

Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 736.8601



L. M. Hill
Site Executive Officer

October 11, 1995
IPN-95-100

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
License No. DPR-64
Self Assessment During Full Power Operation

- REFERENCES:
1. NRC Letter, T. Martin to W. Cahill, Jr. "Restart of the Indian Point 3 Nuclear Power Plant, " dated June 19, 1995.
 2. NYPA Letter IPN-95-073, W. J. Cahill to NRC, "Self-Assessment During Plant Startup," dated July 6, 1995.

Dear Sir:

The New York Power Authority conducted a self assessment of station performance after achieving full power operation at the Indian Point 3 Nuclear Power Plant, which will be the subject of a meeting with the NRC on October 18, 1995. The commitment for this meeting was included in Reference 1. This letter provides an overview of the self assessment in advance of the scheduled meeting date.

Full power operation at Indian Point 3 was reached on July 22, 1995. Self assessments were performed by Department Managers in a manner similar to that previously used for the 30% - 40% hold point (reported in Reference 2). Assessment results for appropriate departments were presented to the Plant Leadership Team (PLT) on September 5 and 6, 1995 and a summary meeting was held on October 11, 1995. In addition, the Authority's Quality Assurance (QA) Department and the Independent Safety Engineering Group (ISEG) performed separate assessments of station performance. The combined assessment results are summarized in Attachment I.

An additional perspective on this period is provided herein based on plant performance and activities which have occurred subsequent to the full power assessment period. On September 14, 1995 station management directed a plant shutdown to investigate indications of a hydrogen leak on the main generator. The work scope of the maintenance outage was subsequently increased to address emergent issues and certain equipment deficiencies identified during the self assessment period. Startup is presently projected for mid-October.

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The following primary observations were made as a result of these self assessments:

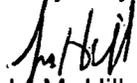
- * Safety related plant equipment performed well and staff response to emergent work was prompt and effective. Most equipment concerns involved balance-of-plant equipment, which in general also performed well.
- * Plant personnel are using the Corrective Action Program to identify and document problems. Additional effort is needed to assure timely implementation and effectiveness of corrective actions.
- * Management expectations are being reinforced with more emphasis placed on individual accountability.
- * The willingness and desire for conservative decision making is present at all levels. Additional improvements in communication, definition of roles and responsibilities, and in staff knowledge level are needed to provide a consistent basis for making informed decisions.
- * Personnel qualification is adequate and training participation is treated as a priority. Additional training effort is needed to improve understanding of licensing and design basis considerations.

In addition, staffing levels are adequate, however additional effort is needed to establish priorities in assignment of resources.

Overall, the self assessment concluded that power operation at Indian Point 3 has been and will continue to be conducted safely. The self assessment recognized, the need for additional improvement in areas which will contribute to more efficient and reliable performance while increasing awareness of safety and compliance. The Authority is developing work process improvements and making adjustments in the organizational structure at Indian Point 3, consistent with the objectives of the Continuous Improvement Plan. These additional corrective actions are designed to address issues raised through our self assessment activities and evaluations by outside organizations.

There are no new commitments made by the Authority in this submittal. Power Authority management and IP3 personnel maintain our commitment to plant safety and compliance.

Very truly yours,



L. M. Hill
Site Executive Officer
Indian Point 3 Nuclear Power Plant

Attachment
cc: next page

Mr. Thomas T. Martin
Regional Administrator / Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant

Mr. Curtis Cowgill
Project Branch No. 1
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. Jefferey F. Harold
Acting Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Mail Stop 14 B2
Washington, D.C. 20555

Attachment I to IPN-95-100

Self Assessment of Full Power Operation at Indian Point 3 Nuclear Power Plant

INTRODUCTION:

The New York Power Authority received agreement from the NRC (Reference 1) on June 19, 1995 to restart the Indian Point 3 Nuclear Power Plant. The restart sequence was treated by the Power Authority as a special evolution which involved the use of a special procedure (Reference 2), on-shift management overview, and predefined holdpoints for evaluation of plant and staff performance. The results of a self-assessment performed at the 30% - 40% power level were previously reported to the NRC (Reference 3). The Authority also committed to present to the NRC the results of the self assessment conducted after achieving full power operation.

Full power operation was reached at Indian Point 3 on July 22, 1995. Self assessment activities continued through August 1995, during which time the plant was operated at or near 100% power. Department Managers presented the results of their self assessments to station management during Plant Leadership Team (PLT) meetings on September 5 and 6, 1995. The results of the full power operation self assessment, summarized below, will be discussed with the NRC during a public meeting scheduled for October 18, 1995. Results and conclusions reported here also take into account more recent station activities including the current maintenance outage.

SELF ASSESSMENT METHOD:

The self assessment was conducted by Department Managers in a manner similar to that used for previous assessments based on guidance outlined in the Startup and Power Ascension Procedure (SUP-95-01). The guidelines include evaluation attributes and criteria in a variety of categories including plant material condition, support facilities and equipment, and the conduct of department specific activities. Criteria are also defined in the areas of Organization and Administration, Personnel and Qualifications, and Training to provide a measure of the overall ability of the site staff. Managers were requested to document their findings for discussion with and review by PLT members.

In addition to department self assessments, there was independent overview of station performance by our Quality Assurance Department (QA) and the Independent Safety Engineering Group (ISEG). The ISEG evaluated the station's overall performance and the QA department performed a broad surveillance of station activities similar to the QA overview described in the 30% - 40% assessment (Reference 3). The results of these overview activities were also presented to the PLT.

SELF ASSESSMENT RESULTS:

Note that the following results are taken primarily from the documented assessments presented to the PLT. However, they also include observations of plant activities performed since that time, including the current maintenance outage.

Material Condition / Equipment Performance:

The unit was maintained at approximately 100% power during the assessment period (July 22 through August) with the exception of planned load reductions to address maintenance or testing issues and to respond to Limiting Condition of Operation action statements. This initial

period of full power operation following the extended outage provided an opportunity to identify potential problem areas. In general, both safety related and balance-of-plant equipment performed well and staff response to emergent work was prompt and effective. RCS integrity is demonstrated by a relatively low leak rate, and chemistry data indicate good fuel cladding performance. The success rate in the surveillance testing program also provides evidence of overall good equipment performance. Most equipment concerns involved balance-of-plant systems such as the condensate polisher, traveling water screens, air systems, and steam traps. Some equipment problems resulted in power reductions or threatened plant shutdown. These included relays in the plant protection system logic, Emergency Diesel Generator room exhaust fans, and oscillations in the main boiler feed pump control oil system. Other equipment problems which have challenged plant staff include leaking Pressurizer power operated relief valves, instrument drift in the Rod Position Indication System, High Pressure Steam Dump control circuit failure, and high vibrations in the main generator current transformers.

The current outage, which began September 14 to investigate a hydrogen leak on the main generator has been extended to address equipment deficiencies identified during the assessment period. This reflects our conservative approach to operation and maintenance at IP3.

Department Manager Self Assessments:

Department Managers prepared self-assessment reports to document evaluations performed during the period of full power operations. These reports are available for NRC inspection. Highlights and significant observations are summarized below.

Our staffing level is adequate overall and adjustments are being made to establish the appropriate balance of contractor support during the transition from the extended outage to operating plant conditions. We did observe an upward trend in maintenance work backlog during the assessment period. Resources during this period were somewhat lower than usual because of accrued vacation time taken following the extended outage. In addition, we have rehired contractors in areas where temporary staff augmentation is needed. Because of these factors and efforts to more effectively establish priorities and assign resources, improving trends have recently been observed in maintenance backlog, control room deficiencies and operator work arounds. Additional staffing is planned in the area of operations where new license classes have been established to increase the number of operators available to support shift rotation.

Employee participation in scheduled training meets expectations with the attendance rate meeting our goal. In general, the level of personnel training and qualification is adequate to support full power operation. However, we have noted some specific training issues related to knowledge and use of the plant licensing and design basis, especially as related to transient and accident analyses. We have taken action to provide additional training regarding core operating limits. Continued training in this area is planned.

We believe that communication within and between departments needs some improvement, specifically with respect to keeping all personnel informed of the direction and activities of other departments. Deficient communication between departments (including the corporate office) was one of the causes leading to operating at a reduced RCS pressure during the power ascension sequence.

Although procedure adherence and use is improved, there is still need to enhance performance in this important area. The difficulties occur primarily in situations where the procedure does not clearly cover the circumstances. We are addressing this by clarifying the management expectation and ensuring personal accountability for procedure adherence and improving our procedures.

Another area which will improve station performance is the clarification of the Technical Specifications. Where urgently needed, we are applying for specific changes, and a program has been drafted to upgrade to the improved Standard Technical Specifications.

Independent Safety Engineering Group Overview:

Over the time frame of the ISEG review, examples of both effective and deficient personnel performance were observed. Recent events emphasize the importance of designating ownership of emergent issues for resolution, beginning-to-end. There are instances of decision-making based on use of insufficient information to fully support the decision. However, operations and management personnel strive to make conservative decisions. We have recognized that it sometimes takes an extended period to resolve emergent issues as an organization.

ISEG concluded that overall performance of the plant and station personnel during 100% power operations has been adequate. Recent corrective actions, along with the staff's demonstrated sensitivity to the importance of design considerations in all plant activities assure that we can continue to operate the plant safely, with continuing improvement.

Quality Assurance Overview:

QA overview and surveillance activities covered organization and administration, material condition and housekeeping, and a number of specific functional areas such as operations, maintenance and technical support. A variety of strengths and weaknesses were observed in each area. Overall, a common strength was that plant staff are consistently using the established corrective action program to identify and document problem areas. Strong performance was also noted in the areas of industrial safety practices, and reductions in control room deficiencies and operator work arounds. Improvements are still needed, however, in backlog management, records management, the Fire Protection Program, management expectations regarding operator simulator training, and follow through with the timely implementation of effective corrective actions. Areas which need to be reemphasized by management include knowledge of design and licensing basis, procedure adherence, and attention to detail.

CONCLUSION:

The plant material condition and overall personnel performance support safe full power operation at Indian Point 3. Continued strong management overview at all levels is needed as the transition is made from the current extended outage to operating plant conditions. The corrective actions outlined in the Continuous Improvement Program (CIP) are consistent with the areas identified for improvement by the self assessment observations. The Authority is in the process of formalizing methods to monitor progress and open new or revise existing action plans to support implementation of the CIP in an operating condition.

Prior to the restart of Indian Point 3, the Power Authority implemented a revised corrective action program to improve the ability of station personnel to identify and correct problem areas. The program has been successful in terms of the staff willingness and ability to identify and document problem areas with a low threshold. However, the Power Authority recognizes the need to improve the effectiveness of corrective actions developed in response to reported problems. Improvements to the program are being developed to assign priority and provide for the timely implementation of corrective actions and to assure that corrective actions result in improvements.

Recent events at the station provide evidence of both conservative and weak performance in the area of decision-making. Examples of weak performance include operating the reactor at reduced pressure before a safety evaluation was completed, and a delayed response to a malfunctioning nitrogen makeup valve. Examples of conservative performance include implementing repairs that assure RCS leak tightness, holding at reduced power following repair of a failed relay to complete an extent of condition evaluation, initiating a timely shutdown in response to indications of a hydrogen leak in the main generator, and proceeding to cold shutdown to more thoroughly address potential problems with containment penetrations.

The Power Authority concludes that the initial period of full power operation gives confidence that the plant is physically capable of sustaining reliable and safe operation. The staff is also capable and prepared to support this operation while recognizing its deficiencies and continuously correcting them and improving.

REFERENCES:

1. NRC Letter, T. Martin to W. Cahill, Jr. "Restart of the Indian Point 3 Nuclear Power Plant," dated June 19, 1995.
2. Indian Point 3 Procedure SUP-95-01, "Startup and Power Ascension Procedure."
3. NYPA Letter IPN-95-073, W. J. Cahill to NRC, "Self-Assessment During Plant Startup," dated July 6, 1995.