EA-03-009

Palo Verde Nuclear
Generating Station

David Mauldin
Vice President
Nuclear Engineering
and Support

TEL (623) 393-5553
FAX (623) 393-6077

Mail Station 7605
P.O. Box 52034
Phoenix, AZ 85072-2034

192-01127-CDM/RAS
October 1, 2003

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-37
Washington, DC 20555-0001

Subject: **Palo Verde Nuclear Generating Station (PVNGS)**
Unit 3
Docket No. STN 50-530
Special Report 3-SR-2003-004
Report of Boron Deposit at Control Element Drive Mechanism Vents

Dear Sirs:

Attached please find Special Report 3-SR-2003-004 prepared and submitted by Arizona Public Service (APS) pursuant to NRC Order EA-03-009 (Order), dated February 11, 2003. Section IV.D of the Order requires licensees to perform certain visual inspections to identify potential boric acid leaks from pressure-retaining components above the Reactor Pressure Vessel (RPV) head. Section IV.E of the Order requires licensees to submit reports detailing the inspection results within sixty (60) days after returning plants to operation.

This special report details the results of visual inspections performed at PVNGS Unit 3 subsequent to an unplanned reactor trip on July 28, 2003. The visual inspections were performed in accordance with the Boric Acid Corrosion Prevention Program which APS implements to identify and prevent boric acid corrosion of reactor pressure boundary components.

In accordance with 10 CFR 50.4(b)(1), copies of this report are being provided to the Region IV Administrator and the Palo Verde NRC Senior Resident Inspector.

IE22
A101

No commitments are being made to the NRC by this letter. If you have questions regarding this submittal, please contact Dan Marks, Section Leader, Compliance, at (623) 393-6492.

Sincerely,

Robert J. Wiesi
/n CDM

CDM/RAS/ras

Attachment

cc: B. S. Mallett, Region IV Administrator
M. B. Fields, PVNGS Project Manager
N. L. Salgado, Sr. Resident Inspector
Assistant General Counsel for Materials Litigation and Enforcement Rulemaking and Adjudication Staff

Attachment
Palo Verde Nuclear Generating Station Unit 3
Special Report No. 3-SR-2003-004
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 certain visual inspections be performed to identify potential boric acid leaks from pressure-retaining components above the reactor pressure vessel (RPV) head.

Additionally, Section IV.E of the NRC Order requires that licensees submit reports 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 July 28, 2003, Palo Verde Unit 3 experienced an automatic reactor trip from approximately 98% rated thermal power due to reduced reactor coolant system flow when the main turbine tripped during a grid perturbation (reference Event Notification #40029). Subsequent to the reactor trip, routine visual inspections were performed in accordance with the Boric Acid Corrosion Prevention Program (APS procedure 70TI-9ZC01). APS implemented the Boric Acid Corrosion Prevention Program to prevent boric acid corrosion of reactor pressure boundary components and to ensure the requirements contained in USNRC Generic Letter No. 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants" are met.

Report Detailing Inspection Results:

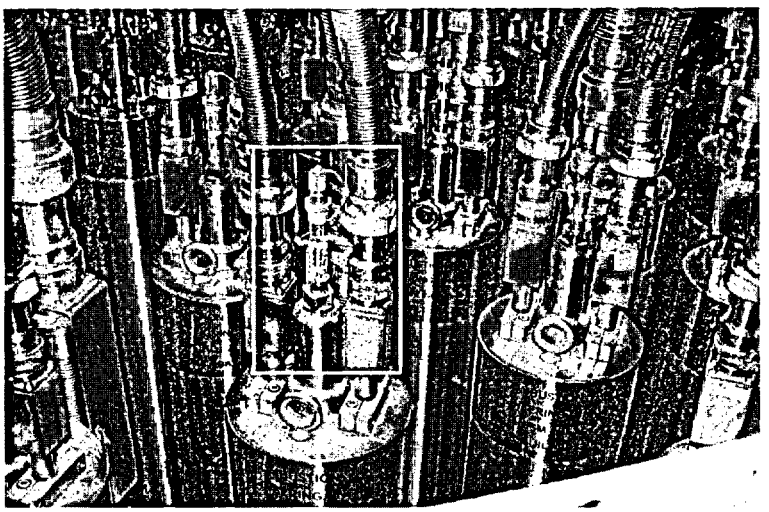
During boric acid walk-downs on July 29, 2003, two Unit 3 boric acid residue sites were identified above the RPV head. The sites were located on the Versa-Vents for control element drive mechanisms (CEDM) nos. 51 and 73. These sites exhibited no evidence of being active leaks and the boric acid residue did not contact the RPV head or related insulation. The source of the boric acid residue was most likely the vent ball / seating surface interface of the Versa-Vents.

Versa-Vents for CEDMs 51 and 73 were cleaned and reworked during the outage following the Unit 3 trip.

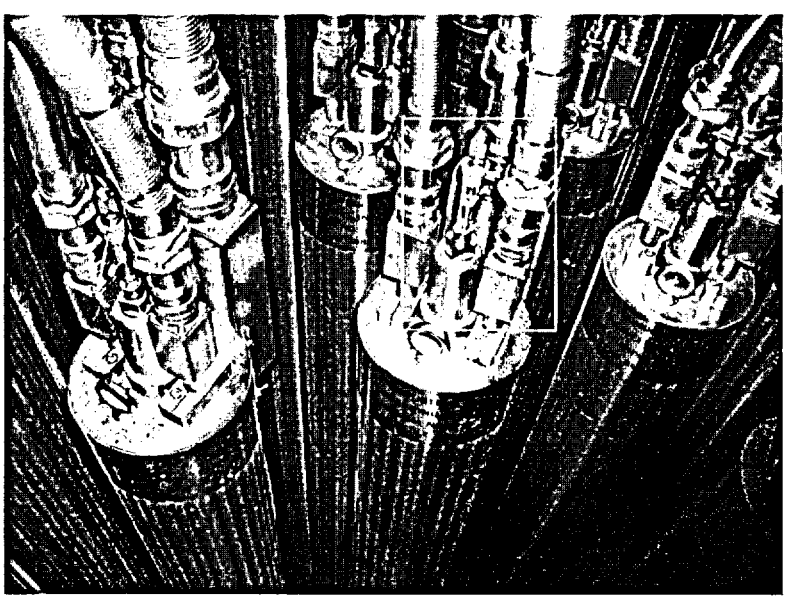
Unit 3 was returned to operation (Mode 1) on August 4, 2003.

Palo Verde Nuclear Generating Station Unit 3
Special Report No. 3-SR-2003-001
Boron Deposit Found at Control Element Drive Mechanism Vents 73
Docket No. STN 50-530

(CEDM Vent 73 As-Found Condition)

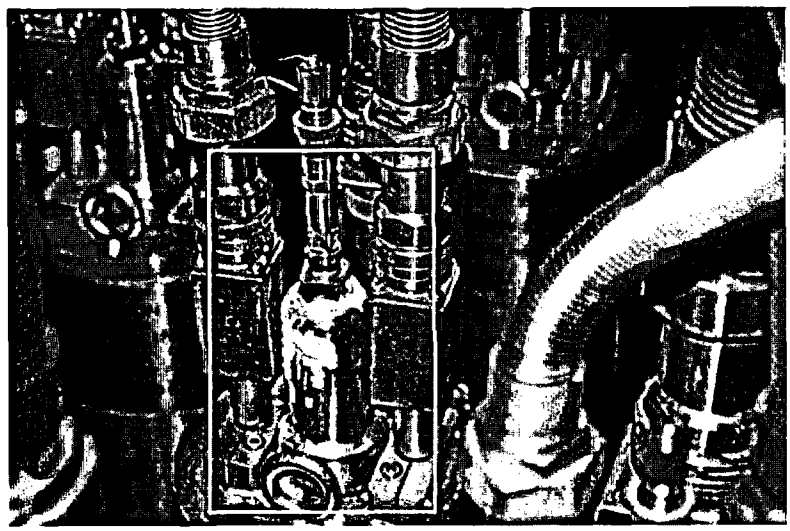


(CEDM Vent 73 As-Left Condition)



Palo Verde Nuclear Generating Station Unit 3
Special Report No. 3-SR-2003-004
Boron Deposit Found at Control Element Drive Mechanism Vents 51 and 73
Docket No. STN 50-530

(CEDM Vent 51 As-Found Condition)



(CEDM Vent 51 As-Left Condition)