



Progress Energy

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

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400 / LICENSE NO. NPF-63

**180-DAY RESPONSE TO GENERIC LETTER 2003-01, "CONTROL ROOM
HABITABILITY"**

Reference: Letter from James Scarola to the United States Nuclear Regulatory
Commission (Serial: HNP 03-089) "Generic Letter 2003-01, 'Control
Room Habitability' Sixty-Day Response" dated August 11, 2003

Ladies and Gentlemen:

On June 12, 2003, the NRC issued Generic Letter 2003-01, "Control Room Habitability" which requested licensees to submit information demonstrating that control rooms comply with the current licensing and design bases, and applicable regulatory requirements. In addition, information was requested to ensure that suitable design, maintenance and testing control measures are in place for maintaining this compliance. The generic letter requested that this information be provided within 180-days or, if unable to meet this schedule, notification be made within 60-days.

Progress Energy Carolinas, Inc. provided a 60-day response to Generic Letter 2003-01 in the referenced letter for the Harris Nuclear Plant (HNP). Enclosure 1 provides the 180-day response to Generic Letter 2003-01 for HNP. Enclosure 2 provides a list of regulatory commitments made in this letter.

Please refer any questions regarding this submittal to Mr. John R. Caves, Supervisor – Licensing/Regulatory Programs, at (919) 362-3137.

Sincerely,

Terry C. Morton
Manager, Support Services

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Enclosures:

- 1: 180-Day Response to Generic Letter 2003-01
- 2: List of Regulatory Commitments

c: Mr. R. A. Musser (NRC Senior Resident Inspector)
Mr. C. P. Patel (NRR Project Manager, NRC)
Mr. L. A. Reyes (NRC Regional Administrator, Region II)

Generic Letter 2003-01 180-day Response

NRC Requested Information 1

Provide confirmation that your facility's control room meets the applicable habitability regulatory requirements (e.g., GDC 1, 3, 4, 5, and 19) and that the control room habitability systems are designed, constructed, configured, operated, and maintained in accordance with the facility's design and licensing bases. Emphasis should be placed on confirming:

- (a) That the most limiting unfiltered inleakage into your CRE (and the filtered inleakage if applicable) is no more than the value assumed in your design basis radiological analyses for control room habitability. Describe how and when you performed the analyses, tests, and measurements for this confirmation.
- (b) That the most limiting unfiltered inleakage into your CRE is incorporated into your hazardous chemical assessments. This inleakage may differ from the value assumed in your design basis radiological analyses. Also, confirm that the reactor control capability is maintained from either the control room or the alternate shutdown panel in the event of smoke.
- (c) That your technical specifications verify the integrity of the CRE, and the assumed inleakage rates of potentially contaminated air. If you currently have a ΔP surveillance requirement to demonstrate CRE integrity, provide the basis for your conclusion that it remains adequate to demonstrate CRE integrity in light of the ASTM E741 testing results. If you conclude that your ΔP surveillance requirement is no longer adequate, provide a schedule for: 1) revising the surveillance requirement in your technical specification to reference an acceptable surveillance methodology (e.g., ASTM E741), and 2) making any necessary modifications to your CRE so that compliance with your new surveillance requirement can be demonstrated.

If your facility does not currently have a technical specification surveillance requirement for your CRE integrity, explain how and at what frequency you confirm your CRE integrity and why this is adequate to demonstrate CRE integrity.

Response 1

As a result of recently completed required testing, the Harris Nuclear Plant (HNP) identified a degraded but operable condition with the control room boundary and associated procedures. HNP has taken compensatory measures to maintain operability of the Control Room Emergency Filtration System (CREFS) while resolving this condition. With exception to this condition and the confirmations to be provided by inleakage testing, the HNP control room currently meets the applicable habitability regulatory requirements and the control room habitability systems are designed, constructed, configured, operated, and maintained in accordance with the HNP design and licensing bases. This is based on the following:

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- FSAR Chapter 15 design basis radiological analyses were completely reanalyzed in accordance with the Alternative Source Term guidelines provided in Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluation Design Basis Accidents at Nuclear Power Plants". Each analysis input was evaluated against current plant design and operation. Each accident was analyzed for control room dose such that the limiting accident with respect to control room habitability was determined. On October 12, 2001, the NRC approved the HNP license amendment request that adopted the Alternative Source Term (TAC Nos. MB0199 and MB0782).
- A control room habitability self-assessment was performed addressing many of the topics covered in NEI 99-03, Revision 1, "Control Room Habitability Guidance", including: operating procedures, surveillance testing, post-maintenance testing, maintenance practices and procedures, radiological analyses, hazardous chemical evaluations, and design change control. The assessment identified a concern, not significant with respect to safety or to meeting design and licensing bases, with administrative discrepancies between the Technical Specifications and other controlled documents. Other items identified were administrative in nature: improvements desired in the preventative maintenance program related to control room habitability, improvements in control room boundary breach control, and improvements desired with respect to updating the hazardous chemical survey. These items were added to the corrective action program.
- A detailed review of the as-built configuration of the control room habitability envelope and ventilation systems was performed during investigation of ΔP surveillance test results (see below) and in preparation for tracer gas inleakage testing that is scheduled to be performed in the first quarter of 2004. In addition, a pre-test walk down was performed with the tracer-gas inleakage testing vendor to assess inleakage vulnerabilities. Identified deficiencies were added to the corrective action program.
- In October 2003, surveillance testing and subsequent investigation discovered that the control room ΔP Technical Specification requirement might not be met under certain operating conditions. Specifically, a postulated failure of non-safety ventilation equipment in an adjacent area concurrent with certain accident conditions could possibly compromise the ability of the CREFS to maintain 1/8 INWG positive pressure with respect to all adjacent areas as required by Technical Specification SR 4.7.6.d.3.

Currently, HNP controls the configuration of the non-safety ventilation system in an adjacent area to prevent a failure of non-safety ventilation equipment from adversely impacting operability of the CREFS. HNP has identified the degraded boundary and procedural deficiencies and has initiated corrective actions. HNP documented these deficiencies in the corrective action program and will report these deficiencies in a Licensee Event Report in accordance with 10 CFR 50.73 by December 16, 2003.

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The following provides additional details for each of the three sub-items for which the Generic Letter requested that emphasis be placed:

(a) Radiological

As specified in HNP's 60-day response to the Generic Letter (HNP 03-089 dated August 11, 2003), HNP will perform inleakage testing in accordance with ASTM E741 in order to quantify inleakage into the control room envelope. The confirmation called for in Requested Information 1(a) will be provided following completion of this testing and no later than July 31, 2004. The justification for this alternative schedule, as well as the commitment to perform the inleakage testing, is provided in the 60-day response letter referenced above.

Revised radiological analyses have been performed in accordance with Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Plants." These revised analyses, which included higher assumed inleakage rates, were submitted to the NRC, in support of the Alternative Source Term (AST) amendment request. The NRC approved this change on October 12, 2001 (TAC Nos. MB0199 and MB0782).

(b) Hazardous Chemicals & Smoke

The HNP FSAR documents that there is no toxic gas threat. HNP has not identified any new significant sources of stationary or mobile hazardous chemicals.

As specified in HNP's 60-day response to the Generic Letter (HNP 03-089 dated August 11, 2003), HNP will perform inleakage testing in accordance with ASTM E741 in order to quantify inleakage into the control room envelope. The confirmation concerning hazardous chemical assessments called for in Requested Information 1(b) will be provided following completion of this testing and no later than July 31, 2004. The justification for this alternative schedule, as well as the commitment to perform the inleakage testing, is provided in the 60-day response letter referenced above.

Concerning the capability to maintain reactor control capability in the event of a smoke event, HNP has performed an evaluation in accordance with Appendix A of NEI 99-03, Revision 1. This evaluation demonstrated the capability to maintain reactor control from either the control room or the Auxiliary Control Panel Room in the event of smoke originating inside or outside the control room envelope.

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(c) Technical Specification

HNP is a positive pressure control room design. Technical Specification surveillance requirement 4.7.6.d.3 is intended to demonstrate that the Control Room Emergency Filtration System can maintain the control room envelope at a positive pressure relative to adjacent areas. HNP will submit a proposed license amendment request within six months following approval of Technical Specification Task Force (TSTF) traveler 448, or if TSTF-448 is processed through the Consolidated Line Item Improvement Process (CLIIP), six months after the CLIIP is published. The amendment request will include a new Technical Specification surveillance requirement to determine inleakage in accordance with a CRE Integrity Program. A new section will be added to Technical Specification Section 6.8 "Procedures and Programs" that will specify the scope of the CRE Integrity Program. The CRE Integrity Program will rely on the use of tracer gas inleakage testing. In addition to modifications required for resolution of the previously identified degraded boundary, HNP will schedule modifications required to restore compliance with the new surveillance requirements if the scheduled tracer-gas testing identifies any deficiencies.

NRC Requested Information 2

If you currently use compensatory measures to demonstrate control room habitability, describe the compensatory measures at your facility and the corrective actions needed to retire these compensatory measures.

HNP Response 2

Currently, HNP controls the configuration of the non-safety ventilation system in an adjacent area to prevent a failure of non-safety ventilation equipment from adversely impacting operability of the CREFS. HNP has identified the degraded boundary and procedural deficiencies and has initiated corrective actions. HNP documented these deficiencies in the corrective action program and will report these deficiencies in a Licensee Event Report in accordance with 10 CFR 50.73 by December 16, 2003.

NRC Requested Information 3

If you believe that your facility is not required to meet either the GDC, the draft GDC, or the "Principal Design Criteria" regarding control room habitability, in addition to responding to 1 and 2 above, provide documentation (e.g., Preliminary Safety Analysis Report, Final Safety Analysis Report sections, or correspondence) of the basis for this conclusion and identify your actual requirements.

HNP Response 3

HNP is required to meet General Design Criteria 1, 3, 4 and 19. GDC 5 is for multiple unit plants and is therefore not applicable to HNP.

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LIST OF REGULATORY COMMITMENTS

Those actions committed to by Progress Energy Carolinas, Inc. (PEC) in this document are identified below. Any other actions discussed in this submittal represent intended or planned actions by PEC. They are described for the NRC's information and are not regulatory commitments.

Committed Item	Date Due
HNP will resolve the degraded condition in accordance with Generic Letter 91-18, Revision 1.	To be determined. Current expectation is for resolution by completion of the next refueling outage in fourth quarter 2004.
HNP will submit a proposed license amendment request that will include a new Technical Specification surveillance requirement to determine inleakage in accordance with a CRE Integrity Program. A new section will be added to Technical Specification Section 6.8 "Procedures and Programs" that will specify the scope of the CRE Integrity Program. The CRE Integrity Program will rely on the use of tracer gas inleakage testing.	Within six months following TSTF-448 approval or associated CLIIP approval, whichever is later.