U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-334/82-07

Docket No. 50-334

License No. DPR-66 Priority _____ Category _____

Licensee: Duquesne Light Company

Post Office Box 4

Shippingport, Pennsylvania 15077

Facility Name: Beaver Valley Power Station, Unit 1

Meeting at: Shippingport, Pennsylvania

Meeting conducted: March 25, 1982

NRC Personnel: for D. A. Beckman, Sr. Resident Inspector — 3/31/82 date signed

for W. M. Troskoski, Resident Inspector — 3/31/82 date signed

_____ — _____ date signed

Approved by: E. E. Tripp, Chief, Reactor Projects Section 2A — 3/31/82 date signed

Meeting Summary:
Meeting on March 25, 1982 (Meeting Report No. 50-334/82-07)
Scope: Special management meeting to discuss the results of the NRC Region I assessment of the licensee's performance from September 1, 1980 to August 31, 1981, as part of the NRC's Systematic Assessment of Licensee Performance (SALP) program. Areas addressed included: Plant Operations, Radiological Controls, Maintenance, Surveillance, Fire Protection, Emergency Preparedness, Security and Safeguards, Refueling, and Licensing activities. The licensee's drug and alcohol abuse control policies were also discussed with respect to IE Information Notice 82-05, Increasing Frequency of Drug Related Incidents.
Results: A summary of the NRC licensee performance assessment was presented. No new enforcement actions were identified.

Region I Form 12-1
(Rev. February 1982)

DETAILS

1. Licensee Attendees

F. Bissert, Manager, Nuclear Support Services
J. Carey, Vice President, Nuclear Division
C. Ewing, Manager, Quality Assurance
H. Frus, Manager, Electrical Engineering
D. Hunkele, Director, Quality Assurance, Operations
T. Jones, Manager, Nuclear Operations
W. Roy, Director, Personnel Administration
J. Sieber, Manager, Nuclear Safety and Licensing
R. Swiderski, Superintendent, Nuclear Construction
N. Tonet, Manager, Nuclear Engineering
J. Walsh, Manager, Construction
H. Williams, Station Superintendent, BVPS-1
E. Woolever, Vice President, Nuclear Construction Division

2. NRC Attendees

D. Beckman, Senior Resident Inspector, BVPS-1
D. Chaney, Licensing Project Manager, NRR
R. Haynes, Regional Administrator, Region I
R. Starostecki, Director, Division of Project and Resident Programs (DPRP), Region I
L. Tripp, Chief, Reactor Projects Section 2A, DPRP
W. Troskoski, Resident Inspector, BVPS-1
R. Wessman, Chief, Reactor Construction Programs, Office of Inspection and Enforcement, Headquarters

3. Discussion

A brief summary of the Systematic Assessment of Licensee Performance (SALP) program was presented to explain the basis and purpose of the program.

The NRC Region I assessment was discussed, including the assessment period, evaluation topics and methods, and assessment results. The licensee discussed actions taken and planned to continue performance improvements and address weaknesses.

The licensee's policies for drug and alcohol abuse control were discussed with respect to IE Information Notice 82-05, Increasing Frequency of Drug-Related Incidents. This discussion was unrelated to the SALP program.

The SALP assessment report will be issued separately pending receipt and review of the licensee's response letter as discussed in an NRC Region I letter to the licensee dated March 18, 1982 and in accordance with the guidance of NRC Manual Chapter 0516, Systematic Assessment of Licensee Performance.

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

DUQUESNE LIGHT COMPANY

BEAVER VALLEY POWER STATION, UNIT 1

March 10, 1982

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TABLES

I. INTRODUCTION

a. Purpose and Overview

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect the available observations on an annual basis and evaluate licensee performance based on those observations with the objectives of improving the NRC Regulatory Program and licensee performance.

The assessment period is September 1, 1980 through August 31, 1981. This assessment, however, contains pertinent observations and NRC and licensee activities through February, 1982. Future assessment periods will be adjusted to provide more timely NRC assessment and reporting.

The prior SALP assessment period was September 1, 1979 - August 31, 1980. Significant findings of that assessment are provided in the applicable Performance Analysis Functional Areas (Section IV).

Evaluation criteria used during this assessment are discussed in Section III below. Each criterion was applied using the "Attributes for Assessment of Licensee Performance" contained in NRC Manual Chapter 0516.

b. SALP Attendees:

R. W. Starostecki, Director, Division of Project & Resident Programs
J. H. Joyner, Chief, Technical Inspection Division of Engineering & Technical Programs
G. L. Snyder, Chief, Emergency Preparedness and Program Support Branch, Division of Emergency Preparedness & Operational Support
R. R. Keimig, Chief, Reactor Projects Branch No. 2, Division of Project & Resident Programs
D. A. Chaney, Licensing Project Manager, Operating Reactors Branch No. 1, NRR
D. A. Beckman, Senior Resident Inspector, Beaver Valley Power Station, Unit 1

Other NRC Attendees:

W. M. Troskoski, Resident Inspector, Beaver Valley Power Station, Unit 1
E. G. Greenman, Chief, Reactor Projects Section No. 2A, Division of Project & Resident Programs
L. E. Tripp, Chief, Materials and Processes Section, Division of Engineering and Technical Programs
E. J. Brunner, Chief, Reactor Projects Branch No. 1, Division of Project and Resident Programs

c. Background

(1) Licensee Activities

The facility was shutdown on November 30, 1979 for a major modification/ refueling outage and remained shutdown into this assessment period. Outage activities included the first refueling, major ECCS system modifications, seismic piping design modifications, overhaul of major NSSS and BOP components, and numerous design changes.

Power operation was resumed between November 20 and December 18, 1980 when the unit was shutdown for repair of leaking pressurizer code safety valves and installation of safety valve pilot valve pressure switches in accordance with commitments to NRR. Other miscellaneous modification and maintenance activities were accomplished during this outage.

The facility returned to power on January 11, 1981 but was again shutdown on February 19 to repair a valve packing leak inside containment. During restart activities on February 22, an unisolable RCS instrument line leak required extension of the outage through April 13. Reactor Coolant Pump motor problems and an Emergency Diesel turbocharger failure contributed to this outage.

A major licensee reorganization began in March-April in response to previous SALP assessment period findings and included formation of a new Nuclear Division, appointment of a new Vice President and staff, and augmentation of facility and corporate staff.

Power operation resumed April 13 and continued through May 2 when a feedwater regulating valve failure induced piping oscillations and pipe support failures. The unit remained shutdown through May 9 for repairs and event analysis.

The facility was shut down again from July 17-30 when leakage from Pressurizer PORVs and operator inattention resulted in overfilling the Pressurizer Relief Tank and tank rupture disc failure. Power operation continued from July 30 through August 31.

During the assessment period four additional reactor trips caused shutdowns of one day or less.

(2) Inspection Activities

Two NRC resident inspectors were onsite for the entire appraisal period.

Total NRC Inspection Hours: 3574 (Resident and region based)
Distribution of Inspection Manhours is shown on Table 3.

Health physics appraisal team conducted an inspection on February 23 through March 6, 1981.

A tabulation of Inspection Activities is attached as Table 4. A tabulation of Violations is attached as Table 5.

A special team inspection of ESF valve mispositioning events and licensee response activities was conducted on June 6-18, and July 1, 2, 9, and 10, 1981.

II. SUMMARY OF RESULTS — BEAVER VALLEY POWER STATION, UNIT 1

FUNCTIONAL AREAS	CATEGORY 1	CATEGORY 2	CATEGORY 3
1. Plant Operations		X	
2. Radiological Controls o Radiation Protection o Radioactive Waste Management o Transportation o Effluent Control and Monitoring	X		
3. Maintenance			X
4. Surveillance (Including Inservice and Preoperational Testing)		X	
5. Fire Protection		X	
6. Emergency Preparedness		X	
7. Security and Safeguards			X
8. Refueling		X	
9. Licensing Activities		X	

III. CRITERIA

The following evaluation criteria were applied to each functional area:

1. Management involvement 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).
7. Training effectiveness and qualification.

To provide consistent evaluation of licensee performance, attributes associated with each criterion and describing the characteristics applicable to Category 1, 2, and 3 performance were applied as discussed in NRC Manual Chapter 0516, Part II and Table 1.

The SALP Board conclusions were categorized as follows:

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 such 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 are reasonably effective such 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 appeared strained or not effectively used such that minimally satisfactory performance with respect to operational safety and construction is being achieved.

IV. PERFORMANCE ANALYSES

1. Plant Operations

During the pervious assessment period, (September 1, 1979 - August 31, 1980) eleven inspections identified four items of noncompliance. Sixteen licensee events during the prior period were evaluated as indicative of operational problems. The facility was shutdown for a refueling/modification outage on November 30, 1979 and remained shutdown through about November 20, 1980, covering nearly all the prior period. Major regulatory issues during that period included personnel errors and administrative controls breakdowns, weakness in the control of routine and nonroutine operations, lack of attention to QA program requirements, overloaded onsite committee functions, and poor attitude on the part of the licensed staff. The assessment identified the need to provide additional direct management attention to Control Room activities and facility operation, to improve understanding of quality assurance requirements and implementation by operations personnel, and to improve the technical/engineering support for operational problem correction.

Design change and modification deficiencies identified during the last period included inadequate as-built information, use of uncontrolled design change information for development of procedures, inadequate turnover control for modified systems, failure to update procedures for modified systems, and a heavy reliance on AE and consultants with insufficient control over interfaces and output.

This area was under continuing review by the resident inspectors for the current (September 1, 1980 - August 31, 1981) assessment period. Committee activities, Operations Quality Assurance, design changes and modifications, and training were reviewed by region-based inspectors and the resident inspectors (RRIs). Fourteen violations involved failure to implement procedures, inadequate procedures, techical specification violations, unlicensed operator training, and internal and external (NRC) notifications. Forty LERs reported operational problems; four involved personnel errors.

Procedure adherence and operator performance were a problem, although improvement was seen late in and after the assessment period. Problem examples include:

--Repetitive RHR flow degradation (1980 - March 1981);
--Overfill of Pressurizer Relief Tank and rupture disc failure at power (July 1981); and,
--Unplanned heatup (Mode 4 to 3) due to poor management direction and operator inattention (July 1981)

Licensee corrective and preventive actions have been generally acceptable. Licensee management is attempting to improve operator-management relations and quality attitudes. Unlicensed operator training and qualifications were found deficient in June, 1981; the licensee took immediate action to ensure untrained or unqualified personnel would not perform safety related functions; final licensee actions have not been reviewed. An augmented QA training program (a result of previous SALP findings) has been implemented to improve overall personnel performance.

The licensee's major reorganization has resulted in additional management and technical/engineering support for operational problem identification and correction. Unfilled vacancies are still limiting capability in this area. Problems do not always receive prompt and adequate attention due to continuing staff shortages and workloads in maintenance, technical and engineering support groups, e.g. control room chlorine detector deficiencies, vital bus battery charger overheating and inoperable or uncalibrated instrumentation (See Section IV.3, Maintenance). Onsite Safety Committee staffing and support has improved, reducing the impact of committee activities on staff members. Inspections during and after this assessment period (NRC Performance Appraisal and region based inspections) have, however, found deficiencies in committee reviews and documentation.

The licensee has established a formal management information system to ensure that daily operational problems are identified to senior management for action. The new organization includes Maintenance, Operations, and Instrument Department Coordinator positions intended to perform management overview information and surveillance functions. These positions are not permanently filled nor fully implemented. Self identification of procedure deficiencies has improved with timely correction (about 450 on-the-spot operations procedure changes in January - September 1981). The relatively large number of on-the-spot changes also reflects improved procedure adherence. Many of the changes corrected long standing procedure deficiencies that had not been identified or corrected during prior procedure use. Licensee management's

stricter enforcement of procedure adherence forced identification and correction. Although the overall number of violations and licensee events attributable to inadequate procedures remains high (four violations and 9 LERs directly related to procedure adequacy), the licensee actions above are considered an initially effective step in improving performance.

Design change control has improved. No new inspector identified violations were cited during the period. Two licensee identified violations involved failure to complete modifications for seismic deficiencies and poor internal notification practices. The quality of as-built information has improved with no examples of design or installation problems indicating the use of faulty information (although drawing "debugging" is an ongoing effort). The licensee's reliance on the AE and other consultants continues to be high. Some vacant staff positions are filled with contractor personnel. The licensee continues to experience problems with the timeliness and adequacy of contractor support (as do other licensees) which have affected completion of commitments to NRC. A new Nuclear Engineering Department is being formed to provide improved Nuclear Division capabilities and reduce reliance on non-licensee organizations. The new department is expected to be functional during Spring, 1982.

Management of plant operations continues to be functioning in a reactive mode and very dependent on support from shorthanded departments. A September 25, 1981 licensee status letter reported little progress in filling key positions in maintenance, engineering and the Divisional staff. Although the regulatory issues and operating problems were numerous through the assessment period, the licensee has remained generally responsive to NRC initiatives with no indication of major programmatic breakdowns. When issues required escalation to senior NRC and licensee management, acceptable licensee action was achieved without escalated enforcement action, e.g. charging system overpressurization (IAL 81-16) and RHR flow degradation IAL 81-14). One Severity III violation involved mispositioning of the HHSI pumps' common RWST suction valve by an unknown party. NRC investigation found that this incident was not caused by improper performance of the operating staff. The condition was promptly identified and corrected by the licensee's surveillance program.

A Performance Appraisal Inspection conducted immediately following the assessment period categorized performance in the areas of committee activities, plant operations and design controls as Category 2, although program weaknesses were identified in some areas. Corrective action systems, QA audits, and unlicensed staff training were rated as Category 3. Licensed operator training was rated Category 1.

Conclusions:

Category 2

Board Recommendations

The licensee's staffing plans and recruiting progress were reviewed with the licensee during the SALP Management Meeting, and will be followed by the resident inspectors.

2. Radiological Controls

No major issues or problems were identified during the previous assessment period.

During the current assessment period, a Health Physics Appraisal was conducted in February - March, 1981. Three inspections were performed by region based inspectors, one inspection was performed by NRC inspectors at a radioactive material burial site and the resident inspectors reviewed ongoing Radiation Protection activities. Four violations, a Severity Level VI associated with procedure use, a Severity Level V related to a radiological controls procedure violation, a Severity Level V associated with violating the requirements of an RWP, and an infraction involving an area posting deficiency, were identified. These involved personnel from different groups and were not repetitive in nature nor indicative of a programmatic breakdown. Corrective actions were timely.

The three events related to this area were promptly reported. The reports were complete with proper identification of the problems involved. Analysis of the technical aspects raised by IE Bulletin 80-10 (unmonitored effluent pathways) completed by both site and corporate personnel generally indicated sound understanding of the issues and led to timely resolution of identified deficiencies.

Corporate and station management involvement in response to items identified during the Health Physics Appraisal has been evidenced by the implementation of a training program for entry level technicians designed to reduce dependence on contractor supplied personnel. Training has also been provided for regular Radwaste, Radcon (health physics) and Quality Assurance personnel with particular emphasis on preparation of waste for transport off site. The staffing plan for the newly established Nuclear Division identifies key positions and establishes their responsibilities. Most key positions are filled although some Radcon engineering and field positions remain open or filled by contractor personnel.

An aggressive exposure reduction program has resulted in effective control and reduction of total personnel radiation exposure (Man-Rem). This was accomplished during both major outages and power operation. A radwaste reduction program has also been effective in limiting total waste volume. Both ongoing programs indicate aggressive management.

The licensee's ALARA (As-Low Reasonably Achievable) Program has been established but requires better coordination between plant groups and Radcon and more effective use of ALARA capabilities. Continuing licensee management attention is necessary for successful implementation.

Conclusion - Category 1

Board Recommendations - None

3. Maintenance

Three inspections during the prior assessment period identified inadequate maintenance procedures, use of unapproved vendor calibration procedures, use of out of tolerance test equipment and inadequate procedure revision control. The assessment concluded that the Maintenance Department staff was undermanned at both supervisory and non-supervisory levels and that engineering support/review of maintenance problems appeared inadequate. These deficiencies were considered to be the root cause of the licensee's inability to obtain and implement comprehensive solutions to specific hardware problems, e.g., repeated vital bus inverter failures, repeated fire protection equipment outages, instrument and alarms out of service for extended periods, etc.

During the current assessment period, two region based inspections and routine inspection by the resident inspectors occurred. Five violations involved: Severity V, failure to calibrate safety related instruments by due date; Severity V, failure to perform preventive maintenance on fire pump; Severity VI, failure to take corrective action for a prior NRC violation re control of vendor calibration procedures; Severity IV, failure to implement corrective actions (modifications) for seismic deficiencies; and, Infraction, failure to maintain drawings for safety related work. About 35 LERs reported maintenance related problems and component failures; numerous other LERs in other functional areas related to maintenance and repetitive equipment failures.

Inspections during this period have reviewed licensee correction of specific deficiencies and problems including vital power inverters, fire system reliability, control room annunciators, and prior NRC violations. For equipment problems, interim efforts have been successful. Final corrective actions are pending, e.g. inverter modifications and fire pump motor replacement during the 1982 outage, progress on out-of-service indicators and annunciators limited by manpower. Licensee actions for previous violations were acceptable except for one case (out of ten). Improvements were noted in the licensee's use and adherence to maintenance procedures but continuing difficulty was observed in the management of maintenance and calibration programs with existing manpower. A backlog of about 500 Maintenance Work Requests was identified and licensee commitments were obtained to formalize a periodic backlog review. Repetitive equipment failures (identified as causally linked in Section V.1) e.g. RCS flow instruments, RWST level instruments, degasifier heat exchanger leaks, check valve failures, etc. indicate a continuing need for additional engineering, technical and management support.

The licensee's September 25 reorganization status letter reported that instrument engineer, instrument technician, and maintenance engineer vacancies remained unfilled. The Maintenance Coordinator position (management assessment function) was filled with contractor personnel. Several maintenance engineer vacancies have been filled with individuals having minimal BVPS-1 in-plant experience.

Dedication of available manpower to corrective maintenance and safety related calibrations resulted in abandonment of nearly all preventive maintenance and all routine calibration of non-safety related (control grade) instrumentation. Many of these control room indicators and alarms are either out of service or are several years overdue for routine calibration. (Note: the preventive maintenance program was restarted at the end of the assessment period (Fall, 1981) with full implementation planned within 12 months).

The NRC Performance Appraisal (after the assessment period) identified weaknesses similar to those above including inadequate Maintenance Work Request work instructions, plant modification via MWRs without adequate review, inadequate staff training, and lack of requirements for fire hazard review for maintenance work activities. The area was rated as Category 3 by the team.

Although no major enforcement or regulatory issues were identified during the assessment period, the licensee continues to experience repetitive material and equipment problems. While management attention to these matters has improved, the licensee's difficulty in necessary staff acquisitions has slowed performance improvement.

Conclusion

Category 3

Board Recommendations

Continue Resident Inspector monitoring of licensee activities and progress. Licensee actions and staffing plan status were discussed at the SALP Management Meeting, and will be followed by the resident inspectors.

4. Surveillance Including Inservice and Preoperational Testing

Five inspections during the prior assessment period (1979-1980) identified four surveillance related noncompliances: out of date procedures; use of out of tolerance test equipment; failure to record surveillance testing; and a failure to conduct a radiation monitor surveillance test. Noncompliances in related areas (maintenance, management controls, QA/QC, plant operations) also involved surveillance. Four LERs issued during the prior period indicated surveillance problems (missed surveillances). Procedural and scheduling problems were also identified, requiring additional management attention to the organization and manning levels for the activity.

During the 1980-81 assessment period, one region based inspection and routine resident inspection identified eleven violations. No region based inspections of inservice inspection or testing were conducted. Four violations involved an improperly aborted nuclear instrument surveillance test early in the period. Two involved failure to perform surveillance tests prior to operational mode changes, one early and one late in the period. The remaining five violations involved inadequate documentation, inadequate calibration procedures, and inadequate document control. Excep. for the violations involving the aborted NI surveillance test, none of the violations indicated a trend of programmatic breakdown. Corrective actions were generally timely and effective.

The licensee has been responsive to NRC initiatives and regulatory issues but occasionally meets only minimum requirements, requiring additonal NRC involvement, e.g., reduction in containment temperature surveillance frequency to once/night from three/day in literal compliance with Technical Specifications although daytime temperatures were near limits, clarification of Technical Specification requirements for RHR pump and containment purge and exhaust valves.

Eighteen LERs reported surveillance related or identified problems. Some equipment problems have been repetitively identified through surveillance testing with ineffective initial correction (See LER Causal Linkage discussion, Section V.1). Examples include containment airlock door leakage requiring modification; RWST level and RCS flow instrument drift/failures; control room chlorine detector failures; and, RHR pump test method and baseline data deficiencies. Surveillance test frequency requirements were periodically violated in spite of licensee preventive actions; additional management attention in this area during and after the assessment period has shown some performance improvement. Surveillance tests and results reviews appear to be consistently identifying problems subject to the above corrective action comments. Although the licensee's approaches to resolutions are usually viable, initial efforts are periodically ineffective or delayed. Available

maintenance, technical, and engineering support continues to be less than adequate for existing workloads and is a major factor in the timeliness and effectiveness of licensee resolutions. (See Section IV, 3, Maintenance). Events are normally reported in a timely fashion with some information occasionally lacking.

The licensee's new organization has key positions in supporting departments identified but a number remain vacant or are temporarily filled. Personnel training and understanding of requirements has been a factor in several of the violations and incidents; findings regarding unlicensed operator qualifications and training are discussed in Section IV.1 (Plant Operations).

The enforcement history and licensee event history for the period indicate a continuation of problems from the prior assessment period. Additional licensee management involvement and support had, however, resulted in some performance improvement through and after this period. The licensee has a sound surveillance program with continuing need for improvement in implementation and technical problem resolution. Aggressive acquisition of additional experienced staff to fill existing vacancies and support problem resolution is necessary.

Conclusion

Category 2

Board Recommendations

None

5. Fire Protection and Housekeeping

One region-based programmatic inspection and two reactive inspections by the resident inspectors during the prior (1979-1980) evaluation period. Two violations were identified (failure to perform housekeeping tours and failure to maintain fire doors) Specific deficiencies identified during the period include repetitive failures of fire protection system components without successful corrective action and implementation of design changes without the committed NRC approval. Repetitive equipment failures (primarily fire pumps and mains) raised concerns about the acceptability of the licensee's corrective and preventive maintenance programs.

During this assessment period, one inspection in this area was performed by a regional based inspector. In addition, the resident inspectors reviewed fire activities on a monthly basis. Two Severity Level V and one Severity Level IV Violations were identified, all associated with the licensee's maintaining fire protection Technical Specification requirements. The licensee has revised procedures to correct the identified weaknesses, but is still having problems with maintaining fire barriers in conduit penetrations. The resident inspectors are reviewing this area during monthly inspections.

Since the identification of fire equipment and component deficiencies above, the licensee has devoted considerable management and technical attention to correcting the problems. A full time fire protection engineer has been appointed.

Housekeeping has improved through the addition of janitorial personnel and managerial surveillance. The licensee has maintained generally acceptable radiological housekeeping conditions and control of primary system openings with no significant NRC inspection findings in these areas. Poor general plant cleanliness and appearance, however, continue to reflect plant staff attitudes and professionalism/pride.

Conclusion

Category 2 *

* This rating is assigned without regard to the licensee's position with respect to 10 CFR 50, Appendix R, provisions.

Board Recommendations

None

6. Emergency Preparedness

No programmatic inspections were conducted during the 1979-80 assessment period. One inspection of an EPP drill and followup activities was conducted during the fall of 1980. No violations were identified. The long-term location of the licensee's emergency response facilities (per NUREG 0696) was unresolved during the period. NRR found initial licensee proposals to be unacceptable; licensee correspondence with NRR is still continuing.

Less than adequate staffing levels identified in Maintenance, Design Changes and Modification, and Radiation Protection Functional Areas during the last assessment, indicated a corresponding need to carefully evaluate operational and supporting staff adequacy under emergency conditions.

No inspections nor Emergency Planning Appraisals were performed during the current assessment period. The Emergency Planning Appraisal, performed in October, 1981 (after the assessment period) found acceptable licensee performance but identified several significant weaknesses involving interim emergency response facility adequacy and readiness, emergency organization training, communications, notifications and staff call-in, and dose projection equipment and techniques. A confirmatory action letter and followup correspondence with NRC document acceptable licensee corrective measures. The full scale emergency response exercise involving off-site agencies was observed after the assessment period (February 16-19, 1982). The licensee's performance was found to be acceptable, however, some improvements are necessary. Federal Emergency Management Agency (FEMA) findings for offsite agency performance were not finalized at the time of this assessment.

Licensee installation of prompt public notification system sirens and equipment per 10 CFR 50.54(s) and 10 CFR 50, Appendix E continued through the assessment period. The licensee periodically reported public notification system installation status through and after the assessment period and requested an extension of the installation due date (February 1, 1982). That extension request was denied by NRR and a Severity Level III violation without Civil Penalty was issued by the Director, OIE in February, 1982 (after the assessment period).

Conclusion

Category 2. This categorization has been assigned on the bases of additional information, as noted above, developed after the assessment period.

Board Recommendations

None

7. Security and Safeguards

During the last assessment period, two routine unannounced region based inspections, one special announced inspection and routine inspection by the resident inspectors identified six violations. The licensee had failed to meet requirements for upgrading security systems in accordance with 10CFR73.55, resulting in a special Enforcement Meeting and an Immediate Action Letter documenting licensee commitments for completing equipment installations and modifications. Inspection of these commitments continued through the end of the prior assessment period.

For the current assessment, twenty-two violations were identified during three special inspections, one routine region based inspection, and routine resident inspections: eight Severity Level IV, eleven Severity Level V, and three Infractions involved failures to follow search, access control, alarm response, and patrol procedures; equipment deficiencies; testing deficiencies; and failure to report security plan changes. A large fraction resulted from licensee self-identification of security incidents and involved moderate degradation of security capabilities. Violations and incidents were frequently repetitive, indicating weak corrective and preventive actions.

Special inspections in November, 1980 and January, 1981 found insufficient progress in security equipment installation. A confirmatory action letter was issued in January, 1981 and a management meeting was held in March, 1981 to address these matters and the licensee's enforcement history. A special inspection in March, 1981 confirmed acceptable licensee completion of security system installation although equipment debugging continued through the assessment period.

Routine and special inspections during the period identified the need for additional management attention to:

-- Guard force training and performance as factors in incidents and violations.
-- Security computer and computer auxiliaries, software problems, system capacity problems, and system debugging. (Note: Overall system performance has improved since the end of assessment period but chronic problems, e.g. uninterruptible power supply performance and software problems, persist)
-- Improper implementation of compensatory measures when intrusion detection and surveillance equipment is degraded.
-- Contractor guard force management policies for personnel disciplinary problems, overtime work, and attrition.

About 590 inspector hours were devoted to investigation and followup of the ESF valve mispositioning event in June, 1931. A special team assessment of the licensee's physical security program was conducted in August, 1981. The investigation found no evidence of security program breakdown but identified the need for improvement in employee termination procedures. The investigation found that the event was probably due to actions of an individual no longer employed at the site. Special measures instituted by the licensee are considered effective for preventing similar events of this nature.

Since the last assessment period, the licensee has added a full time security supervisor to the plant staff; a full time security director was also added (after the period) as part of the reorganization. The licensee attention available to contractor guard force management and administration has improved but the problems discussed above still persist. The licensee has been generally responsive to NRC findings and concerns but has experienced chronic difficulty in achieving final resolution of many issues.

The ESF valve mispositioning event on June 5-6, 1981 was included in the Report of Abnormal Occurences to the U. S. Congress for the 3rd Quarter, 1981. NRC Region I investigation of this matter is documented in Investigation Report 50-334/81-16.

Conclusion

Category 3

Board Recommendations

Continue resident inspector monitoring of licensee activities and progress. Licensee actions were discussed at the SALP Management Meeting and will be followed by the resident and region based inspectors.

8. Refueling

Refueling was completed during the previous assessment period (early 1980). No major issues were identified. Although the licensee experienced routine difficulties, the general performance and response to problems were adequate.

The 1979-80 modification refueling/modification outage ended early in the current assessment period (November 1980). One inspection of post-refueling startup testing was conducted by region based inspectors, including fuel load safety analysis review, startup physics test program review, and associated committee reviews. One related violation regarding control of on-the-spot procedure changes was identified. No licensee events involving refueling were reported. Several LERs involving outage activities are reported in other functional areas, e.g. seismic modifications not properly installed, seismic design deficiencies, and operational problems.

No violations or regulatory problems resulted directly from licensee contractor control activities but several problems involved licensee contractor interfaces and contractor employee performance. Seismic reanalyses per IE Bulletins 79-02, 79-14, and 80-11 continued into the assessment period with additional deficiencies stemming from original design being identified and corrected. Contractor employees were involved in personnel contamination, modification installation, and security problems, including violations discussed in the Security and Radiological Controls functional areas. No evidence of major breakdown in the licensee's contractor control activities were observed. Additional licensee field supervision was provided in response to contractor involvement in the above problems.

Outage schedule performance was not evaluated by NRC. The 1979-80 refueling/modification outage did, however, exceed initial licensee projections. The unplanned outages during the current assessment period were not evaluated on the basis of schedule performance but the Resident Inspectors noted that licensee scheduling activities addressed key outage and outage recovery planning items including sequencing and prioritization of work with respect to plant conditions.

Conclusion

Category 2

Board Recommendations

None

9. Licensing Activities

No specific assessment of licensing activities was performed during the prior assessment period; pertinent issues were included in other functional areas. During that period, the licensee established a new department for management of licensing and compliance issues.

Routine licensing activities through the 1980-81 period included miscellaneous Technical Specification changes, review of NUREG 0737, TMI Task Action Plan items (including an Order Modifying License for TAP item implementation), and review of various technical and generic issues (environmental qualification of electrical equipment, emergency planning, rod position indication anomalies, and others).

The licensee's performance and management capabilities were generally adequate with improvements from the licensee's reorganization becoming evident through the period. The licensee's proposed reorganization is considered an asset with further improvement in performance expected as implementation continues. Licensee responses and submittals are generally complete with sound bases provided; again, improvement over past performance was apparent. Proposals also indicate thorough licensee review and evaluation. Responsiveness to NRC initiatives and licensing requirements, though generally reactive, is considered a strength.

Licensee staff technical competence was previously marginal but has improved through the assessment period as the reorganization progressed. The licensee displays a good working knowledge of regulatory requirements, standards, and generic issues.

An improving trend has been observed in all aspects of licensing activities with continuation expected as reorganization proceeds.

Conclusion

Category 2

Board Recommendations

None

V. SUPPORTING DATA AND SUMMARIES

1. Licensee Event Reports

Tabular Listing

Type of Events:

A.	Personnel Error	13
B.	Design/Man./Constr./Install.	38
C.	External Cause	2
D.	Defective Procedure	9
E.	Component Failure	41
X.	Other	33
	Total	136

Licensee Event Reports Reviewed

Report No. 80-065/01P through 81-081/03L

Casual Analysis

Nine sets of common mode events were identified:

a. LERs 80-070/01P, 80-082/03L, 80-110/03L, 81-06/03L, 81-13/03L, 81-19/01P, 81-29/01P, 81-034/03L, 81-046/01T, 81-053/03L, 81-066/03L, 81-070/03L, and 81-068/01P identified events in which incorrect and/or inadequate procedures caused (9 LERs) or contributed (4 LERs) to the incident.

b. LERs 80-076/03L and 81-065/03L involve missed surveillance tests.

c. LERs 81-021/03L, 81-047/01P, and 81-053/03L are events that involved valving (personnel) errors.

d. The following subsets each involve instrument failures:

   (1) LERs 80-080/03L, 80-114/03L, 81-036/03L, 81-044/03L, 81-058/03L, and 81-080/03L involved RWST level instrumentation inoperable due to instrument drift.

   (2) LERs 80-099/03L, 81-010/03L, 81-026/03L and 81-015/03L involved RCS Loop 1 flow instrumentation malfunctions.

(3) LERs 80-085/01P, 80-092/03L, 80-093/03L, 80-104/03L, 80-105/03L, 80-098/03L, 80-108/03L, 80-043/03L, 81-066/03L, 81-062/03L, 81-014/01P, 81-074/03L, 81-057/03L, 81-056/03L, 81-055/03L, and 81-040/99X report other miscellaneous failures (electrical, instrument line breaks).

(4) LERs 80-090/03L, 80-101/03L, 80-102/03L, 80-107/03L, 80-115/03L, 80-118/03L, 81-05/03L, 81-07/03L, 81-011/03L, 81-012/03L, 81-022/03L, 81-027/03L, 81-035/03L, 81-039/03L, 81-050/037, and 81-052/03L involved the inoperability of one or more of the three Control Room ventilation chlorine detectors. The problem has been resolved through design change.

e. LERs 80-097/03L, 80-106/03L, 80-120/03L, 81-03/03L, 81-05/03L, 81-063/03L, 81-064/03L, 81-072/03L, 81-075/03L, and 81-078/03L involved inner containment airlock door leakage in excess of TS limits. A design change is planned for the current outage.

f. LERs 80-074/03L, 81-09/03L, 81-025/03L, 81-032/01P, 81-042/03L, 81-048/03L, and 81-049/03L are events relating to valves such as stroke times in excess of TS limits. The licensee formed a task force to study motor operated valve failures; hardware and procedure changes are in progress.

g. LERs 80-109/03L, 80-111/03L, 80-117/03L, 81-023/03L, 81-024/03L, and 81-060/03L involved the accumulation of penalty minutes for operation outside the TS Delta Flux Target Band. This is an expected operational occurrence that has been reported due to the structure of the licensee's Technical Specifications.

h. LERs 81-031/01P, 81-037/01P, and 81-067/01P involved over chlorination of water discharged to the environment. In two cases ETS limits were exceeded.

i. LERs 80-065/01P, 80-066/01P, 80-067/01P, 80-075/01P, 80-077/01P, 80-086/01P, and 80-088/01P involved seismic design or installation errors identified via IEBs 79-02, 79-07, and 79-14.

TABLE I

TABULAR LISTING OF LERs BY FUNCTIONAL AREA

BEAVER VALLEY POWER STATION, UNIT I

	Area	Number/Cause Code	Total
1.	Plant Operations	6/A, 18/B, 3/D, 5/E, 12/X	45
2.	Radiological Controls	1/D, 2/X	3
3.	Maintenance	1/A, 3/B, 1/C, 2/D, 20/E, 8/X	35
4.	Surveillance	5/A, 6/B, 2/E, 3/X, 2/D	18
5.	Fire Protection	1/A, 1/D, 1/E	3
6.	Emergency Preparedness	None	
7.	Security and Safeguards	1/X	1
8.	Refueling	None	
9.	Licensing Activities	None	
10.	Other (Original Design Errors And Equipment Failures Not Classifiable Into Areas 1-9.	11/B, 13/E, 7/X	31
		TOTAL	136

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

TABLE 2

BEAVER VALLEY STATION, UNIT 1

LER SYNOPSIS

SEPTEMBER 1, 1980 - AUGUST 31, 1981

LER Number	Type	Summary Description
80-62/01P	24 Hour	Seismic overstress on Boron Injection Tank (BIT) outlet line
80-63/01P	24 Hour	Seismic overstress on Charging Pump discharge line
80-65/01P	24 Hour	Seismic overstress on Reactor Plant River Water Lines
80-66/01P	24 Hour	Sesimic overstress on Steam Generator piping
80-67/01P	24 Hour	Seismic overstress on Component Cooling Water piping to RHR heat exchangers
80-68/03L	30 Day	Charging Pump cooling water check valves installed backwards
80-69/01P	24 Hour	Both fire pumps inoperable
80-70/01P	24 Hour	Inadvertent RCS dilution in Mode 5
80-71/01P	24 Hour	Control Room Ventilation Isolation ESF Response Time in error
80-04/SP	24 Hour	Plant yard fire main damaged by backhoe
80-72/03L	30 Day	Boric Acid Transfer Pump inoperable
80-73/01P	24 Hour	Potential for multiple steam generator blowdown on single steam line break
80-74/03L	30 Day	Charging Pump discharge check valve binding
80-75/01P	24 Hour	Seismic overstress on RCS fill header piping

80-76/03L	30 Day	Missed Surveillance - Containment Airlock leak test
80-77/01P	24 Hour	Seismic overstress on Steam Generator Piping
80-78/01P	24 Hour	Overstress of Pressurizer Safety & Relief Valve piping
80-79/03L	30 Day	Low Refueling Water Storage Tank (RWST) Level during testing.
80-80/03L	30 Day	RWST Level Instrument channel drift
80-81/03L	30 Day	Main Steam Isolation Valve closure time greater than TS limit
80-82/03L	30 Day	Main Filter Bank isolated due to deficient test procedure
80-83/03L	30 Day	SI Accumulator pressure less than TS allowable
80-84/03L	30 Day	BIT heat tracing inoperable
80-85/01P	24 Hour	Seismic overstress on RCP Seal Injection piping
80-86/01P	24 Hour	Two Power Range Nuclear Instruments inoperable due to loss of detector voltage
80-87/03L	30 Day	Intermediate Range Nuclear Instrument left in trip bypass after aborted test
80-88/01P	24 Hour	Potential thermal overstress on Low Head Safety Injection relief valve lines
80-89/03L	30 Day	Pressurizer Level channel inoperable due to detector failure
80-90/03L	30 Day	Two of Three Control Room Ventilation Chlorine Detectors inoperable
80-91/03L	30 Day	BIT Boron concentration less than TS allowable
80-92/03L	30 Day	Liquid Waste Radiation Monitor inoperable
80-93/03L	30 Day	Cable Vault Carbon Dioxide Fire Protection inoperable due to failed timer
80-94/99X	30 Day	Inadvertent safety injection due to personnel tripping incorrect bistable

80-95/03L	30 Day	Two SI Accumulators with water level less than TS allowable
80-96/03L	30 Day	RCS temperature and pressure less than TS allowable
80-97/03L	30 Day	Containment Airlock leakage greater than TS allowable
80-98/03L	30 Day	Main Steam Flow instrument inoperable
80-99/03L	30 Day	RCS Loop Flow instrument inoperable
80-100/03L	30 Day	Unidentified RCS leakage greater than TS allowable
80-101/03L	30 Day	Control Room Ventilation Chlorine Detector inoperable
80-102/03L	30 Day	All three Control Room Ventilation Chlorine detectors inoperable
80-103/03L	30 Day	BIT Boron concentration greater than TS allowable
80-104/03L	30 Day	Feed Flow Reactor Trip Setpoint less conservative than TS allowable
80-105/03L	30 Day	BIT flowpath temperatures less than TS allowable
80-106/03L	30 Day	Containment Airlock leakage greater than TS allowable
80-107/03L	30 Day	Two of Three Control Room Ventilation Chlorine Detectors inoperable
80-108/03L	30 Day	Gaseous Waste Hydrogen analyzer inoperable
80-109/03L	30 Day	Axial Flux Difference exceeded TS Target Band
80-110/03L	30 Day	Main Filter Bank flow greater than TS allowable
80-111/03L	30 Day	Axial Flux Difference exceeded TS Target Band
80-112/03L	30 Day	Containment Gaseous and Particulate Radiation Monitor inoperable (RCS Leakage Detection)
80-113/03L	30 Day	Penetration fire barriers unsealed

80-114/03L	30 Day	RWST Level Transmitter instrument drift
80-115/03L	30 Day	All three Control Room Ventilation Chlorine Detectors inoperable
80-116/03L	30 Day	Weld crack on Boron Recovery Degasifier heat exchanger
80-117/03L	30 Day	Axial Flux Difference exceeded TS Target Band
80-118/03L	30 Day	Two Control Room Ventilation Chlorine Detectors inoperable
80-119/03L	30 Day	Containment Airlock leakage greater than TS allowable
80-120/03L	30 Day	Cooling Tower blowdown discharge temperature alarm nonconservative setpoint drift
81-01/01P	24 Hour	Failure to modify Main Steam Line supports to correct design deficiencies
81-02/01P	24 Hour	Loss of RCS Flow due to RCP Trip
81-03/13L	30 Day	Containment Airlock leakage greater than TS allowable
81-04/03L	30 Day	Control Room Ventilation emergency supply air flow greater than TS allowable
81-05/03L	30 Day	Two of three Control Room Ventilation Chlorine Detectors inoperable
81-06/03L	30 Day	Both Low Head Safety Injection Pumps inoperable due to frozen recirculation line
81-07/03L	30 Day	Two of three Control Room Ventilation Chlorine Detectors inoperable
81-08/03L	30 Day	SI Accumulator pressure less than TS allowable
81-09/03L	30 Day	ECCS Containment Isolation Valve failed to stroke
81-10/03L	30 Day	RCS Loop Flow instrument inoperable (spurious alarms)
81-11/03L	30 Day	All three Control Room Ventilation Chlorine Detectors inoperable

81-12/03L	30 Day	All Three Control Room Ventilation Chlorine Detectors inoperable
81-13/03L	30 Day	1A Main Filter Bank charcoal bed inoperable (end of life)
81-14/03L	24 Hour	RCS Pressure Boundary Leak; RHR instrument line failure
81-15/03L	30 Day	RCS Loop Flow instrument inoperable (spurious alarms)
81-16/03L	30 Day	Steam Driven Auxiliary Feedwater Pump removed from service to repair leak on downstream piping
81-17/03L	30 Day	One Rod Position Channel inoperable; instrument drift
81-18/03L	30 Day	Four Rod Position Channels inoperable; instrument drift
81-19/03L	24 Hour	RHR flow degraded with RCS drained to mid-loop
81-20/03L	30 Day	Meteorological instrumentation inoperable due to mispositioned switch
81-21/03L	30 Day	SI Accumulator level less than TS allowable due to sample valve left open
81-22/03L	30 Day	One Control Room Ventilation Chlorine Detector inoperable
81-23/03L	30 Day	Axial Flux Difference exceeded TS Target Band
81-24/04L	30 Day	Axial Flux Difference exceeded TS Target Band
81-25/03L	30 Day	RCS Loop Temperature manifold isolated for valve repairs; protection channels placed in trip
81-26/03L	30 Day	RCS Loop flow indicator failed channel check
81-27/03L	30 Day	All Control Room Chlorine Detectors inoperable
81-28/03L	30 Day	RCS leakage greater than TS allowable due valve packing leak

81-29/01P	24 Hour	RCS leak test procedures not per TS
81-30/03L	30 Day	EDG failed surveillance
81-31/01P	24 Hour	Overchlorination of Circulating Water System
81-32/01P	24 Hour	Trip due to Feedwater Regulating Valve Failure resulted in damage to piping supports
81-33/xx		Number not used
81-34/03L	30 Day	Boric Acid Storage Tank Boron concentration greater than TS allowable
81-35/03L	30 Day	All Control Room Chlorine Detectors inoperable
81-36/03L	30 Day	RWST Level instrument failure
81-37/01P	24 Hour	Free Chlorine at Outfall exceeded ETS limits
81-38/03L	30 Day	Missed Surveillance - 4 safety related valves
81-39/03L	30 Day	All Control Room Chlorine Detectors inoperable
81-40/99X	30 Day	Cable Vault Carbon Dioxide Fire Protection timer inoperable
81-41/04T	14 Day	Quarterly river sample tritium exceeds ETS reporting limits
81-42/03L	30 Day	PORV block valve inoperable (failed to stroke)
81-43/03L	30 Day	Containment pressure channel inoperable due to loose fuse
81-44/03L	30 Day	RWST Level instrument drift
81-45/99L	30 Day	Potential adverse control/protection system interaction on Volume Control Tank level instrument failures
81-46/01T	24 Hour	Grab samples not obtained with Gaseous Waste Radiation Monitor out of service
81-47/01P	24 Hour	High Head Safety Injection Pump suction valve mispositioned; all three pumps inoperable
81-48/03L	30 Day	RHR Pump suction valved failed to stroke

81-49/03L	30 Day	Main Steam Isolation Valve stroke times exceed TS allowable
81-50/03L	30 Day	All Control Room Chlorine Detectors inoperable
81-51/03L	30 Day	Containment Airlock leakage greater than TS allowable
81-52/03L	30 Day	Control Room Chlorine Detectors inoperable
81-53/03L	30 Day	Containment Vacuum Pump inoperable due to valving error
81-54/03L	30 Day	Outside Recirculation (Containment) Spray Pump inoperable due to seal binding
81-55/03L	30 Day	SI Accumulator water level alarm inoperable due to setpoint drift
81-56/03L	30 Day	Containment Spray Chemical Addition Tank Level instrument failure
81-57/03L	30 Day	Steam Break Protection Channel inoperable
81-58/03L	30 Day	RWST level transmitter failure
81-59/03L	30 Day	Vital Battery Charger inoperable due to overheating
81-60/03L	30 Day	Axial Flux Difference exceeded TS Target Band
81-61/04L	30 Day	Cooling Tower Blowdown temperature exceeded ETS limit
81-62/03L	30 Day	Auxiliary Feedwater supply to "A" Steam Generator inoperable due to instrument line leak
81-63/03L	30 Day	Containment Airlock leakage greater than TS allowable
81-64/03L	30 day	Containment Airlock door jammed due to test air leakage
81-65/03L	30 Day	Missed surveillance - Control Room Emergency Habitability System

81-66/03L	30 Day	Train "B" Solid State Protection System inoperable due to spurious trip signals
81-67/01P	7 Day	Overchlorination of Circulating Water to relieve system overpressure
81-68/01P	24 Hour	Fire doors and fire penetrations found open during NRC inspections
81-69/04T	14 Day	Quarterly river sample tritium exceeds ETS reporting limits
81-70/03L	30 Day	Containment purge and Exhaust Damper stroke times exceed TS limit
81-71/03L	30 Day	Containment airlock leakage greater than TS allowable
81-72/03L	30 Day	Control Room Chlorine Detectors inoperable
81-73/03L	30 Day	Vital Battery Charger inoperable due to overheating
81-74/03L	30 Day	Steam Line Pressure instrument inoperable
81-75/03L	30 Day	Containment airlock leakage greater than TS allowable
81-76/03L	30 Day	RWST Level instrument alarm inoperable
81-77/03L	30 Day	Through-weld leak on Degasifier heat exchanger
81-78/03L	30 Day	Containment airlock leakage greater than TS allowable
81-79/03L	30 Day	Containment particulate and gaseous radiation monitors inoperable
81-80/03L	30 Day	RWST Level Channel instrument drift
81-81/03L	30 Day	Primary Demineralized Water Tank level below TS allowable

2. Licensee Activities

Licensee activities are discussed in Section I.C (1) of this report.

3. Inspection Activities

Inspection activities are discussed in Section I.C. (2) of this report.

4. Investigation Activities

A special investigation of fabrication deficiencies in safety related tanks and the containment liner was begun in June 1980 (prior to the assessment period) and was completed in December 1980. (Investigation Report No. 50/334/80-17). Licensee followup and corrective actions were found acceptable. A management conference was held with the Graver Tank and Mfg. Co. to discuss vendor related findings.

A special security appraisal team conducted an assessment of the licensee's Physical Protection Program and actions taken in response to the ESF valve mispositioning event. (August 1981)

5. Escalated Enforcement Actions

a. Civil Penalties
None

b. Orders
Order Modifying License dated October 24, 1980 requiring retention of environmental qualification data pursuant to IEB 79-01B. (Issued to all licensees).

Order Modifying License dated April 20, 1981 providing Technical Specifications to require operability and testing of primary coolant system pressure isolation valves. (Issued to all licensees).

Order Modifying License dated July 10, 1981 confirming licensee commitments for TMI related requirements contained in NUREG 0737. (Issued to all licensees).

c. Immediate Action Letters

IAL 80-43 dated November 3, 1980 confirming the status of reanalysis and modification of seismically designed systems pursuant to IEB 79-14.

A confirmatory letter dated January 19, 1981 documenting actions to be taken for Physical Security program equipment installations and personnel training.

IAL 80-46 dated October 31, 1980 confirming actions to be taken for TMI Lessons Learned Category "A" items.

IAL 81-14 dated March 9, 1981 confirming actions taken in response to degradation of RHR flow on March 5, 1981.

IAL 81-16 dated March 27, 1981 confirming actions taken in response to overpressurization of charging system piping.

IAL 81-25 dated June 9, 1981 confirming actions taken in response to an ESF valve mispositioning event of June 6, 1981.

A confirmatory letter dated November 2, 1981 confirming actions taken in response to findings of an NRC Emergency Preparedness Appraisal inspection (Subsequent to the assessment period).

6. Management Conferences Held During The Assessment Period

SALP Cycle I Management Meeting at the Beaver Valley Power Station, Unit 1 on December 19, 1980.

Management Meeting at the Region I office on March 19, 1981 to discuss repetitive losses of RHR flow, Physical Protection Plan implementation, Health Physics Appraisal results, and licensee action on prior SALP results including licensee reorganization plans (Meeting No. 50-334/81-09).

Management Meeting at the Region I office on April 3, 1981, requested by the licensee, to discuss the recently approved corporate reorganization and present the status of licensee action on prior SALP findings.

Management Meeting at the Duquesne Light Company offices, Pittsburgh, PA on June 17, 1981, to discuss the circumstances and licensee actions in response to the ESF valve mispositioning event on June 6, 1981 (Meeting No. 50-334/81-17).

TABLE 3

INSPECTION HOURS SUMMARY (9/1/80 - 8/31/81)

BEAVER VALLEY POWER STATION, UNIT I

		HOURS	% OF TIME
1.	Plant Operations	1108	31
2.	Radiological Controls	570	16
3.	Maintenance	239	7
4.	Surveillance	278	8
5.	Fire Protection	122	3
6.	Emergency Preparedness	49	~ 1.4
7.	Security and Safeguards	1185*	33
8.	Refueling	23	~ .6
9.	Licensing Activities	No Data Available	
	** Total	3574	100%

* Includes 595 hours of resident and region based inspection and 590 hours of investigation in response to an ESF valve dispositioning event of June 5-6, 1981

** Allocations of inspection hours vs functional areas are approximations based upon inspection report data.

TABLE 4
INSPECTION REPORT ACTIVITIES
BEAVER VALLEY POWER STATION, UNIT I

REPORT	INSPECTOR	AREAS INSPECTED
80-26	Performance Appraisal	Procurement
80-27	Resident	Routine
80-28	Specialist	Post-refueling Testing, Training
80-29	Specialist	Physical Security
80-30	Resident	Routine
80-31	- -	SALP Management Meeting
81-01	Specialist	Physical Security
81-02	Resident	Routine
81-03	Specialist	Maintenance, Calibration
81-04	Resident	Routine
81-05	Specialist	Health Physics Appraisal
81-06	Specialist	Physical Security
81-07	Specialist	Quality Assurance, Design Changes and Modifications
81-08	Resident	Routine
81-09	- -	Management Meeting
81-10	Resident	Routine
81-11	Specialist	Physical Security
81-12	Resident	Routine
81-13	Specialist	Physical Security
81-14	Specialist	Design Changes and Modifications

81-15	Resident	Routine
81-16	Investigation Team	ESF Valve Mispositioning
81-17	- -	Management Meeting
81-18	Resident	Routine
81-19	Specialist	Radiation Protection
81-20	Resident	Routine
81-21	Specialist	Radiation Protection
81-22	Specialist	Environmental Protection, Independent Measurements
81-23	Specialist	Radiation Protection
81-24	Specialist	Physical Security

TABLE 5

VIOLATIONS (9/1/80 - 8/31/81)

BEAVER VALLEY POWER STATION, UNIT 1

A. Number and Severity Level of Violations

1. Severity Level

Violations	0
Infractions	7
Deficiencies	2
Severity Level I	0
Severity Level II	0
Severity Level III	1
Severity Level IV	20
Severity Level V	24
Severity Level VI	4
Total	58

B. Violations Vs. Functional Area

	Severity Levels									
FUNCTIONAL AREAS	I	II	III	IV	V	VI	VIO	INF	DEF	DEV
1. Plant Operations			1	6	5	1			1	
2. Radiological Controls					1	2		1		
3. Maintenance				1	2	1		1		
4. Surveillance				4	4			2	1	
5. Fire Protection				1	1					
6. Emergency Preparedness										
7. Security & Safeguards				8	11			3		
8. Refueling										
9. Licensing Activities										
10. Others										
Totals			1	20	24	4		7	2	

Total Noncompliances = 58

TABLE 5 (Cont'd.)

ENFORCEMENT DATA

BEAVER VALLEY - UNIT 1

September 1, 1980 - August 31, 1981

Inspection Number	Inspection Date	Subject	Req.	Sev.	Area
80-27	9/12-11/8/80	Failure to Perform Airlock Leakage Surveillance Within Time Frame Specified by TS Prior to Entering Mode 4 (Hot Shutdown)	TS	INF	4
80-27	9/12-11/8/80	Failure to Establish, Implement, and Maintain Procedures for Calibration of Remote Shutdown Panel Pressurizer Level Indicators	TS	INF	4
80-27	9/12-11/8/80	Failure to Maintain Drawings Required For and Used During Safety Related Work for Remote Shutdown Panel Pressurizer Level Indicators	App. B	INF	4
80-27	9/12-11/8/80	Failure to Post an Access Point to a Radiation Area/Loose Surface Contamination Area in Accordance with TS 6.11 and Radiation Protection Procedures	TS	INF	2
80-27	/12-11/8/80	Failure to Maintain Controlled Copies of Operating Procedures in Accordance with TS 6.8.1; Inadequate Removal of Temporary Operating Procedure Changes from Controlled Copy of Operating Manual	TS	DEF	1
80-28	10/14-17/80	Failure to Follow Procedures for the Issuance of On-the-Spot Changes to Surveillance Procedures	TS	DEF	4
80-29	11/3-7/80	Failure to Control a Vital Area	PSP	INF	7
80-29	11/3-7/80	Failure to Follow Access Control Procedures	PSP	INF	7
80-29	11/3-7/80	Failure to Follow Search Procedures	PSP	INF	7

Table 5 (Cont'd.)

Inspection Number	Inspection Date	Subject	Req.	Sev.	Area
80-30	10/31-12/31/80	Scheduling and Performance of Nuclear Instrument Intermediate Range Channel Functional Test Under Conditions Inappropriate for Its Performance, Resulting in Inadvertent Bypassing of a Reactor Protection Function	App. B	V	4
80-30	10/31-12/31/80	Improper Performance of Nuclear Instrument Intermediate Range Channel Functional Test: Failure to Restore Channel to an Operable Condition When the Test Was Aborted	TS	IV	4
80-30	10/31-12/31/80	Failure to Document Partial Performance and Abortion of the Nuclear Instrument Intermediate Range Channel Functional Test: Partially Completed Test Procedure Was Discarded	TS	IV	4
80-30	10/31-12/31/80	Failure to Maintain Records of Surveillance Activities in Station Logs: No Log Entries Pertaining to the Aborted Nuclear Instrument Intermediate Range Channel Functional Test Were Made Prior To, During, Or After Performance of the Test	TS	IV	4
80-30	10/31-12/31/80	Inadequate Implementation of Shift Relief and Turnover Procedures: Plant Operators Assume Responsibility for Facility Operation After Shift Turnover Without Identification or Knowledge of the Annunciated Bypassing of a Trip Function of the Reactor Protection System (Nuclear Instrument Intermediate Range Channel Trip Bypass)	TS	IV	1
80-30	10/31-12/31-80	Failure to Implement Security Post Orders for Locking of Protected Area Perimeter Gate; Gate Remained Unlocked for About 40 Hours	PSP	V	7

Table 5 (Cont'd.)

Inspection Number	Inspection Date	Subject	Req.	Sev.	Area
80-30	10/31-12/31/80	Inadequate Procedures for Security Compensatory Patrols; Resulted in Failure of Hourly Patrols to Identify Unlocked Protected Area Gate	PSP	V	7
80-30	10/31-12/31/80	Improper Implementation of Radiation Work Permits; Radiological Work Performed Under RWP Approved for Only [illegible]ection and Surveillance Activities	TS	V	2
80-30	10/31-12/31/80	Failure to Calibrate Safety Related Instruments On or Before Due Dates Established by QA Program	App. B	V	3
81-01	1/7-9/81	Failure to Secure a Vital Area Door	PSP	IV	3
81-01	1/7-9/81	Failure to Maintain A Compensatory Measure	PSP	IV	7
81-02	1/1-31/81	Failure to Implement Security Post Orders to Insure That a Protected Area Gate Was Properly Locked; Protected Area Remained Unlocked for About 5 Hours	PSP	V	7
81-02	1/1-31/81	Failure to Implement Security Post Orders for Compensatory Patrols of the Protected Area Perimeter; Unlocked Protected Area Perimeter Gate Undiscovered or about 5 Hours	PSP	V	7
81-02	1/1-31/81	Inadequate Implementation of Corrective Actions for Conditons Adverse to Quality; Failure to Perform Modifications Required to Correct Seismic Design Deficiencies	App. B	IV	1

Table 5 (Cont'd.)

Inspection Number	Inspection Date	Subject	Req.	Sev.	Area
81-03	2/2-20/81	Failure to Take Adequate Corrective Action for Prior NRC Noncompliance With Regard to Control of Vendor Procedures	App. B	VI	4
81-04	2/1-28/81	Failure to Implement Security Procedures for Locking of Protected Perimeter Gates; Resulted in Gate Remaining Unlocked for About 1 Hour	PSP	V	7
81-04	2/1-28/81	Failure to Lock a Vital Area (CO Room) Door Resulting in Degraded Vital Area Perimeter for About 1 Hour	PSP	V	7
81-04	2/1-28/81	Improper Revision of Procedure Posted at Equipment Location	TS	VI	2
81-06	3/2-5/81	Failure to Have Written Procedures for Operationally Testing Security Equipment	PSP	V	7
81-08	3/1-31/81	Failure to Report Degradation of RHR Flow Within One Hour Per 10CFR50.72	CFR 50	IV	1
81-08	3/1-31/81	Failure to Establish Procedure for Control and Monitoring of RCS Level During Drained Down Conditions Per TS 6.8.1	TS	IV	1
81-08	3/1-31/81	Inadequate Implementation of RHR System surveillance Test	TS	V	4
81-08	3/1-31/81	Failure to Implement Security Post Orders; PA Portal Left Unlocked	PSP	IV	7
81-08	3/1-31/81	Failure to Provide Required Protected Area Alarm Functions	PSP	V	7
81-08	3/1/81	Failure to Meet Surveillance Requirements for the Protected Area	PSP	V	7
81-10	4/1-30/81	Failure to Report Change to Physical Security Plan	PSP	IV	7

Inspection Number	Inspection Date	Subject	Req.	Sev.	Area
81-11	4/13-16/81	Failure to Perform Preventive Maintenance on Fire Pump when Required by TS	TS	V	3
81-12	5/1-30/81	Failure to Respond to Intrusion Alarm	PSP	IV	7
81-12	5/1-30/81	Failure to Employ Security Compensatory Measures	PSP	IV	7
81-12	5/1-30/81	Failure to Test Intrusion Alarms	PSP	V	7
81-13	5/3-8/81	Failure to Provide All Security Officers With Means of Communication	PSP	V	7
81-13	5/3-8/81	Failure to Have Tamper Switches on Certain Alarm Equipment	PSP	IV	7
81-15	6/1-7/5/81	Failure to Maintain Penetration Fire Barriers	TS	V	5
81-15	6/1-7/5/81	Failure to Implement and Maintain Operating Procedures Per TS for Abnormal Boron Recovery System Arrangement	TS	V	1
81-15	6/1-7/5/81	Failure to Implement Document Control Procedures for Control of Maintenance Surveillance Procedures Per 10CFR50, App. B	App.B	V	4
81-15	6/1-7/5/81	Failure to Maintain Airlock Operating Procedures Posted at Door Per TS	TS	V	1
81-16	6/8-19/81	Both HHSI Trains Inoperable Per TS 3.5.2 Due to Pumps' Suction Valve Closure	TS	III	1
81-16	6/8-19/81	Auxiliary Operators Performing Safety Related Activities Not Trained/Qualified Per TS 6.3.1	TS	IV	1
81-16	6/8-19/81	Failure to Implement Procedures for Locked Valve control Per TS 6.8.1.a	TS	V	1
81-16	6/8-19/81	Failure to Implement Procedures for Labeling ESF Valves Per TS 6.8.1.a	TS	V	1

Table 5 (Cont'd.)

Inspection Number	Inspection Date	Subject	Req.	Sev.	Area
81-18	7/1-8/2/81	Operational Mode Changes With Reliance on TS Action Statements for Containment Purge Valves	TS	IV	1
81-18	7/1-8/2/81	Inadequate Startup and Surveillance Procedures for Startup Prerequisite Control	TS	IV	4
81-18	7/1-8/2/81	Failure to Maintain Fire Barrier Integrity Without Fire Watch	TS	IV	5
81-18	7/1-8/2/81	Inadequate Documentation of Committee Activities	TS	VI	1
81-18	7/1-8/2/1	Failure to Follow Security Procedures: PA Portal left unloced for 2½ hours	TS/PSP	IV	7
81-20	8/3-9/7/81	Failure to Notify NRC of a Reactor Trip Per 10CFR50.72	CFR 50	V	1
81-20	8/3-9/7/81	Failure to Implement and Maintain Surveillance Test Procedure Documentation Requirements	TS	V	4
81-22	8/24-28/81	Failure to Follow Procedures for Estimating Gaseous Release Radioactivity	TS	VI	2