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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information Regarding the
Third 10-Year Interval Inservice Inspection (ISI) Relief Requests

Ladies and Gentlemen:

On July 10, 2006, Southern Nuclear Operating Company (SNC) submitted relief requests for the Edwin I. Hatch Nuclear Plant – Units 1 and 2, Third 10-Year Interval ISI Program. By letter dated April 10, 2007, the NRC requested additional information concerning these relief requests. The enclosures to this letter contain the SNC response to the referenced NRC Request for Additional Information (RAI).

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

B. J. George
Manager, Nuclear Licensing

BJG/MNW/daj

Enclosures: 1. SNC Response to Request for Additional Information
2. Synopsis of Leak Detection and Radiation Monitoring

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
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U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Hatch
Mr. J. A. Hickey, Senior Resident Inspector – Hatch

Enclosure 1

Edwin I. Hatch Nuclear Plant
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SNC Response to NRC Request for Additional Information

Enclosure 1

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SNC Response to NRC Request for Additional Information

NRC Request Pertaining to RR-46, RR-47, RR-48, RR-49, RR-50, RR-52, RR-53, RR-54, RR-55, RR-56, and RR-61

1. **Describe the plant's leakage and radiation monitor systems with respect to identifying leakage from the welds. Also, describe when VT-2 visual examinations were last performed on the subject welds.**

2. **For ASME Code, Section XI, Categories where both a volumetric and surface examination are required, please provide the coverage obtained for the surface examinations.**

3. **For the items examined provide the results of the examinations. Were any inservice related indications identified?**

SNC Response

1. RR-46, RR-47, RR-48, RR-49, RR-50, RR-52, RR-53, RR-55, RR-56, and RR-61 – The welds listed in these relief requests are located in the drywell except for 1E51-1RCIC-4-D-23 (RR-52) which is located in the steam chase, 2E21-1CS-10A-1 (RR-52) which is located in the reactor building, and 2G31-1RWCUM-6-D-16 (RR-56) which is located in the reactor building. The leakage and radiation monitoring systems for identifying leakage from these welds are discussed in Enclosure 2. VT-2 visual examinations are performed as part of the leakage test conducted each refueling outage.

   RR-54 - The welds in RR-54 are located in the reactor building, except weld 1N11-2MSAR-10C-SSR-4 which is located in the turbine building. The leakage and radiation monitoring systems for identifying leakage from these welds are discussed in Enclosure 2. VT-2 visual examinations are performed as part of the leakage test conducted each period.

2. The surface examination coverage for all required welds was 100%, with the exception of the following RR-52 welds:

   1B21-1MS-24B-10 (49% surface, 49% volumetric)
   2E21-1CS-10A-10 (75% surface, 100% volumetric)

3. A review of the examination data found that all of the welds examined had either:

   1) no recordable indications or,
   2) recordable indications that were characterized as being due to geometry.

   Since the recordable indications were due to geometry, evaluation per ASME Section XI acceptance standards was not required. There were no inservice related indications identified.

Enclosure 2

Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information Regarding the
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Synopsis of Leak Detection and Radiation Monitoring

Enclosure 2
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Synopsis of Leak Detection and Radiation Monitoring

Leakage Detection System (LDS)

The LDS is described in more detail in HNP-1 FSAR Section 4.10 and HNP-2 FSAR Section 5.2.7.

Inside drywell

Drywell floor drain sump measurement monitors the normal design leakage collected in the floor drain sump. The drywell equipment drain sump measurement monitors identified leakage collected in the equipment drain sump, and is a closed system which receives leakage only from identified sources. All leakage inside the drywell will flow to one of these two sumps. The "unidentified leakage" is the portion of the total leakage rate received in the drywell sumps that cannot be attributed to pumps, valve seals, and the RPV head seal. The TS limit for unidentified leakage is 5 gpm. This value is based on, but conservatively much less than, the calculated flow (150 gpm) from a critical crack inside the drywell. The LDS is required to detect unidentified leakage of 5 gpm within one hour, but is capable of measuring much lower leakage rates. The post-accident radiation monitoring system (RMS) is part of the redundant LDS. The drywell fission products monitoring system provides a continuous air sampling of the drywell atmosphere through monitoring gross particulates, iodine, and noble gases. This system supplements the other methods and provides improved sensitivity to aid in determining the size and general source of leaks, particularly steam leaks.

Reactor Building

Outside the primary containment, each system is monitored in compartments, or rooms, so that leakage may be detected by leak detection sumps and area temperature indications. An increase in the normal rate of leakage into the floor drain sumps results in actuation of an alarm in the Main Control Room (MCR). Thermocouples in the Reactor Building rooms monitor ambient air temperature as well as temperature differential in the inlet/outlet of the normal ventilation and the standby coolers. High ambient air temperature or high differential temperature causes an alarm to annunciate in the MCR.

Main Steam Pipe Chase

The main steam lines are continuously monitored for leaks via the following operating parameters: sensed temperature, flowrate, and low level in the RPV. Upon leak detection, an alarm annunciates in the MCR, and, depending on the parameter, initiates steam line isolation. In addition, main steam line radiation monitoring supplements the leak detection capability and aids in determining the size and general source of the leak.

Turbine Building

The turbine building contains thermocouples and temperature-indicating switches, and an excessive rise in temperature from multiple indicators automatically isolates the main steam lines. The turbine building also contains an equipment drain sump and a floor drain sump. The frequency and duration of sump pumpout are monitored to aid in leak detection. In addition, turbine building radiation monitoring supplements the leak detection capability and aids in determining the size and general source of the leak.