**Commonwealth Edison**
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January 7, 1987

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC. 20555

Subject: Zion Nuclear Power Station Units 1 & 2
Second Interval Inservice Inspection
Program
NRC Docket Nos. 50-295 and 50-304

References (a): June 27, 1983 letter from F.G. Lentine to H.R. Denton.

(b): June 26, 1984 letter from R.N. Cascarano to H.R. Denton.

(c): August 14, 1984 letter from R.N. Cascarano to H.R. Denton.

(d): February 11, 1986 letter from S.A. Varga to D.L. Farrar.

Dear Mr. Denton:

References (a), (b) and (c) provided the Inservice Inspection (ISI) Plan and additional information for the second ten-year interval. These submittals included requests for relief from certain segments of the ASME code.

Reference (d) transmitted the NRC Staff's review of the ISI relief requests. Reference (d) either granted, provisionally granted, or denied the various relief requests.

Teleconferences to discuss the NRC Staff's review were held between Commonwealth Edison personnel and J. A. Norris, along with others of your staff, on June 4, 5 and 23, 1986. These discussions resulted in the need for additional information regarding this issue. The requested information is provided in the attachment to this letter.



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Please re-evaluate the conclusions of reference (d) in light of this additional information. If any further questions arise regarding this matter, please direct them to this office.

Very truly yours,

Peter LeBlond

P. C. LeBlond
Nuclear Licensing Administrator

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Attachment

cc: Resident Inspector - Zion
J. A. Norris - NRR

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**ATTACHMENT**

Supplemental Information Based on the NRC Technical Evaluation Report dated February 11, 1986 (Reference (d)).

Zion Station received a Technical Evaluation Report (TER) dated February 11, 1986 from the Nuclear Regulatory Commission pertaining to Zion Station's second ten-year inservice inspection program (letters dated June 27, 1983, June 26, 1984, and August 14, 1984). The Technical Evaluation Report contains the NRC's evaluations of relief requests submitted by Zion Station. The relief requests were granted, not granted, or granted if certain provisions are made. This submittal contains supplemental information on certain relief requests that were either not granted or granted if certain provisions are made. Three items are discussed below.

ITEM #1

Relief request IWB No. 5, Bolting and Studs, Reactor Vessel Closure Head, Category B-G-1, Items B6.20 and B6.30.

Relief Request

Relief is requested from volumetric examination of bolting and studs on the reactor vessel closure head.

NRC Review

Code requires both ultrasonic and surface examination when the studs are removed. The licensee has provided no compelling reason to eliminate a Code requirement (volumetric examination).

Licensee Response

During a conference call on June 4, 1986, Jan Norris, George Johnson and Sam Lee of the NRC and Mike Madigan of Commonwealth Edison (Zion Station) discussed the relief request and its relationship to Code Cases N-216 and N-307. The NRC was requested to review these Code Cases. A second conference call was held on June 5, 1986 with Jan Norris, George Johnson, and Mike Madigan. The NRC stated that they had reviewed both Code Cases and will reconsider Zion Station's relief request to perform surface and visual examinations if wet magnetic particle and visual examinations are performed as an alternative to volumetrically examining the reactor vessel closure head studs. This alternative is acceptable to Commonwealth Edison. Thus, the NRC is requested to re-evaluate this option.

ITEM #2

Relief request IWB No. 8, Longitudinal Electroslag Welds and Cast-to-Cast Circumferential Welds, Category B-J Items B9.11 and B9.12 (Items B4.5 in 1974 Edition, Summer 1975 Addenda).

Relief Request

Relief is requested from performing volumetric examination on longitudinal electroslag welds and circumferential welds that are cast-to-cast.

NRC Review

Because ultrasonic testing of the subject welds is likely not to be practical and because the applicability of MINAC/Shrinkac examinations to them is uncertain, relief from the Code - required volumetric examinations would be appropriate. Because of the great variability of the current ultrasonic methods the licensee should attempt UT on a 25% sample of these welds to demonstrate whether these methods are indeed impractical. The proposed visual and surface examinations will also add a measure of knowledge on the integrity of these components.

Licensee Response

IWB-2412 of ASME Section XI 1980 Edition Winter 1981 Addenda defines a range of minimum and maximum percentages of performed examinations that may be credited within an inspection period. Since Zion's Unit 1 1986 and Unit 2 1987 refueling outages mark the end of the first inspection period of the second interval, examinations which satisfy the requirements of IWB-2412 will soon be complete. Furthermore, based on recently developed ultrasonic testing techniques, Commonwealth Edison is currently conducting a feasibility study on inspectability of the Reactor Coolant system longitudinal electroslag welds and cast-to-cast circumferential welds at Zion Station. During the Unit 2 1987 refueling outage, Zion Station will attempt to perform a demonstration inspection on calibration blocks of representative material from the actual pipe to validate the ultrasonic test results. However, depending upon the demonstration inspection results, relief may be requested from ultrasonically testing the longitudinal electroslag and cast-to-cast circumferential welds during the second and perhaps third periods of the second interval. As substitute examinations, surface and visual examinations may be performed on the longitudinal electroslag and cast-to-cast circumferential welds and in addition, other welds in the Reactor Coolant system or other B-J category welds may be chosen for inspection to satisfy the requirements of IWB-2412. In any event, it is realized that the intent of the Code is to evenly distribute examinations among the various types of welds within a system, but until a volumetric examination method is capable of producing reliable data results on the longitudinal electroslag and cast-to-cast circumferential welds at Zion Station, substitute examinations on the Reactor Coolant system and other B-J piping welds will be examined to satisfy the requirements of ASME Section XI. Thus, the NRC Staff is requested to re-evaluate this relief request utilizing the above information.

ITEM #3

Licensee question to the NRC regarding the definition of 'to the extent practical.'

During the conference call on June 4, 1986 with Jan Norris, George Johnson, Sam Lee of the NRC and Mike Madigan of Commonwealth Edison, the question was asked by the licensee what the definition of 'to the extent practical' is. The NRC granted several relief requests but stated to use the Code required examination ' to the extent practical.'

The NRC responded by stating that components that are examined 'to extent practical' should be documented on site by the licensee and will under go a review by the Inspection and Enforcement Department of the NRC. The relief requests affected are; IWB No. 2: Reactor Vessel Nozzles-Inside Radius Sections, IWB No. 2: Pressurizer Nozzle Inside Radius Sections, IWB No. 3: Pressurizer Nozzle-to-Vessel Welds, IWB No. 2: Steam Generator Nozzle Inside Radii, IWB No. 4: Steam Generator Nozzle-to-Safe End Welds, IWB No. 9: Branch-to-Pipe Connection Welds, and IWC No. 2 and No. 3: All Class 2 Nozzle-to-Shell and Inside Radius Section Examinations.

Commonwealth Edison Company is utilizing this interpretation at Zion Station.