

NUCLEAR SAFETY AND COMPLIANCE COMMITTEE REPORT

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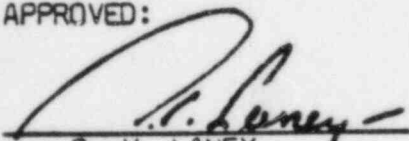
GPU NUCLEAR BOARD OF DIRECTORS

for the period

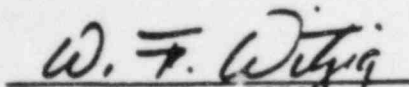
APRIL 1, 1985 THROUGH SEPTEMBER 30, 1985

October 15, 1985

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## 1.0 SUMMARY

This report provides an assessment of safety and compliance at the GPUN Oyster Creek and TMI-1 facilities, based on independent observations by the Nuclear Safety and Compliance Committee (NSCC) and NSCC Staff during the period April 1 through September 30, 1985.

Overall, Oyster Creek and TMI-1 activities were conducted safely and with a positive attitude toward nuclear safety and compliance. A few instances of non-compliance with administrative requirements were noted; however, they did not constitute an overall trend or significant safety concern.

This report of the NSCC's observations on nuclear safety and compliance is expanded in size from earlier semi-annual reports to include the methodology used to ascertain plant status.

Section 2.0 of this report provides the NSCC's assessment of safety and compliance, segregated by functional area. Evaluations are based upon investigations and observations throughout the period. Unless noted otherwise, conclusions apply to both TMI-1 and Oyster Creek. Evaluations generally discuss "as found" conditions. Wherever the Committee is aware of corrective actions taken or in progress, this has been noted. In all cases, items of significance have been discussed between Staff and Committee and reported to the GPUN Board of Directors and corporate management at regular monthly meetings.

Section 3.0 describes the Committee's methods of discovery by providing detailed information on Committee and Staff activities during the period.

## 2.0 ASSESSMENT OF SAFETY AND COMPLIANCE

### 2.1 Operations

Committee and Staff observations have concentrated on performance of licensed operators and procedural controls. In general, operators at both units have performed satisfactorily, demonstrating good knowledge and training. They are alert and attentive to plant conditions and have responded well to abnormal situations, e.g., scrams, loss of electrical supplies, fires, etc.

Some operator errors have occurred. A valving error on the Reactor Coolant Pump seal return line at TMI-1, a scram at Oyster Creek resulting from simultaneously inserting all eight Intermediate Range Monitors while decreasing power, and inadvertent actuation of safeguards equipment during surveillance tests at both units are examples. In each case, the errors occurred during performance of routine but infrequent evolutions. In all but one case, unclear or inadequate procedural guidance may have contributed to the errors. Operators have been counselled regarding the need for continual attention to detail in plant operation and these few occurrences do not present a significant safety concern. Procedure adequacy needs to be evaluated on a continuing basis. During this period the Staff evaluated the scope of procedural coverage relative to regulatory requirements, and the process for procedure development, review, approval and distribution at each unit and found them to be adequate.

Until recently, periodic review and update of procedures, as required by Administrative Procedures and Technical Specifications, was delinquent at TMI-1. Management attention to this situation has eliminated a significant backlog of procedures overdue for biennial review. However, the Committee is concerned with the delay in correcting this problem, which had been identified in two QA audits, until after an NRC review called attention to the delinquency.

Plans for modifying current operating and emergency procedures to meet corporate requirements for procedure standardization were reviewed. Implementation of the corporate requirements for standardization, as currently written, could result in some confusion, delay in accessing emergency procedures, and carry the potential for a reduction in safety. Additional review by GPUN management is needed before complete implementation of this program at the plant level.

Performance of non-licensed operators (Auxiliary Operators, Equipment Operators, Radwaste Operators) was evaluated as satisfactory based on observations during plant tours.

Procedures for control of equipment status, (i.e., release for maintenance or test, tagging, etc.) were evaluated as satisfactory and in compliance with appropriate regulatory requirements.

Preparations for Restart of TMI-1 were reviewed and evaluated as satisfactory. Additional experience and training obtained at hot shutdown, while awaiting the resolution of court actions, have been beneficial.

The transient at Davis-Besse station on June 9, 1985 raised concerns about the possibility of a similar event at TMI-1. GPUN investigation and analysis of the event was prompt and thorough in comparing plant designs and determining that the same event would not happen at TMI-1. Operators were well informed of the details of the event and results of GPUN analysis. It appears that analyses thus far have been limited to the specific event. The Committee encourages the performance of a broader analysis of TMI-1 Heat Sink Protection System modifications and system interactions, for other possible failure modes in the Davis-Besse type of event.

The Staff developed, at the Committee's request, a series of performance trend charts for each unit, which consolidated information obtained from various GPUN reports and information sources. The Committee provided a copy of these charts to GPUN for information. GPUN management intends to prepare a periodic consolidated trending report.

## 2.2 Maintenance

Evaluation of maintenance activities concentrated on adequacy and implementation of administrative controls. The Staff found that at both units the scope of coverage and administrative processes established met the requirements of applicable regulatory standards.

In general, changes in organizational structure and responsibilities are slow to be incorporated into procedures. For example, at Oyster Creek, maintenance functions have been divided between the Oyster Creek Division and the Maintenance, Construction and Facilities Division for some time but procedures did not adequately delineate responsibilities of each group until very recently. As a result, some requirements, such as biennial procedure review, have been adversely affected. Another example is the need for updating organizational responsibilities in the corporate welding manual.

At both units, instances of non-compliance with maintenance administrative controls, such as failure to utilize prescribed forms or procedure format, were noted. At TMI-1, instrument calibration stickers are not being used per procedure and provide inconsistent information to field personnel although the calibration program is effective and well documented by a computerized tracking system.

Maintenance Administrative controls must be effectively implemented or, where appropriate, changed to reflect actual practices.



Control of vendor labor was evaluated. The Reactor Building Tendon Surveillance at TMI-1 and the Spent Fuel Return at Oyster Creek, both of which were accomplished primarily by contract labor, were closely monitored. In each case, the coordination efforts of site personnel resulted in satisfactory completion of the effort. It was noted, however, that a significant percentage of QA program deficiencies (QDR's, MNCR's) during the 1983-1984 outage at Oyster Creek were attributed to contractor supervisors. No formal training program for these personnel existed until September 1985. GPUN contracts provide for removal of unsatisfactory performers, but no criteria have been established for initial selection of contractor supervisors.

### 2.3 Surveillance Testing

The operations and maintenance surveillance programs at each site were evaluated for compliance with regulatory requirements and effective implementation. No safety or compliance concerns were identified regarding the accomplishment of required surveillance tests.

At Oyster Creek, the Master Surveillance Test Schedule does not accurately reflect status of completed tests and because of the scheduling method used, unnecessary testing and out of service time has resulted for Important to Safety components. Actions which should correct these problems have been initiated.

### 2.4 Technical Functions

Technical Functions Division support of plant activities was evaluated for the Shift Technical Advisor (STA) Program, Licensing, and processing of design changes.

#### 2.4.1 STA Program

Administrative controls for the selection, training, and operating responsibilities of the STA's are comprehensive and effectively implemented. Performance of the STA's has been observed at both units under present operating conditions. They appear to be well trained and competent, and they interface well with the operating crews. The method of coverage (i.e., STA's are in the control room or readily available at all times) enhances the value of the program. There are no safety or compliance concerns with the STA program.

#### 2.4.2 Licensing

The Licensing group at each site is appropriately staffed and, in general, performs satisfactorily. At Oyster Creek, there was one occurrence in which some actions committed to in a Licensee Event Report (LER) were not accomplished in a timely manner and Licensing had not issued corresponding Licensing Action Items (LAI's). Investigation revealed that the site Licensing group did not properly interpret its responsibility for identification and tracking of action items, as defined in Technical Functions Division procedures.

Some reluctance by other Departments to take action without issuance of a LAI was also noted. The procedures which govern regulatory corrective actions should be reviewed for adequacy and fully implemented.

The Staff reviewed the history of a design modification to the Oyster Creek Core Spray Pump logic. Due to over emphasis on "reportability" rather than genuine "safety significance" in governing corporate procedures, a design deficiency was initially incorrectly classified and processed as routine by the plant. Diligent efforts by several Technical Functions departments in processing the work request resulted in the discovery and correction of a logic design deficiency, which was determined to be both safety significant and reportable.

Practices and procedures should be modified to address the safety significance of items as well as their reportability or their compliance or non-compliance with regulations. Responsible reviewers should also receive training on recognizing and prioritizing potential safety concerns.

As a follow up to this incident, the Staff reviewed a substantial number of Preliminary Safety Concerns, Potential Reportable Events and Plant Incident Reports at TMI-1. In all instances, items which were classified as non-reportable were properly pursued in a timely manner.

#### 2.4.3 Design Changes

The Staff evaluated the policies, procedures and practices associated with the processing of design change packages. The program was determined to be satisfactory and no safety or compliance concerns were identified. An in-depth review was made of one occurrence at TMI-1, which resulted in issuance of inappropriate welding procedures for components being installed in a system. The Staff review identified deficiencies in the GPUN investigation of the incident, and a potential interface problem between Purchasing and Technical Functions, in that Purchasing will accept documentation from Technical Functions personnel that does not conform to Technical Functions requirements. These were communicated to GPUN for corrective action.

#### 2.5 Nuclear Assurance

Nuclear Assurance support of plant activities was evaluated for Training, Quality Assurance, Emergency Preparedness, and Independent Onsite Safety Review Group.

### 2.5.1 Training

The Staff evaluated the training program development, review and approval process, examination control procedures, and control of training records and other documents at each site. No safety or compliance concerns were identified. The TMI-1 Training Department has a comprehensive administrative manual. Oyster Creek presently utilizes corporate procedures, while its administrative manual is being developed. Successful results in recent NRC license exams and licensed operator requalification exams, and satisfactory progress in obtaining INPO accreditation of training programs is indicative of an effective program at both sites.

The Staff evaluated the potential training benefit of an Oyster Creek replica simulator with respect to whether training on such a device could have improved operator response to several recent transients. The results of this evaluation, which indicated benefit in some events, were provided to GPUN management.

### 2.5.2 Quality Assurance

An overview of the various QA functions, such as QA Audits, Operational QA Monitoring and QA Systems Engineering was performed at each site. Sufficient procedural guidance is provided and the groups are adequately staffed to effectively carry out their functions. No significant safety or compliance concerns were identified.

The QA/QC Corrective Action System at Oyster Creek was evaluated and found to be comprehensive and effective. Oyster Creek management is responsive to QA findings. It was noted that Deficiency Trend Analysis Reports were not being issued in accordance with QA procedures. Corrective action has been taken and a Deficiency Trend Analysis Report has recently been issued.

The QA/QC Corrective Action System evaluation at TMI-1 was being completed at the time of this report. With the exception of three audit findings from 1983 still being open, corrective actions are aggressively pursued by the audited organizations and QA. One of these three findings appear to be approaching closure, however two findings regarding the safety review process appear to need further attention.

### 2.5.3 Emergency Preparedness

The Emergency Preparedness organizations at both sites are adequately staffed and supported to protect public health and safety. Administrative Procedures comply with regulatory requirements. Some format inconsistencies were noted in TMI-1 Emergency Plan Implementing Procedures, but action is being taken to correct this. The Staff observed drills and/or attended critiques of emergency exercises at each site in June and September.



Results were generally satisfactory, although performance at TMI-1 in June did not appear to be up to the same standard as the previous exercise in October 1984. The September TMI-1 drill showed improvement although minor deficiencies, such as lack of full compliance with status board and log keeping requirements, continue to occur. No significant safety or compliance concerns were identified.

#### 2.5.4 Independent Onsite Safety Review Group (IOSRG)

The IOSRG at each site was evaluated as satisfactory in staffing and fulfillment of its review functions. The groups are appropriately sensitive to maintaining independence. At TMI-1, one noncompliance with Technical Specification administrative requirements was noted, in that reports of evaluations and assessments were not being forwarded to the Vice President, Nuclear Assurance. This will be corrected. No other safety or compliance concerns were identified.

### 3.0 ACTIVITIES OF COMMITTEE AND STAFF

#### 3.1 General

The Committee guides the Staff's investigations and approves Staff schedules and expenditures. NSCC Staff activities involve both routine monitoring and special reviews. Routine monitoring covers all functional areas at each site and at corporate headquarters. A long range schedule of monitoring activities is developed every six months. Additional activities are added at the request of the Committee whenever plant events or industry occurrences (e.g., TMI-1 restart procedures, Davis-Besse) dictate. The Committee reviews various corporate reports such as those listed in Table 3-1. Upon occasion these result in special tasks for the Staff.

The Committee and Staff meet monthly to discuss in detail the activities and evaluations of the previous month and future plans. Additional communication via telephone and mail routinely occur among the Committee members and between Committee and Staff.

#### 3.2 Committee Activities

In addition to the activities described above, the Committee meets with the GPUN Board of Directors at regular monthly meetings and reports on any items with safety or compliance significance. Questions or concerns which may arise between Board meetings may be conveyed to the Chairman or President, GPUN, by telephone.

During this report period, two additional meetings (Observations Meetings) between the Committee, Staff, and GPUN executives were held. The Observations Meetings provide a forum for the Staff to present additional observations and comments on plant activities, which were obtained in the course of performing safety and compliance evaluations.

On May 30, all Committee members attended a briefing on the GPUN Nuclear Safety Assessment function presented by Dr. Robert Long and his staff.

The NSCC Chairman attended two TMI-1 GORB meetings and one Oyster Creek GORB meeting during the report period. The Committee toured TMI-1 twice during this report period (May and July). In addition, the NSCC Chairman accompanied the GPUN Chairman of the Board on an evening shift tour of Oyster Creek in July.

### 3.3 Staff Activities

The Staff, permanently located at the plants, gathers information on plant activities in many ways. Plant tours, monitoring of activities, attendance at meetings, interviews with GPUN personnel, and review of reports, correspondence and other documents are all used in conducting evaluations. Plant operations and maintenance activities receive the most attention. The NSCC Staff at each site has an operations and a maintenance Staff Specialist. Additional Staff members have training and licensing/safety review specialties, and spend much of their time reviewing support functions.

Evaluations during this period concentrated on areas and activities described in Section 2.0. Table 3-2 lists activities and information sources used in Staff evaluations. Table 3-3 indicates the types and numbers of GPUN personnel contacted during this period.

During this period, three Staff members attended training seminars on use of the Management Oversight and Risk Tree (MORT). MORT analysis provides a systematic, structured methodology for investigating incidents, and should be useful in conducting Staff evaluations. One Staff member attended an earlier session and the remaining Staff members will attend future sessions.

TABLE 3-1

NSCC DOCUMENT/INFORMATION SOURCES

GPUN Sources (both sites unless otherwise noted):

Plant Incident Reports (TMI-1)  
Deviation Reports (OC)  
Licensee Event Reports  
Licensing Correspondence  
Biweekly Significant Events Reports  
Off Shift Tour Reports  
Post Trip Review Group Reports (OC)  
Transient Assessment Reports (OC)  
IOSRG Evaluation Reports  
GORB Meeting Reports  
QA Monthly Assessment Reports  
QA Quarterly Trend Reports

Other Sources:

NRC Notices  
NRC Generic Letters  
NRC Regulatory Guides and NUREGs  
NRC SALP Reports  
Industry Periodicals (Inside NRC, Nucleonics Week, etc.)  
ASLB Hearing Transcripts (TMI-1)  
EPRI Reports  
NRC Inspection Reports  
INPO Evaluation Reports  
INPO Nuclear Power Plant Operational Data Report



TABLE 3-2

NSCC STAFF ACTIVITIES/INFORMATION SOURCES

(Both sites unless otherwise noted)

PLANT TOURS

General Walk-through/Housekeeping Inspection  
Off Shift Tours  
Control Room Observations  
Maintenance Observations  
Surveillance Test Observations  
Rad Waste Handling Observations

MEETINGS

Daily Plant Status Meetings  
Weekly Plan of the Day Meetings  
Outage Planning Meetings (OC)  
NRC Entrance/Exit Meetings  
NRC SALP Meeting (OC)  
INPO Training Evaluations  
GORB Meetings  
Post Trip Review Group Meetings (OC)  
Incident Critiques (OC)  
Maintenance Critiques (OC)  
Emergency Drill Critiques  
Restart Readiness Committee (TMI-1)  
QA Annual Assessment Meetings

DOCUMENT REVIEW

GPUN Sources:

Plant Incident Reports (TMI-1)  
Deviation Reports (OC)  
Licensee Event Reports  
Licensing Correspondence  
Biweekly Significant Events Reports  
Off Shift Tour Reports  
QA Audit Reports  
QA Monthly Assessment Reports  
QA Quarterly Trend Reports  
QA Annual Assessment Reports  
Operations QA Monitoring Reports  
Shift Monitor Reports (TMI-1)  
Operations Daily Reports (OC)  
STA Daily Reports (OC)  
Operations Night Order Book  
Log Books (Operations, STA, Chemistry, Maintenance, Rad Waste)  
Shift Turnover Forms

Radiation Awareness Reports  
Post Trip Review Group Reports (OC)  
Transient Assessment Reports (OC)  
Maintenance Work Order Packages  
GPUN Administrative Policies and Procedures  
Station Procedures (Admin, Operations, Maintenance, etc)  
Operations QA Plan  
Technical Specifications  
Training System Descriptions  
Training Lesson Plans  
Plant Drawings  
IOSRG Evaluation Reports  
GORB Meeting Reports

Other Sources:

NRC Notices  
NRC Generic Letters  
NRC Regulatory Guides and NUREGs  
NRC SALP Reports  
INPO Evaluation Reports  
INPO Guides  
ANSI Standards  
ASME Codes  
Code of Federal Regulations (10CFR)  
Industry Periodicals (Inside NRC, Nucleonics Week, etc.)  
ASLB Hearing Transcripts (TMI-1)

TABLE 3-3

PERSONS INTERVIEWED/CONTACTED  
BY NSCC STAFF DURING THIS PERIOD

Site Personnel (both sites unless otherwise noted):

Vice President/Director-TMI-1  
Vice President/Director-OC  
Deputy Director-OC  
Operations and Maintenance Director (TMI-1)  
Plant Operations Director (OC)  
MC&F Director (OC)  
Department Managers, Supervisors, and personnel of the Following:  
    Plant Operations  
    Plant Maintenance (TMI-1)  
    Plant Material (OC)  
    Maintenance, Construction, and Facilities (OC)  
    Plant Engineering  
    Plant Chemistry  
    Special Projects (OC)  
    Plans and Programs  
    Safety Review Group (OC)  
    Plant Review Group (TMI-1)  
    Technical Functions  
    Licensing  
    Plant Analysis and STA  
    Startup and Test (OC)  
    Nuclear Assurance - QA/QC  
    Training and Education  
    Emergency Preparedness  
    Core Group - Operations Engineering (OC)  
    Radiological Controls  
    IOSRG

Corporate Personnel:

Vice President - Technical Functions  
Vice President - Radiological and Environmental Controls  
Director - Licensing and Regulatory Affairs  
Director - Engineering Projects  
Director - Training and Education  
NSAD Director  
Managers and other personnel of the following:  
    Licensing  
    Training and Education  
    Safety Analysis and Plant Control  
    Quality Assurance  
    Technical Functions  
    Maintenance, Construction, and Facilities