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Byron Station Unit 1
Facility Operating License No. NPF-37
NRC Docket No. STN 50-454

Subject: Byron Station Unit 1 Sixty-Day Response to NRC Order EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors"

On February 11, 2003, the NRC issued NRC Order EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors." This Order requires the following information be submitted to the NRC within 60 days after returning the plant to operation:

> "For each inspection required in Paragraph C, the Licensee shall submit a report detailing the inspection results within sixty (60) days after returning the plant to operation."

The Order also requires the following information be submitted to the NRC within 60 days after returning the plant to operation if a leak or boron deposit was found during the inspection:

> "For each inspection required in Paragraph D, the Licensee shall submit a report detailing the inspection results within sixty (60) days after returning the plant to operation if a leak or boron deposit was found during the inspection."

Pursuant to 10 CFR 2.202, "Orders," Attachment 1 to this letter provides the Byron Station, Unit 1 60-day response. This response is due to the NRC by December 15, 2006.

Should you have any questions or desire additional information regarding this letter, please contact William Grundmann, Regulatory Assurance Manager, at (815) 406-2800.

Respectfully,

David M. Hoots
Site Vice President
Byron Nuclear Generating Station

Enclosures: Attachment 1, Byron Station Unit 1 Sixty-Day Response to NRC Order EA-03-009

ATTACHMENT 1

Byron Station Unit 1

Sixty-Day Response to NRC Order EA-03-009

"Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors"

Attachment 1

Byron Station Unit 1

Sixty-Day Response to NRC Order EA-03-009

On February 11, 2003, the NRC issued NRC Order EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors." Section E of this Order requires the following information be submitted to the NRC within 60 days after returning the plant to operation:

E. *For each inspection required in Paragraph C, the Licensee shall submit a report detailing the inspection results within sixty (60) days after returning the plant to operation. For each inspection required in Paragraph D, the Licensee shall submit a report detailing the inspection results within sixty (60) days after returning the plant to operation if a leak or boron deposit was found during the inspection.*

Response to NRC Order Item E Concerning Paragraph C

Paragraph C, Item 3 (i.e., for plants in the low primary water stress corrosion cracking (PWSCC) susceptibility category) of this Order requires the following inspections:

(3) *For those plants in the Low category,* [reactor pressure vessel] *RPV head and head penetration nozzle inspections shall be performed as follows. An inspection meeting the requirements of 3(a) must be completed at least every third refueling outage or every five (5) years, whichever occurs first. If an inspection meeting the requirements of 3(a) was not performed during the refueling outage immediately preceding the issuance of this Order, the Licensee must complete an inspection meeting the requirements of 3(a) within the first two (2) refueling outages following issuance of this Order. The requirements of 3(b) must be completed at least once over the course of five (5) years after the issuance of this Order and thereafter at least every four (4) refueling outages or every seven (7) years, whichever occurs first.*

(a) *Bare metal visual examination of 100% of the RPV head surface (including 360° around each RPV head penetration nozzle).*

(b) *Either:*

(i) *Ultrasonic testing of each RPV head penetration nozzle (i.e., nozzle base material) from two (2) inches above the J-groove weld to the bottom of the nozzle and an assessment to determine if leakage has occurred into the interference fit zone, OR*

(ii) *Eddy current testing or dye penetrant testing of the wetted surface of each J-Groove weld and RPV head penetration nozzle base material to at least two (2) inches above the J-groove weld.*

The inspections to meet the requirements of Item 3(a) or 3(b) are not required at this time and will be performed in a future refueling outage.

Response to NRC Order Item E Concerning Paragraph D

Paragraph D required the following inspections:

> D. *During each refueling outage, visual inspections shall be performed to identify potential boric acid leaks from pressure-retaining components above the RPV head. For any plant with boron deposits on the surface of the RPV head or related insulation, discovered either during the inspections required by this Order or otherwise and regardless of the source of the deposit, before returning the plant to operation the Licensee shall perform inspections of the affected RPV head surface and penetrations appropriate to the conditions found to verify the integrity of the affected area and penetrations.*

As required by Reference 1, Section IV, paragraph D, a visual inspection to identify potential boric acid leaks from pressure-retaining components above the RPV head was performed at the beginning and end of Byron Station, Unit 1 Refueling Outage 14 (i.e., B1R14) starting in September 2006. The visual inspections did not identify any boric acid leaks from pressure-retaining components above the RPV head or any boron deposits on the mirror insulation above the RPV head.

Since no leakage or boron deposits were identified during these inspections, a report in accordance with Reference 1, Section IV, paragraph E, is not required to be submitted; however, the inspection results are being provided to assure thorough communications regarding First Revised NRC Order EA-03-009 actions.