



Palo Verde Nuclear  
Generating Station

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**NRC Order, EA-03-009**

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192-01122-GRO/DGM/REB  
June 24, 2003

U. S. Nuclear Regulatory Commission  
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Washington, D C 20555-0001

**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Unit 3  
Docket No. STN 50-530  
Special Report 3-SR-2003-002  
Boron Deposit Found at Control Element Drive Mechanism Vent**

Dear Sirs:

Attached please find Special Report 3-SR-2003-002 prepared and submitted pursuant to the NRC Order EA-03-009, dated February 11, 2003, which established interim inspection requirements for reactor pressure vessel heads at Pressurized Water Reactors. This special report details the results of visual inspections performed at PVNGS Unit 3 during its 10<sup>th</sup> refueling outage to identify potential boric acid leaks from pressure-retaining components above the reactor pressure vessel head.

No commitments are being made to the NRC by this letter.

In accordance with 10 CFR 50.4(b)(1), one copy of this report is provided to the Region IV Regional Office, and one copy is provided to the Palo Verde NRC Resident Inspector.

If you have any questions, please contact Dan Marks, Section Leader, Compliance, at (623) 393-6492.

Sincerely,

GRO/DGM/REB/kg

Attachment

cc: Regional Administrator, NRC Region IV (all with attachment)  
J. N. Donohew (Project Manager)  
N. L. Salgado (Sr. Resident Inspector)  
Assistant General Counsel for Materials Litigation and Enforcement  
Rulemaking and Adjudication Staff

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## **Attachment**

### **Palo Verde Nuclear Generating Station Unit 3**

#### **Special Report No. 3-SR-2003-002**

#### **Boron Deposit Found at Control Element Drive Mechanism Vent**

**Docket No. STN 50-530**

#### **Reporting Requirement:**

The NRC Order EA-03-009, "Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," (accession number ML0303804700,) dated February 11, 2003, Section IV.D requires that identified leaks or boron deposits be inspected to verify the integrity of the affected area and penetrations.

Additionally, Section IV.E of the NRC Order requires that the licensee shall submit a report detailing the inspection results performed per section IV.D within sixty (60) days after returning the plant to operation if a leak or boron deposit was found during the inspection.

#### **Background:**

On March 29, 2003 Unit 3 was shutdown for a refueling outage (3R10). Routine visual inspections were performed to identify potential boric acid leaks from pressure-retaining components above the reactor pressure vessel (RPV) in accordance with the Palo Verde boric acid walkdown procedure, 70TI-9ZC01. Near the end of the refueling outage another visual inspection was performed.

#### **Report Detailing Inspection Results:**

Three boric acid residue sites above the RPV head were identified in the first inspection. The sites were located on the Versa-Vents for control element drive mechanisms (CEDM) # 2, 41, and 64. These sites were not active leaks and did not contact carbon steel. The deposit stayed in the area of the vent and did not make it down to the RPV head or related insulation. The source was most likely the vent ball / seating surface interface. The vents were cleaned and reworked during the refueling outage.

Near the end of the refueling outage the Versa-Vent for CEDM # 73 was found to have a small amount of boric acid residue (see attached photo) that was not an active leak and did not contact carbon steel. The deposit stayed in the area of the vent and did not make it down to the RPV head or related insulation. The source was most likely the vent ball / seating surface interface and is believed to have occurred during the refueling outage. The vent will be cleaned and reworked during a future outage.

Unit 3 was returned to operation (Mode 1) on April 30, 2003.

**Palo Verde Nuclear Generating Station Unit 3**

**Special Report No. 3-SR-2003-002**

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