

**Tom Tynan**  
Vice President - Vogtle

**Southern Nuclear  
Operating Company, Inc.**  
7821 River Road  
Waynesboro, Georgia 30830  
Tel 706.826.3151  
Fax 706.826.3321

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Docket No.: 50-424

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

Vogtle Electric Generating Plant – Unit 1  
Results of Reactor Pressure Vessel Head Inspections  
Required by First Revised Order EA-03-009

Ladies and Gentlemen:

On February 20, 2004, the NRC issued First Revised NRC Order EA-03-009 (Order) to establish interim inspection requirements for reactor pressure vessel (RPV) heads at pressurized water reactors. On March 8, 2004, Southern Nuclear Operating Company (SNC) submitted an answer to the Order (NL-04-0363), which included a request for relaxation of the Order pursuant to the provisions of paragraph IV.F. The relaxation request was in regard to inspections performed under paragraph IV.C.(5)(a) of the Order. The relaxation request was supplemented by a SNC letter (NL-05-0990) dated July 1, 2005. In addition, by SNC letter (NL-06-0739) dated May 18, 2006, and supplemented by SNC letter (NL-06-1217) dated June 2, 2006, SNC requested a relaxation of the Order pursuant to the provisions of paragraph IV.F in regard to inspections performed under paragraph IV.C.(5)(b) of the Order.

An examination was completed during the 2006 VEGP Unit 1 fall refueling outage (1R13), satisfying the portion of paragraph IV.C.(3) of the Order which specified an inspection meeting the requirements of paragraph IV.C.(5)(b), consistent with SNC's May 18, 2006 request for relaxation. Results of the 1R13 examination were reported by SNC letter (NL-06-2712) dated December 27, 2006.

During the 2008 VEGP Unit 1 spring refueling outage (1R14), SNC completed a bare metal visual (BMV) examination of >99% of the RPV top head surface, including 360° around each RPV head penetration nozzle. SNC hereby provides the results of the inspections as required by paragraph IV.E of the Order.

**Results of Inspections Required by NRC First Revised NRC Order EA-03-009, Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors:**

As required by paragraph IV.A of the Order, SNC calculated the Effective Degradation Year (EDY) value at the start of 1R14 for VEGP Unit 1. The current EDY value is 3.29 years, which places VEGP Unit 1 into the Low (EDY <8) category for susceptibility to primary water stress corrosion cracking (PWSCC) established by Paragraph IV.B. The susceptibility category determines the required examinations and timing of those examinations.

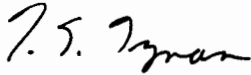
During 1R14, a bare metal visual (BMV) examination beneath the reactor pressure vessel (RPV) insulation package, using robotic crawlers and video probes, was performed. The examination satisfied the portion of paragraph IV.C.(3) of the Order which specified an inspection meeting the requirements of paragraph IV.C.(5)(a), consistent with SNC's March 8, 2004 request for relaxation. The relaxation request proposed to achieve substantial compliance with the 100% BMV examination requirement of paragraph IV.C.(5)(a) by conducting a BMV examination of the RPV to the extent accessible. No evidence of head material wastage or of leaking or cracked nozzles was found by the BMV of the RPV top head.

Scope of this examination was not 100% of the head surface because of the small area (<1%) of the head made inaccessible by the shroud support structure and insulation interference. However, the examination was able to achieve 360° around each RPV head penetration nozzle, as required by the Order. A modification to the insulation package was performed during the fall 2003 refueling outage (1R11) in order to increase accessibility to previously restricted or impaired regions of the RPV top head. It should be noted that the head surface area above (uphill) and below (downhill) of the obstructions was accessible. The most recent BMV examination under the insulation package was performed during 1R11. The examination was documented by a written report, supplemented by video and photographic images supporting the examination results. This report also provides an updated baseline for future examinations.

Visual inspections were performed to identify potential boric acid leaks from pressure-retaining components above the RPV head as required by paragraph IV.D of the Order. No issues were reported.

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

Sincerely,



T. E. Tynan  
Vice President – Vogtle

TET/DRG/daj

cc: Southern Nuclear Operating Company  
Mr. J. T. Gasser, Executive Vice President  
Mr. D. H. Jones, Vice President – Engineering  
Mr. L. M. Stinson, Vice President – Fleet Operations Support  
RType: CVC7000

U. S. Nuclear Regulatory Commission  
Mr. L. A. Reyes, Regional Administrator  
Mr. R. A. Jervy, NRR Project Manager – Vogtle  
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle