Quality - Management Oversight

9.1 QA/QC Interface with Operations

Quality Assurance and Control activities were reviewed with respect to operations, maintenance, TS Surveillance, and startup testing activities. The review was directed at determining the level of activity, diversity, and comprehensiveness of quality audit, surveillance and inspection programs.

Specific emphasis was given to the quality program aggressiveness in evaluation of in-process operational activities; the identification, evaluation and correction of safety significant conditions; and the program focus on real time operations rather than documentation reviews. Documents reviewed are listed in Attachment 2.

Routine QC inspection and QA surveillance activities were observed during inspection of maintenance and operations activities listed in Attachment 2. In general, these activities were found to be conducted in accordance with prepared checklists, included appropriate inspection attributes, and appeared to be competently conducted.

9.1.1 Audit Program

The QA Audit program was reviewed for overall program coverage, technical depth, and sensitivity of audit planning and implementation to safety issues. Audit schedules, logs, reports and findings were reviewed as well as Corrective Action Requests and related status keeping information. Completed audits for TS Surveillance activities, fuel load, fire protection, maintenance, and plant operations were reviewed.

Although the audit program is substantially records oriented, the reports and checklists reviewed included verification of implementation of elemental safety requirements. For example, the audits typically involved independent verification of compliance with Technical Specification requirements at both the procedural and field implementation levels.

Audit findings appeared sensitive to safety issues and corrective actions were found to be either timely or escalated for senior management action if not timely.

The licensee is performing self analysis of Corrective Action Report (CAR) performance trends and has identified several negative trends for senior management action. These trends include an increase over the past six months in the number of CARs overdue for action, the number of open CARs, and the percentage of CARs requiring QA action.

9.1.2 QA Surveillance Program

The licensee has implemented an aggressive QA surveillance program for plant operations. The program is based on an analytically based sampling strategy using level of operational activity/effort and performance history to apply surveillance resources. The planning and implementation of the program use a computerized data base management system.

Surveillance planning, scheduling, checklists, reports, and findings were reviewed as listed in Attachment 2. The program was found to be effective in identifying personnel, hardware, and procedure deficiencies and in achieving corrective action.

Approximately 380 surveillances have be conducted since January 1, 1987, involving a total of about 3,800 individual attributes. The program has identified 141 "open items" or findings during that period. It was noted that the general tone of the surveillances and findings was similar in nature to typical NRC inspections of the respective functional areas.

Selected QA Surveillance personnel have received non-licensed operator training and appear effective in planning and implementing rather detailed surveillances of plant operations and test activities. The licensee is conducting a 100% review of all startup test results (as further discussed in Section 9.2 below.)

The licensee's QA Surveillance program appears to represent a strength.

9.1.3 Quality Control Activities

Quality Control inspection activities were reviewed in the field in conjunction with maintenance and related in-process activities as listed in Attachment 2. Field inspection activities were found to be generally acceptable.

Additionally the status of open/closed Nonconformance Reports (NCRs) was reviewed by review of the NCR log, status report, and selected NCRs for effectiveness of the inspection and corrective action programs. Ninety-six (96) NCRs were issued during 1986 and fifty-four have been issued to date in 1987. Four NCRs were still open at the time of this inspection, none affecting systems or equipment required to support current plant operations.

9.2 QA Interface with the Power Ascension Test Program

The inspector reviewed the QA Surveillance Reports listed below covering initial criticality and low power operations and testing activities:

- QASR 87-10410 "Operations Staff Daily Shift Checks Procedure", dated May 10, 1987, involving monitoring the performance of daily shift checks in accordance with N2-OSP-LOG-S001.

- QASR 87-10428 "Full Core Shutdown Margin Demonstration", dated May 23, 1987, involving test witnessing the performance of Power Ascension Test Procedure, N2-SUT-4-HU.

- QASR 87-10441 "Unit Startup, First Criticality", dated May 25, 1987, involving monitoring the performance of the initial unit criticality in accordance with operations procedure N2-OP-101A.

- QASR 87-10450 "Test Results SRM Performance", dated May 29, 1987, involving review of the results of Power Ascension Test Procedure, N2-SUT-6-HU.

- QASR 87-10451 "Average Power Range Monitor (APRM) Calibration", dated May 24, 1987, involving test witnessing the performance of Power Ascension Test Procedure, N2-SUT-12-HU.

- QASR 87-10452 "Test Results Full Core Shutdown Margin Demonstration", dated May 29, 1987, involving review of the results of Power Ascension Test Procedure, N2-SUT-4-HU.

The inspector verified that the surveillances were performed in accordance with applicable QA procedures and the commitments made in the Surveillance Plan for the Power Ascension Test Program. No deficiencies were identified during this review.

9.3 Safety Review Committees

The inspectors evaluated the effectiveness of the onsite safety review committee (Site Operations Review Committee or SORC) by attending three SORC meetings (two meetings on June 4 and one meeting on June 6, 1987) reviewing: The SORC implementing procedure, recent SORC meeting minutes, and a listing of current SORC open items. The SORC activities were compared to the requirements of Technical Specification 6.5.1, Site Operations Review Committee.

The site has a common SORC for both units; with the Station Superintendents attending meetings that discussed his unit. The General Superintendent - Nuclear Generation was the Chairman of most (58%) of the SORC meetings in 1987 and he chaired the three meetings attended by the inspectors.

The inspector noted that the SORC actively questioned ongoing activities at Unit 2 during the meetings on June 4 and June 7, 1987. The discussions were probing and focused on the potential for the activities to adversely affect plant equipment and the need for clear procedures. The need for operator training on new procedures was also emphasized by SORC. Overall, these discussions were careful and deliberate.

However, one weakness was apparent at the first SORC meeting on June 4, 1987: the lack of a written chronology for the feedwater temperature stratification events that occurred on May 25 and May 30, 1987. The SORC questioned contractor test personnel about the events and associated operator actions several times during the SORC meeting, indicating some confusion about the sequence. This information was important to the review of a temporary operating procedure for the feedwater and cleanup systems, No. 87-41. This procedure altered normal configurations in both systems in an attempt to eliminate the stratification problem. Although the SORC review of the procedure was adequate, a written chronology would have aided the discussions and should have been provided to the SORC members.

A second weakness involved the handling of outstanding SORC action items. These items are generated by SORC and tracked on a computer data base. The inspector noted that several open items were overdue by a year or more based on printout due dates. The licensee indicated that the printout had the following problems:

1. Responsible individuals were not always accurately assigned on the printout.

2. Some action items had been completed but the results had not been submitted to SORC.

3. Due dates were generally assigned by the clerical staff and as a result were inaccurate.

These problems hampered SORCs ability to obtain followup information. The licensee indicated that the completed action items will be promptly submitted to SORC. This problem was previously identified during NRC inspection 50-220/86-13 and subsequently identified in a QA Corrective Action Request 87-3048.

The inspector evaluated the offsite review committee (Safety Review and Audit Board or SRAB by reviewing the committee charter, a recent SRAB meeting schedule, the latest meeting minutes, and selected SRAB audits. These were compared with the requirements in Technical Specification 6.5.3. The SRAB minutes indicated that the committee quorum requirements were met and discussions included the topics in Technical Specification 6.5.3.7. Audits were properly scheduled and covered the topics in Technical Specification 6.5.3.8. However, the reports from these audits were not sent to senior licensee managers in a time frame consistent with Technical Specification 6:5.3.10. This weakness is related to differences in Unit 1 and Unit 2 Technical Specifications. The licensee has submitted a change to the Unit 2 specifications to NRR, but licensee management should also review the controls on audit reports to ensure that senior management is sent the reports in a timely manner.

9.4 Communications and Feedback

Communication paths within the licensee organization were evident and functioned in an acceptable manner during the inspection. Routine staff meetings appeared effective in coordinating Maintenance and Surveillance activities. Communications between the site management and QA appeared effective as indicated by the lack of a QA findings backlog.

Onsite disciplines are headed by site rather than unit managers. For example, the Maintenance Department, which is headed by a site Maintenance Superintendent, supports both Unit 1 and Unit 2. The Maintenance Superintendent (like the Unit Superintendents) reports to the site General Superintendent. Communications between the disciplines were apparent and were facilitated by the onsite presence of a General Superintendent.

Poor feedback of information to site management contributed to some of the weaknesses noted during the inspection. For example, station management was not informed of the thermal stratification problem in the feedwater system on May 25, 1987. Station management were also not promptly notified of the recurrence of the problem on May 30, 1987. This contributed to the unauthorized changes made to the feedwater system valve lineup on May 30-31. Other examples of poor communication were the informal swapping of overtime between operators without station management's knowledge or approval, and poor training feedback to operator questions about technical specification weaknesses.

Plant and engineering staff communications with the shift supervisor about potentially reportable events was a previous, licensee-identified problem. Two recent Licensee Event Reports (LER 86-26 and 87-14) discuss incidents where the NRC was not promptly notified under 10 CFR 50.72. The root cause of the late notification was the failure of plant and engineering staff to initiate an Occurrence Report and promptly deliver it to the shift supervisor for evaluation. As corrective action, LER 87-14-001 stated that the Vice President-Nuclear Generation and Vice President-Quality Assurance issued a memo which advised all Nuclear Division Management and Quality Assurance personnel of the problems. The memo also required the Engineering, QA, and Generation Departments to modify appropriate procedures to ensure that Occurrence Reports were promptly initiated.

However, at the time of the inspections, one group (Generation) had not yet changed its procedure and the changes made by the other two groups (Engineering and QA) appeared ineffective. As a result, the corrective action specified in the LER and VP memo had not been implemented for three months. The licensee subsequently changed administrative procedure (AP) 10.2.2 to require that all personnel fill out Occurrence Reports and promptly forward them to the shift supervisors. The licensee also indicated that appropriate engineering and QA procedures would also be changed to reflect the AP requirements.

In summary, the coordination and communication between site disciplines was generally good. However, poor feedback of information to Operations and Training management sometimes hampered licensee's performance. Inadequate communication between licensee groups and the shift supervisor concerning reportable events has been a recurrent problem.

9.5 Management Oversight

Management control over Unit 2 activities was evident during the inspection period. Particularly strong management involvement was noted in the health physics area, in the control over the maintenance backlog, in the site operations review committee meetings, and in the resolution of routine equipment problems during the power ascension program. Senior site management was present at the site over the weekend during the inspection and toured the control room several times. The presence of the General Superintendent onsite was a strength that aided communication between site groups.

However, despite their presence onsite, management was sometimes slow in detecting and correcting problems. For example, the licensee was initially unresponsive to the team's concerns about the lack of formality in the control room. It took repeated examples of problems (i.e., crowding of nonessential personnel around control panels, excessive noise, distracting control room activities such as reading newspapers during breaks) to convince the licensee that improvements

were needed. The licensee was also slow to respond to concerns about loose equipment in the station and uncontrolled operator aids. In each case, initial corrective action was limited and ineffective. Other examples of identified problems that did not receive adequate corrective actions were:

1. The out-of-date SORC open items list.

2. The lack of adequate procedures to ensure that NRC notifications and reports were made in a timely manner.

3. Missing documentation on temporary alterations to plant equipment.

Other problems were noted during the inspection that should have been identified by licensee management, including routine unauthorized operator overtime.

Procedural control over activities was generally acceptable. Licensed personnel actively used and revised procedures. However, the control of temporary changes to procedures was weak. Other weaknesses in procedural control included the unauthorized manipulation of the feedwater system, the lack of equipment descriptions in the Emergency Operating Procedures, the lack of procedural control over run time logs for safety equipment, and the lack of procedure training for high rad area key control.

The team identified one important licensee manager who was not shown on site organization charts. This manager was a contractor who reported to the Unit 2 Superintendent and directly supervised or coordinated most of the Unit 2 personnel outside the Operations Department. He conducted daily maintenance planning meetings and daily surveillance scheduling meetings. He also wrote daily instructions for the operators (which were subsequently reviewed by Operations Department managers prior to issuance). The licensee initially indicated that the manager was the supervisor of the planning and scheduling group. However, the manager indicated that he directly supervised the supervisor of the planning and scheduling group as well as other unrelated station personnel. The manager further indicated that he did not have a formal job description. The licensee ultimately agreed to add the manager's organizational position in an appropriate administrative procedure covering the power ascension program. The inspector did not detect any communication or managerial difficulties caused by the organizational omission.

In summary, strengths in management control were noted during the inspection, particularly in the health physics and maintenance planning areas. However, despite management's visible presence onsite, station management should be more aggressive in identifying and correcting problems. Also, the licensee should ensure that key

management positions are adequately documented and understood by the organization.

10.0 Licensee Action on Previous Inspection Findings

(Open) Unresolved Item (410/87-06-01) Adequacy of planned testing for single reactor recirculation loop operation. The inspection discussed the licensee's proposed testing plans with the Power Ascension Manager (PAM). The PAM indicated that testing was planned for four power-to-flow conditions to bound possible operation with a single reactor recirculation loop:

1. At less that 5% of rated thermal power with the flow control valve fully open.

2. At various loop flows along the 60% rod line.

3. Single pump restart from natural circulation on the 80% rod line.

4. At various loop flows along the 100% rod line.

The inspector agreed that these conditions would effectively bound possible operation with a single reactor recirculation loop. The inspector had additional questions concerning the scope of testing at these power to flow conditions for thermal expansion, process computer interface and transversing incore probe operation. The PAM requested additional time to prepare a formal response to these questions. Pending receipt and review of the licensee response to these questions the adequacy of planned testing will remain unresolved.

11.0 Management Meeting

Periodically and at the conclusion of the inspection on June 11, 1987 the inspection team met with senior station and corporate management to discuss the scope and findings of this inspection. During these discussions, and also during NRC management review of this report, no information pertaining to 10 CFR 2.790 was identified.

PERSONS CONTACTED

Attachment 1

R. Abbott, Unit 2 Station Superintendent *
J. Beratta, Nuclear Security Supervisor *
C. Beckham, QA Operations Manager *
R. Burtch, Nuclear Information Services *
J. Burton, Generation Specialist, Training
G. Carlisle, Lead Startup Test Design & Analysis Engineer
R. Cohen, Site Services Manager
J. Conway, Power Ascension Manager
K. Dahlberg, Site Maintenance Superintendent *
W. Drews, Technical Superintendent *
P. Eddy, NY Public Service Commission *
M. Falise, Mechanical Maintenance Superintendent
L. Fenton, Audit Leader *
R. Gayne, Assistant Operations Superintendent
W. Hansen, Corporate QA Manager *
D. Helms, Lead Shift Test Supervisor
M. Jones, Unit 2 Operations Superintendent
M. Kammer, Fire Protection Superintendent *
A. Kovac, Audits Supervisor/QIP Manager *
G. Larizza, Rochester Gas and Electric Representative *
E. Leach, Radiation Protection Manager
T. Lempges, Vice President, Nuclear Generation *
P. MacEwan, NYSEG *
C. Mangan, Senior Vice President *
R. Neild, Technical Assistant to Station Superintendent *
T. Pao, Shift Test Supervisor
R. Pasternak, Nuclear Consulting Services Manager *
T. Perkins, General Superintendent *
D. Pike, Emergency/Operations Interface Manager *
A. Pinter, Site Licensing Coordinator *
N. Rademacher, QA Program Manager *
T. Roman, Station Superintendent, Unit 1
R. Smith, Assistant to Senior Vice President *
J. Spadafore, I&C Superintendent (Acting) *
C. Stuart, Chemical and Rad Management Superintendent *
K. Sweet, Electrical Maintenance Superintendent
W. Wambscam, Assistant Operations Superintendent
P. Wilde, Supervisor for QA Surveillance
W. Yeager, Engineering Manager *
K. Zollitch, Nuclear Training Superintendent *

The inspectors also interviewed other licensee personnel during this inspection including shift supervisors, administrative, operations, health physics, security, instrument and control, maintenance, engineering and contractor personnel.

* Attended Exit Meeting, June 11, 1987

Attachment 2

LISTING OF DOCUMENTS REVIEWED AND ACTIVITIES WITNESSED

Documents Reviewed - General

Technical Specifications for all Operating Modes

Document No.	Title
AP-2.0	Production and Control of Procedures
AP-3.3.1	Control of Equipment Markups
AP-3.3.2	Control of Equipment Temporary Modifications
AP-3.4.2	Operations Experience Assessment
AP-3.7	Process Control Program, Revision 2
AP-4.0	Administration of Operations, Revision 7
AP-5.2	Unit 2 Procedure for Repair, Revision 4, 10/22/86.
AP-6.1	Procedure for Modification and Addition - Unit 2, Rev.2, 2/10/87
AP-8.0	Assurance of Equipment Integrity, Revision 1
AP-8.1	Preventive Maintenance, Revision 2, 7/14/86
AP-8.2	Surveillance Testing and Inspection Program, Revision 2
AP-8.3	Inservice Inspection and Testing Program, Revision 0
AP-8.4	Procedure for Control and Calibration of Equipment Used in Tests and Inspections, Revision 5
AP-8.5	Housekeeping & Cleanliness Control
AP-8.7	Power Ascension Test Procedures, Revision 2
EOP-C6	RPV Flooding, OP #43 (Emergency RPV Flooding).
NM-RG-IN-8602	TS Surveillance Testing Audit, Units 1 and 2, June, 1986
NM-SP-IN-86022	Audit of Fuel Loading Activities, Unit 2, November, 1986
SY-RG-IN-86020	Triennial Fire Protection Audit (NSRAB), December, 1986
NM-RG-IN-87006	NMPC Site Operations Maintenance Procedures, April, 1987
SY-RG-IN-86012	Nine Mile Point 1 Operations (NSRAB), September, 1986
---	Corporate QA 1986-87 Audit Log, May 20, 1987
OSP-RMC-003	Rod Worth Minimizer Operability Test.
OSP-RMC-004	Rod Sequence Control System Operability Test.
ISP-CNT-002	Primary Containment Airlock Seal Leakage Test.
ISP-CMT-SA003	Airlock Operability Test.
OP-7	Feedwater Heaters and Extraction Steam System.
OP-22A	Turbine Generator Lube Oil System.
OP-22B	Turbine Generator Lube Oil Conditioner and Storage.
OP-27	Generator H2 and CO2
OP-42	Offgas System.

OP-49	Hot Water and Glycol Heating System.
OP-53A	Control Building Ventilation System.
OP-55	Turbine Building Ventilation.
OP-101A	Plant Startup Procedure, Revision 1. Reviewed for incorporation of Operational Condition sensitive surveillance requirements.
	All Active Standing Orders.
	Control Room Logbook.
	Station Shift Supervisor Logbook.
	Equipment Status Log.
	Auxiliary Operator Log.
	Temporary Modification Log.
	Lessons Learned Log.
	Operator Aid Log.
	Technical Specifications Interpretations Log.
QA870537/AUD5	Revised Corporate QA Audit Schedule, April 14, 1987
QAP 1.01	QA Department Organization, Revision 7
QAP 2.3	Management Reporting and QA Program Assessment, Revision 5
QAP 6.2	Review of Documents for Quality Content, Revision 5
QAP 10.03	Quality Assurance Surveillance Activity, Revision 2
QAP 15.01	Control of Nonconforming Items, Revision 3
QAP 16.03	Corrective Action Requests, Revision 3
JP860205	Audit Program Philosophy, August 11, 1986
QA870653	Corrective Action (Report) Status Report, May 7, 1987
---	Nonconformance Report Log, 6/5/87
NCR 2-87-0003	Nonconformance Report - Unauthorized Plant Modification
NCR 2-87-0020	Nonconformance Report - Failure to perform Hi Pot Test
NCR 2-87-0026	Nonconformance Report - RHR torque values incorrect
NCR 2-87-0025	Nonconformance Report - Uncertified inspector inspected safety related repair activities.
NCR 2-87-0048	Nonconformance Report - Temporary ventilation switch installed without QC coverage.
---	QA Surveillance Open Items Listing, 6/3/87
---	QA Surveillance Closure Time Analysis, 6/3/87
NTP-3,9	Electrical/Mechanical Maintenance Training
NTP-7	Instrument Technician Training
NTP-8	Training for Tech Staff and Managers, Rev. 2.
NTP-11	License Operator Retraining and Continuing Training, Rev.3.
NTP-12	Nonlicensed Operator Training, Standing Orders/CSO Log/ SS Log.
QASR 87-10441	QA Surveillance Report, Unit Startup/Initial Criticality
QASR 87-10410	QA Surveillance Report, Operations Staff Daily Checks
QASR 87-10390	QA Surveillance Report, Corrective Maintenance
QASR 87-10405	QA Surveillance Report, Preop Test Results, POT-1-4
QASR 87-10454	QA Surveillance Report, Startup Test Results Review
QASR 87-10176	QA Surveillance Report, MSIV Replacement
QASR 87-10069	QA Surveillance Report, Gaseous Effluents (CSP-7V)
QASR 87-10014	QA Surveillance Report, Waste Solidification System Test
PR 06913	Problem Report, ADS/Safety Valve Leakage Annunciator, May 24, 1987

Tests and Calibrations

87-41	Temporary Procedure to Control F.W. Temperature Stratification.
6/6/87	Suppression Pool Temp. Instrumentation Calibration.
---	Surveillance Tests Schedule 6/2 - 8/87
OSP-ICS-R002	RCIC System Flow Test, Revision 1. Observed performance at 140 psig reactor pressure, June 8, 1987.
OSP-ENS-M001	Performed 6/7/86, Monthly Functional Test of 4.16 kv Emergency Bus Loss and Degraded Voltage, Rev. 1, 10/28/86.
OSP-EGS-M102	Diesel Generator Operability Test Division III with Strip Chart Recorder Hookups, Rev. 1, dated 11/15/86, performed June 5, 1986.
OSP-RMC-003	Rod Worth Minimizer Operability Test.
OSP-RMC-004	Rod Sequence Control System Operability Test.
ISP-CNT-002	Primary Containment Airlock Seal Leakage Test.
ISP-SVV-M002	Monthly Functional Test of SRV Acoustic Monitor Valve Position Indicator Channels, Revision 0. Observed for post maintenance testing of SRV-129 channel on June 5, 1987.
ISP-NMS-Q108	SRM Quarterly Functional Test, Revision 0. Observed performance of Channel D test, June 4, 1987.
ISP-NMS-W@007	APRM/LPRM Weekly Functional Test, Revision 0. Observed performance of Channel A test, June 4, 1987
OSP-EGS-M002	Diesel Generator Operability Test, Division 3, Revision 0. Observed performance of test, June 5, 1987
OSP-RDS-M001	Scram Discharge Volume Vent and Drain Valve Position Verification, Revision 0, Temporary Change Notice (TCN) 1, including performance data for 2/23, 3/26, 4/26, and 5/27/87.
OSP-RDS-Q001	Scram Discharge Volume Vent and Drain Valve Operability Test, Revision 0, TCN-1, including performance data for 8/6/86, 12/9/86, and 3/12/87.
OSP-NMS-@001	APRM/IRM Overlap Check, Revision 2.
OSP-MSS-CS001	MSIV Operability Test, Revision 1, TCN-1, including performance data for 5/3, 5/5, and 5/18/87.
OSP-CSL-Q00S	LPSI Pump and Valve Operability and System Integrity Test, Revision 1, TCN-3, including performance data for 12/26/86 and 3/28/87.
OSP-CSH-Q002	HPCS Pump and Valve Operability and System Integrity Test, Revision 1.
ISP-ISC-M001	Monthly Functional Test and Trip Unit Calibration of the Reactor Scram and RHR Isolation on Steam Dome Pressure High Instrument Channels, Revision 0.
ISP-RDS-M001	Monthly Functional Test of the Scram Discharge Volume High Water Level Scram, Revision 1, including performance data for 3/14, 4/16, 5/7 and 5/20/87.
ISP-ICS-M001	Monthly Functional Test of RCIC Steam Line Flow High Instrument Channels, Revision 0, including performance data for 2/14, 3/13, and 5/17/87.
ESP-BYS-Q676	Quarterly Battery Surveillance Test, Revision 0, TCN-2, including performance data for 4/10, 5/6, and 5/12/87.

ESP-BYS-R677	DIV I/II/III Refueling Cycle Battery Test, Revision 0, including performance data for 4/30 and 5/2/87.
OSP-RCS-@001	RCS Pressure/Temperature Verification, Revision 0
OSP-RMC-@004	RSCS Operability Test, Revision 0. Observed performance on June 6, 1987.
OSP-RMC-@003	RWM Operability Test, Revision 0. Observed performance on June 6, 1987.
BOP-15-HU	Feedwater System Stratification, Revision 0 (special procedure for monitoring piping temperatures during startup).
OSP-LOG-D001	Attachment 1, Drywell Closeout Inspection, Revision 1, including performance data for 6/4-5/87. Closeout inspection of 6/4/87 observed.
OSP-ICS-R002	RCIC System Flow Test, Rev. 0, 12/26/86. Observed performance 6/8/86.
OSP-EGS-M102	Diesel Generator Operability Test Division II with Strip Chart Recorder Hookups, Rev. 1 dated, 11/15/86. Observed performance 6/5/86.
OSP-ENS-M001	Monthly Functional Test of 4.16 kv Emergency Bus loss and degraded voltage Rev. 1, dated 10/28/86. Observed performance 6/7/86.
ISP-CNT-S@002	Containment Airlock Operability Test, Revision 0. Observed performance of test following equalizing valve repairs, June 6, 1987.
FSP-FPL-W001	CO2 Valve Position & Storage Tank Level Verification, Rev. 1.
FSP-FPW-M001	Fire Protection Hose Station & Hose House Inspection, Rev. 1.
FSP-FPW-R001	Electric/Diesel Pump Functional Test, Rev. 0.
FSP-FPW-R006	Fire Protection Water System Functional Test, Rev. 0.
FSP-FPW-R007	Fire Protection Sprinkler System Functional Test, Rev. 01.
FSP-FPW-W001	Weekly Fire Systems Valve Check, Rev. 01.
SUT-02-2	Radiation Measurements - TC2, Revision 1, Approved November 3, 1986.
SUT-05-2	Control Rod Drive System, Revision 1, Approved February 19, 1987.
SUT-11-2	LPRM Calibration - Test Condition 2, Revision 1, Approved October 29, 1987.
SUT-12-2	APRM Calibration - Test Condition 2, Revision 1, Approved February 12, 1987.
SUT-14-1	RCIC System, Revision 1, Approved February 14, 1987.
SUT-14-2	RCIC System, Revision 2, Approved March 3, 1987.
SUT-19-2	Core Performance - Test Condition 2, Revision 1, Approved April 16, 1987.
SUT-22-1	Pressure Regulator - Test Condition 1, Revision 0, Approved February 10, 1987.
SUT-22-2	Pressure Regulator - Test Condition 2, Revision 0, Approved March 4, 1987.
SUT-23-2	Feedwater System, Revision 1, Approved February 18, 1987.

SUT-26-1	Relief Valve Testing - Test Condition 1, Revision 2, Approved February 10, 1987.
SUT-27-2	Turbine Trip Within Bypass Capacity, Revision 0, Approved December 29, 1986.
SUT-28-1	Shutdown from Outside the Main Control Room, Draft Revision 1.
SUT-30-2	Reactor Recirculation System Cavitation Test, Revision 1, Approved December 23, 1986.
SUT-71-1	Residual Heat Removal System, Revision 0, Approved October 20, 1986.
SUT-75-2	Drywell Cooling System, Revision 1, Approved.

Meetings

Entrance Meeting/ Team Inspection	June 1, 1987
Work Request Meeting	June 2, 1987
Plant Problems	June 2, 1987, Discussion of feedwater stratification, RWCV flow, main steam line flow.
Morning Management Meeting	Daily at 8:30 a.m.
OPS Planning Meeting	WRs to be performed over next 24 hour period, June 4, 1987.
General Plant Meeting	June 5, 1987, meeting in L-shaped building. General plant status and constraints on startup - feedwater stratification problem.
SORC Meetings	Two meetings on June 4; and June 6, 1987, 8 PM, Discussion of feedwater piping thermal stratification problem. Review of revision to Modification 87-122 (RWCU Backpressure Valve, V400, position stop) and engineering analysis of plant heatup data for feedwater piping problem.
June 6 - 9, 1987	Shift turnovers and briefings in Control Room, plant status and activities planned for upcoming shift.
Management Meeting/Discuss Team Findings	June 5, 8, 9, 10, and 11, 1987

Maintenance Activities

MWR M20186	Installation of modification to Reactor Water Cleanup System.

WR 110828	Troubleshoot blown fuses on 120 VAC 2B uninterruptable power supply.
WR 120142	Replace and recalibrate RWCU suction flow transmitter.
WR 120147	Repair of SRV-129 acoustic monitor channel, observed repairs in drywell, June 5, 1987.
WR 120187	Troubleshoot lifting relief valves on Nitrogen supply for Automatic Depressurization System.

General Activities Observed

6/3/87	Drywell all levels, including under vessel area.
6/5/87	Startup of idle recirculation loop per OP-29, Recirculation System Startup, observed from control room.
6/5/87	Toured reactor building and (drywell) and during repair of SRV-129 acoustic monitor. General material conditions inspected.
6/5/87	QC Inspection - repair of SRV-129 acoustic monitor channel
6/5/87 - 6/8/87	Control Room. Startup. Conduct of Operations in Control Room.
6/5/87 - 6/8/87	Reactor Building
6/6/87	General tour of reactor building and inspection of RWCU System material condition.
6/6/87	QC Inspection - repair of RWCU flow transmitters FT67Y
6/6/87	Reactor Startup
6/6/87	Reactor Shutdown
6/7/87	All Diesel Generators. Emergency Switchgear Room. RWCV Heat Exchanger Room.
6/7/87	Verified TS LCO compliance during low power operation for TS 3.4.1.1 (Recirculation Loops), 3.4.1.2 (Jet Pumps), 3.4.1.3 (RCS Flow), 3.5.3 (Suppression Pool), 3.6.1.5 (Containment Interval Pressure), 3.6.1.6 (Drywell Average Air Temperature), 4.8.1.1 (AC Sources - offsite).

6/7/87	Toured Turbine Building and EDG Building; inspected general material condition, Division III EDG alignment for auto start, and turbine building safety related instrumentation. Observed temporary instrumentation for feedwater piping temperature stratification monitoring.
6/7/87	Reactor Startup. Tour Reactor Building.
6/8/87	Toured Service Water Pump bays and pipe tunnels. Confirmed valve lineups and general material condition.
6/8/87	QA Surveillance - RCIC Flow Test