

Detroit
Edison

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NRC-89-0088

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

- References:
- 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43
 - 2) Detroit Edison Letter to NRC, "Response to Generic Letter 88-01", NRC-88-0191, dated August 5, 1988
 - 3) NRC Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping", dated January 25, 1988

Subject: Revised Response to NRC Generic Letter 88-01

Detroit Edison responded to Generic Letter 88-01 in Reference 2. This letter, in part, discussed plans to provide assurance of continued long-term piping integrity and reliability, which involved water chemistry control, an augmented Inservice Inspection program, and evaluation of applicable stress improvement processes. Regarding water chemistry, Reference 2 stated:

Currently, the Fermi 2 Water Chemistry Specifications meet or exceed the intent of the BWR Owners Group Guidelines for mitigation of IGSCC in the primary coolant. Measures have been taken to reduce sulfate action levels in the reactor coolant.

Fermi 2 plans to implement Hydrogen Water Chemistry pending evaluation of a mini-test. Current plans are to perform the mini-test by the first refueling outage.

Recent industry experience has shown a higher fuel cladding corrosion rate and higher cladding copper concentration at a plant with Admiralty metal condenser tubes. After preliminary evaluation of the data by the NSSS vendor the combined effects of hydrogen and copper are thought to be the cause of this phenomenon. High copper

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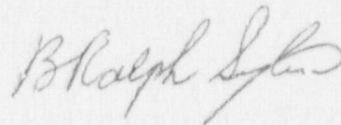
concentrations in the crud deposit can be linked to an increased potential for clad corrosion.

The Fermi 2 main condenser tubes are made of Admiralty metal, except for the outer rows and air cooler sections, which are 70/30 copper/nickel. Based on this recent industry operating experience, the potential exists to increase the corrosion of the Fermi 2 fuel cladding if plans to implement Hydrogen Water Chemistry are pursued. The Fermi 2 NSSS vendor recommends deferring the mini-test until more information is known. Detroit Edison does not believe it prudent to take actions which may increase cladding corrosion and possibly lead to fuel failure, though fuel failures directly attributable to hydrogen injection have not yet been identified elsewhere. CRUD induced localized corrosion (CLIC) is a recognized cause of fuel failures and actions which increase local deposition of copper would not be wise. Therefore, the mini-test will not be performed prior to the refueling outage and Hydrogen Water Chemistry will not be implemented. This decision may be revisited, depending on future industry experience with Hydrogen Water Chemistry.

Detroit Edison will continue to take actions to maintain primary coolant water chemistry within the BWR Owners Group Guidelines for mitigation of IGSCC (Intergranular Stress Corrosion Cracking). As mentioned in Reference 2, the Fermi 2 Water Chemistry Specifications meet or exceed the intent of the BWR Owners Group Guidelines.

If you have any further questions, please contact Lynne Goodman at (313) 586-4211.

Sincerely,



cc: A. B. Davis
R. C. Knop
W. G. Rogers
J. F. Stang