



Commonwealth Edison
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July 13, 1979

Mr. James G. Keppler, Director
Directorate of Inspection and
Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Zion Station Units 1 and 2
Response to IE Bulletin No. 79-13
NRC Docket Nos. 50-295 and 50-304

References (a): June 25, 1979 letter from J. G.
Keppler to Byron Lee, Jr. transmitting
IE Bulletin No. 79-13

(b): June 27, 1979 letter from G. Fiorelli
to Byron Lee, Jr. transmitting IE
Inspection Report No. 50-295/79-12

Dear Mr. Keppler:

Reference (a) transmitted IE Bulletin No. 79-13 regarding cracking in feedwater system piping. That Bulletin required Commonwealth Edison Company to address a number of items. Commonwealth Edison's response to these items is contained in Attachment 1 to this letter.

As indicated in Attachment 1, Commonwealth Edison requests relief from performing volumetric examinations of the welds connecting the auxiliary feedwater pipe to the main feedwater pipe. Due to the piping arrangement and interference of integrally welded supports, no volumetric examination method is available that would provide significant results. As an alternative, a surface examination will be substituted.

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Mr. James G. Keppler:

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Please address any questions that you might have regarding this matter to this office.

Very truly yours,



Cordell Reed
Assistant Vice-President

attachment

cc: NRC Office of Inspection and Enforcement
Division of Reactor Operations Inspection

ATTACHMENT 1

COMMONWEALTH EDISON COMPANY RESPONSES
TO IE BULLETIN NO. 79-13

5. Provide a written report to the Director of the appropriate NRC Regional Office within 20 days of the date of this Bulletin addressing the following:
 - a. Your schedule for inspection if required by Item 1.
 - b. The adequacy of your operating and emergency procedures to recognize and respond to a feedwater line break accident.
 - c. The methods and sensitivity of detection of feedwater leaks in containment.

RESPONSE:

- 5.a. Commonwealth Edison has reviewed IE Bulletin No. 79-13 for applicability to the Zion Station Units 1 and 2. To date, no inservice volumetric examinations have been conducted on Zion Unit 2 feedwater nozzle-to-piping welds. The inspections required by Item 1 of the Bulletin will be conducted at the next forced cold shutdown outage. If none occurs within the specified 90-day interval, a cold shutdown outage will be initiated in September 1979 to allow completion of the inspection before September 23, 1979, the end of the 90-day interval.

Radiographic examinations of Zion Unit 1 feedwater nozzle-to-pipe welds were conducted on June 10-11, 1979.

The inspections required by Item 2 of the Bulletin are scheduled to be conducted during the next refueling outages for Zion Unit 1 and Zion Unit 2. These outages are scheduled to commence on or about September 21, 1979 and March 7, 1980, respectively. However, these inspections will be conducted if a cold shutdown outage of sufficient duration occurs prior to these dates.

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Commonwealth Edison requests relief from performing volumetric examinations of the welds connecting the auxiliary feedwater piping to the main feedwater line. The branch connection of the 3 inch auxiliary feedwater piping is located on the outside radius of a 90 degree elbow on the 16 inch main feedwater piping (see attached Figure 1). Arranged on both sides of the branch connection is a constant load pipe support of all welded construction. Access is not provided for either radiographic or ultrasonic inspections to be conducted. As an alternative, surface examinations will be performed.

- 5.b. The subject operating and emergency procedures have been reviewed. Specifically, the Emergency Operating Procedure for Feedwater and Main Steam Line Breaks (EOP-8) was determined to be adequate to assist the operator in identifying a feedwater line break and to provide guidance in responding to such an accident. The procedures have been used at the Westinghouse PWR Simulator in the training of Licensed Reactor Operators and have proven adequate in recognition of and response to feedwater line break accidents and in subsequently placing the plant in a safe shutdown and cooldown condition.

Additionally, the Westinghouse Training Coordinator has been requested to include a feedwater line break as one of the casualty drills for each of the Zion Station Reactor Operators to experience during annual simulator retraining.

- 5.c. The subject methods and sensitivity of detection of feedwater leaks in the containment have been reviewed. Zion Station is provided with Steam Generator Level, Feedwater Flow and Steam Flow protective grade instruments on each of the four loops. However, these instruments are relatively insensitive to small leaks. For example, the instrument tolerance for Level is +4% and for Flows is $\pm 0.189 \times 10^6$ lbs/hr.

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Also provided are Containment Temperature, Pressure and Humidity instrumentation. A detailed analysis has not been performed to correlate changes in these parameters to feedwater leak sizes. These instruments would be insensitive to small leaks as they are primarily designed to provide protection for large pipe breaks.

The methods primarily relied upon to detect small feedwater or steam line breaks are the monitoring of containment sump accumulation and main condenser make-up requirements. A feedwater leak on the order of 5 gpm could be detected using containment sump pump run-time meters. This method would take several days of data accumulation and analysis to verify the cause as a feedwater leak. A leak on the order of 50 gpm would be immediately recognized due to the processing capability limits of the Radioactive Waste Disposal Systems.

The normal main condenser make-up flow recorder range is 0 to 250 gpm. The usual value of make-up flow is 50-100 gpm attributable to steam generator blowdown and secondary plant leakage. A long term change of 5 to 10 gpm could be readily detected by monitoring this parameter. Changes on the order of 25 to 50 gpm could be detected within a 24 hour period by the resulting higher make-up flow readings plus increased make-up requirements to the secondary storage tanks.

6. A written report of the results of examinations, in accordance with requests by Regional Offices preceding this Bulletin and with Bulletin Items 1 and 2 including any corrective measures taken, shall be submitted within 30 days of the date of this Bulletin or within 30 days of completion of the examination, whichever is later, to the Director of the appropriate NRC Regional Office with a copy to the NRC Office of Inspection and Enforcement, Division of Reactor Operations Inspection, Washington, D.C. 20555.

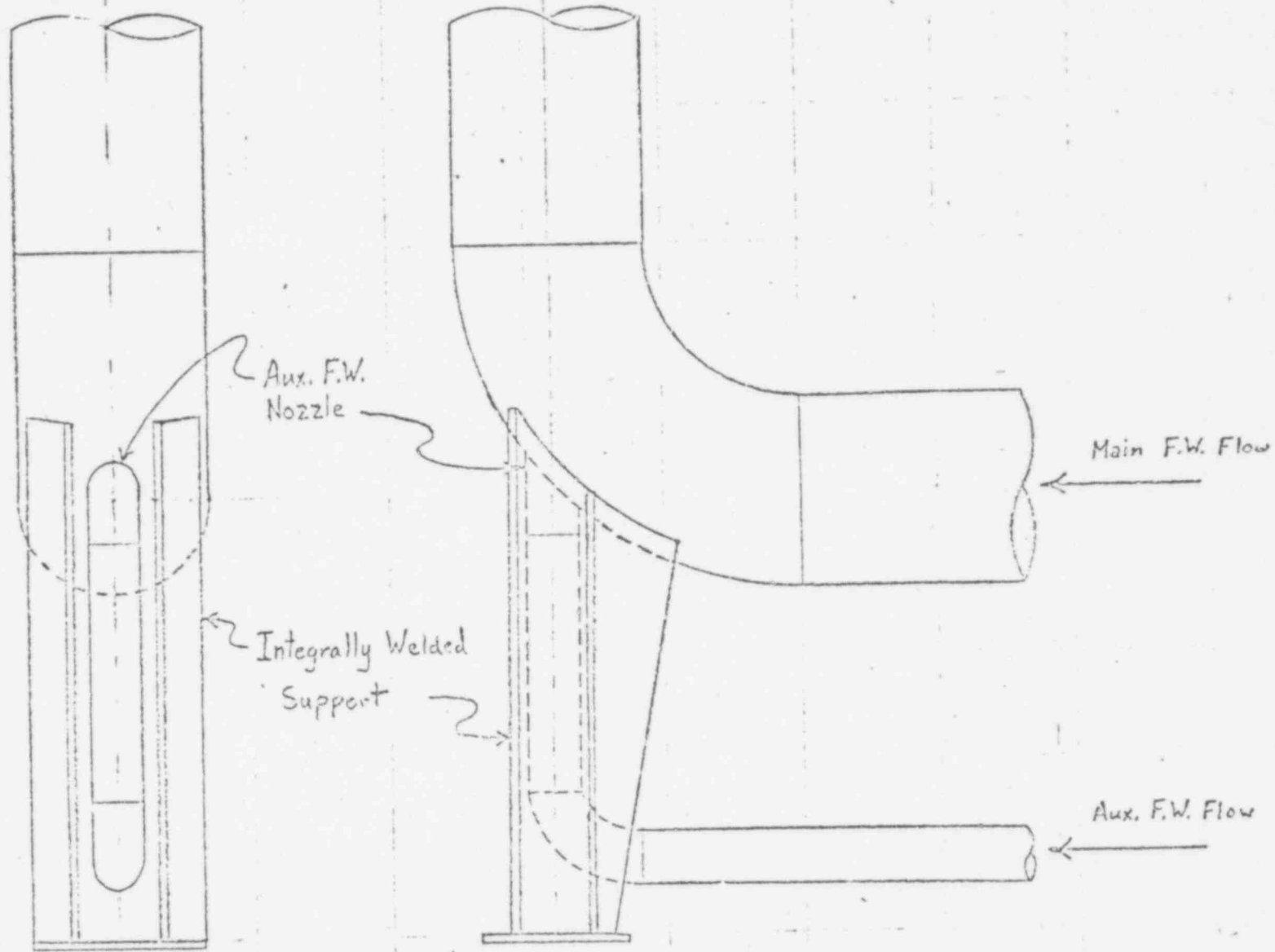
RESPONSE:

Radiographic examinations of Zion Unit 1 feedwater nozzle-to-pipe welds were conducted on June 10-11, 1979. Evaluation of the radiographs was performed by Commonwealth Edison Operational Analysis Department personnel and NRC, Region III inspectors. The results of these examinations are documented in Reference (b) to this letter (I.E. Inspection Report No. 50-295/79-12).

Reports of the results of the other examinations required by this Bulletin will be submitted within 30 days of the completion of each subject examination.

FIGURE 1

Sketch of Typical Auxiliary F.W. Branch Connection



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