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NL-04-1050

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

**Vogtle Electric Generating Plant  
Results of Reactor Pressure Vessel Head Inspections Required by  
First Revised NRC Order EA-03-009 and NRC Bulletin 2003-02**

Ladies and Gentlemen:

During the recent spring 2004 refueling outage (2R10) at Unit 2 of the Vogtle Electric Generating Plant (VEGP-2), Southern Nuclear Operating Company (SNC) completed a bare metal visual (BMV) examination as required by First Revised NRC Order EA-03-009. The Revised Order was issued February 20, 2004, to establish interim inspection requirements for reactor pressure vessel (RPV) heads at pressurized water reactors. SNC hereby reports the results of this inspection as required by Paragraph E of Section IV of the Order. In addition, this letter reports the results of a bare metal visual examination of the RPV bottom head penetrations as requested by NRC Bulletin 2003-02.

With an Effective Degradation Year (EDY) value at the start of the spring refueling outage of 2.57 years as calculated per Section IV.A of the Revised Order, VEGP-2 fell into the Low (EDY < 8) category for susceptibility to primary water stress corrosion cracking (PWSCC) established by Section IV.B, hence the inspection requirement of Section IV.C(5)(a) was applied along with the inspection requirements of Section IV.D. Therefore, a remote BMV examination was performed on > 95% of the outer surface of the RPV top closure head including 360° around each RPV head penetration nozzle. Scope of this examination was not 100% of the head surface because of the small area (<5%) of the head made inaccessible by the shroud support structure and insulation. However, a modification to the insulation was performed prior to the examination in order to make accessible a larger portion of the RPV top head. These remote examinations included those areas of the RPV head upslope and downslope from the support structure and insulation interference to identify any evidence of boron or corrosion residue and were performed with a resolution capability at least equivalent to that obtained by direct visual observation.

**Inspection Results:**

No evidence of head material wastage or of leaking or cracked nozzles was found by bare metal visual examination of the RPV top head. Some loose white crystalline debris was noted, but did not preclude visual inspection of the head surface. This debris was boric acid residue from previous leaks above the head, including the conoseal leak discovered during the VEGP-2 outage of August 8, 2003, and the canopy seal weld leak discovered during the VEGP-2 outage of August 30, 2003. Both leaks were previously reported to the Staff in SNC's October 13, 2003, 60-day response letter NL-03-2008, "Vogtle

A101  
A109

Electric Generating Plant - Unit 2 Results of Reactor Pressure Vessel Head Inspections  
Required by Order EA-03-009."

Documentation:

The examination was documented by a written report supplemented by video and photographic images supporting the examination findings. This report also provides an up-dated baseline for future examinations.

Bulletin 2003-02 RPV Bottom Head Inspection:

A remote visual examination was performed on the outer surface of the RPV bottom head during the recent spring 2004 refueling outage (2R10) at VEGP-2 with a resolution capability at least equivalent to that obtained by direct visual observation. These inspections included a BMV examination of all the Alloy 600 nozzles penetrating the bottom head of the vessel and a general inspection of the bottom head area for indications of wastage or significant corrosion of the low alloy steel vessel. The entire circumference of the interface of each nozzle with the vessel was evaluated for the presence of any deposits that might indicate leakage from the annulus between the nozzle and the head. These inspections were performed as recommended in Materials Reliability Program (MRP) letter MRP 2003-017 dated June 23, 2003.

Inspection Results:

No evidence of head material wastage or of leaking or cracked bottom mounted instrumentation (BMI) nozzles was found by bare metal visual examination of the RPV bottom head.

Documentation:

The examination performed was documented by a written report supplemented by video and photographic images supporting the examination findings. This report also provides a baseline for future examinations.

Mr. J. T. Gasser states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company, and to the best of his knowledge and belief, the facts set forth in this letter are true.

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

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



Jeffrey T. Gasser

Sworn to and subscribed before me this 28<sup>th</sup> day of June, 2004.

  
Notary Public

My commission expires: 11/10/06



JTG/DRG/daj

cc: Southern Nuclear Operating Company  
Mr. J. B. Beasley, Jr., Executive Vice President  
Mr. W. F. Kitchens, General Manager – Plant Vogtle  
Mr. S. Barger, Assistant General Manager, Plant Support – Plant Vogtle  
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