

Enclosure 4

U.S. NUCLEAR REGULATORY COMMISSION
REGION 1

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

INSPECTION REPORT 50-289/85-99

GENERAL PUBLIC UTILITIES NUCLEAR CORPORATION

THREE MILE ISLAND NUCLEAR STATION - UNIT 1

ASSESSMENT PERIOD: February 1, 1984 - January 31, 1985

BOARD MEETING DATE: MARCH 13, 1985

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I. INTRODUCTION

A. Purpose and Overview

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect the available observations and data on a sampling and periodic basis and to evaluate licensee performance based upon this information. The SALP is supplemental to normal processes used to ensure compliance to NRC rules and regulations. It is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant operations and modifications.

A NRC SALP Board, composed of the staff members listed below, met on March 13, 1985, to review the collection of performance observations and data to assess the licensee's performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee's safety performance at Three Mile Island (TMI) Nuclear Station, Unit 1 for the period February 1, 1984, through January 31, 1985. This report does not specifically evaluate the quality assurance area as a separate functional area as in previous assessments, but it does evaluate the quality assurance performance in each functional area. This is more in line with assessments for other "operational" plants. Due to high ratings in the past and the well established nature of the program, Region I considers the evaluation of the quality assurance in each functional area appropriate to determine overall program effectiveness. (Shortly after the TMI-2 accident, the licensee's QA program changed significantly, implemented relatively new ideas and was a subject of TMI-1 restart hearings.)

B. SALP Board Members

Chairman:

R. Starostecki, Director, Division of Reactor Projects

Members:

J. Partlow, Director, Division of Quality Assurance Safeguards and Inspection
W. Kane, Deputy Director, Division of Reactor Projects
S. Ebnetter, Director, Division of Reactor Safety
T. Martin, Director, Division of Radiation Safety and Safeguards
J. Stolz, Chief, Operating Reactors Branch 4, NRR (Part Time)
O. Thompson, Project Manager, NRR (Part Time)
H. Kister, Chief, Reactor Projects Branch 1
E. Conner, Chief, Reactor Projects Section 1A
R. Conte, Senior Resident Inspector (TMI-1)

Other Attendees:

F. Young, Resident Inspector
W. Baunack, Project Engineer
R. Bellamy, Chief, Radiation Protection Branch (Part Time)
J. Joyner, Chief, Nuclear Material and Safeguard Branch (Part Time)
J. White, Senior Radiation Specialist (Part Time)

C. Background1. Licensee Activities

During the assessment period, the plant remained in a cold shut-down condition per Commission order, except for a seven - 10 day period at the end of May 1984 for hot functional testing (HFT) using reactor coolant pump heat (permitted by Amendment No. 91 to the Technical Specifications). Major activities centered around corrective action for unexpected problems with a Reactor Coolant Pump and with the Once Through Steam Generators (OTSGs). Further, in response to continual delays on a decision for restart, the licensee completed numerous required or self-initiated modifications to the plant and continued to make progress in the completion of longer term modification commitments to the NRC.

In February 1984, the licensee identified high vibration on the "B" reactor coolant pump as a result of a crack in the pump shaft. Inspection of the impeller showed significant signs of wastage, but pump performance was unaffected. Repairs and preventive maintenance were made; and, subsequently, the pump has been satisfactorily tested.

At the end of the HFT sequence, the licensee identified primary to secondary leakage from a tube in a steam generator. Inspection during the summer of 1984 revealed that some of the rolled plugs in both OTSGs became loose, and six were missing from the tube sheets. The licensee performed pull testing of all rolled plugs in both steam generators to assure tightness. Repairs were completed in October 1984, followed by satisfactory drip and bubble testing of both OTSGs. In November 1984 in accordance with TS requirements, the licensee initiated eddy current testing (ECT) in both OTSGs which resulted in indication of through wall wastage greater than 40% in some tubes. These tubes are required to be plugged in accordance with the tube defect definition in Technical Specifications. Of 325 tubes (approximate) in this category, 100 tubes (approximate) were plugged as of March 1, 1985. Additional tube plugging, if any, is pending NRC staff review of a licensee proposed change to the tube defect definition in Technical Specifications.

The licensee has completed a number of improvements to the Emergency Feedwater System and supporting equipment, including environmental qualification of appropriate components. Progress continued for the following long term modifications: reactor water level installation, fire protection work on structural steel fireproof insulation, completion of the reactor coolant system vent modification, and other primary and secondary plant improvements. The licensee successfully performed the TS required Integrated Leak Rate Test of the Reactor Building in April 1984.

2. Inspection Activities

Region I continued the assignment of two NRC resident inspectors to TMI-1 during the entire assessment period. The total NRC inspection hours for the period were 3558 (resident and region-based) with a distribution in the appraisal functional areas as shown in Table 2. Tabulations of Violations and Inspection Activities are presented in Tables 3 and 4, respectively.

3. Licensing Board and Commission Decisions

On May 24, 1984, in ALAB 772, the Appeal Board issued its decision on the Management Competence and Integrity Issues for the special proceeding on TMI-1 Restart. That decision remanded the following three issues to the Licensing Board for further hearings: (1) potential material false statement in Dieckamp Mailgram of May 1979, (2) the licensee's special committee (on accelerated and requalification training) views on the cheating incident of 1981, and (3) RCS leakrate issue related to the "Hartman" allegations. Hearings were held on the first two issues between November 1984 and January 1985. A decision on those issues is pending. Further, for item (3), the Commission Order CLI 85-2, dated February 27, 1985, ordered a separate proceeding to be conducted independent of any restart decision by the Commission.

On July 26, 1984, in CLI-84-11, the NRC made its decision on design issues for the special proceedings for TMI-1 Restart. The Commission has been reviewing the remaining issues regarding management competence and integrity.

On October 31, 1984, another Atomic Safety and Licensing Board issued a decision accepting the licensee's steam generator kinetic expansion repair process. As a result, the NRC staff issued License Amendment No. 103 which recognized the kinetic expansion process as a permissible repair technique for steam generator tubes.

II. CRITERIA

Licensee performance is assessed in selected functional areas determined by the facility's status: construction, preoperational, or operating phase. Each functional area normally represents areas significant to nuclear safety and the environment and are normal programmatic areas. Special areas may be added to highlight significant observations.

The following evaluation criteria were used to assess each functional area.

1. Management involvement and control in assuring quality;
2. Approach to resolution of technical issues from a safety standpoint;
3. Responsiveness to NRC initiatives;
4. Enforcement history;
5. Reporting and analysis of reportable events;
6. Staffing (including management); and
7. Training effectiveness and qualification.

Based upon the SALP Board assessment, each functional area evaluated is classified into one of three performance categories. These performance categories are:

Category 1. Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used so that a high level of performance with respect to operational safety or construction is being achieved.

Category 2. NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and reasonably effective so that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3. Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used so that minimally satisfactory performance with respect to operational safety or construction is being achieved.

The SALP Board has also assessed each functional area to compare the licensee's performance during the last quarter of the assessment period to that during the entire period in order to determine the recent trend for each functional area. The trend categories used by the SALP Board are as follows:

Improving: Licensee performance has generally improved over the last quarter of the current SALP assessment period.

Consistent: Licensee performance has remained essentially constant over the last quarter of the current SALP assessment period.

Declining: Licensee performance has generally declined over the last quarter of the current SALP assessment period.

The recommendations for NRC attention in the assigned categories for each functional area are applicable if TMI-1 remains in a cold shutdown condition. Region I, assisted by other NRC offices, will allocate appropriate additional resources if the licensee is permitted to change the current operational mode. This is consistent with past staff practice for other facilities with an operating license that have experienced a long term shutdown or for newly licensed facilities.

III. SUMMARY OF RESULTS

A. Facility Performance

<u>Functional Area</u>	<u>Category Last Period*</u>	<u>Category This Period**</u>	<u>Recent Trend†</u>
1. Shutdown Plant Operation	2	1	Consistent
2. Radiological Controls	1	1	Consistent
3. Maintenance	1	1	Consistent
4. Preoperational Test and Surveillance	1	1	Consistent
5. Fire Protection and Housekeeping	1	1	Consistent
6. Emergency Preparedness	1	1	Consistent
7. Security and Safeguards	1	1	Consistent
8. Design, Engineering and Modification	2	2	Consistent (with improving signs)
9. Licensing Activities	2	2	Consistent

B. Overview (includes a summary of Training and Quality Assurance)

This assessment is based on licensee activities during a cold shutdown condition, with the exception of approximately one week when hot functional testing was performed. Major plant activities during this period included plant modifications, corrective and preventive maintenance including major steam generator tube plugging repairs and reactor coolant pump internals replacement, and related preoperational testing. The licensee performed well and showed much initiative and enthusiasm in improving their overall operational capabilities. Licensee management will need to remain sensitive to factors affecting performance during changing plant operational modes. Specifically, the numerous initiatives taken by the licensee in anticipation of return to power operations will need to be closely monitored to assess their effectiveness.

In a majority of the areas rated, licensee management continued to be aggressive in problem resolution and involvement in promoting nuclear safety and radiation protection. The licensee also continued to be attentive to self review, thorough and complete corrective actions, fostering a positive attitude, and implementation of fire protection/housekeeping measures.

* October 1, 1982 and January 31, 1984 (16 months)

** February 1, 1984 and January 31, 1985 (12 months)

† Trend during the last quarter of current assessment period

Performance difficulties in the engineering and licensing areas were again experienced this period. Improvements in the handling of modifications enhanced performance in the engineering area. However, certain modification packages still exhibited a good deal of field changes that apparently were not adequately accounted for during the design reviews. Licensing submittals warranted more management attention to assure complete information and adequate consideration of significant hazard determinations, especially for site originated documents. Apparently licensee performance in this area is strongly related to the priority of the item with respect to restart.

Although the topics of Training and Quality Assurance are considered in each of the functional areas in this report, summaries are provided herein from an overview standpoint. Specific address to each has been given in each functional area, when appropriate.

Training

The licensee's strong commitment to training is still producing knowledgeable and well trained personnel. Licensing candidates are well prepared for NRC examinations. Along with licensed personnel, non-licensed personnel are receiving practically oriented training.

Quality Assurance

The quality assurance department remains strong in their overall involvement in all functional areas. This department appears to be a significant factor in contributing to the quality of the licensee's efforts to improve their performance through self review. Along with other licensee initiatives, the multiple levels of review designed into the QA organization should adequately support independent review during changing plant operational modes.

IV. PERFORMANCE ANALYSIS

A. Shutdown Plant Operations

The previous assessment identified extensive application of licensee administrative controls to promote professionalism in licensee employees, including a strong commitment to procedure adherence. However, there were procedure adherence problems encountered during the extensive hot functional test sequence during that assessment period. The licensee's corrective actions were oriented toward determination of root causes for problems and provided sound technical resolutions. The technical and safety review functions appeared to be effective although some difficulties had existed in producing high quality procedures. The assessment characterized the licensee's training program as extensive with adequate programs/procedures, specialized manuals/courses, and well kept records. A positive safety-oriented characteristic of the licensee was self-initiated technical safety review groups, including special 24-hour quality assurance monitors and backshift management tours.

This assessment finds that policies and procedures are well established with site and corporate organization duties and responsibilities adequately defined. These policies and procedures have enhanced communications among the functionally oriented divisions. Daily planning meetings assure safety in the performance of activities, including special evolutions along with routine surveillance and maintenance, and resolution of inter-division interface problems. Licensee upper management continues to be involved in these pre-planning meetings in support of TMI-1 routine activities and resolution of special technical problems. As an example, licensee management requires primary and secondary chemistry to be updated routinely in the Plan of the Day meeting notes.

The administrative control over the conduct of operation exemplifies licensee efforts to excel. This is demonstrated by the professionalism and overall control of daily activities by control room personnel and include; formal shift reliefs and preshift briefings, operators stationed within established boundaries identifiable by dress code, and conduct of business with other plant personnel over a counter/book shelf arrangement that prevents unnecessary personnel from entering the control area. Even during intense evolutions, such as Hot Functional Testing or Emergency Drills, a quiet control room is the norm rather than the exception. The licensee also expects high standards of professionalism from support personnel. Inspectors have confirmed the proper implementation of these measures.

Allegations are relatively few for this facility. For two of the four allegations raised during this assessment period, the licensee management either reported the concerns to NRC staff or were knowledgeable of the concerns and were aggressively pursuing action to

resolve these concerns. The licensee investigative efforts on allegations were well planned, reasonably thorough, prompt in the initiation of follow-up action, and oriented toward the identification of specific problems for appropriate corrective action. Licensee management took the initiative to report allegations that they were aware of to the NRC staff. Their involvement continued by appointing high level investigators and by insisting on licensee staff briefings until final disposition of the allegation. Overall, the licensee's actions exhibited concern for nuclear safety and radiation protection issues identified by the allegations. Based on staff experiences with these allegations, it appears that open channels of communication are being fostered by the licensee for employee identification of problems.

The technical and safety review program continued to be well established and maintained with inter-disciplinary reviews a characteristic of this process. This resulted in the establishment of quality procedures. The Abnormal Transient Operator Guidelines (ATOG) program/procedures represented a concerted effort by the licensee's organization. This activity was well planned, practically oriented for operators, and subjected to multi-disciplinary review using corporate and site personnel including human factor, training, and operations representatives. Licensee management carefully planned and effectively implemented related operator training, using classroom and simulator time. Personnel also incorporated the steam generator tube rupture actual experience from the Ginna event into the ATOG procedures. There were only a few instances in which inspectors identified the need for more definitive procedural guidance to operators in the ATOG procedures. Other plant emergency procedures reflected licensee initiatives in that the follow-up action section of the procedures listed objectives which oriented the operators toward reactor core protection.

Inspectors identified a few instances where procedure steps and/or sections could have been more definitive. This was noted in an alarm response procedure for a tank effluent monitor, certain ATOG procedures and with some new procedures designed to implement the minor maintenance system and Leakage Reduction Surveillance Program. These instances do not indicate a programmatic weakness in the procedure review process, but they do signal the need for more attention to detail by responsible technical reviewers either in the periodic review process or during new procedure issuance. Increased management attention to this area may be warranted.

Generally, licensee workers properly implemented procedures. Although the HFT period in May 1984 was short and less intensive than the previous period procedure non-adherence was not a problem. The operations department properly completed the restart valve lineups to support the May HFT sequence. In general, these lineups were accurate and reflected as built conditions. Procedures were properly

implemented during the special evolution of reactor coolant pump repair and continuing steam generator repair activities. Licensee management should continue their involvement to assure procedure adherence, especially during startup testing.

The licensee aggressively resolved technical issues and initiatives raised by the NRC staff including numerous outstanding inspection findings. However, certain commitments in response to two violations were overlooked by personnel in converting the commitments to the licensee's action item tracking system. The licensee's completed actions were delayed as a result. This indicated that personnel could be more attentive to administrative matters.

Licensee event reports (LERs) and special reports were accurate, timely and, for the most part, complete. On their own initiative, the licensee continued the AP 1044 Internal Reporting System for events that were beyond the scope of new NRC reporting requirements. This action continued to demonstrate management's involvement in TMI-1 activities and problem areas which warrant corrective action.

The licensed and non-licensed training programs, including the re-qualification phase, continue to be effective. The licensee continued the implementation of licensing and appeal board decisions in this area. The training department is staffed with knowledgeable and experienced personnel. The lesson plans, specialized manuals and courses, hands-on experience, and/or extensive use of simulator and basic principle simulator training are providing meaningful and practical training to not only licensed operators but also other technical personnel. This is evident in the performance of new licensed operator candidates and observed in non-licensed training. It was noted that, of nine SRO candidates examined, three SRO candidates failed the SRO licensing examination and that, of five RO candidates examined, one RO candidate failed the RO licensing examination. Two SRO failures were candidates for instructor certification. The other SRO failure and the one RO failure were due to the results of poor performance on the non-plant specific simulator portion of the examination. TMI-1 is the only plant of those plants without plant specific simulators, which is required to have a non-plant specific simulator portion of a licensing examination. Overall, the licensing candidates were well prepared for their respective examinations. The NRC's operator readiness review and other inspections found considerable strengths with only minor weaknesses. Good operator morale is evident and the inspectors noted a high level of knowledge, discipline, motivation, and ability to consider safety during operations.

A number of organizational licensee initiatives continue to be implemented. Inspectors recognized the licensee's Nonradiological Chemistry Program to be of high quality with laboratory procedures making proper use of calibration standards, reagent expiration controls and

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adverse trend/corrective action measures. The licensee complements those procedures with a comprehensive training program oriented toward knowledgeable and continuing practical training of experienced chemistry personnel.

In addition, the Plant Review Group supplements the technical and safety review process by providing technical advice to the Operation and Maintenance Director, similar to the General Office Review Board (GORB) function in support of the the Office of the President. The QA shift monitors, backshift management reviewers, and the radiological assessors are aides to management in correcting minor problems before they become major. Although the Nuclear Safety and Compliance Committee is just being implemented, they appear to be properly oriented to enhance safety and compliance with regulations.

Overall, this assessment notes an improvement in the performance of shutdown plant activities which is primarily attributable to a high level of management attention and involvement. The technical and safety review process is adequate and is complemented by various licensee initiatives. The licensee has made considerable effort to improve procedures. The Quality Assurance organization has a strong involvement in daily matters and continues to help focus management attention toward nuclear safety. Plant personnel are well trained. Self-assessment continues to be a notable characteristic of the licensee's organization and appears to have enhanced overall performance.

Conclusions

Category 1, Consistent.

Recommendations

None

B. Radiological Controls

The licensee's performance continues to improve relative to previous assessment periods. Only one minor violation was identified this period compared to eight identified in the last assessment. Corrective measures and actions on previously identified findings have been effectively established. Further, the licensee promptly responds, evaluates, and resolves problems with generally effective actions.

The licensee's radiation protection program continued to be well defined by clear policies and directives. A special team inspection indicated that the licensee satisfactorily implemented the radiation protection program in accordance with regulatory requirements. Adequate staff was available to carry out the program, and the personnel involved are well qualified and capable of performing satisfactorily in their assigned areas of responsibility. A formalized training program for the radiation protection staff continued to be implemented and provided sufficient technical and practical instructions to assure competence in the organization.

The licensee's performance during major projects involving high levels of radioactivity demonstrated thorough planning and preparation, good procedure development and the establishment of acceptable radiological controls. This was evident during the reactor coolant pump internals examination and repair, decay heat removal system isolation valve repair and steam generator repair.

Adequate management review and oversight is consistently evident, as demonstrated by sufficient awareness of daily activities, the establishment of effective inter-departmental communications and cooperation, extensive use of mockups and the effective use of planning meetings and schedules to reduce personnel exposure. The radiation protection management staff takes the initiative in improving and enhancing radiological control practices and procedures. For example, the staff consults with other utilities who have performed similar maintenance and repair activities involving high levels of radioactivity in order to minimize errors and decrease personnel exposures. The licensee generally exhibits good radiological control practices, and implements a very thorough radiation worker training program in an effort to insure that radiation workers are aware of radiological safety procedures and are able to implement them competently.

In response to an anonymous allegation, NRC inspectors reviewed the licensee's examination of an event that resulted from poor radiological control planning. The elimination of respiratory protective equipment use for certain steam generator tasks in January 1985 resulted in four individuals receiving higher than expected internal exposures. The licensee had initiated a thorough investigation of the event and kept NRC informed of the results. Immediate and

effective interim corrective measures were implemented and technically sound generic actions were initiated.

These included: putting personnel who enter the steam generators back into respirators; radiological awareness meetings with personnel; and documentation of the incident in a Radiological Investigation Report. Personnel exposures were assessed conservatively and were within regulatory requirements. The event was properly identified and analyzed and did not indicate a programmatic deficiency in the licensee's program.

During this assessment, no programmatic weaknesses in any area were identified. Minor deficiencies, including a minor non-adherence to procedures for controlling access to the Nuclear Sampling Room were promptly and effectively resolved by the licensee.

Additionally, the licensee has successfully completed corrective actions on several previously identified findings in a timely manner. Several technical deficiencies previously noted in the post-implementation review of post accident sampling and monitoring were successfully resolved by the licensee in a technically sound and thorough manner. All items which the licensee identified as completed were able to be closed out on initial followup. This indicated that the licensee's approach to resolution of the complex technical issues related to post accident sampling and analysis was timely and complete.

The NRC regional specialists and resident inspectors have noted that a strong commitment to ALARA is consistently demonstrated by the licensee. During radiological work performed in this assessment period, the licensee used ALARA engineering practices, job planning and worker training to assure reduced personnel exposure. Particular examples of good ALARA efforts were demonstrated during the examination and repair of major plant components.

The review of the environmental monitoring program indicated that audits of the program were complete, timely and thorough and that corrective measures where required were prompt and effective. No significant deficiencies were identified relative to assigned responsibility, program audits, program implementation, reporting requirements, procedures, and meteorological monitoring. However, inspections identified a concern on the application of quality control relative to investigation levels of reported data and the review and approval of vendor laboratory procedures. In both areas, the licensee initiated action to resolve these concerns.

Effective programs relative to radioactive waste management, effluent monitoring and control and transportation of radioactive materials are implemented and maintained. The licensee's performance is consistent with regulatory requirements.

Overall, the licensee was able to demonstrate that program elements were being implemented effectively, that the personnel responsible for implementation were adequately trained and qualified, and that the integration of these elements produced a technically sound program.

Conclusion

Category 1, Consistent.

Recommendations

Licensee:

None

NRC:

Reduce attention in the shutdown mode. Implement the normal pre-operational/startup inspection program if plant conditions change.

C. Maintenance

The previous assessment identified that the maintenance program was adequate and was maintaining plant equipment ready for operations. The licensee scheduled and implemented a viable preventive maintenance program. General condition of Important to Safety equipment was excellent due to the ambitious preventive and corrective maintenance activities of the licensee. The licensee aggressively pursued and completed scheduled maintenance within a reasonable length of time.

During this assessment period, the same strong policies and procedures continue to be implemented. Maintenance supervisors and managers continue to monitor activities on a frequent basis. Special maintenance tasks are normally supervised by individuals who are responsible for keeping management abreast of the status of the job. Supervisors following specific tasks were knowledgeable about that job and its impact on plant status. The good state of housekeeping is attributable to maintenance management's attention in assuring responsible department work spaces are clean.

Administrative controls for the conduct of job ticket related maintenance work continued to be well established and controlled. However, inspectors found that administrative controls for minor maintenance were not well defined. The concept of the minor maintenance was to reduce related paper work for minor jobs and, thereby, provide incentive for "on-the-spot" corrective action. However, the licensee defined the minor maintenance job classification too broadly, which resulted in certain jobs not meeting the industrial standard committed to by the licensee. It appeared that procedure reviewers did not pay enough attention to detail, and they permitted these weaknesses in the minor maintenance system to be implemented. This problem was collectively addressed in the plant operations assessment.

Examples of good control of maintenance activities were the continued repairs to both OTSGs and replacement of the 'B' RCP shaft and impeller. For both tasks, inspectors observed good onsite inter-departmental coordination. The licensee updated procedures for use in the plant or they established special procedures to assure procedure adequacy. For certain tasks requiring corporate engineering input, delays in work completion occurred. During these delays, the licensee prioritized and completed other work thus utilizing this time to improve the overall plant material condition.

The Quality Control List (QCL) provided a system level classification into Important to Safety (ITS) or Not Important to Safety (NITS) categories. A component level QCL with a graded approach to quality assurance activities is planned. The planned component level QCL will be an additional aid in assuring the proper classification of work, especially for the procurement of parts or components. It was

uncertain whether the licensee assured the proper in-line application of this classification system during the preplanning of work for procured parts. However, the procurement of parts is based on detailed engineering analysis and involvement. No instances were identified where repaired or replaced parts were adverse to quality. Detailed involvement of QA/QC in the overview of ITS was noted. QA review of NITS maintenance work was not required by existing procedures but QA does audit these activities.

Maintenance personnel are knowledgeable in the performance of their duties. Licensee provided on-the-job training (OJT) is practically oriented as observed in a selected snubber repair training session. This OJT is being formalized in a manual set for easy reference by employees especially those at the apprentice level. Maintenance personnel exhibit a sense of pride and dedication to their duties.

Overall, the maintenance program continues to be an effective program with proper amount of resources allocated. Management attention and involvement is evident.

Conclusion

Category 1, Consistent.

Recommendation

None

D. Preoperational Test and Surveillance

The previous assessment identified that licensee performance remained at a high level. The surveillance program continued to complement the preoperational test program by maintaining equipment in a state of readiness for restart. Management attention and involvement was aggressive in these areas.

The licensee implemented an effective surveillance program (including instrumentation calibration), using a computerized scheduling system. In order to keep the plant in a state of readiness for restart, the licensee scheduled and performed all operational surveillances that could be done with the plant in a shutdown condition, although TS do not require a majority of these surveillances to be completed. This resulted in a number of procedural improvements along with the identification of exceptions and deficiencies which required corrective action. The licensee aggressively worked to adequately resolve a good portion of these exceptions and deficiencies.

The Reactor Building Integrated Leak Rate Test was a good example of the well planned and coordinated implementation of the surveillance program. There was detailed site and corporate engineering involvement. The licensee took the initiative to use "state-of-the-art" computerized equipment for data gathering and leak rate computations. Management involvement in the preparation, pre-test inspection of the reactor building and implementation of the test assured that any problems encountered during the test were quickly identified and corrected. The test was conducted in a professional manner.

Although the licensee's surveillance procedures are generally adequate in format and technical content, the inspectors identified a need for improvement in certain procedures implementing the leakage reduction program for systems outside containment. There was a lack of specifics on overall test methodology and acceptance criteria which appeared to have resulted from a lack of attention to detail in the review process for these procedures. This was similar to other minor procedure problems noted in the plant operations assessment

The licensee requires workers to strictly adhere to surveillance and other test procedures during implementation. Qualified individuals were knowledgeable of test prerequisites, plant conditions, and completion status of various test sections. Although it was a less intense period than the previous hot functional testing (HFT) in September 1983, the HFT sequence in May 1984 was properly implemented and not characterized by procedural adherence problems noted in the previous assessment period.

The Preoperational/Startup Test Program is well established and defined and staffed by experienced personnel. Test schedules are effectively integrated and coordinated with plant activities to minimize conflicts. Test personnel are knowledgeable of TS surveillance

requirements for varying plant conditions and good interfacing exists with plant operations along with other departments. Test management establishes and maintains the overall test controlling documents. There is close management attention and involvement in the readiness to implement the test sequence as evidenced by the establishment and maintenance of extensive hot functional test and criticality prerequisite lists. This is a significant licensee initiative, since it requires additional resources, providing management substantial assurances of control in this area.

Preoperational test programs are effective in the identification of technical problems. Personnel usually provide technically adequate solutions to these problems. The licensee provides specialized training to assure that problem areas are addressed from a software and hardware perspective. Generally, QA provides test implementation coverage which contributes to identification and resolution of discrepancies.

Overall, the licensee has strong Surveillance and Preoperational Startup Test Programs. Aggressive management attention and involvement at the upper and middle manager level contributes to the effective programs.

Conclusion

Category 1, Consistent.

Recommendations

None

E. Fire Protection and Housekeeping

The previous assessment identified the licensee's program and procedures to be well established with equipment well maintained. Hardware improvements continued commensurate with commitments made in accordance with 10 CFR 50 Appendix R (full compliance is to be achieved during the first refueling after restart). However, fire brigade training needed improvement. A notable characteristic of the licensee was their attention to housekeeping cleanliness and limiting the amount of combustible sources in the facility, along with keeping areas free of uncontrollable ignition sources. Overall management attention and involvement in the area was aggressive.

Similar strong policies and procedures remain in effect and the fire protection program continues to improve through procedural revisions. Procedures continue to be properly implemented.

The licensee made notable improvements in the brigade training program. They established definitive lesson plans, along with maintaining accurate records of training. Training is more realistic and provides for more practical utilization of equipment with the establishment of a two story burn building where walkthrough training is minimized. Actual fire fighting and drill participation substantiates individual qualifications. Overall, it appears that personnel are gaining self confidence with the realistic and practical brigade training improvement that the licensee has provided.

The licensee adequately responded to technical concerns of the NRC staff and effectively resolved outstanding inspection findings, especially those dealing with fire brigade training improvement. Also, the licensee spent considerable resources on the fire proof insulation of structural steel in response to Appendix R requirements. Further, component and cable separation required extensive planning with modifications slated for completion during the next refueling cycle.

Housekeeping has been excellent due to the strong upper management philosophy about cleanliness of the plant. Administrative Controls required middle managers to frequently inspect the entire plant through the course of a year. Documented deficiencies were detailed enough for specific corrective actions and the Corrective Maintenance Manager tracked major discrepancies to completion. Along with other departments, the maintenance department allocates significant resources to area cleanups. In addition, the Radwaste and Radcon Departments were effective in reducing the number of areas that required radiological work permits for entries.

Management philosophy is that cleanliness of the work area is each workers responsibility. The licensee stresses this philosophy in initial general employee training and in subsequent annual retraining. This is reflected in the attitude of employees that maintain the plant cleanliness as part of their job.

Two LERs dealt with the recurrent fire barrier penetration seal degradation. This was due to poor workmanship and supervision by the licensee's contractor in 1979, compounded by the contractor's stop work because of the TMI-2 accident, and later re-initiation of work. The licensee took effective corrective action for these problems by augmenting the periodic inspections of these barriers.

Overall, the licensee's fire protection program continues to improve especially in the area of fire brigade training. There is confidence that the licensee provides adequate training for its personnel to effectively perform their duties during a fire in safety-related areas. Control of combustible material and overall plant cleanliness continues to be a notable characteristic of the licensee at TMI-1.

Conclusion

Category 1, Consistent.

Recommendation

None

F. Emergency Preparedness

The previous assessment found the licensee continued to expend considerable efforts and resources in upgrading the program and the facilities. Their performance during the annual exercise, and the training program was thorough and well implemented.

During this assessment, there were two routine inspections of the emergency preparedness program. An unannounced inspection of the overall program was performed on August 28 - 31, 1984, which included observations of an emergency drill, walkthroughs with shift supervisors (initial Emergency Directors), and a review of two previously identified improvement items. A full scale exercise, conducted on October 3, 1984, was observed by a team of NRC and NRC contractor personnel.

There were no violations or reportable events related to the licensee's state of emergency preparedness.

The licensee's commitment of substantial resources to the emergency preparedness program in the areas of staffing, training, management, facilities and equipment has provided a superior level of performance. Based upon walkthroughs with shift supervisors and observations during the drill and full scale exercise, it is apparent that management emergency response personnel possess the necessary skills and temperament to cope with emergency conditions. During the drill and exercise, the licensee successfully demonstrated the use of their newly constructed dedicated Emergency Operations Facility. Other emergency response facilities (i.e., Control Room, Technical Support Center) were used in an effective manner during the drill and exercise.

The licensee's emergency preparedness staff which consists of nine full time personnel, seven of which are professional, exceeds the average staff of four noted at other Region I utilities. The effective use of licensee emergency preparedness personnel provides an important contribution to the high level of performance.

Conclusion

Category 1, Consistent

Recommendations

None

G. Security and Safeguards

The previous assessment found the licensee's performance was very aggressive toward protection of the facility by implementing effective procedures, initiative in problem identification and corrective actions, thorough review of events, and adequate management involvement to administer the program.

During this assessment, two routine, physical protection inspections were conducted by the regional staff and routine resident inspections continued throughout the assessment period. One violation was identified. The licensee continues to implement a security program which involves full vitalization of safety-related areas comparable to a power operation status.

The licensee submitted four security event reports per 10 CFR 73.71. Two of the events, which occurred in May and June of 1984, resulted from a loss of power to the security computers for which proper compensatory measures were implemented. The other two events were classified as moderate losses of security as a result of equipment malfunctions.

Corporate management has been involved in planning for improvements to the site physical protection system and works closely with site security management to plan, provide, and sustain a highly effective security program. Monthly meetings are held onsite between corporate and site security management and this demonstrates a strong, complementary influence on the security program. Annual corporate audits are well planned and carried out, as are the quarterly site security audits. Management demonstrated cooperation with the NRC safeguards license reviewer and generally responded promptly to all NRC safeguards licensing comments and concerns.

Violations have been minimized; there have been no major violations since January 1976. Staffing is adequate and management is attentive to personnel requirements. A new corporate position, Director of Security with the sole function of security, was established during this assessment period. This is further indication of the licensee's positive attitude toward maintaining an effective security program.

On February 8, 1985, there was an enforcement conference to discuss several recent incidents of mishandled Safeguards Information (SGI) at TMI 1 & 2. The incidents were reviewed during a special inspection on January 23, 1985. The inspector determined that the licensee was implementing an adequate system to protect SGI and that a comprehensive training program was in effect. The incidents were apparently due to inattention by personnel. Because the incidents

were identified by the licensee and the NRC was promptly notified, even though such notification was not required and the licensee acted promptly and responded fully in taking corrective action, no violations were issued.

The security force generally exhibited a high degree of professionalism. The training and qualification program is managed by a highly competent and dedicated training staff. Training facilities are very good and indicative of the importance management places upon training and its desire to maintain a highly effective professional security organization.

Conclusion

Category 1, Consistent.

Recommendations

None

H. Design, Engineering and Modification

The previous assessment noted that the licensee routinely exhibited conservatism in the resolution of technical issues by generally sound evaluations conducted by competent personnel. There was a good overall system of checks and balances to assure proper implementation of modification work packages. The licensee's weak performance for other than steam generator work was attributed to inter-departmental communications, strained resources, and relatively reduced management attention. In certain instances, this resulted in poor cognizance by the licensee of overall modification package problems with respect to incomplete work list items, knowledge of regulatory commitments and requirements, and untimeliness in the formal NRC notification of delays or changes in meeting some regulatory requirements. This assessment noted clear signs of performance improvement.

During this assessment period, the modification control program was determined to be well established and defined with notable improvements being implemented. Overall control procedures are adequate and support inter-department interfacing. This interfacing provides a good exchange of information between the corporate and site intermediate managers as evidenced in the Project Status and Daily Planning Meetings. However, the system gets overloaded from time to time when the priorities or commitment dates set at these meetings are not fully implemented. Management continues to demand oral and written reports to stay abreast of these problem areas for resolution.

The licensee exhibits a good deal of initiative on overall program improvement. While a special task force report on modification control program improvements is under review by the Office of the President, the Technical Functions Division is acting on some of those recommendations with the authorization of additional resources at the TMI-1 site to handle minor design work. One of the recommendations of the task force report is to have contractors perform major modification design work for the licensee permitting Technical Functions to devote more time to independent technical and safety reviews. Also, the task force report identifies that the licensee tries to handle too many modifications at any given time. The inspectors have also noted this problem. Company self-initiated improvement modifications and regulatory emphasis to make reasonable progress on long term commitments compound this problem. Overall, progress is being made by the licensee in adequately balancing these pressures to maintain the plant in a state of readiness for restart, while completing commitments for old or new regulatory issues.

The Cognizant Engineer concept is fully implemented for TMI-1. These individuals are getting day-to-day knowledge of problems and needs of the plant. Management insists on being kept informed on system problems via periodic summary reports on system status. These Cognizant Engineer's reports appear to be effective in aiding communications between top and lower level managers and, thereby, sustaining management involvement in this area.

Designs and related technical or safety evaluations are adequate with design inputs clearly defined in work instructions and drawings. The basis of these evaluations are clearly stated and reflect management overview and demands for excellence as evidenced by the extensive use of system design descriptions and technical document reports. Preliminary and Final Design Review Meetings, a licensee initiative involving various corporate and site divisions, are effective in assuring that designers properly reflect commitments or requirements in their design documents. This is an aid to the Cognizant Engineer in obtaining knowledge and getting a complete picture on the scope of a particular modification.

For the most part, work instructions were adequate to properly complete the installation of modification packages, complemented by extensive preoperational test programs. There was a problem with the guidance for the installation of a main steam vent stack support which did not account for thermal expansion of the vent stack. This was considered to be an isolated case.

Inspector review regarding the issue of adequacy of work instructions shows that there continues to be a high number of Field Change Requests (FCR) per modification. It appears that Operational Maintainability and Constructability Review meetings were effective in reversing this trend. NRC inspectors identified a problem with the adequacy of various FCR evaluations for pipe supports. The "use-as-is" statement was the apparent justification for the use of anchor supports with deviations. This was a documentation problem traced to one contractor employee. The worker made appropriate calculations and evaluations but failed to properly document or reference the evaluation in the FCRs in question. It appears that licensee corrective actions (counseling the individual involved and additional auditing of other FCRs) on this matter were effective.

Generally, workers properly implemented modification work instructions. There was a failure to completely follow the work instructions for modifications related to the use of a TMI-2 Condensate Storage Tank for TMI-1 low level radwaste storage. This was due to a contractor supervisor failing to properly check the completed work. This was determined to be an isolated case considering the number of work instructions implemented during the year. Overall, workers properly implemented administrative controls for the Configuration Control Program as evidenced from the updating of procedures and drawings which needed to be changed because of modification work.

The licensee made considerable improvements in the drawing control system by computerizing the system and keeping the various distribution points updated with revision information of a better quality. The licensee also provided adequate training for this system. Overall, the licensee met commitments to the NRC in this area.

Within the various subareas of the modification control program, the Quality Assurance Department is an active and strong organization. Work instructions have quality control hold points. Quality Assurance (QA) Engineering closely monitors and reviews corporate and site engineering activities. Monitor and audit reports reflect thorough and well conducted activities. The audit group is responsive to conducting special reviews of problem areas as evidenced by licensee response to violations in this area. The level of QA management involvement is evidenced by their investigation of allegations from a vendor on a licensee vendor surveillance representative.

The site welding program is extensive, with adequate procedures, training and welder qualifications, effective implementation, quality control hold points, QA monitoring and audit activities on process work.

The licensee was very responsive to NRC concerns; in general, they provided sound resolutions to technical issues. They continued to make progress in implementing long term commitments (commitments due the first refueling outage after restart) by completing a diesel generator breaker time delay modification and by continuing work on reactor water level installation along with other TMI Task Action Plan items. Management was assertive in implementing the improvements to the Modification Control Program to counter the weaknesses identified in the last assessment period. Although justification problems existed with the environmental qualifications (EQ) files at the end of the last assessment period, licensee management made a strong and effective effort to resolve these deficiencies. However, in the early part of this assessment period, inspectors noted open QA audit findings dating back to 1981 in the EQ area. Despite QA efforts to resolve these deficiencies, it was clear that the organization failed to function cohesively to resolve these problems. Licensee management effectively turned this around with the application of additional and knowledgeable resources leading to the satisfactory resolution of the EQ issues with NRR staff. Some unresolved items in this area remained open at the end of this assessment period.

The test results for the High Pressure Injection cross connect test entailed much discussion between GPUN engineers and NRC staff. The licensee spent an inordinate amount of time to justify acceptable test results on relatively poor data from sonic flow devices used to measure the distribution of flow through the cross connect piping. Better engineering design and planning for the test could have saved extensive licensee and NRC review time.

Overall, the modification control program has been adequate to fulfill licensee commitments made as a result of the restart hearing and to continue proper implementation of long term required modifications. Management attention to this area has been very evident in

strengthening past performance weaknesses. The modification review meetings for design adequacy, constructibility, maintainability, and operability have been key improvements.

Conclusion

Category 2, Consistent but showing signs of improvement.

Recommendations

None

I. Licensing Activities

A total of 54 licensing actions were completed during the assessment period. Of these, 37 were plant-specific actions, seven were multi-plant actions and 10 were NUREG-0737 actions. A breakdown of the significant actions completed is listed in Table 6 of this report. In general, the level of management involvement continued to be appropriate. Of particular note has been the extensive involvement of management in the environmental qualification (EQ) program. This is a significant improvement over the previous assessment period when management involvement was noticeably lacking. During the assessment period, extensive staff audits and reviews were needed to evaluate the licensee's EQ program. The licensee has responded in correcting the deficiencies identified such that, at this point in time, the licensee's EQ program is considered to be above average with respect to other operating reactors.

Other illustrations of management attention to significant matters include the licensee's handling of the reactor coolant pump shaft crack issue and recent steam generator problems (loose plugs and eddy current indications in the tubes). In these instances, management involvement and commitment of resources was demonstrated by the thoroughness of the licensee's actions in resolving these matters.

There continued to be, however, isolated instances where management could improve licensing activities for matters that are not high priority. Some of the submittals on the lower-priority actions have needed extra staff and licensee effort for clarification that might have been avoided by more GPUN management screening of the original submittal. In one case, four submittals and a number of telephone communications were needed to develop an acceptable submittal to meet the staff position on the waste gas holdup tank issue. In another case, the TS change regarding the Training Manager did not contain a clear discussion on whether the proposed change met requirements for separation of Unit 1 and Unit 2 activities. The noted deficiency in management control also was apparent for isolated cases where the TS pages included in submittals were not approved TS pages (TSCR 97, Fire Protection) or contained changes that were not identified and discussed in the submittal (TSCR 116, Containment Purging). As a final point, management attention to the less important items should also include prioritization of older issues so that they do not languish. These items included TSCR 110, Fuel Handling and Auxiliary Building Exhaust Flow; and TSCR 116, noted above.

The licensee has demonstrated understanding of the technical issues and proposed resolutions have been generally conservative and sound. However, the licensee should give more attention to the significant hazards consideration determinations that it submits with each Technical Specification change request, especially for site originated

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documents. The proposed determinations in the past have, in general, simply stated that the amendment is not likely to involve a significant hazards consideration. The determination should be shown to meet the tests (examples) in 10 CFR 50.92 as discussed in 48 FR 14870.

Providing a complete and thorough significant hazards consideration determination can reduce the time required to publish the Federal Register pre-notice.

With respect to responsiveness to NRC initiatives, the licensee has an effective system for tracking and responding to NRC requests and generally alerts the staff where an extension to a particular submittal date is needed. As noted in previous assessments, the licensee is most responsive to those issues impacting restart. Issues considered to be of lower priority normally require longer response periods.

Conclusion

Category 2, Consistent.

Recommendations

Licensee:

Meet with NRC staff to identify need for, if any, and establish priorities on licensing actions not related to restart.

NRC:

See above recommendation for the licensee.

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Conclusion

Category 2, Consistent.

Recommendations

Licensee:

Meet with NRC staff to identify need for, if any, and establish priorities on licensing actions not related to restart.

NRC:

See above recommendation for the licensee.

V. SUPPORTING DATA AND SUMMARIES

A. Investigations

There is an active investigation on the licensee's apparently inaccurate statements made in one or more written responses to the NRC staff during the review of the 10 CFR 2.206 Petition concerning the Emergency Feedwater System.

The Office of Investigations completed its review of those referrals by the NRC staff as a result of the staff review of the B & W Trial Transcripts (NUREG 1020). The NRC staff evaluated these issues as documented in NUREG 0680, Supplement 5, in July 1984. The staff referred certain matters to the Office of Inspection and Enforcement for appropriate enforcement action, if any.

B. Allegation Activities

NRC Inspection Report Nos. 50-289/84-06 and 84-29 closed out issues raised by an employee in 1983 concerning the adequacy of fire brigade training at TMI-1.

The following allegations were raised and closed during this assessment period:

- A dispatcher raised questions of management improprieties. The OI Inquiry Report (Q-1-84-031) did not substantiate these concerns.
- Anonymous site employees raised concerns about the licensee deleting the requirement to use respirators for steam generator work. The inspector substantiated these concerns, in part, as documented in Inspection Report No. 50-289/85-04.
- An anonymous employee raised a concern about the unprotected storage of modification records in a spare trailer. The inspector did not substantiate this as documented in NRC Inspection Report No. 50-289/85-01.
- Allegation (made to licensee management, who reported it to Region I) concerning management improprieties on safety equipment. Inspection Report No. 50-289/85-01 reviewed licensee actions on this matter in which the licensee did not substantiate the concerns.

The staff completed its review of an OI inquiry report (Q-I-84-030) on this matter and found the concerns to not be substantiated.

- Allegation (made to licensee management, who reported it to Region I) concerning improprieties by a vendor surveillance

representative in dealing with a licensee vendor. The licensee determined that the alleged improprieties were apparently related to the individual's personality traits, with the vendor's word against the licensee representative's word. The individual was eventually reassigned. Licensee action on this matter was reviewed in NRC Inspection Report No. 50-289/84-33.

C. Escalated Enforcement Actions

1. Civil Penalties

The NRC assessed one civil penalty (\$40,000) during this period. It dealt with the procedure non-adherances during the September 1983 hot functional test sequence.

A proposed civil penalty is outstanding. It deals with: (1) failure of the licensee's training and testing program to satisfy commitments made by the licensee in responding to the Commission Order, dated August 9, 1979; and, (2) willful material false statements to the NRC in an August 3, 1979, letter and a November 15, 1979, application for an operator license renewal. The licensee paid \$40,000 for Item (1) above, but the licensee requested a response extension to 30 days from receipt of the NRC report substantiating item (2). The Office of Inspection and Enforcement (IE) granted the extension. IE delayed releasing the report because of a referral to the Justice Department on the individual involved. Since the case went to trial and a verdict was received, IE released this report to the licensee on February 1, 1985. The licensee is reviewing this matter.

2. Orders

There were no orders associated with escalated enforcement actions during the assessment period.

3. Confirmatory Action Letters (CALs)

There were no CALs associated with escalated enforcement actions issued during the assessment period.

4. Enforcement Conferences Held During the Assessment Period

No enforcement conferences were held during the assessment period.

D. Licensee Event Report (LER's)

Type of Events (Summary of Table 5)

A.	Personnel Error.....	0
B.	Design/Fabrication.....	5
	Construction/Installation Error	
C.	External Cause.....	0
D.	Defective Procedure.....	0
E.	Component Failure.....	2
X.	Other.....	0
	Total	<u>7</u>

Licensee Event Reports Reviewed: LER 84-01 to 84-07

Causal Analysis (Review Period February 1, 1984 - January 31, 1985)

Two sets of related problems were identified:

1. Two LERs addressed defective fire barrier penetration seals. This has been a recurrent problem due to previous poor workmanship on the installation of seal material. The LERs were 84-01 and 84-03.
2. Three LERs related to failure of certain relays in the plant. They were 84-02, 84-05, and 84-06. The three LERs deal with different failure mechanisms with no common causal link.

TABLE 1
TABULAR LISTING OF LERs BY FUNCTIONAL AREA
THREE MILE ISLAND - UNIT 1

<u>Area</u>	<u>Number/Cause Code</u>		<u>Total</u>
1. Shutdown Plant Operations	1B	1E	2
2. Radiological Controls			0
3. Maintenance	1B		1
4. Preoperational Test and Surveillance	1B	1E	2
5. Fire Protection and Housekeeping			0
6. Emergency Preparedness			0
7. Security and Safeguards			0
8. Design, Engineering and Modification	2B		2
9. Licensing Activities			0
		Total	<u>7</u>

Cause Codes:

A - Personnel Error
 B - Design, Manufacturing, Construction, or Installation Error
 C - External Cause
 D - Defective Procedures
 E - Component Failure
 X - Other

TABLE 2INSPECTION HOURS SUMMARY 2/1/84 - 1/31/85THREE MILE ISLAND - UNIT 1

	<u>HOURS</u>	<u>% OF TIME</u>
1. Shutdown Plant Operations	1383	38
2. Radiological Controls	286	8
3. Maintenance	408	11
4. Preoperational Test and Surveillance	603	17
5. Fire Protection and Housekeeping	120	3
6. Emergency Preparedness	360	10
7. Security and Safeguards	57	2
8. Design, Engineering and Modification	341	10
9. Licensing Activities	N/A	N/A
Totals	<u>3558</u>	<u>100</u>

*Allocations of inspection hours vs. Functional Areas are approximate values based upon inspection report data.

TABLE 3
 VIOLATION SUMMARY 2/1/84-1/31/85
 THREE MILE ISLAND - UNIT 1

A. Number and Severity Level of Violations

Severity Level I	0
Severity Level II	0
Severity Level III	0
Severity Level IV	2
Severity Level V	<u>3</u>
Total	5

B. Violations vs. Functional Area

	<u>Security Levels</u>				
	I	II	III	IV	V
1. Shutdown Plant Operations					
2. Radiological Controls					1
3. Maintenance					1
4. Preoperational Test and Surveillance					
5. Fire Protection					
6. Emergency Preparedness					
7. Security and Safeguards					1
8. Design, Engineering and Modifications				1	1
9. Licensing Activities					
Totals	0	0	0	2	3

C. Summary

<u>Inspection Report No./Date</u>	<u>Severity Level/Functional Area</u>	<u>Summary of Violation</u>
84-06 2/12/84-4/12/84	V Design	Failure to document technical justification for Use-As-Is disposition of identified nonconformances.
84-11 4/10/84-5/08/84	IV Design	Failure to complete work before Job Order was signed off as being complete.
84-16 6/4/84-6/8/84	V Radiological Controls	Failure to properly follow Radiation Work Permit.
84-24 8/3/84-9/7/84	V Maintenance	Failure to properly implement Minor Maintenance Program.
84-34 10/22/84-10/26/84	IV Security	Certain Security Force individuals lacked sufficient knowledge about backup communications system

TABLE 4
INSPECTION REPORT ACTIVITIES (2/1/84-1/31/85)
THREE MILE ISLAND - UNIT 1

<u>Inspection Report No.</u>	<u>Inspector</u>	<u>Hours</u>	<u>Areas Inspected</u>
84-04	Specialist	24	Review of Security Program and Implementation
84-05	Specialist	73	Operational Readiness Review.
84-06	Specialist	176	Appendix R Review, Fire Protection Training Outstanding Items (OI's), Review of Preoperational and Startup Testing Program.
84-07	Resident	141	Routine Review of plant operations including Reactor Coolant Pump (RCP) Repair and Once Through Steam Generator (OTSG) Repair Items.
84-08	Resident	136	Routine review of plant operations including RCP repairs, DH-V1 Repair and Restart Modifications.
84-09	Specialist	110	Operator Licensing Examinations.
84-10	Specialist	57	Review of Reactor Building Integrated Leak Rate Test.
84-11	Resident	159	Routine review of plant operations including RCP repairs, ATOG implementation and restart modifications.
84-12	Specialist	54	Special review of licensee quality assurance classification system.
84-13	Specialist	28	Snubber Program and Implementation.
84-14	Specialist	92	Review of modifications and preoperational plant startup testing.

<u>Inspection Report No.</u>	<u>Inspector</u>	<u>Hours</u>	<u>Areas Inspected</u>
84-15	Resident	176	Routine review of plant operations including security performance during demonstration and restart valve lineups.
84-16	Specialist	218	Review of radiation programs and plant chemistry.
84-17	Resident	203	Routine review of plant operation including maintenance, restart valve lineups, and OTSG leakage.
84-18	Specialist	69	Review of RCS Leak Rate Calculation Test Program.
84-19	Specialist	24	Review of licensed operator re-qualification program; operator readiness followups.
84-20	Resident	124	Routine review of plant operations including maintenance and surveillance.
84-21	Specialist	65	Review of Bulletins, Emergency Feedwater (EFW) 2.206 Petition, and Engineering OI's.
84-22	Specialist	91	Review of EFW 2.206 Petition and Welding Program.
84-23	Specialist	34	Review of Leakage Reduction Program for Systems Outside Containment.
84-24	Resident	206	Routine plant operation review; Maintenance Program; OTSG repair.
84-25	Specialist	14	SRO Exam - Requalification Program and ASLB requirement followups.
84-26	Specialist	72	Emergency Preparedness OI's.
84-27	Specialist	27	Design Change/Modification Program - Drawing Control Followups.
84-28	Specialist	22	Environmental Qualification (EQ) File Review and related QA audits.

<u>Inspection Report No.</u>	<u>Inspector</u>	<u>Hours</u>	<u>Areas Inspected</u>
84-29	Resident	152	Routine review of plant operations, maintenance (OTSG), Fire Brigade Allocation Followups. Non-licensed training program implementation.
84-30	Specialist	288	Emergency Preparedness Implementation Review.
84-31	Specialist	47	Organization/Administration and Safety Review - Operation OI's.
84-32	Specialist	89	Operator Licensing Exams
84-33	Resident	127	Routine review of plant operations including maintenance and surveillance; vendor surveillance representative allegation; restart license conditions.
84-34	Specialist	30	Routine review of security program implementation.
84-35	Specialist	24	Post-Accident Sampling Systems follow-up.
84-36	Specialist	60	Environmental Program Review.
84-37	Specialist	22	Chemistry Program Review.
84-38	Resident	109	Routine review of plant operations including maintenance and surveillance.
85-01	Resident	142	Routine review of plant operations and allegation follow-up.
85-02	Completed in next assessment period.		
85-03	Specialist	44	Follow-up on Engineering OIs.
85-04	Specialist	8	Follow-up on OTSG Respiratory Protection Allegation.

Table 4

40

<u>Inspection Report No.</u>	<u>Inspector</u>	<u>Hours</u>	<u>Areas Inspected</u>
85-05	Specialist	3	Follow-up on Safeguards Material Control Problem.
85-06	Specialist	18	Follow-up on EQ OIs.

TABLE 5

LER SYNOPSIS - 2/1/84 - 1/31/85

THREE MILE ISLAND - UNIT 1

<u>LER Number</u>	<u>Summary Description</u>
84-01	Relay room floor fire barrier penetration seal No. 735 was in a deficient condition. There was no sealing material inserted into the air gap.
84-02	Partial ESAS actuation during ESAS maintenance testing on one channel with an unknown failed relay in another channel.
84-03	Two penetrations in the Instrument Shop floor did not have fire rated penetration seals.
84-04	Steam generator tube not plugged as required. Subsequent to the performance of a bubble test on the "A" OTSG on June 25, 1984, licensee representatives discovered that tube number A-135-72 was not plugged although it was required to be plugged in June of 1983.
84-05	Seismic qualification of diesel generator differential relays. The licensee representatives discovered that the diesel generator differential relays may not be capable of withstanding a seismic event and could result in both diesel generators being inoperable.
84-06	Improper calibration of 4160V bus relays. During the performance of surveillance procedure, licensee representatives found three ITS relays (ITE 27H) in the 4160V bus IE, to be out of calibration.
84-07	Tubes in OTSG A were identified during Eddy Current Testing (ECT) as being defective.

TABLE 6
SUMMARY OF SIGNIFICANT LICENSING ACTIONS
AND SUPPORTING ACTIVITIES
THREE MILE ISLAND - UNIT 1

This section provides a summary of significant licensing actions and other activities during the SALP evaluation period.

1. Licensing Actions - Total of 54 Completed

- Plant-specific actions (37 completed, 36 currently active):
 Actions in this category which were used to provide input for this evaluation are:
 - Additional Water Storage
 - Surveillance Standards and IOSRG
 - Plant Shielding - Alternate Solution
 - EFW Flow Test
 - H₂/O₂ Limits
 - Plant Shielding - Revised Solution
 - RCP Pump Repair
- Multi-plant actions (seven completed, 14 currently active):
 Actions in this category which were used to provide input for this evaluation are:
 - Natural Circulation Cooldown
 - Generic Letter 83-37
 - Scram Breaker Shunt Trip
 - Containment Vent and Purge
 - Environmental Qualification
- NUREG-0737 actions (10 completed, 12 currently active):
 Actions in this category which were used to provide input for this evaluation are:
 - Control Room Habitability
 - Containment Pressure Instrument
 - Containment Water Level
 - Containment Hydrogen Monitor
 - EOP Upgrade
 - Post Accident Sampling

2. NRR/Licensee Meetings - 12

Restart Proceeding License Conditions
Environmental Qualification
Emergency Feedwater System
Emergency Planning
Important to Safety Software Classification
Control Room Design Review (three meetings)
Fire Protection (three meetings)
Subcooling Margin Monitor

3. NRR Site or Corporate Office Visits - 13

Environmental Qualification (seven visits)
Commissioner Zech Tour
Public Briefing (two visits)
Restart Modification Review
EFW System Walkdown
Control Room Walkdown

4. Commission Briefings - 3

Restart Certification Update
Oral Presentations on Restart
Director's 2.206 Decision on EFW

5. Schedule Extensions Granted - None6. Relief Granted - 1

In-Service Inspection

7. Exemptions Granted - 1

Fire Protection

8. License Amendments Issued - 139. Emergency Technical Specification Changes Issued - None10. Orders Issued - 1

Confirmatory Order on NUREG-0737 Supplement 1

11. NRR/Licensee Management Conferences - None