



Commonwealth Edison

1400 Opus Place
Downers Grove, Illinois 60515

September 7, 1994

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

Attention: Mr. William T. Russell, Director

Subject: Supplemental Information Regarding Application for Amendment to
Facility Operating License:

Byron Station Units 1 and 2
(NPF-37/66; NRC Docket Nos. 50-454/455)

"Steam Generator Interim Plugging Criteria"

- References: 1. Draft Generic Letter, "Voltage-Based Repair Criteria for the Repair of Westinghouse Steam Generator Tubes Affected by Outside Diameter Stress Corrosion Cracking," August 12, 1994.
2. Letter from J. A. Bauer to W. T. Russell transmitting Byron Station's request for a license amendment to implement an Interim Plugging Criteria, dated August 1, 1994.

Dear Mr. Russell:

In Reference 2, Byron Station committed to provide resolution of any discrepancies or differences found between the draft Generic Letter (Reference 1) and the proposed interim plugging criteria (IPC) license amendment (Reference 2). A comparison with the draft Generic Letter (GL) has been conducted. The majority of the requirements identified in the draft GL have been met in the Byron submittal, however, some differences were noted. The differences and their dispositions are delineated in Attachment 1.

In summary, Byron Station will meet the requirements of the draft GL for the upcoming Refueling Outage (B1R06) and subsequent Operating Cycle (Cycle 7) with the exceptions noted in Attachment 1 (Items 7, 11, 12, and 13). Revisions to the affected Technical Specification pages/inserts have been made to ensure consistency with the Model Technical Specifications in the draft GL, and to incorporate items 8, 18, and 21 from Attachment 1. These changes are included in Attachment 2.

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It is worthy to note that a number of issues addressed in the GL have not been fully resolved within the nuclear industry or NRC Staff at this time. Byron Station will meet the draft GL requirements (except as noted in Attachment 1) for B1R06, however, anticipates requesting future changes in accordance with the final approved Generic Letter.

During the NRC's review of the subject submittal, a format error was discovered on an affected Technical Specification page. The numbering for the new reporting criteria was inconsistent with that previously established in the Technical Specifications. The corrected Insert F to Attachment E of Reference 2 is included in Attachment 2 to this letter.

The No Significant Hazards Consideration (Attachment F to Reference 2) has been revised to address the unscheduled mid-cycle steam generator inspection acceptance criteria as specified in the draft GL. The revised document is included in Attachment 2 to this letter.

This supplemental request for a Technical Specification Amendment has been reviewed and approved by Onsite and Offsite review in accordance with Byron procedures.

Pursuant to 10CFR50.91(b)(1) a copy of this request has been forwarded to the designated State of Illinois Official.

To the best of my knowledge and belief, the statements contained in this document are true and correct. In some respects these statements are not based on my personal knowledge, but on information furnished by other ComEd employees, contractor employees, and/or consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

Please address any comments or questions regarding this matter to this office.

Respectfully,

Joseph A. Bauer
Joseph A. Bauer

Nuclear Licensing Administrator

Attachments

cc: G. F. Dick, Byron Project Manager - NRR
H. Peterson, Senior Resident Inspector - Byron
J. B. Martin, Regional Administrator - Region III
Office of Nuclear Facility Safety - IDNS

Maryellen D. Long
9-7-94



ATTACHMENT 1

COMPARISON BETWEEN DRAFT GENERIC LETTER AND BYRON IPC SUBMITTAL

Differences Between Draft Generic Letter and Original Byron IPC Submittal

| # | Draft GL Section(s) | Summary of Draft GL Requirements | Summary of Byron Submittal | Disposition |
|---|---------------------------------------|---|---|---|
| 1 | 1.b.2, 1.b.3, 3.b.2, 3.b.4, and 3.b.5 | Tubes with dents > 5.0 volts and with large mixed residuals are excluded from IPC requirements, should be RPC inspected, and any indications should result in tube repair | Tubes with dents > 5.0 volts and with large mixed residuals are required to be inspected by RPC | Byron will meet this requirement. Affected tubes with RPC flaw indications will be repaired. |
| 2 | 1.b.4 | Repair criteria do not apply to flow distribution baffle plate intersections. | Not specifically addressed. | Byron will meet this requirement. IPC criteria will not be applied to baffle plate intersections since Byron does not consider the flow distribution baffle to be a tube support plate. |
| 3 | 2. | Burst probability criteria limit is 1.0×10^{-2} | Burst probability criteria limit is 2.5×10^{-2} | Byron will meet this requirement for B1R06 by applying a burst probability limit of 1.0×10^{-2} . |
| 4 | 2.a.1 and 2.b.3(2) | Certain leak/burst data exclusions should not be taken and the VC Summer data point should have a MSLB leakrate of 2476 l/hr, pending NRC review. | Database is consistent with the EPRI database for 3/4" tubing and is identical to the database used in support of the Braidwood submittal | Byron will meet this requirement for B1R06 by performing the leak/burst calculation using both the EPRI database and the database consistent with the draft GL. Leakage results based on the most conservative calculation will be used to determine that the leakage limit is met for B1R06. |

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| 5 | 2.b.2(2) | Growth rates are to be taken from the most limiting of the last 2 inspections if both employed IPC guidelines or from the current inspection if it is the first to employ IPC guidelines. Negative growth rates should be included as zero growth rates in the assumed growth distribution. | Submittal method requires growth rates to be taken from the previous operating cycle. Negative growth rates are not specifically addressed. | Byron will meet this requirement for B1R06. This is the first inspection to employ IPC guidelines, therefore, submittal methodology is consistent with the draft GL requirement. Negative growth rates will be treated as zero growth rates in assumed growth distribution. |
| 6 | 2.b.4 | Calculate Offsite and Control Room Doses every cycle based on calculated MSLB leakrate and reduce iodine limits to meet 10CFR100 requirements | The MSLB leakrate limit is established based on current iodine limits and 10CFR100 requirements. Control Room doses are not specifically addressed. | Byron will ensure the Offsite Dose meets 10CFR100 requirements by establishing an EOC MSLB leakrate limit based on existing iodine limits that is consistent with 10CFR100 requirements. Byron is reviewing the existing Control Room dose analyses to determine if dose due to a MSLB is bounded by another analysis. If Control Room Dose is more limiting, EOC MSLB leakrate limit will be based on Control Room Dose. |
| 7 | 3. | Inspection Criteria should be consistent with the VC Summer Appendix A guidelines. | Byron/Braidwood inspection guidelines were included with the Byron submittal. These guidelines are consistent with the Catawba WCAP-13854 Appendix A guidelines, the EPRI APC guidelines, and the Braidwood IPC SER. | Byron has already ordered new calibration standards consistent with the Catawba and EPRI IPC guidelines. Therefore, Byron will use the inspection guidelines as submitted for B1R06. |
| 8 | 3.a.1 and Model TS 4.4.5.2.d | Inspection scope is to be 100% of hot leg tubes and a 20% random sample of cold leg tubes. | Scope requires 100% of hot leg tube support plate intersections and all CL intersections down to the lowest intersection with ODSCC. | Byron will meet this requirement. During B1R06, Byron is performing 100% full length inspection to accommodate inspections using dual guide tubes. The revised Technical Specification page markup to incorporate the draft GL requirement is included in Attachment 2. |

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| 9 | 3.b.1 | All indications greater than the 1.0 volt limit subject to RPC inspection | Submittal specifically identifies indications between 1.0 and 2.7 volts as subject to RPC. Guidelines identify all indications greater than 1.0 volt subject to RPC. | Byron will meet this requirement for B1R06. All bobbin coil indications greater than 1.0 volt will be subject to RPC inspection. |
| 10 | 3.b.2 and 3.b.3 | Tubes with copper deposits at intersections should be RPC inspected and any indications detected should result in tube repair | Copper is not found in the secondary at Byron. | Does not apply to Byron. |
| 11 | 3.c.2 | Bobbin coil calibration is to be setup on 4-100% through-wall (TW) holes. | Bobbin coil calibration is to 4-20% TW holes consistent with the Catawba Appendix A guidelines. The Byron calibration standards are normalized to a laboratory standard. | Byron will defer implementation of this requirement pending resolution of industry comments. Converting to 4-100% TW holes would result in a loss of comparison basis to the industry and, specifically, to other ComEd plants. |
| 12 | 3.c.3 | New probe variability to be within +/- 10%. | Not specifically addressed. | Byron will defer implementation of this requirement pending resolution of industry comments. |
| 13 | 3.c.4 | All tubes inspected since the last successful probe wear check shall be reinspected with a new probe. | If the probe wear exceeds the 15% wear limit by x%, then indications measured since the last successful probe wear check that are within x% of the repair limit must be reinspected with a new probe. | Byron will implement the method described in the Byron submittal and inspection guidelines included with the submittal pending resolution of industry comments. |
| 14 | 3.c.6 | Quantitative noise criteria is to be employed in the inspection guidelines. | Not specifically addressed. | Byron will employ quantitative noise criteria during B1R06. |
| 15 | 3.c.8 | Smaller diameter probes are acceptable if demonstrated to be statistically equivalent to larger probes for detection and response capabilities. | Application of IPC is limited to tubes inspected with a 0.610" diameter probe (larger probes only). | Byron will meet this requirement. Only larger probes will be used until the smaller diameter probes have been demonstrated equivalent to the larger probes. |

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| 16 | 4.a | Six intersections of tubes should be pulled every other outage or participate in an industry tube pull database. | Exact number of tubes and intersections are not specified for B1R06. Tubes selected will be based on indication size and voltage. A ComEd tube pull program is being developed. | Byron will meet this requirement. For B1R06, Byron is currently planning to remove 3 tubes each with 3 support plate intersections and a flow distribution baffle. Tube selection will be consistent with the industry tube pull program. Byron plans to participate in the industry tube pull program. |
| 17 | 5.c | Tubes with known leaks must be repaired prior to returning SGs to service. | Not specifically addressed. | Byron will meet this requirement. All known leaking tubes will be repaired. |
| 18 | 6.a and Model TS 4.4.5.5.d | Reporting required prior to startup for the following: 1. Previous cycle MSLB leak rate exceeds the site leak limit. 2. Any unusual inspection results are found. 3. Projected EOC burst probability is greater than the limit. | Report required prior to startup for the following: 1. An indication of greater than 4.54 volts is found, or 2. The projected EOC MSLB leakage limit is exceeded. | Byron will meet this requirement. The revised Technical Specification page markup to incorporate the draft GL requirement is included in Attachment 2. |
| 19 | 6.b(a) | The results of metallurgical examinations of tubes removed are to be reported within 90 days following restart. | Tube pull results to be submitted following restart. Specific time period is not addressed. | Byron will use best efforts to meet the 90 day requirement. Depending on extent of results expected to be submitted, 90 days may not allow sufficient time to obtain results and generate the report. |
| 20 | 6.b(b) and Model TS 4.4.5.5.d | Report required 90 days after startup to include detailed information on growth rates, voltage distributions, leak/burst evaluations, and NDE uncertainty distributions. | Report required 90 days after completion of inspection which includes applicable tubes, location and extent of degradation, and projected EOC MSLB leakage. | Byron will provide sufficient information for tube integrity evaluation 90 days after startup. Note that all the requested information may not be available within the 90 day period. |

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| 21 | Model TS 4.4.5.4.a.10 | Voltage acceptance criteria for an unplanned inspection may be greater than 1.0 volt based on equation supplied in the draft GL. | Submittal does not address alternate acceptance criteria for an unplanned inspection. | Byron will incorporate the revised requirement for B1R06. The revised Technical Specification page markup to incorporate the draft GL requirement is included in Attachment 2. |
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ATTACHMENT 2

REVISIONS TO ORIGINAL BYRON IPC SUBMITTAL

- Revised Attachment A, Detailed Description
- Revised Attachment E, Technical Specification Markups (both "Redline" and "Clean" formats)
- Revised Attachment F, No Significant Hazards Review

ATTACHMENT A

DESCRIPTION AND SAFETY ANALYSIS OF PROPOSED CHANGES TO APPENDIX A TECHNICAL SPECIFICATIONS OF FACILITY OPERATING LICENSES NPF-37 AND NPF-66

DESCRIPTION OF THE PROPOSED CHANGE

Commonwealth Edison Company (ComEd) proposes to amend the following Technical Specification:

Specification 3/4.4.5 REACTOR COOLANT SYSTEM - STEAM GENERATORS

This proposed license amendment request will modify Specification 3/4.4.5 to allow an eddy current bobbin coil probe voltage-based steam generator (SG) tube support plate (TSP) interim plugging criteria (IPC) to be applied for Byron Unit 1 beginning with Cycle 7.

Technical Specification Bases Section 3/4.4.5, STEAM GENERATORS, will also be modified to reflect these changes.

DESCRIPTION OF THE CURRENT REQUIREMENT

Specification 3/4.4.5

The Technical Specification Surveillance Requirements (TSSRs) associated with Specification 3.4.5 currently require that any SG tube with an imperfection depth at or exceeding the plugging or repair limit of 40% of the nominal wall thickness be removed from service by plugging or repaired by sleeving in the affected area.

BASES OF THE CURRENT REQUIREMENT

Specification 3/4.4.5

The TSSRs for inspection of the SG tubes ensure that the structural integrity of this portion of the RCS will be maintained. The program for inservice inspection of SG tubes is based on a modification of Regulatory Guide (RG) 1.83, "Inservice Inspection of PWR Steam Generator Tubes," Revision 1, July 1975. Inservice inspection of SG tubing is essential in order to maintain surveillance of the condition of the tubes in the event that there is evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or inservice conditions that lead to corrosion. Inservice inspection of SG tubing also provides a means of characterizing the nature and cause of any tube degradation so that corrective measures can be taken.

NEED FOR REVISION OF THE REQUIREMENT

At both Byron and Braidwood, Unit 1 has four Westinghouse Model D-4 SGs and Unit 2 has four Westinghouse Model D-5 SGs. The significant differences between the SG models are in the tube material and tube support materials and design. The D-4s have 0.75" thick carbon steel tube support plates with drilled hole tube supports. The D-5s have 1.125" thick stainless steel support plates with Quatrefoil tube supports. The D-4 SG tubes are mill annealed Inconel 600 which were hard rolled into the tubesheet during initial assembly. Subsequently, the D-4 tubes were shot peened in the tubesheet area and stress relieved in the U-bend area. The D-5 tubes are heat treated Inconel 600 which were hydraulically expanded into the tube sheet during initial assembly. Over the past several refueling outages, the number of SG tubes plugged per outage has been increasing. At each site, Unit 1 has had more defective tubes than Unit 2 primarily due to the design differences between the D-4 and D-5 SGs as mentioned above.

In the most recent Byron Unit 1 Refueling Outage (B1R05), conducted in the spring of 1993, a SG tube inservice inspection was performed in accordance with the current TSSR 4.4.5.0. The results of this inspection identified a total of 1105 bobbin coil indications at the tube support plate locations. Using a rotating pancake coil to confirm these indications, 556 indications were flawed due to ODSCC at the TSPs in 530 SG tubes. The 530 tubes were removed from service by plugging. This increased the overall plugging total for Byron Unit 1 to 847 tubes or 4.6% of the tubes. Of the 847 tubes plugged to date, 671 were plugged due to ODSCC at the tube support plate locations.

For the upcoming Byron Unit 1 Refueling Outage (B1R06), predictions on the number of pluggable indications using the current TSSR 4.4.5 acceptance criteria are approximately 1950 tubes. With the approval to use the Interim Plugging Criteria proposed, the predicted number of tubes requiring removal from service by plugging or repair by sleeving would be reduced to 600.

DESCRIPTION OF THE REQUESTED REVISION

The changes proposed in the amendment are contained in six inserts to the surveillance requirements for the Byron Technical Specifications and Bases. The inserts are applicable to Unit 1 but not Unit 2. The inserts reflect the option to allow tubes to remain in service using a voltage-based IPC for ODSCC indications in the tube support plate region. Using IPC also results in changes to the sample selection, inspection criteria, and reporting requirements. A new term, "Tube Support Plate Interim Plugging Criteria Limit", is defined to identify the acceptance criteria to be used during the SG inservice inspections to allow a tube to remain in service. Clarifications are made to existing definitions to reference IPC, as appropriate.

Specification 4.4.5.2. Steam Generator Tube Sample Selection and Inspection

Changes to this section of the surveillance requirements will require that all tubes remaining in service due to application of IPC shall be included as part of the tubes to be inspected as an addition to the sample selection made in accordance with existing criteria. Also, the surveillance requirements will specify how IPC will be implemented.

Insert "A" adds a section to Specification 4.4.5.2.b, requiring all tubes in which the tube support plate IPC plugging limit is applied be inspected in each scheduled refueling outage. Insert "A" reads as follows:

"For Unit 1, tubes left in service as a result of application of the tube support plate plugging criteria shall be inspected by bobbin coil probe during all future outages."

Insert "B" adds section 4.4.5.2.d to describe the inspections associated with the implementation of IPC. Insert "B" reads as follows:

"For Unit 1, implementation of the tube support plate interim plugging criteria limit requires a 100% bobbin coil probe inspection for all hot leg tube support plate intersections and all cold leg intersections down to the lowest cold leg tube support plate with outer diameter stress corrosion cracking (ODSCC) indications. The determination of tube support plate intersections having ODSCC indications shall be based on the performance of at least a 20% random sampling of tubes inspected over their full length."

Specification 4.4.5.4, Acceptance Criteria

Insert "C" adds to the definition of "Plugging or Repair Limit", Specification 4.4.5.4.a.6, to identify that this definition does not apply for Unit 1 in the region of the tube subject to the TSP IPC limit, i.e. the TSP intersections, and that Specification 4.4.5.4.a.11 describes the repair limit for use within the TSP intersection of the tube. Insert "C" reads as follows:

"For Unit 1, this definition does not apply to tube support plate intersections for which the voltage-based plugging criteria are being applied. Refer to 4.4.5.4.a.11 for the repair limit applicable to these intersections;"

Insert "E" adds Specification 4.4.5.4.a.11 to define the TSP IPC limit. Insert "E" reads as follows:

"11) The Tube Support Plate Interim Plugging Criteria Limit is used for the disposition of a steam generator tube for continued service that is experiencing outer diameter stress corrosion cracking confined within the thickness of the tube support plates. At tube support plate intersections, the repair limit is based on maintaining steam generator tube serviceability as described below:

- a) Degradation attributed to outside diameter stress corrosion cracking within the bounds of the tube support plate with bobbin voltage less than or equal to 1.0 volt will be allowed to remain in service.
- b) Degradation attributed to outside diameter stress corrosion cracking within the bounds of the tube support plate with bobbin voltage greater than 1.0 volt will be repaired or plugged except as noted in 4.4.5.4.a.11)c) below.

- c) Indications of potential degradation attributed to outside diameter stress corrosion cracking within the bounds of the tube support plate with a bobbin voltage greater than 1.0 volt but less than or equal to 2.7 volts may remain in service if a rotating pancake coil inspection does not detect degradation. Indications of outside diameter stress corrosion cracking degradation with bobbin voltage greater than 2.7 volts will be plugged or repaired.
- d) Certain intersections as identified in WCAP-14046, Section 4.7, will be excluded from application of the voltage-based repair criteria as it is determined that these intersections may collapse or deform following a postulated LOCA + SSE event.
- e) If, as a result of leakage due to a mechanism other than ODSCC at the tube support plate intersection, or some other cause, an unscheduled mid-cycle inspection is performed, the following repair criteria apply instead of 4.4.5.4.11)c). If bobbin voltage is within expected limits, the indication can remain in service. The expected bobbin voltage limits are determined from the following equation:

$$V < \frac{\frac{\Delta t}{CL} (V_{SL} - V_{BOC}) + V_{BOC}}{1 + (0.2) \left(\frac{\Delta t}{CL} \right)}$$

where:

- V = measured voltage
- V_{BOC} = voltage at BOC
- Δt = time period of operation to unscheduled outage
- CL = cycle length (full operating cycle length where operating cycle is the time between two scheduled steam generator inspections)
- V_{SL} = 4.5 volts

Specification 4.4.5.5, Reports

Insert "F" adds reporting requirement 4.4.5.5.d to identify the reports, including content and time period, to be submitted to the Commission associated with the implementation of IPC. Insert "F" reads as follows:

- "d. For Unit 1, implementation of the voltage-based repair criteria to tube support plate intersections, reports to the Staff shall be made as follows:
 - 1) Notify the Staff prior to returning the steam generators to service should any of the following conditions arise:
 - a) If estimated leakage based on the actual measured end-of-cycle voltage distribution would have exceeded the leak limit (for postulated main steam line break utilizing licensing basis assumptions) during the previous operation cycle.
 - b) If circumferential crack-like indications are detected at the tube support plate intersections.
 - c) If indications are identified that extend beyond the confines of the tube support plate.
 - d) If the calculated conditional burst probability exceeds 1×10^{-2} , notify the NRC and provide an assessment of the safety significance of the occurrence.
 - 2) The final results of the inspection and the tube integrity evaluation shall be reported to the Staff pursuant to Specification 6.9.2 within 90 days following restart."

Bases 3/4.4.5, Steam Generators

Insert "G" adds a discussion to the Bases section of Technical Specifications to refer to the dispositioning of tubes in accordance with IPC. Also, a discussion of adjustment of the operating period to meet projected MSLB leakage limitations is included. Insert "G" reads as follows:

" For Unit 1, tubes experiencing outer diameter stress corrosion cracking within the thickness of the tube support plates will be dispositioned in accordance with Specification 4.4.5.4.a.11. The operating period may be adjusted to less than the full operating cycle to meet the 12.8 gpm projected leakage limit. The maximum site allowable primary-to-secondary leakage limit, 12.8 gpm, includes the accident leakage from a faulted steam generator and the operational leakage of the three remaining intact steam generators equal to the Specification 3.4.6.2.c leakage limit."

The specific changes to these Technical Specifications and associated bases are included in Attachment E.

BASES FOR THE REVISED REQUIREMENT

Byron is requesting this revision based on the following considerations:

- The August 1994 issuance of a draft Generic Letter, "Voltage-Based Repair Criteria For the Repair of Westinghouse Steam Generator Tubes Affected By Outside Diameter Stress Corrosion Cracking," for comment.
- The May 1994 approval of the Braidwood request of a 1.0 volt Interim Plugging Criteria for 3/4" diameter SG tubing.
- The approval of similar requests for IPC for other plants with 3/4" and 7/8" diameter SG tubing.
- The NRC's ongoing review of Electric Power Research Institute (EPRI) Draft Report TR-100407, "PWR Steam Generator Tube Repair Limits - Technical Support Document for Outside Diameter Stress Corrosion Cracking at Tube Support Plates," Revision 1, August 1993, and EPRI Draft Report NP-6864-L, "PWR Steam Generator Tube Repair Limits: Technical Support Document for Expansion Zone PWSCC in Roll Transitions - Rev. 2," Revision 2, August 1993.
- An understanding of the NRC and industry desire to improve the basis for steam generator tube repair.
- The completion of a satisfactory review assuring the structural integrity of Byron SG tubing during the next cycle operation.

To support this request for amendment, Byron will remove tubes, as appropriate, from Unit 1 SGs for laboratory examination, leak, and burst testing. For scheduling and planning purposes, three tubes are expected to be removed during B1R06. It is the intent that each tube removed will include three support plate intersections plus the flow distribution baffle intersection. The tubes will be selected for removal based on the size and distribution of indications which they contain. The results of the Braidwood Unit 1 tube pulls will be incorporated into the Byron evaluation upon completion of Braidwood tube pull analyses.

Analysis required by the IPC methodology will be completed to demonstrate leak and burst capabilities using B1R06 inspection results and Cycle 6 growth rates. The bases of the IPC approach includes, in part:

- Determination of a beginning of cycle (BOC) voltage distribution for Cycle 7 with application of a POD of 0.6 in accordance with draft NUREG-1477.
- Prediction of an end of cycle (EOC) voltage distribution by applying Cycle 6 growth rates to the BOC distribution through Monte Carlo simulations.
- Application of a log-logistic probability of leakage (POL) function.
- Application of the EPRI leak rate versus voltage correlation (conditional leak rate model).
- Calculation of the EOC leak rate and comparison with the site allowable leak rate for off-site dose consideration.
- Calculation of the EOC tube burst probability and comparison with the allowable burst probability per NUREG-0800.

IMPACT OF THE PROPOSED CHANGE

With the implementation of this proposed license amendment request, the Byron Unit 1 SGs will continue to satisfy the requirements of Regulatory Guide 1.121. There will be no significant reduction in the margin of safety to protect the health and safety of the public. Based on current projections, approximately 1950 tubes with ODSCC would require repair under current repair criteria during B1R06. Implementation of a 1.0 volt IPC at Byron Unit 1 will save approximately 1350 tubes from repair. This represents a savings of approximately \$5.2M in plugging and sleeving repair costs alone. In addition, IPC implementation saves a minimum of 24 days in critical path outage time and eliminates the associated replacement power costs. RCS loop asymmetries and the loss of rated thermal power due to excessive plugging and sleeving are minimized through IPC application and RCS flow and available heat transfer area are maximized.

H. SCHEDULE REQUIREMENTS

ComEd requests that this proposed license amendment request be approved to permit IPC application during B1R06. Approval of this proposed license amendment request is required in order to declare the Byron Unit 1 SGs operable prior to entering Mode 4, Hot Shutdown. Based on the current outage schedule, Byron Unit 1 is predicted to be ready to enter Mode 4 on Wednesday, October 26, 1994. It is worthy to note that the steam generator manways are scheduled for reinstallation on Saturday, October 15, 1994. In order to minimize potential rework and scheduling impact, ComEd respectfully requests that this amendment be approved on or before October 15, 1994.