February 13, 1987

Docket No. STN 50-454

Mr. D. L. Farrar
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Dear Mr. Farrar:

SUBJECT: BYRON 1 TEN-YEAR INSERVICE INSPECTION PROGRAM - REQUEST FOR ADDITIONAL INFORMATION

By letter dated February 6, 1986, you submitted the First Ten-Year Inservice Inspection Program Plan, Revision 1, for Byron Station, Unit 1. Enclosed is a request for additional information that we need to complete our review.

The reporting and/or recordkeeping requirements of this letter affect fewer than ten respondents; therefore, OMB clearance is not required under PL 96-511.

Sincerely,

/s/

Leonard N. Olshan, Project Manager
Project Directorate #3
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Enclosure:
As stated

cc: See next page

PD#3	PD#3
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COMMONWEALTH EDISON COMPANY
BYRON NUCLEAR POWER STATION, UNIT 1
DOCKET NUMBER 50-454

Request for Additional Information - First 10-Year Interval Inservice Inspection Program Plan

1. Scope/Status of Review

Throughout the service life of a water-cooled nuclear power facility, 10 CFR 50.55a(g)(4) requires that components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 meet the requirements, except design and access provisions and preservice examination requirements, set forth in ASME Code Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. This section of the regulations also requires that inservice examinations of components and system pressure tests conducted during the initial 120-month inspection interval shall comply with the requirements in the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the date of issuance of the operating license, subject to the limitations and modifications listed therein. The components (including supports) may meet requirements set forth in subsequent editions and addenda of this Code which are incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein. The Licensee, Commonwealth Edison Company, has prepared the ISI Program Plan to meet the requirements of the 1980 Edition, Winter 1981 Addenda (80W81) of the ASME Code Section XI except that, as required by 10 CFR 50.55a(b)(2)(iv), Code Class 2 portions of Emergency Core Cooling Systems (ECCS), Containment Heat Removal (CHR) Systems, and Residual Heat Removal (RHR) Systems were selected/exempted based upon the 1974 Edition through the Summer 1975 Addenda (74S75) of ASME Code Section XI.

As required by 10 CFR 50.55a(g)(5), if the licensee determines that

certain code examination requirements are impractical and relief is requested, the licensee shall submit information to the NRC to support that determination.

The staff has reviewed the available information in the Byron Nuclear Power Station Unit 1 First 10-Year Interval Inservice Inspection Program Plan, Revision 1, submitted February 6, 1986 and the requests for relief from the ASME Code Section XI requirements which the Licensee has determined to be impractical.

2. Additional Information Required

Based on the above review, the staff has concluded that the following information and/or clarification is required in order to complete the review of the Inservice Inspection Program Plan:

ISI Program Plan - Section 2.2

A. Review of ISI Program Tables for Class 2 welds in the Main Steam (MS) System (Pages 326 through 340 of 407) show that, of the 145 Class 2 welds listed as Examination Category C-F, Item C5.21, only 30 welds (21%) are identified for ISI examination during the first 10-year interval. Based on the Code requirement of 25%, it appears that six additional welds should be selected for examination in order to meet the Code requirement.

As the above finding was part of a sampling, the Licensee should review other systems as well as the Main Steam System to verify that the Code requirements are being met with respect to the number of welds being selected for examination during the first 10-year interval.

ISI Program Plan - Sections 2.2 and 2.4

Paragraph 10 CFR 50.55a(b)(2)(iv) requires that ASME Code Class 2 piping welds in the Residual Heat Removal (RHR), Emergency Core Cooling (ECC),

and Containment Heat Removal (CHR) systems shall be examined. These systems should not be completely exempted from inservice volumetric examination based on Section XI exclusion criteria contained in IWC-1220. The staff has previously determined that a 7.5% augmented volumetric sample constitutes an acceptable resolution at similar plants.

B. Staff review of the ISI Program Plan for Class 2 pressure retaining welds in the Residual Heat Removal (RHR) System shows that, of the 228 Examination Category C-F welds listed in the Program Tables (Section 2.2), 20 welds are scheduled to receive surface examinations and 1 is listed for a volumetric examination during the first 10-year interval. Although this constitutes an acceptable sample, the Licensee should perform volumetric examination in lieu of the scheduled surface examination for these welds.

C. Staff review of the ISI Program Plan also shows that the Containment Spray System has been completely exempted from ISI examinations based on the pressure/temperature exemption criteria contained in IWC-1220(b). This system should not be completely exempted from inservice volumetric examination based on Section XI exclusion criteria contained in IWC-1220. For similar plants, the staff has previously determined that a 7.5% augmented volumetric sample of the Class 2 welds from the Containment Spray Pumps to the first weld beyond the isolation valve inside containment constitutes an acceptable resolution. The staff points out that later editions and addenda of the Code do not permit the temperature/pressure exclusion for RHR, ECC, and CHR Systems.

ISI Program Plan - Section 2.3

As stated in 10 CFR 50.55a(g)(5), if the Licensee has determined that conformance with certain code requirements is impractical, the Licensee shall notify the Commission and submit information to support that determination. The Commission will evaluate the determination that the

code requirements are impractical and may grant such relief and may impose such alternative requirements as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest, giving due consideration to the burden upon the Licensee that could result if the requirements were imposed on the facility.

D. Notes 2 and 3: Notes 2 and 3 discuss Code Class 1 and Class 2 pressure retaining piping welds selected for examination during the first inspection interval which have geometric configurations which limit the ultrasonic examinations for reflectors parallel to the weld. The Notes state that the inspection covers essentially 100% of the required weld volume. However, the Code does not define the term "essentially 100%." The staff should be provided with an accurate estimate of the percentage of the Code-required volumetric examination that can and will be completed for each item listed in Notes 2 and 3. If the subject welds are not receiving 100% of the Code-required volumetric examination, relief should be requested.

E. Note 6: Note 6 in the ISI Program Plan states that, since the exposed surface of the Reactor Coolant Pump flywheels is coated with a corrosion preventative primer paint, a surface examination of these surfaces each 10-year interval is not practical. If this is the case for liquid penetrant surface examination, has the Licensee considered using a magnetic particle surface examination? Also, Regulatory Guide 1.14, Paragraph C.4.b(2) requires "a surface examination of all exposed surfaces and a complete ultrasonic volumetric examination at approximately 10-year intervals, during the plant shutdown coinciding with the inservice inspection schedule as required by Section XI of the ASME Code." Verify that the complete ultrasonic volumetric examination will be completed during the 10-year interval.

F. Note 7: Note 7 discusses Augmented Inspection of the Turbine Rotors and states that: "At this time the inspection frequency for subsequent examinations ...(following the first refueling

outage)... is being evaluated and shall be submitted at a later date." Indicate when this information will be available for staff review.

G. Note 8: Examination Category C-C requires a surface examination of integrally welded attachments as defined by Figure IWC-2500-5. The two integrally welded attachments, as identified in Note 8, to which the connecting component support has been deleted, should not be considered to be exempt from the above requirement. Even though the additional static or dynamic loads of the connecting component support have been removed, the integral attachment weld still exists on the piping pressure boundary. If the Code-required examination can not be completed, a request for relief is required.

ISI Program Plan - Section 2.7

H. Relief Requests NR-4, NR-5, NR-6, and NR-7: The February 6, 1986 cover letter for the ISI Program Plan submittal states that these relief requests have been omitted from Section 2.7 of the ISI Program Plan as these relief requests address the volumetric examinations of various cast stainless steel welds in the reactor coolant loops and that they will be submitted for staff review later. Indicate when this information will be made available for staff review. Review of the ISI Program Plan cannot be completed until all relief requests for the first 10-year inspection interval have been received and reviewed.

I. Relief Request NR-8: The ASME Section XI Requirements as listed in Relief Request NR-8 are Examination Categories B-L-1, B-M-1, B-L-2, and B-M-2. The only items listed in the relief request are Reactor Coolant Pump casing internal surfaces which are Examination Category B-L-2, Item No. B12.20. The references to the other Examination Categories should be deleted from this relief request as they are not applicable.

J. Relief Request NR-9: The ASME Section XI Requirements as listed in Relief Request NR-9 are Examination Categories B-L-1, B-M-1, B-L-2, and B-M-2. The only items listed in the relief request are valve body internal surfaces which are Examination Category B-M-2, Item No. B12.50. The references to the other Examination Categories should be deleted from this relief request as they are not applicable.

K. Relief Request NR-15: In Relief Request NR-15 confusion exists as to the weld for which relief is required. The text for the relief request lists Weld Number C-1 as a valve-to-pipe weld (Examination Category C-F). Inconsistencies exist between the relief request text and the Attachment 1 table and drawing. The drawing shows the valve-to-pipe weld to be Weld No. C-2A (FW398) and the table lists Weld C-2A (FW398) as a Pipe-to-Valve Containment Assembly Weld. Likewise, Weld C-1 (FW368) is shown on the drawing as a pipe-to-valve containment assembly weld and in the table it is listed as the Valve-to-Pipe Weld. Provide clarification as to the weld and Examination Category for which relief is requested.

ISI Program Plan - Sections 5.4 and 6.4

L. Relief Request CR-2: CR-2 requests relief from the examination boundaries as defined by the Code for all nonexempt component supports on insulated lines. The IWF boundary of an integral attachment to the pressure retaining component begins where the IWB, IWC, or IWD boundary ends. Provide an estimate of the total number of supports, by Code class, which are not covered by the definition described in IWF-1300(e).

M. Relief Request SR-1: SR-1 requests relief from the examination boundaries as defined by the Code for non-exempt safety-related snubbers covered by insulation. The "Justification" states that in some cases, the mechanical connection of a nonintegral

attachment is buried within the component insulation. This relief request also indicates that there are approximately 429 non-exempt safety-related snubbers on insulated components. Are all of the 429 snubbers buried within the component insulation? If not, provide an estimate of the total number of snubber attachments for which relief is being requested.

N. Verify that there are no additional requests for relief other than those received in Sections 2.7, 5.4, and 6.4 of the ISI Program Plan received February 6, 1986 and NR-4, NR-5, NR-6 and NR-7 regarding the volumetric examinations of various cast stainless steel welds in the Reactor Coolant System. Indicate when NR-4 through NR-7, and any additional relief requests, if required, will be received for staff review.

The Licensee should provide the above requested information and/or clarifications (A through N) as soon as possible so that the review of the Byron Nuclear Power Station, Unit 1, First 10-Year Interval Inservice Inspection Program Plan, Revision 1, can be completed.