Revision 2, June 5, 2000

Special Inspection Plan
Indian Point 2

NRC Inspection 50-247/2000-010

I. Inspection Objectives

A. Determine whether the licensee's performance was adequate with respect to identifying the flaw in steam generator 24, tube R2C5, in 1997 given the anomalous indication, the susceptibility of the steam generator to degradation mechanisms and the readily available data to determine the flaw?

Assess the adequacy of the licensee's assessment of steam generator degradation mechanisms in 1997, and the effectiveness of the licensee's identification, corrective action and root cause evaluation of these degradation mechanisms, including the impact on the ability to detect flaws.

B. Independently verify selected information, which was provided by Con Edison, in support of the NRR's safety evaluation of the operational readiness of the Indian Point steam generators for operation during the next cycle.

II. Inspection Scope

A. Assess the licensee's effectiveness in identifying, assessing and compensating for conditions impeding the effectiveness of steam generator eddy current inspections in 1997. This should include:

1. Where anomalies or questionable data were encountered in testing, were adequate steps taken to further investigate/interrogate/evaluate the anomaly? -- Especially where conditions contributing to increased susceptibility to tube integrity problems existed and additional data (e.g., data recorded at different frequencies) were readily available. [This is not intended to be a question of individual analyst performance.]

2. Were the licensee's response and corrective actions appropriate to an identified PWSCC flaw in the freespan area in SG 24, tube R2C67, in1997? In particular, did the licensee use this information to re-assess the adequacy of the inspection technique and data analysis.

3. Were the licensee's response and corrective actions appropriate to identified copper-magnetite deposits and sludge pile interference with the inspection technique and data analysis?

4. Was the licensee's response appropriate to poor signal to noise conditions, probe skipping, bad data and analysts missed calls.

5. Review the licensee's past condition monitoring and operational

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assessments to determine whether the licensee adequately assessed the impact of degradation mechanisms on the quality of eddy current inspection data.

6. Review of the analyst guidelines, in light of site specific steam generator conditions.

Review licensee's 1997 eddy current inspection program to determine whether both the intent and recommendations of EPRI guidelines, which were in effect at the time, were met. Ensure that the licensee met both TS requirements and commitments that relate to SG inspections.

Review (1) qualification of analyst, (2) the quality of licensee specific training of provided to analyst, (2) the licensee's process for remediation of missed calls by analyst, and (3) the licensee's tracking, trending, assessment and corrective actions to missed analyst calls. This review should include the assessment of the number of missed calls by one of the two independent analysts during the 1997 inspections.

Review vendor-licensee interface including (1) degree of licensee oversight contractor analysts, (2) degree of independent licensee review of contractor work, and (3) degree of independent licensee assessment of steam generator conditions.

Develop a history of the IP2 steam generators, including when each degradation mechanism was identified and the degree of degradation. Develop a timeline of IP2 operating experience on steam generator eddy current inspections and degradation mechanisms.

For each of the identified degradation mechanisms, determine the licensee's assessment and corrective actions for the degradation. These should include, at a minimum:

* Hourglassing
* Ovality
* PWSCC in the free-span area
* Tube Denting
* Copper and magnetite deposition

B. Verify and review selected information in support of NRR's safety evaluation. These items will be identified during NRR review of licensee's operational assessment and development of the safety evaluation.

III. Inspection Members

Wayne Schmidt, Team Leader, Region I
Greg Cranston, Assistant Team Leader
Mike Modes, Senior Reactor Inspector
Laura Dudes, Senior Resident Inspector, Oyster Creek
Caius Dodd, Contractor (Tentative)
Ian Barnes, Contractor (Tentative)
Manu Subutdi, Contractor (Tentative)
Emmett Murphy, NRR (In-Office Support Only)
Stephanie Coffin, NRR (In-Office Support Only)

IV. Inspection Schedule

The inspection entrance meeting is planned for June 1, 2000. On-site inspections are to be conducted at Waltz Mill and Indian Point 2. The inspection exit meeting will be determined later.

Inspection will be conducted under the guidelines of the reactor oversight program. Inspection hours to be charged to procedure 93812 and prep/doc charged to TACs SEP/SED, respectively.

V. Inspection Support

EPRI guidelines in effect in 1997
Operation Experience Information on SG degradation and inspection
Indian Point 2 past operational assessments
Enforcement history associated with tube rupture events in the industry