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U. S. Nuclear Regulatory Commission
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Subject: McGuire Nuclear Station
Docket No. 50-369/50-370
Additional Information Pertaining To Relief Requests 98-002 and 98-003.
TAC Nos MA3756 and MA3757

By letter dated August 13, 1998, Duke Energy Corporation submitted Relief Requests 98-002 and 98-003 requesting relief from some requirements of the ASME Boiler and Pressure Vessel Code. During a subsequent telephone conference call, McGuire Nuclear Station personnel provided NRR staff additional information pertaining to the subject relief requests. This letter documents the verbal information provided to NRR during that conference call.

Questions regarding this matter should be directed to Julius Bryant, McGuire Regulatory Compliance at (704) 875-4162.

Very truly yours,

FOR H. B. Barron, Vice President
McGuire Nuclear Station

Attachment

A047

cc: Mr. Luis A. Reyes
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
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Mr. Scott Shaeffer
Senior Resident Inspector
McGuire Nuclear Station

Additional Information Pertaining to McGuire Nuclear Station Relief Requests 98-002 and 98-003

1. Describe proposed alternative examination for the Regenerative Heat Exchanger to meet the Criteria of 10 CFR 50.55a.

   Due to the high radiation in the area of the Regenerative Heat Exchanger, no alternative examination was proposed to meet the criteria of 10 CFR 50.55a. The basis for the submittal of the request was filed under 10 CFR 50.55a (a)(3)(ii) which references hardship or unusual difficulty without a compensating increase in the level of quality or safety as situations under which a Request for Relief can be submitted. Given the high radiation levels in the area of the Regenerative Heat Exchanger and the existence of automatic system actions (e.g. containment isolation and low pressurizer level isolation) which would isolate the heat exchanger in the event of a leak, the requirements of 10 CFR 50.55a (a)(3)(ii) are satisfied. Consequently, it was never Duke Energy's intent that the VT-2 examination be considered an alternative for the required code ultrasonic examination. Instead, the reference to Category C-H (visual VT-2) examination in the relief request was to show that some code exams were being performed on this equipment.

2. Describe how the same level of quality and safety can be achieved with elimination of volumetric examinations.

   The Regenerative Heat Exchanger is designed and constructed to have a low probability of failure throughout its design life. McGuire Technical Specifications place conservative limits on the amount of reactor coolant leakage allowed during system operation. Reactor coolant leak detection processes are in place to detect any leakage. Any weld failure would be detected by these leak detection processes. In addition, automatic system actions (e.g. containment isolation and low pressurizer level isolation) are in place to assure that the heat exchanger would be isolated in the event of a leak. The Regenerative Heat Exchanger is located inside the Containment Building, which is another barrier designed and tested to contain any leak.

3. Describe any service-related degradation associated with the Regenerative Heat Exchanger.

   There is the potential for flow induced tube vibration within the Regenerative Heat Exchanger. However, procedural controls are in place to limit charging flow thereby minimizing any related vibration. The charging and letdown flows are further controlled to minimize system thermal transients. Industry operating experience to-date has not identified any significant degradation mechanisms for this type equipment/application nor have there been any specific problems with the McGuire Regenerative Heat Exchangers. Visual inspection of the Unit 2 Regenerative Heat Exchanger during the latest refueling outage (2EOC12) did not identify any evidence of weld leakage nor boron accumulation on any carbon steel supports.

4. Describe why the alternative provides reasonable assurance of structural integrity of Regenerative Heat Exchanger welds.

   For the reasons stated in our response to question #1, the subject relief request proposed no alternative examination to meet the criteria of 10 CFR 50.55a. Duke Energy never intended that the VT-2 examination be considered as an alternative for the required code ultrasonic examination.

   The Regenerative Heat Exchanger is designed and constructed to have a low probability of failure throughout its design life. In the unlikely event that a structural integrity problem occurred, reactor coolant leak detection processes are in place to detect any resulting leakage. Subsequent automatic system actions (e.g. containment isolation and low pressurizer level isolation) would isolate the heat exchanger.