Progress Energy

JAN 1 3 2005

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U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/LICENSE NO. NPF-63
60-DAY SUMMARY REPORT
NRC BULLETIN 2003-02, LEAKAGE FROM REACTOR PRESSURE VESSEL LOWER HEAD PENETRATIONS AND REACTOR COOLANT PRESSURE BOUNDARY INTEGRITY, REQUEST (2)

Ladies and Gentlemen:

On November 13, 2003, Carolina Power & Light Company doing business as Progress Energy Carolinas, Inc., submitted the 90-day response to NRC Bulletin 2003-02 for Leakage From Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity. In that letter, Harris Nuclear Plant (HNP) stated, "HNP will submit the results of the next inspection of the RPV lower head penetrations, currently planned for the next refueling outage (RFO12) in Fall 2004, within 60 days of plant startup following the inspection."

Attachment 1 provides the 60-day summary report of the RFO-12 inspection results.

Please refer any question regarding this submittal to Mr. Dave Corlett at (919) 362-3137.

I declare, under penalty of perjury, that the attached information is true and correct (Executed on JAN 1 3 2005).

Sincerely,

Terry C. Morton
Manager – Support Services

TCM/jpy

Attachment:

1. 60-Day Summary Report, NRC Bulletin 2003-02, Request 2

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
P. O. Box 165
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c:

Mr. R. A. Musser, NRC Senior Resident Inspector
Ms. B. O. Hall, N.C. DENR Section Chief
Mr. C. P. Patel, NRC Project Manager
Dr. W. D. Travers, NRC Regional Administrator

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60-Day Summary Report, NRC Bulletin 2003-02, Request 2

On November 13, 2003, Carolina Power & Light Company doing business as Progress Energy Carolinas, Inc., submitted the 90-day response to NRC Bulletin 2003-02 for Leakage From Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity. In that letter, Harris Nuclear Plant (HNP) included the following response to NRC Request 2:

NRC Request

2. *Within 60 days of plant restart following the next inspection of the RPV lower head penetrations, the subject PWR addressees should submit to the NRC a summary of the inspections performed, the extent of the inspections, the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found.*

Response

HNP submitted a summary of the results of the 100% bare metal visual examination of the BMI penetrations performed during RFO-11 in our sixty-day report [HNP 03-070, dated July 16, 2003, "Sixty-Day Report in Accordance with NRC Order for Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors Inspection of RPV Head During Refueling Outage"], issued in accordance with NRC Order EA-03-009. Additional required detail on the performance of this examination has been provided in the response to 1(a) above [of HNP-03-118, dated November 13, 2003, "90-Day Response to NRC Bulletin 2003-02 for Leakage From Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity"]. HNP will submit the results of the next inspection of the RPV lower head penetrations, currently planned for the next refueling outage (RFO-12) in Fall 2004, within 60 days of plant startup following the inspection.

As discussed above, HNP provides the following 60-day summary report of the results of the RFO-12 inspection of the RPV lower head penetrations.

On April 27, 2003, during HNP's RFO-11, VT-2 qualified inspection personnel performed a 100% bare-metal visual (BMV) examination of the bottom-mounted instrumentation (BMI) nozzles on the bottom of the reactor pressure vessel (RPV). The results, methods used and extent of that examination were documented in HNP's response (HNP-03-118) to Request 1(a) of NRC Bulletin 2003-02.

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On October 26, 2004, during HNP's RFO-12, VT-2 qualified inspection personnel performed another 100% BMV examination of the BMI nozzles. This inspection was witnessed by the NRC Resident Inspector. The entire circumference of each of the 50 BMI penetrations was visually examined directly without visual aids. Sufficient lighting was provided to meet VT-2 inspection requirements. Since the examination performed in RFO-11 was recorded on videotape, this inspection was not recorded.

In addition, inspections of the BMI penetrations at HNP are performed every refueling outage as part of the ASME Section XI Class 1 system leakage test. This test is performed with the system at normal operating pressure and temperature and with the insulation in place. These inspections are performed by HNP plant procedure EST-227, *ASME Section XI Class 1 System Pressure Test*, in accordance with ASME Section XI requirements, and are documented on a system pressure test report in accordance with the HNP ASME Section XI Program.

No relevant conditions indicative of boric acid leakage emanating from the nozzle annulus regions were found during either BMV inspection. As was noted during the first BMV examination performed in 2003, the most recent examination noted some light boron/rust streaks which originated from the upper portions of the vessel. These streaks were thin, dry, loosely-adherent, and transparent. There was no masking of the underlying condition or of the annulus region of any penetration. The light streaks clearly originated from a source other than the nozzle annulus regions and were the result of cavity seal leaks which occurred prior to 1994. No corrosion of the vessel surface resulted from this streaking.

The acceptance criteria used to evaluate the inspection results were the same as those contained in HNP Engineering Periodic Test procedure EPT-859, *100% Bare Metal Visual Examination of the Reactor Pressure Vessel Head.* Those criteria are consistent with EPRI guidance. (Ref. EPRI Report No. 1007337, *PWR Reactor Pressure Vessel (RPV) Upper Head Penetrations Inspection Plan (MRP-75)* and EPRI Report 1006296, *Visual Examination for Leakage of PWR Reactor Head Penetrations on Top Of RPV Head.*).

The nozzles and the vessel surface were determined to be acceptable by comparison to the acceptance criteria without further evaluation. There was no masking of underlying metal, build-up of boric acid deposits, relevant conditions indicative of boric acid leakage, or other conditions that required evaluation. Consequently, no corrective action was required or taken.