



**Commonwealth Edison**  
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September 30, 1985

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

Subject: Dresden Station Unit 3  
Recirculation Pipe Replacement  
NRC Docket No. 50-249

- References (a): Letter from B. Rybak to H. R. Denton  
dated June 3, 1985
- (b): Letter from B. Rybak to H. R. Denton  
dated June 13, 1985
- (c): R. A. Gilbert Summary of July 23, 1985  
CECo/NRC meeting dated August 5, 1985

Dear Mr. Denton:

The reference (a) letter provided a description of our plans to replace the Recirculation System piping on Dresden Unit 3 during our Fall 1985 refueling outage. In reference (b) we provided additional details on our associated ALARA program. On July 23, 1985, representatives of Commonwealth Edison met with members of your staff to further discuss our pipe replacement plans. A bound document summarizing our program was distributed at the meeting. As indicated in the reference (c) meeting summary, several questions were raised at the meeting. The attachment to this letter contains our responses to those questions.

The reference (c) meeting summary identified a staff request for documentation of the qualification of personnel involved in the replacement program and for more detailed documentation of some of the presentation areas. In subsequent discussions with Mr. Gilbert, he indicated that the personnel qualifications pertained to Quality Assurance personnel and were adequately addressed in the meeting handout. Also, it was agreed that the written responses to the staff's questions would be sufficient as far as additional documentation of key aspects of the presentation.

This transmittal in conjunction with the referenced documents represents a comprehensive review of our pipe replacement program. Although our program is being implemented under the provisions of 10 CFR 50.59, we would appreciate a response indicating your concurrence with our plan.

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H. R. Denton

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If you have any further questions regarding our pipe replacement program, please contact this office.

One (1) signed original and forty (40) copies of this transmittal are provided for your use.

Very truly yours,



J. R. Wojnarowski  
Nuclear Licensing Administrator

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Attachment

cc: R. Gilbert - NRR  
NRC Resident Inspector - Dresden

0688K

DRESDEN 3 NRC RESPONSE

Q. What do you mean when you say that you will reconcile the ASME Section III analysis with ANSI B31.1? Will you meet the margins specified in each code?

A. The stress analysis for Class 1 piping covered by the scope of the recirculation pipe replacement project has been performed under the 1980 Edition, Summer 1982 Addenda, of the ASME B&PV Code, Section III, Subsection NB. The code of record for analysis and design of the piping is USAS Piping Code B31.1.0, 1967 Edition. In order to reconcile the Section III analysis with the original design code (which does not prohibit use of more rigorous codes, and, in fact, does allow their use in its Foreword) the ASME stresses calculated were compared to the original licensing allowables, with recalculation using original rules employed only when necessary. This is appropriate since a comparison of the basic stress checks used in ASME Class 1 with those of the original design code, along with a comparison of the moment stress multipliers for both codes, demonstrates that the ASME calculated stress is greater than, or equal to, the stress calculated using original design rules. A comparison of the maximum stresses shows that all piping meets the original licensing criteria. Based on the results of this comparison, we believe that the ASME analysis has been adequately reconciled to the original licensing commitments.

Q. To what extent will the ANI (Authorized Nuclear Inspector) be involved in the Dresden 3 recirculation pipe replacement project?

A. The ANI will be involved with the project in accordance with Commonwealth Edison's Quality Assurance Manual. As a minimum, the ANI will review and approve all Travelers used to perform the work. Witness points will be established at the ANI's discretion.

Q. Have all the margins specified in the Dresden 3 technical specifications been reviewed to assure that they will not be reduced? Did your review include all the accident scenarios covered by the Dresden FSAR?

A. Safety evaluations were performed for each modification package associated with the Dresden 3 recirculation pipe replacement project. A systematic evaluation of each design change was performed in accordance with the Commonwealth Edison Safety Evaluation Guidelines. No case was identified which increased the probability of occurrence or the consequences of a previously evaluated event, created an event of a different type than previously evaluated, or reduced the margin of safety as defined in the basis for any technical specification identified.

Q. Are any Technical specification changes needed to support the replacement project?

A. The Dresden 3 FSAR and Technical Specifications were reviewed against the proposed design changes to identify any changes required as a result of the piping replacement project. Our review of the Dresden 3 Technical Specifications has determined that the only licensing action needed in support of the recirculation pipe replacement is approval of our previously submitted Technical Specification amendment allowing use of our Mobile Volume Reduction System (MVRS). Use of the MVRS will greatly facilitate the efficient handling of waste material generated during the RPR outage. CECO is planning to submit additional information regarding propane storage which we believe will resolve any outstanding questions regarding our proposed amendment.

Q. What IGSCC mitigating actions, in addition to pipe replacement, do you plan to implement?

A. In addition to pipe replacement, stress improvement is being considered for new field welds. Both Induction Heating Stress Improvement (IHSI) and Mechanical Stress Improvement (MSIP) are under consideration. A final decision on whether to implement a stress improvement program, and which type, will be made by November 1, 1985.

We are not presently planning to add Hydrogen Water Chemistry during this outage. However, HWC can be installed at a later time if it is considered appropriate to do so. Included in this consideration will be the potential benefits of HWC to other components, such as the vessel internals.

Q. Are you replacing all of the IGSCC susceptible piping in the drywell? If not, why not, especially considering the problems that others have had with the isolation condenser steam supply line?

- A. The only nonisolable large bore piping system that is currently not in the scope of the recirculation piping replacement project is the isolation condenser steam supply system. This decision was based on the following:
- a. No cracking has been identified to date.
  - b. Reduced susceptibility because of the steam environment.
  - c. Low risk factor per NUREG 1061, Volume 1, Table 7.2.
  - d. This system is above the water line and hence replaceable without major future outage impact.

Portions of other large bore systems, and some socket welded small bore systems, are also not currently in the scope of the recirculation pipe replacement project. All non-replaced stainless steel systems are summarized in the following table indicating the reasoning behind the decision not to include the system in the scope.

<u>SYSTEM</u>	<u>FACTOR</u>
° Core Spray (partial)	1, 3, 4, 6
° Isolation Condenser Steam Supply	2, 3, 4, 6
° Reactor Drain Line (partial)	5, 6
° Standby Liquid Control	5, 6
° Head Spray Safe End	2, 4, 6
° Head Vent Safe End	2, 4, 6
° Head Spare Safe End	2, 4, 6

FACTOR KEY

- 1. Temperature less than 175° F.
- 2. Steam environment reduces the presence of residual oxygen and impurities thereby diminishing crack initiation and propagation.
- 3. Low risk factor - in accordance with Table 7.2 of NUREG 1061, Vol. 1.
- 4. Replaceability - systems that are isolable from the reactor vessel or above the water line were judged to be more readily replaceable during a future outage without significant impact to a normal outage schedule.
- 5. Socket welded pipe - a socket welded joint (small bore piping) does not possess the high residual welding stresses required for initiation and propagation of IGSCC.
- 6. No flaws presently exist.

Q. Are you aware of the problems encountered at Monticello with respect to the jet pump inlet piping? What are you doing to prevent a similar situation from occurring at Dresden?

A. We are intimately aware of the problems encountered at Monticello. We believe we will avoid this situation at Dresden by not detensioning the jet pump hold down beam during installation of the jet pump inlet safe end.