ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION

Region V

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

WASHINGTON NUCLEAR PROJECT NOS. 3 AND 5

September 15, 1982

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I. INTRODUCTION

a. Purpose and Overview

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect the available observations 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 July 1, 1981 through July 31, 1982. The prior assessment period was September 1, 1980 through June 30, 1981. Significant findings from the prior assessment are discussed in the applicable Performance Analysis (Section IV) functional areas.

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:

Review Board Members

T. W. Bishop, Chairman, Chief, Reactor Projects Branch 2
D. M. Sternberg, Chief, Reactor Projects Branch 1
R. T. Dodds, Reactor Projects, Section 1. IE:RV
D. P. Haist, Project Inspector, IE:RV
W. G. Albert, Senior Resident Inspector
L. L. Wheeler, Licensing Project Manager, NRR

c. Background

Washington Public Power Supply System (WPPSS) applied for a license to construct and operate the Washington Nuclear Project Nos. 3 and 5 (WNP-3/5) on March 1, 1974. Construction Permits (CPPR-154 and 155) were issued for the facility on April 11, 1978. An application for an operating license accompanied by the applicable 10 CFR 50.30(c)(3) information was submitted on May 25, 1982, and received by the NRC on June 2, 1982. On August 20, 1982, the staff notified the licensee that the application was accepted for docketing.

Each reactor is a Combustion Engineering "System 80" pressurized water reactor rated at 3817 mwt (1324 mwe) and is housed in a steel containment vessel surrounded by a reinforced concrete shield building.

d. Licensee Activities

Activity on Unit 3 increased steadily during the assessment period with completion moving from 36 percent on July 15, 1981 to 58 percent on July 31, 1982. A one year construction moratorium on Unit No. 5 was announced on June 18, 1981 and work force reductions were underway at the beginning of the assessment period. Construction completion on Unit 5 was approximately 17 percent when the construction moratorium was announced. The moratorium announcement was followed by a decision to terminate construction of Unit 5 on January 22, 1982. A three phase controlled termination is now in progress. The first phase is directed at preserving Unit 5 as a complete plant for resale. During this phase the Unit 5 plant equipment, material, and structures are being maintained in accordance with the construction permit to maintain the licensability of the unit. Subsequent phases will involve sale or disposal of equipment and materials, site protection, preservation or restoration.

Major safety related construction activities for unit 3 included reactor and steam generator set; reactor coolant loop installation; large bore pipe installation; installation of reactor building concrete and structural steel; and installation of control boards and electrical raceway.

e. Inspection Activities

Twenty-three inspections were conducted during the assessment period. Eleven inspections were conducted by the resident inspector and twelve inspections were conducted by regional-based inspectors. A total of 1698 inspection-hours were expended during the assessment period. The construction resident inspection program has been in effect for the entire assessment period. One Region IV Vendor Programs Branch (VPB) inspection was conducted at the Ebasco Corporate office in New York City with a portion of that inspection directed toward A/E activities relative to the WNP-3/5 projects.

Tabulations of enforcement action are contained in Table 2.

During the current assessment period no Civil Penalties, Orders or Confirmatory Action Letters were issued or imposed on Units 3 or 5 by the NRC.

f. Licensing Activities

Major licensing activities during the assessment period included application for an operating license and submittal of the Final Safety Analysis Report (FSAR) on May 25, 1982. A significant reportable licensing event was the termination of WNP-5 as described above. The NRC is using a projected Unit 3 fuel load date of December, 1985 for planning and establishing licensing milestones.

II. Summary of Results

Construction Activities - Washington Nuclear Project Nos. 3 and 5.

FUNCTIONAL AREA	CATEGORY 1	CATEGORY 2	CATEGORY 3
SOILS AND FOUNDATION		X	
CONTAINMENT AND OTHER SAFETY RELATED STRUCTURES			X
PIPING SYSTEMS AND SUPPORTS - INCLUDES WELDING, NDE AND PRESERVICE INSPECTION		X	
SAFETY RELATED COMPONENTS - INCLUDES VESSEL, INTERNALS, AND PUMPS		X	
SUPPORT SYSTEMS - INCLUDES HVAC, RADWASTE, FIRE PROTECTION		X	
ELECTRICAL POWER SUPPLY AND DISTRIBUTION		X	
INSTRUMENTATION AND CONTROL SYSTEMS	AREA NOT INSPECTED		
LICENSING ACTIVITIES		X	
DESIGN CONTROL			X

III. CRITERIA

The following criteria were used as applicable in evaluation of 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 or construction is being achieved.

IV. Performance Analysis of Functional Areas - Construction

The report period for this licensee performance evaluation is the first period in which the functioning of the licensee's revised management structure can be evaluated. The overall evaluation of the new Supply System management for WNP 3 and 5 is favorable. However, the Review Board believes that the licensee is excessively detached from the day to day problems at the site. The present management finds itself with a multiple contractor legacy which it manages through the use of a construction manager. This situation promotes the detachment from day to day problems that require greater management attention. This detachment is evidenced by the number of occasions when the NRC has found that the licensee was unaware of what the Construction Manager (Ebasco) or the contractors were doing when a problem arose. Thus, if the current Supply System management is to be faulted, it would be for a tendency to act as a scorekeeper for quality problems rather than being involved in their identification, resolution and corrective action. This appears to be common throughout the functional areas of site construction but is not found in the area of licensing activities.

There are indications of deficiencies in the onsite and offsite design control programs which could become significant if not addressed immediately.

On the positive side, the Board finds that during the past year the pace of site construction has nearly doubled, but the number and seriousness of quality problems has decreased. The following areas were noted by the Review Board as areas in which the current licensee management has made signficant progress:

a. Procedures have been improved and the systems described in the procedures appear to be more direct and to actually represent what is being done. The documented quality assurance program policies, procedures, and instructions are being maintained current with the organizational structure which has been established.

b. Site housekeeping has improved during the past year. This has apparently resulted from the assignment of general housekeeping responsibility to a single contractor.

c. Coordination among contractors has improved simply by more positive attention to contractor conflicts. For instance, one contractor now has responsibility for all welder qualification.

d. Contractor quality performance is now recognized by adjustment in work scopes where feasible.

e. Quality concerns of craft and other personnel are being handled without numerous allegations being received by the NRC. During the past year, the NRC has actively investigated only two allegations. The use of a "hotline" which allows any site personnel to anonymously voice quality concerns to a coordinator for the Supply System, appears to have helped.

f. The quality of the vendor inspection program has improved as evidenced by the prompt identification of deficiencies at the Leckenby facility in Seattle, Washington, a sub-supplier of special doors. This maybe attributed to the increased training of vendor quality assurance representatives.

In order to achieve management control of the numerous contractors on the site, the licensee has delegated total management of these contractors to a Construction Manager, Ebasco Corporation. By placing this Construction Manager (CM) on an incentive contract, he has been strongly motivated to resolve conflicts between contractors and expedite construction. The Review Board finds no problems with this action in itself; however, the Board does question the licensee's interpretation of his "overview" role of the CM's activities. It appears that in the functional area of design and the various site construction areas, the licensee interprets "overview" as involvement in site quality problems only when such involvement is requested by Ebasco, or when involvement is otherwise thrust upon the licensee due to financial or regulatory concerns.

The licensee's approach to the resolution of technical issues from a safety standpoint has been conservative, generally sound and reflective of an understanding of the issues addressed. However, this assessment is made on those issues in which the licensee has become directly involved. The basic criticism of licensee non-involvement applies.

The licensee generally provides acceptable responses to NRC initiatives but occasionally overburdens such responses because of excessive reliance on the input from Ebasco or contractors. The licensee frequently requires extensions of time to respond; it has taken over twelve months to obtain a complete response to one item of noncompliance.

Table 2 provides a history of enforcement actions during the assessment period. During this period, site construction has increased to nearly double the pace in the previous report period while enforcement history has also improved. Nonetheless, the NRC inspectors assigned believe that there is a tendency on the part of the licensee to measure his quality performance on the basis of enforcement history alone.

The licensee has reported events accurately but some of the analyses are marginal and occasionally some information may be lacking. Some of the best examples of the need for more licensee involvement in site problems appear in this area (See Table 1). During the evaluation period, the licensee was formally asked to provide additional information on four of these reports:

a. Morrison Knudsen - Structural Steel Bolting Deficiencies

b. Grinnell - Pipe Hanger Stiff Clamp Deficiencies

c. Deficiencies in Concrete Placement

d. Radiograph Indications on Unit 3 Safety Injection Tanks

For items a, c and d, it is the NRC's opinion that adequate review of the information presented to the NRC would have forestalled any need for questions and that some of the questions which have arisen with regard to item (b) could have been addressed much earlier.

In the general area of addressing nonconforming conditions, there appears to be a reluctance on the part of the licensee's contractors to openly address quality problems. This is evidenced by the fact that most site contractors have a filter system which assures thorough review of quality problems prior to the entering of such problems on the site-wide, Ebasco-controlled, nonconformance reporting system. The Board believes that licensee management must make a conscious effort to become involved in the control of these nonconforming conditions, regardless of the system used to report the conditions. This control should reach down to the original inspection reports which identify problems. Such involvement should not be limited to a "numbers game" that measures contractor performance by counting the nonconformances in various categories, but rather should actually involve a look at the individual problems, their resolution, the repetitive incidence, and the effectiveness of corrective action to prevent recurrence.

The Board notes that certain NRC actions such as numerical accounting of noncompliances and encouragement of trending analysis appear to have been misunderstood by the licensee and exacerbate the problem which often appears as an attitude problem. The attitudes stem from the tendency to be concerned with numerical measurements rather than such things as the effectiveness of the corrective action, the efficacy of procedures, and promptness of resolution.

The Board perceives no specific deficiencies with the staff of the licensee or the staff of Ebasco and contractors, either in the number of people assigned or their qualifications. However, the NRC believes the staffs of the quality assurance and quality control organizations are not always effectively used. There appears to be excessive use of personnel for audits and surveillances without sufficient preplanning in the case of surveillances and prompt follow-up to assure resolution of findings and effective corrective action to prevent recurrence. This problem is evident from an examination of a sample of surveillance reports that showed repetitive findings in the area of piping cleanliness and welder qualification. In stating this, the Board is not addressing the validity of such findings but rather the fact that the findings were not promptly brought to the attention of organizations and proper management personnel to assure that they are resolved and do not recur. The Board also notes that the NRC inspectors have received non-specific complaints from quality control personnel about the cavalier treatment afforded their concerns. The Board believes this should be of concern to licensee management.

Licensee activities that are of interest to NRR reflect an adequately staffed organization. This evaluation is based in part on the continuing senior management interest in this area as reflected in adjustments to staff organization whenever opportunities for improvement are identified. The dual reporting lines for the Licensing Manager have not created any adverse conditions for NRR Licensee interaction during this evaluation period.

The various functional areas analyzed below and the licensee's overall performance were assigned a category 1, 2 or 3 rating based on the aforementioned evaluation criteria. It is the opinion of the Review Board that the number of different contractors employed on site require a higher level of NRC inspection effort than that normally employed. In evaluating the licensee, the Board recognizes the extenuating circumstance of multiple contractors as it relates to licensee management. However, the Board evaluates project performance, not personnel performance, and thus makes no allowances for the special difficulties faced by individual managers.

1. Soils and Foundations

Analysis

NRC attention was directed only toward soil excavation and compaction activities for safety related yard piping during this assessment period. The inspectors questioned the controls being applied to excavation and backfilling operations for safety related yard piping, i.e., component cooling water lines, and for excavations adjacent to the Reactor Auxiliary Building shear walls in April and May, 1982. The inspectors were given various answers to these questions by Ebasco personnel which did not fully explain why backfilling operations were not considered a Quality Class 1 activity nor was there an explanation of the controls applied to excavations along the Reactor Auxiliary Building wall. This question remains unaddressed.

On July 16, 1982 the licensee notified the NRC of a potentially reportable 10 CFR 50.55(e) item involving backfilling of Quality Class 1 yard piping. The substance of the item was failure to properly classify and specify backfilling operations involving safety related piping as a Quality Class 1 activity. At the time of reporting five safety related lines had been backfilled without compaction tests of bedding material and there was no documentation of the quality of backfill around other non-safety related lines beneath the safety related lines.

Corrective actions taken to date include preparation of a Quality Class 1 specification for backfilling operations, removal of previously compacted safety related lines for examination of compaction under the lines, and replacement of the lines with proper backfill. The Licensee has reported that engineering evaluation of this deficiency shows it to be not significant under the criteria of 10 CFR 50.55(e).

The deficiency, and the time required to respond to NRC concerns on this subject demonstrate inadequate management involvement in assuring quality and inadequate responsiveness to NRC initiatives. The existence of criteria or guidance regarding excavation of undisturbed sandstone from Reactor Auxiliary Building perimeter walls still has not been communicated to the inspectors. This deficiency also deonstrates inadequate attention to IE Circular 81-08 "Foundation Materials" issued on May 29, 1981 and inadequate application of lessons learned from WNP-2 compaction documentation deficiencies.

Conclusion

Category 2

Board Recommendation

The licensee should evaluate the failure of the lessons-learned program and IE Circular review to detect this deficiency. The licensee should evaluate the failure of the design control program to detect this deficinecy.

Continue independent inspection of soil compactor activities including followup on excavations around the Reactor Auxiliary Building perimeter.

2. Containment and Other Safety-Related Structures

Contractor management of this area was considered to be weak at the start of the review period, but improvement has been noted in the performance of the 263* contractor (Morrison-Knudsen) and the 224 contractor (MK-ESI-Lord). One item of noncompliance (50-508/82-12/02) is attributable to failure by the 224 contractor to perform surface examination of containment electrical penetration welds. One item of noncompliance (50-508/82-04/01) involving failure to fabricate and install containment-associated equipment in accordance with the specified quality program is more appropriately classified as a deficiency in contract No. 213 design document preparation and review and is therefore discussed in paragraph IV.8.

The quality performance of the 265 contractor (J. A. Jones) has not improved measurably during the evaluation period. This contractor failed to take advantage of lessons that should have been learned from other site problems and thus had problems with structural steel bolting, weld filler material control, and concrete consolidation. Inadequate management involvement by the licensee and Ebasco to assure, via surveillance, that previous site problems in these areas were not repeated may have contributed to this contractor's poor performance.

Two contractors (Morrison-Knudsen and J.A. Jones) have not demonstrated particularly good craft training in this functional area as evidenced by structural steel erection problems. This was corrected by Morrison-Knudsen and is being corrected by J. A. Jones.

*Note: Number designations of contractors are commonly used to identify the contractor and in some cases distinguish between the same company performing on two different contracts. Morrison-Knudsen, for instance, performs as the lead in a joint venture contract, No. 224, and also as the full performer under another contract designated as No. 263.

One item of noncompliance (50-508/81-17/05) is attibutable to failure by Ebasco to properly follow conditional release procedures for the installation of mechanical containment penetrations requiring repair prior to release.

Two 10 CFR 50.55(e) items were reported in this functional area. One involved deficiencies in an auxiliary building concrete wall placement and the other involved welding defects in structual steel. Reporting, evaluation of safety implications, and corrective action were adequate for both items. Technical reviews by the licensee and Ebasco were deficient in one instance as evidenced by failure to identify and correct a flawed statistical analysis of reactor auxiliary building structural steel bolting deficiencies. This item was reported as 10 CFR 50.55(e) item during the previous assessment period but was examined by the NRC during this assessment period. The licensee's reanalysis of this deficiency is now under NRC review. The final report on one other previously reported 10 CFR 50.55(e) item involving cracks in safety related embedment plates is under NRC evaluation.

Conclusions

Category 3.

Board Recommendations

The Board believes that this area continues to require greater than normal attention by the licensee and the NRC. Ebasco surveillance plans which incorporate, where applicable, previous site problem areas are necessary.

3. Piping Systems and Supports

Analysis

The review board finds the work of the 251 contractor (Peter Kiewit & Sons) for the reactor auxiliary building piping to have been generally above average.

The 224 contractor's quality assurance program was found to be inadequate to support Quality Class 1 work early in the assessment period. Allegations of improper implementation of the quality assurance program by this contractor were received by the NRC during the week of July 31, 1981. Significant deficiencies were identified during an NRC investigation of the allegations and extensive contractor corporate quality assurance audits were initiated. The contractor issued a stop work order in the area of welding, procurement, receiving, and issuance of material which was followed by extensive corrective action.

An NRC inspection of the early difficulties of the 224 contractor disclosed that a readiness audit of the contractor's program had been conducted by Ebasco and had resulted in a total of eighteen quality finding reports, some of which related to the subsequent allegations, NRC investigation findings, and contractor corporate audit findings. In addition to the number and significance of the findings, the contractor's response to fourteen of eighteen findings was rejected as inadequate and subsequent verification of action taken on two findings was also rejected as inadequate. The Ebasco readiness audit summary included a statement that the contractor's program cannot support all Class 1 activities at this time. Correspondence was initiated between Ebasco and the contractor following this audit but Ebasco still released the contractor to go to work rather than restrict the contractor's work activities pending resolution of program deficiencies. The allegations and serious program deficiencies that followed the contractor's release for work suggest that greater management attention by Ebasco was warranted.

During the report period the management of the 224 contract has improved. In one instance, the contractor's management aggressively addressed a quality problem which was potentially serious. On the other hand, this same problem was an example of what the Board believes to be excessive detachment on the part of the licensee. This potentially serious problem arose on swing shift April 19, 1982, because ER308 and ER309 weld electrodes appeared to have been issued and used for a primary loop repair weld in the wrong sequence. Although attention had been called to the possible problem by a quality control inspector, a general foreman for the 224 contractor directed that work on the weld continue. This was contrary to the direction of the welding superintendent who had been contacted at home. The investigation of this incident by the 224 contractor was followed completely by Ebasco, but the final meeting in which the contractor reported on their investigation, resolution, and corrective action was not even attended by the licensee.

The principal contractors in this functional area appear to have good training programs.

One 10 CFR 50.55(e) item was reported during the assessment period which involved linear indications in auxiliary feedwater system pipe. Reporting, analysis, and corrective action were examined and considered satisfactory.

One 10 CFR 50.55(e) item involving pipe hanger stiff clamps reported during the previous assessment period was examined during this assessment period. The licensee's final report on stiff clamp failures and subsequent modifications was reviewed by the regional office staff which decided that additional review of certain design aspects of the clamps by the Office of Nuclear Reactor Regulation (NRR) was warranted. An initial meeting between the licensee, regional and NRR personnel was held on June 18, 1982 and questions were prepared and subsequently answered by the licensee. NRR is presently evaluating the licensee's response.

Conclusions

Category 2

Board Recommendations

Greater licensee involvement is warranted. Continue routine inspection program.

4. Safety-Related Components

Analysis

The Review Board notes that the installation of safety-related components has been the responsibility of at least four principal contractors. The extent of problems in this area probably represents normal experience.

One example of quality coordination problems for multiple contractors in this area is an item of noncompliance that was issued because three organizations on site had responsibility for controlling the preventive maintenance on two items of equipment for Unit 5. The equipment responsibility was to pass progressively through the three organizations but did not do so. In this instance, Ebasco was one of three contractors responsible for controlling preventive maintenance on the equipment in question. The Board believes this again reflects a need for the licensee to be directly involved in problems rather than simply waiting for input from the construction manager or contractor organization.

The principal contractors in this area (MK/ESI/Lord and Peter Kiewit Sons) appear to have good training programs.

One 10 CFR 50.55(e) item was reported involving a failure to insure the proper surface finish on steam generator bearing plates. The reporting, analysis and corrective action associated with this item was satisfactory. A 10 CFR 50.55(e) item involving radiograph indications on safety injection tanks reported during the previous assessment period was examined during this assessment period. The licensee's final report on the subject inadequately addressed safe-end linear indications and additional information was requested from the licensee. This is considered another example of inadequate licensee involvement in the resolution of problems. Another previously reported 10 CFR 50.55(e) item involving defects associated with the shutdown cooling heat exchangers was examined during this assessment period. The reporting, analysis, and corrective action on this item was satisfactory.

Conclusions

Category 2.

Board Recommendations

Greater licensee involvement is warranted. Continue with routine inspection program.

5. Support Systems

Analysis

This area includes all fire protection, radioactive waste and other important but non-safety-related systems. In this area, the Board again finds a need for greater licensee involvement. The following is an example of the need for this involvement and the need to directly address what the construction manager is doing on a day-by-day basis. One instance involves the licensee's direction to Ebasco to review "current Class 2 and G construction contracts to determine the minimum level of inspection required." This licensee instruction also asked for an Ebasco program for inspection of Class 2 and G work. In their direction to Ebasco, the licensee noted that "since most of the Quality Class 2 and G contracts and purchase orders have been issued, the primary effort should be to verify that the Supply System indeed receives all contracted items and services." In other words, the Supply System directive concerned the verification effort which the construction manager (Ebasco) was to employ on Class 2 and G work.

In response, Ebasco outlined a program which went considerably beyond the obvious written intent of the Supply System directive. The Ebasco program was outlined in a Project Change Proposal (PCP) which included a full review of nearly all specifications dealing with Class 2 and G work for excessive quality assurance requirements. In other words, the quality assurance specifications of existing Class 2 and G contracts were relaxed. This appears contrary to the intent of the Supply System directive. The effects of such actions are reflected in the installation of a 13.8 KV line to the river water makeup pumps by a contractor (small local organization) apparently without any in-process quality control inspection, either on the part of Ebasco or the installing contractor.

Other than field observations of ongoing work, there was no NRC inspection activity in the areas of HVAC, fire protection and waste management.

Conclusions

Category 2.

Board Recommendations

Greater Licensee involvement appears warranted. Continue routine inspection program.

6. Electrical Power Supply and Distribution

Analysis

Only one inspection was conducted in this general area during the review period. As in other areas, the licensee has multiple contractors working in the area of electrical and instrumentation. Coordination of these contractors is a significant challenge faced by the licensee and the construction manager. The Review Board finds that the licensee, through Ebasco, has improved coordination of site contractors and believes that coordination problems are being resolved. However, some examples of coordination problems were noted during the year in the area of electrical quality assurance. For instance, it was found that two onsite contractors had been involved in the procurement of safety-related cable trays from a single vendor. One contractor considered the vendor qualified and initiated procurement over a year before the second contractor. The second contractor did not consider the vendor qualified and qualified the vendor only after working with the vendor on improvements that the second contractor believed to be necessary in the vendor's quality assurance program. This situation was further complicated by a request that the second contractor accept cable trays purchased by the first contractor for Unit 5 prior to termination of work on that Unit. While the

quality of the product was eventually established to the satisfaction of all parties, the effort involved was excessive.

Conclusions

Category 2 based on very limited inspection activity.

Board Recommendations

Continue with routine inspection program.

7. Licensing Activities

Analysis

The licensee preceeded the tender of the formal operating license application with a management visit to NRR. A briefing was presented on the status of the application and management plans for addressing those areas for which additional planning is required (documenting SRP compliance, for example). When the decision was made to terminate WNP-5, there was consistent evidence of prior planning and assignment of priorities to preserve the licenseability of the project, should there be a resumption of construction at a later date. Management of the initial actions to solve a pipe hanger design problem have been satisfactory. When a proposal for an independent design review program involving NRC participation was not adopted, the utility initiated their own program of design conformance verification in a timely manner.

Conservatism has generally been exhibited in the approach to technical issues related to the WNP-5 termination. Responsiveness to NRC initiatives has been satisfactory. Licensee activities that are of interest to NRR reflect an adequately staffed organization.

Conclusions

Category 2

Board Recommendations

None

8. Design Control

Analysis

Design control, both in the Ebasco New York office and onsite has been the central issue or contributing factor in several items of noncompliance, unresolved items, and construction deficiencies during the assessment period.

Noncompliance No. 50-508/81-14/01 involved failure to properly test mechanical containment penetrations in accordance with ASME code requirements. This deficiency was directly attributable to a failure to factor code required leak test requirements into the design configuration. Repeated requests for information were required to elicit an acknowledgement from the licensee that a problem existed. A final response which addresses corrective action in the design area still has not been received, over twelve months from the original notice of violation. During this time period the inspector has determined that electrical penetrations similarly have not been designed to accomodate the leak testing requirements of the ASME code.

Noncompliance No. 50-508/82-04/01 involved failure to fabricate and install containment attachment equipment in accordance with the specified quality program. This deficiency apparently resulted from inadequate attention by the design and installation contractor to the Engineer's design requirements and inadequate review by the Engineer of the contractor's detailed design drawings. Inspection, upgrading and seismic analysis of this equipment is now in progress.

Noncompliance No. 50-508/82-04/02 involved failure to control design change documents (quick fix project change proposals) in accordance with procedures. Further investigation of this item has recently revealed that unauthorized design activity by a site contractor and circumvention of review, approval and design verification of changes by the original design organization also took place. These field change documents have also been used to delete quality related specification requirements involving safety related structural steel welding in violation of design control procedures.

Other examples of design control deficiencies include failure to specify Quality Class 1 backfill for safety related yard piping and failure to translate containment seismic design assumptions (compressible material around embedded lines) into construction specifications. The Board notes that reluctance by the licensee to aggressvely pursue indications of deficiencies in design control has been replaced by an extensive audit effort of the Ebasco New York design office near the end of this assessment period. These audits appear to confirm the existence of deficiencies in design control program implementation which will require effective corrective action.

Control of onsite design changes (currently approximating 800 changes per month) is considered by the Board to be particularly important at this stage of construction. The Board believes that greater licensee involvement in the onsite

design control program is necessary with specific emphasis on assuring that: (1) appropriate design control measures which conform to regulatory requirements are established in writing; and (2) the design control measures are being followed by affected site organizations.

Conclusions

Category 3.

Board Recommendations

Continued licensee involvement in assuring original design control and greater licensee involvement in assuring control of field initiated design changes.

V. Supporting Data and Summaries

1. Construction Deficiency Reports (CDR's)

Five CDRs were submitted by the licensee during the assessment period. After evaluation, one was determined to be not reportable. Five CDRs reported in the previous assessment period were examined during this assessment period. CDR's submitted or examined during this assessment period are discussed under the functional area affected in paragraph IV. A history of CDRs appears in Table 1.

2. Investigation Activities

An investigation was conducted early in the assessment period of allegations that the 224 contractor (MK-ESI-Lord) was not properly implementing his quality assurance program in the areas of procurement, receiving, and issuance of material. These allegations were substantiated and resulted in a contractor-imposed stop work order and extensive corporate audits. Corrective action was considered satisfactory.

3. Escalated Enforcement Actions

None

4. Management Conferences

None

TABLE 1

10 CFR 50.55(e) CONSTRUCTION DEFICIENCY REPORTS

DOCKET NUMBERS: 50-508
50-509

EVALUATION PERIOD: July 1, 1981 - July 31, 1982

10 CFR 50.55(e) DEFICIENCIES REPORTED DURING THE EVALUATION PERIOD

DESCRIPTION	DATE REPORTED	RESOLUTION
Deficiencies in Concrete Placement No. ABW-019/021	7/23/81	Satisfactory Report Nos. 508/81-18 508/81-19 508/82-02 508/82-06
Linear Indications in Auxiliary Feedwater System Pipe	8/13/81	Satisfactory Report No. 508/82-03
Defective Structural Steel from CB&I	9/25/81	Satisfactory Report No. 508/82-03
Steam Generator Bearing Plate Surface Finish	10/19/81	Satisfactory Reports Nos. 508/81-19 508/82-01

10 CFR 50.55(e) DEFICIENCIES REPORTED DURING A PREVIOUS EVALUATION PERIOD WHICH WERE EXAMINED DURING THIS EVALUATION PERIOD

DESCRIPTION	DATE REPORTED	RESOLUTION
Defects Associated with the Shutdown Cooling Heat Exchangers	5/22/80	Satisfactory Report No. 508/82-10
Morrison/Knudsen Structural Steel Bolting Deficiencies	1/28/81	Unsatisfactory Report Nos. 508/81-19 508/82-05
Radiograph Indications on Unit 3 Safety Injection Tanks	4/28/81	Unsatisfactory Report No. 508/82-13
Cracks in Safety-Related Embedment Plates	5/12/81	Report No. 508/82-02
Grinnell Pipe Hanger Stiff Clamp Deficiencies	6/11/81	Pending With NRR Report Nos. 508/82-01 508/82-10 508/82-13

TABLE 2

ENFORCEMENT AND INSPECTION SUMMARY DATA

DOCKET NUMBERS: 50-508
50-509

EVALUATION PERIOD: July 1, 1981 - July 31, 1982

INSPECTIONS:	REGIONAL-BASED	RESIDENT
Number	12	11
Hours Onsite	704	718
Hours Offshift	-	4
Hours in Office	107	-

ENFORCEMENT ACTIONS:

ITEM NUMBER	SEVERITY	DESCRIPTION
508/81-14/01	V	Failure to Properly Test Containment Penetrations
508/81-17/05	V	Failure to Follow Conditional Release Procedure
508/81-19/01	V	Failure to Follow Filler Metal Control Procedure
508/82-04/01	V	Failure to Fabricate Equipment and Install Equipment in Accordance with Specified Quality Program
508/82-04/02	V	Failure to Control Design Change Documents in Accordance with Procedures
509/82-03/01	V	Failure to Control Storage Preservation of Equipment
508/82-12/02	IV	Failure to Perform Surface Examination of Containment Electrical Penetration Welds