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

Hatch Nuclear Plant Unit 2
Technical Specification Revision Request
Integrated Leakage Rate Testing Interval Extension

Ladies and Gentlemen:

By this letter, Southern Nuclear Operating Company (SNC) provides additional information that addresses certain topics discussed in telecons on June 21, July 6, and August 4, 2004 between the NRC staff and SNC personnel. The questions and responses regarding inspection information are shown on Attachment 1.

Also, risk assessment questions were discussed. Additional information related to the risk assessment questions will be provided by separate correspondence.

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

Sincerely,

H. L. Sumner, Jr.

HLS/whc/daj

Enclosure: Attachment 1 – Inspection Information

cc: Southern Nuclear Operating Company
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U. S. Nuclear Regulatory Commission
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Attachment 1

The following additional information is provided as clarification of topics noted in telecoms with the NRC.

1. NRC Question

In response to the NRC's simulated question 6, the licensee indicates that during the 2R17 outage in spring of 2003, the licensee had fully replaced the mastic seal between the drywell shell and the concrete floor. The action indicates that the original seal was degraded. The license is requested to provide the results of the drywell shell examination performed prior to the seal replacement. If the area is found to be susceptible to water damage, the licensee is requested to justify why this area should not be identified for augmented examinations as required by IWE-1240.

SNC Response

Inspection of the seal at the steel liner plate and concrete floor interface inside the drywell at 114' elevation was performed during the Spring 2000 Unit 2 Outage. Results of the inspection revealed three areas where the mastic seal had either been damaged or was disbonded from the steel liner. One of the areas was approximately 2 feet in length and the other two were approximately 10 inches (each) in length. CR2000002021 was generated and repairs were initiated in accordance with MWO20000662. The mastic material in these three areas was removed and a protective coating was applied to the containment shell, however, because of very wet conditions created by other work in the area, successful repair of the seal was questionable.

On 3/29/00, certified personnel visually examined all three areas and scanned all accessible surfaces of all three areas with an ultrasonic thickness meter to determine the minimum shell thickness. The minimum ultrasonic thickness measurement was recorded for each area.

Area #1 - Minimum Thickness = 1.500"
Area #2 - Minimum Thickness = 1.475"
Area #3 - Minimum Thickness = 1.615"

The ISI Plan, Volume 3, Figure HNP-IWE-05, indicates a nominal shell thickness of 1.5" and a minimum design thickness of 1.36" in this area. This drawing was developed from the CBI design report for the drywell.

An engineering evaluation was performed and it was determined that repair of the seal could be deferred.

The mastic seal was reinspected during the Unit 2 Fall 2001 Refueling Outage. CR 2001009111 was generated to document the inspection results. It was determined that full replacement of the mastic seal was appropriate and would be most successful if performed during the Spring 2003 Refueling Outage due to the large Fall 2001 work scope in the same area (e.g. replacement of both recirculation pumps).

SNC Response (continued)

SNC has been monitoring both coated and un-coated steel surfaces in the drywell and torus for several years and has noted very low corrosion rates during an operating cycle. This is primarily because of the high nitrogen, low oxygen content that is present in the drywell and torus when the plant is operating. SNC has been measuring and monitoring the corrosion rates in the immersion areas of the torus since 1993, and has documented that it is less than 3 mils. per year (average) during plant operation.

The liner plate in the repair areas was coated prior to installing the mastic seal, but even if some of the coating has failed and water collects in these areas (creating an immersion environment) and remains until next outage, metal loss due to corrosion should be less than 5 mils. Bare substrate in immersion should be the worst case condition.

If moisture migrates between the concrete and steel liner in the repair areas, this should also be of little concern from a corrosion standpoint. The calcium and other alkaline constituents of the concrete provide an environment that has a high PH which inhibits corrosion (even with moisture present).

MWO20103141 was implemented during the Spring 2003 Refueling Outage to remove and replace the mastic seal.

2. NRC Question

In response to the NRC's simulated question 4, the licensee states: "Experience indicates that conventional examination techniques are not adequate to identify defects in the bellows, and presently Appendix J testing is the only practical test method currently being performed." If the bellows are not designed for detection of bellows degradation by Appendix J, Type B testing the licensee is requested to justify why the Type A test should not be performed as required by the existing Technical Specification.

SNC Response

Information Notice 92-20 indicated that bellows leakage may not be accurately measured by Appendix J Type B testing for some bellows configurations. In response to IN92-20, Plant Hatch installed temporary plates on some selected bellows penetrations (a labor and outage schedule intensive activity) and performed a simulated Type A leakage test. These leakage tests indicated that the Type B leakage test is a representative test. The licensee answer (in SNC's original submittal) indicates that Appendix J Type B testing is considered adequate to detect bellows degradation, but alternatives to conventional examination techniques (visual, dye penetrant, radiography, etc....) continue to be evaluated.

3. NRC Question

In describing the results of prior inspections in the Table containing response June 17, 2004 to the NRC's simulated question 6, the licensee in each case states: "No significant pressure boundary degradation was identified." The licensee is requested to provide description of the criteria used to identify "significant pressure boundary degradation".

SNC Response

Plant Hatch procedure 42SV-L23-001-0S "Protective Coating Surveillance Inspection," 42SV-T23-003-0S, "Drywell Surfaces Visual Inspection," and 42SV-SUV-047-0S, "Venting Assembly and Suppression Chamber Surfaces Visual Inspection" all contain acceptance criteria consistent with ASME Section XI Subsection IWE.

Degradation that is not detrimental, such as general surface corrosion or light surface pitting that is of no concern to the integrity of the pressure retaining boundary should not be considered as reportable; however, evidence of OR actual existence of the following (or similar) conditions shall be reported and brought to the attention of the CIPRE for evaluation:

•Miscellaneous damage, deformation, or degradation (any condition that could potentially be detrimental to the component integrity) such as cracks, tears, broken welds, etc.

The inspector may use the following guidelines in determining reportability of the following conditions having depth:

40 mils: Drywell Shell (interior and exterior)
50 mils: Torus Shell Vapor Space (interior and exterior)
60 mils: Torus Shell Wetted Surfaces (interior and exterior)

•Excessive corrosion/pitting (generally represented by dark discoloration (red/brown), spalling from swelling, rust ejection, deep pits, and/or other severe manifestations)

•Deep gouges or dents (excluding fabrication or installation marks)

•Excessive wear (generally represented by shiny wastage)

Personnel performing the examination will ensure that lighting and access are adequate to identify the conditions described above.

4. **NRC Question**

In response to the NRC's simulated question 6 *(question 3 in original submittal)*, the licensee cites Relief Requests RR-MC-1, RR-MC-6, and RR-MC-8 for examination of seals, gaskets, and bolting associated with the containment pressure boundary penetrations. For penetrations (other than equipment hatch and air-locks, which are Type B tested after each opening) with seals, gaskets, and pressure-retaining bolting, reliance has been placed on the frequency of Type A and Type B testing to detect their degradation. As the performance based Type B test interval for these penetrations could be as high as 10 years, and with the request to extend the Type A test interval to 15 years, provide information to demonstrate that the integrity of the seals, gaskets, and bolting associated with the mechanical and electrical penetrations, and drywell head will be maintained.

SNC Response

The justification for extension of most Type B test intervals to 10 years in conjunction with extension of the Type A test interval has already been reviewed by the staff as documented in RG 1.163. The incremental increase in risk associated with extending the Type A test interval to 15 years while maintaining the Type B test interval at 10 years is documented in our submittal.

Electrical penetrations at Plant Hatch do not have pressure retaining bolting and conductor penetrations are sealed by cast epoxy. The penetrations are nitrogen pressurized during normal operation and pressures are periodically monitored. Furthermore, at least one electrical penetration of each type is Type B tested each operating cycle.

The drywell head is removed each operating cycle. The bolting and seal are examined in accordance with RR-MC-1 and RR-MC-6. Type B leakage testing is performed every operating cycle.

The highlighted mechanical penetrations in the attached table are the only mechanical penetrations which may not be Type B tested every operating cycle and examined in accordance with RR-MC-1 and RR-MC-6. Outage and maintenance activities generally require disassembling most mechanical penetrations which would result in a Type B leakage test upon reassembly. As a minimum they will be disassembled, inspected, and tested at least once every 10 years in accordance with RR-MC-8.

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Attachment 1

PEN	TYPE	NUMBER	DESCR	ORIENT	TYPE
1A	Double O-Ring	001A-B1	Equipment Hatch	Inboard	B
1B	Double O-Ring	001B-B1	Equipment Hatch	Inboard	B
2	Barrel	002-B3	Personnel Airlock Innerspace	In / Out	B
2	Double O-Ring	002-B1	Personnel Airlock	Inboard	B
2	Double O-Ring	002-B2	Personnel Airlock	Outboard	B
4	Double O-Ring	004-B1	Drywell Head Access Hatch	Inboard	B
6	Double O-Ring	006-B1	CRD Removal Hatch	Inboard	B
25	2T48-F103 Double O-Ring "A"	025-B01	Drywell Purge Supply	Outboard	B
25	2T48-F103 Double O-Ring "B"	025-B02	Drywell Purge Supply	Outboard	B
25	2T48-F103 Double O-Ring "C"	025-B03	Drywell Purge Supply	Outboard	B
25	2T48-F103 Double O-Ring "D"	025-B04	Drywell Purge Supply	Outboard	B
25	2T48-F307 Double O-Ring "A"	025-B05	Drywell Purge Supply	Outboard	B
25	2T48-F307 Double O-Ring "B"	025-B06	Drywell Purge Supply	Outboard	B
25	2T48-F307 Double O-Ring "C"	025-B07	Drywell Purge Supply	Inboard	B
25	2T48-F307 Double O-Ring "D"	025-B08	Drywell Purge Supply	Outboard	B
25	2T48-F308 Double O-Ring "A"	025-B09	Drywell Purge Supply	Outboard	B
25	2T48-F308 Double O-Ring "B"	025-B10	Drywell Purge Supply	Outboard	B
25	2T48-F308 Double O-Ring "C"	025-B11	Drywell Purge Supply	Outboard	B
25	2T48-F308 Double O-Ring "D"	025-B12	Drywell Purge Supply	Outboard	B
26	2T48-F319 Double O-Ring "A"	026-B1	Drywell Main Exhaust	Outboard	B
26	2T48-F319 Double O-Ring "B"	026-B2	Drywell Main Exhaust	Outboard	B
26	2T48-F319 Double O-Ring "C"	026-B3	Drywell Main Exhaust	Inboard	B
26	2T48-F319 Double O-Ring "D"	026-B4	Drywell Main Exhaust	Outboard	B
26	2T48-F320 Double O-Ring "A"	026-B5	Drywell Main Exhaust	Outboard	B
26	2T48-F320 Double O-Ring "B"	026-B5	Drywell Main Exhaust	Outboard	B
26	2T48-F320 Double O-Ring "C"	026-B5	Drywell Main Exhaust	Outboard	B
26	2T48-F320 Double O-Ring "D"	026-B5	Drywell Main Exhaust	Outboard	B
35A	Double O-Ring	035A-B1	TIP Drive D	Inboard	B
35B	Double O-Ring	035B-B1	TIP Drive A	Inboard	B
35C	Double O-Ring	035C-B1	TIP Drive C	Inboard	B
35D	Double O-Ring	035D-B1	TIP Drive B	Inboard	B
35E	Double O-Ring	035E-B1	TIP N2 Purge	Inboard	B
43	Double O-Ring	043-B1	Drywell Test and Fill	Inboard	B
82	Double O-Ring	082-B1	Drywell Head Flange	Inboard	B
83A	Double O-Ring	083A-B1	RPV Stabilizer Access Hatch	Inboard	B
83B	Double O-Ring	083B-B1	RPV Stabilizer Access Hatch	Inboard	B
83C	Double O-Ring	083C-B1	RPV Stabilizer Access Hatch	Inboard	B
83D	Double O-Ring	083D-B1	RPV Stabilizer Access Hatch	Inboard	B
83E	Double O-Ring	083E-B1	RPV Stabilizer Access Hatch	Inboard	B
83F	Double O-Ring	083F-B1	RPV Stabilizer Access Hatch	Inboard	B
83G	Double O-Ring	083G-B1	RPV Stabilizer Access Hatch	Inboard	B
83H	Double O-Ring	083H-B1	RPV Stabilizer Access Hatch	Inboard	B

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PEN	TYPE	NUMBER	DESCR	ORIENT	TYPE
200A	Double O-Ring	200A-B1	Torus Access Hatch	Inboard	B
200B	Double O-Ring	200B-B1	Torus Access Hatch	Inboard	B
205	2T48-F309 Double O-Ring "A"	205-B01	Torus Purge Supply	Outboard	B
205	2T48-F309 Double O-Ring "B"	205-B02	Torus Purge Supply	Outboard	B
205	2T48-F309 Double O-Ring "C"	205-B03	Torus Purge Supply	Inboard	B
205	2T48-F309 Double O-Ring "D"	205-B04	Torus Purge Supply	Outboard	B
205	2T48-F310 Double O-Ring "A"	205-B05	Vacuum Relief	Outboard	B
205	2T48-F310 Double O-Ring "B"	205-B06	Vacuum Relief	Outboard	B
205	2T48-F310 Double O-Ring "C"	205-B07	Vacuum Relief	Inboard	B
205	2T48-F310 Double O-Ring "D"	205-B08	Vacuum Relief	Outboard	B
205	2T48-F311 Double O-Ring "A"	205-B09	Vacuum Relief	Outboard	B
205	2T48-F311 Double O-Ring "B"	205-B10	Vacuum Relief	Outboard	B
205	2T48-F311 Double O-Ring "C"	205-B11	Vacuum Relief	Inboard	B
205	2T48-F311 Double O-Ring "D"	205-B12	Vacuum Relief	Outboard	B
205	2T48-F324 Double O-Ring "A"	205-B15	Torus Purge Supply	Outboard	B
205	2T48-F324 Double O-Ring "B"	205-B15	Torus Purge Supply	Outboard	B
205	2T48-F324 Double O-Ring "C"	205-B15	Torus Purge Supply	Outboard	B
205	2T48-F324 Double O-Ring "D"	205-B15	Torus Purge Supply	Outboard	B
218B	Double O-Ring	218B-B1	Construction Drain	Inboard	B
220	2T48-F318 Double O-Ring "A"	220-B1	Torus Main Exhaust	Outboard	B
220	2T48-F318 Double O-Ring "B"	220-B2	Torus Main Exhaust	Outboard	B
220	2T48-F318 Double O-Ring "C"	220-B3	Torus Main Exhaust	Inboard	B
220	2T48-F318 Double O-Ring "D"	220-B4	Torus Main Exhaust	Outboard	B
220	2T48-F326 Double O-Ring "A"	220-B7	Torus Main Exhaust	Outboard	B
220	2T48-F326 Double O-Ring "B"	220-B7	Torus Main Exhaust	Outboard	B
220	2T48-F326 Double O-Ring "C"	220-B7	Torus Main Exhaust	Outboard	B
220	2T48-F326 Double O-Ring "D"	220-B7	Torus Main Exhaust	Outboard	B
223A	Double O-Ring	223A-B1	Spare	Inboard	B
223B	Double O-Ring	223B-B1	Spare	Inboard	B
228B	Double O-Ring	228B-B1	Low Voltage Power (spare)	Inboard	B
236	Double O-Ring	236-B1	Torus Access Hatch	Inboard	B