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June 9, 1997

Re: Indian Point Unit No. 2  
Docket No. 50-247

Document Control Desk  
US Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, DC 20555

SUBJECT: Response to SALP Report No. 50-247/97-99.

The Systematic Assessment of Licensee Performance (SALP) Report No. 50-247/97-99 for Indian Point Unit No. 2 identified performance declines in the maintenance and engineering areas. This letter constitutes the 60-day response requested in your March 31, 1997 cover letter to the SALP Report. It describes actions planned to arrest the performance declines and to improve the quality of these activities.

The planned actions to arrest our performance decline and to improve performance result from a systematic root cause analysis undertaken during the last SALP period. The cornerstone of the analysis began with aggressive self-assessments in each of the key functional areas in the station. The output of those self-assessments was included in a review of station events and conditions. Quality assurance audits, reports from outside agencies such as the NRC, and third-party independent reviews were also included. This review, performed by our own station staff and facilitated by outside expertise, resulted in fourteen strategic focus initiatives in key functional areas of the station. These initiatives are considered to be principal contributors to improving station performance. Detailed action plans for each of the functional areas were developed. The action items are included in a program called the Strategic Improvement Program (SIP). Progress on accomplishing these activities is closely monitored by senior staff and an independent oversight committee. The discussion below addresses a number of those actions which are directed at improving performance in both the engineering and maintenance areas.

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The planned and, in some cases, completed actions discussed below include a reorganization of station personnel, development of additional equipment expertise and improved equipment monitoring, enhanced retrieval and availability of design basis information, process improvements, and, very importantly, improvement in the identification and resolution of plant problems. As commented in the SALP report, our engineering and maintenance support staff is knowledgeable and experienced, and we believe improved engineering and maintenance performance can best be achieved by focusing on the identification, evaluation, and correction of problems and by providing better engineering support to maintenance work forces.

### ROOT CAUSE ANALYSIS AND CORRECTIVE ACTION

A Third-Party Root Cause Analysis Assessment has been completed and the following recommendations have been implemented in three key areas:

#### 1) Identification of Problems

Expectations for reporting and documentation of deficiencies have been reemphasized with station personnel at station meetings, in addition to continued emphasis on a day-to-day basis. As a result, the number of deficiencies reported has increased by approximately 20 percent compared to previous outage and non-outage years. Further, consistent with management expectations, the threshold for reporting has been lowered as evidenced by the types of events reported by plant personnel.

The Indian Point corrective action process requires the review of identified problems by our Daily Management Review Group (DMRG). This group of key station managers reviews station events, prioritizes them, and assigns an investigator for determining the root cause(s) for the event. A supplementary historical review is now conducted after the meeting by Engineering Analysis to ensure that there have been no similar past problems. If the historical review identifies any similar past performance problems, the priority of the event is reviewed and raised if it appears to be repetitive and there is no existing program, review, or corrective action(s) which addresses the problem.

#### 2) Cause Determination

Formalized root cause analysis techniques are now specified and required to be utilized for identifying the root causes for station priority 1 (highest of three priorities) events. Various techniques have been adopted in the station process for conducting root cause analysis such as the

Management Oversight Risk Tree (MORT) Analysis, Change Analysis, Hazard Barrier Analysis, Fault Tree Analysis, and Event and Causal Factors. The formalized root cause analysis process better ensures that all potential failure modes of equipment problems are identified.

Certain priority 1 events, which have potential safety concerns or consequences, can have multidisciplinary teams assigned to provide better insight as to the causes of the event and equipment problems. All priority 1 events also receive a post-event critique which is chaired by the Plant Manager. This meeting facilitates event review and development of corrective actions. The meeting also provides a forum for agreement and understanding of the event by all affected station personnel.

Finally, all priority 1 events receive a peer review by knowledgeable personnel not involved with the event or the investigation. This independent review of the investigation provides added assurance that the investigation utilized appropriate techniques and methodology to arrive at the root cause determinations.

Training in the new root cause analysis techniques has been completed for at least 35 individuals to date. The training attendees included investigators as well as the managers who charter, review, and approve the investigations. Further training sessions are planned. Multidisciplinary teams have utilized these new processes and techniques over the past few months, and we have found them comprehensive and aggressive in their root cause analysis efforts.

### 3) Corrective Action

As discussed above, the post-event critique attended by trained investigators and managers reviews the results of the investigations. Corrective actions to prevent recurrence are developed utilizing an approach similar to the concept of a safety precedence sequence, which considers the relative priority of the recommended corrective action and its probability for reducing the risk of recurrence, as well as the generic implications.

Corrective actions are monitored by senior station management and discussed at periodic corrective action program review meetings to measure their effectiveness. The meeting frequency has recently been increased to a monthly basis to more effectively monitor issues and trends by focusing on one aspect of corrective actions (human performance, equipment performance, and indicators and trends) each month.

## REORGANIZATION

The Indian Point Unit No. 2 offsite and onsite engineering departments were recently reorganized and combined into one department. The new Nuclear Power Engineering Department is responsible for providing design, system, and component engineering support to the plant. The combined organization has the capability to realign resources and reassign work load to aggressively address the weaknesses identified in the SALP report. Some of these efforts are outlined below:

- 1) Engineering management oversight has been enhanced by the creation of additional engineering supervisor positions. It is our intent to fully staff these positions as soon as possible. Some of the existing responsibilities that the system engineers carry will be reassigned to other sections within engineering to allow the system engineers more time to focus their major responsibility toward equipment and system performance.
- 2) A Component Engineering Subsection has been created to provide an engineering presence in the Maintenance organization capable of offering day-to-day expertise and support to the maintenance teams.
- 3) The Engineering Analysis Subsection will be relieved of peripheral duties to refocus their efforts toward aggressive and thorough root cause analysis of problems and human performance issues. A majority of the section staff recently completed a five-day root cause analysis seminar conducted by Conger & Elsea.
- 4) A Configuration Control and Management Section is being established to implement the commitments contained in our February 1997 response to the 50.54(f) Design Basis letter. The responsibilities of this organization include:
  - o A UFSAR review program which includes the following elements:
    - Verification of the accuracy of UFSAR design basis information.
    - Review to confirm that the UFSAR design basis information is properly reflected in plant operation, maintenance, and test procedures.

- Review the UFSAR to identify and resolve any internal disagreements or inconsistencies which could impact the design basis.
- o Continuation of the Design Basis Document (DBD) Initiative
  - Supplementation of the currently existing 22 DBDs with a combination of additional DBDs and added information on interfacing systems to existing DBDs.
  - Verification of the compatibility of the design basis requirements in the UFSAR with new and existing DBDs.

There have also been span-of-control improvements made in the Maintenance and Operations organizations by providing additional management oversight in both departments to more closely monitor field activities on a day-to-day basis.

#### PROCESS IMPROVEMENTS

The station has also aggressively pursued process improvements in the maintenance and engineering areas. The work control process was reviewed by a team of station individuals who benchmarked industry best practices. The team results are contained in a report which made recommendations outlining extensive improvements to the work control process. These were recommended to plant management and implemented during the latter part of the SALP period. The work implementation process has been closely monitored and critiqued since the establishment of the Work Week Manager position, and the efficiency of job completion has improved as a result. It is our expectation that further improvements will be realized in many areas of the work control process, such as backlog reduction, emergent work control, tracking and scheduling of repetitive tasks, assessment of deferred maintenance, resource utilization, and System Engineering support of maintenance activities.

The Design Change and Equipment Reliability Process Improvement teams have also concluded their assessments and those recommendations are currently included in our SIP.

In order to improve independent oversight of plant activities by the Nuclear Facilities Safety Committee, additional independent third party membership is being implemented.

We believe the actions discussed herein will improve the quality of the activities associated with engineering and maintenance, while not adversely impacting performance in other functional areas in the station.

Should you have any questions regarding this matter, please contact Mr. Charles W. Jackson, Manager, Nuclear Safety and Licensing.

Very truly yours,



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