DMB

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September 18, 1984
EF2-69713

Mr. James G. Keppler
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

Reference: (1) Fermi 2
NRC Docket No. 50-341

(2) Letter W. H. Jens to J. G. Keppler, May 17, 1984, EF2-68544

Subject: Final Report of 10CFR50.55(e) Item 122
"Linear Indications on 5/8 Inch Seamless Tubing"

This is Detroit Edison's final report of Item 122, "Linear Indications on 5/8 inch Seamless Tubing." Item 122 was originally reported as a potential deficiency on April 17, 1984, and was subsequently documented in Reference (2).

Description of Deficiency

After Wismer and Becker completed the repair of a length of damaged (slightly bent) 5/8 inch tubing, liquid penetrant tests were performed in accordance with the repair procedure which revealed linear indications running the full length of the tube. Attempts to remove the indications by blending were unsuccessful. Deviation Disposition Request (DDR)-MP-13194 was written to document this deficiency.

The affected tubing is 5/8 inch outside diameter x 0.090 inch nominal wall, type 304 stainless steel. The tubing was purchased from Guyon Alloys Inc. Houston, Texas, and identified as heat number 464547.

Sample lengths of the tubing were sent for analysis to both Detroit Edison's Engineering Research Department and Guyon Alloys, Inc./Sandvik Inc., the vendor/manufacturer. Detroit Edison's Engineering Research Department reported the defect as a linear indication on the outside diameter of the tube which runs at a 45° angle to the surface. The depth of the indication varied from approximately 0.014 to 0.016 inch when measured perpendicular to the surface, or 17% of the wall thickness.

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The vendor/manufacturer concurred with our Engineering Research Department's conclusion and also identified the probable cause as a particle being lodged in the hot extrusion die. This particle would cause a hollow which when cold reduced would become a closed fold appearing as a tight seam.

Approximately 795 pieces of this heat, in 20 foot lengths, were supplied to Fermi 2, and all were issued for construction. This tubing was used in safety-related applications.

Analysis of Safety Implications

Tubing of this type is used in safety-related instrument sensing lines. Failure of the tubing could cause the loss of pressure boundary and/or malfunction of the applicable instrument or device.

Corrective Action

ASME Section III N5 Data Report Packages for 5/8 inch stainless steel tubing were reviewed by Detroit Edison's Quality Assurance personnel with Field Engineering assistance. The review revealed that 23 isometrics contained 142 piece lengths of the heat number. These piece lengths were subjected to a liquid penetrant examination. The results of these examinations showed only one additional piece which did not pass examination. This one piece, since it doesn't appear to have the same type of linear indication, will be blend ground, further examined for acceptability, and replaced if necessary.

Engineering reviewed records for QA Level I Non-ASME installations and concluded that tubing with heat number 464547 was not installed.

Therefore, there are no QA Level I or QA Level I ASME 5/8 inch lines installed which contain the linear indication deficiency.

This is Detroit Edison's final report on this subject. If you have questions concerning this matter, please contact Mr. Lewis P. Bregni, (313) 586-5083.

Sincerely,

Wayne H. Jens

cc: Mr. P. M. Byron
Mr. R. C. DeYoung
Mr. R. C. Knop