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STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530
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SUBJECT: Forwards Table 1,comparison of PVNGS ECT & recent ABB-CE plant experience & Table 2,addl program requirements/ enhancements,per request as result of util presentation at 940822 meeting in Rockville,MD.

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WILLIAM L. STEWART
EXECUTIVE VICE PRESIDENT
NUCLEAR

102-03124-WLS/AKK/JRP
September 22, 1994

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington DC 20555

Dear Sirs:

Subject: **Palo Verde Nuclear Generating Station (PVNGS)**
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Eddy Current Program Review
File: 94-056-026

During a meeting between Arizona Public Service Company (APS) and the NRC in Rockville, MD on August 22, 1994, APS presented the status of the steam generator activities at PVNGS. In addition to the status, a discussion of recent ABB-CE plant experiences was presented, including the PVNGS program vs recent industry experiences. As a result of this presentation, the NRC requested, through their project manager, APS compare its program with that of recent ABB-CE plant experiences.

In accordance with this request, enclosed please find Table 1, Comparison of PVNGS Eddy Current Test (ECT) and Recent ABB-CE Plant Experience, and Table 2, Additional Program Requirements/Enhancements. In addition to the information provided in the enclosure, APS confirms that the ECT program used during the Unit 1 fourth refueling outage (U1R4) was adequate and the need to re-review the ECT data is not necessary based on recent ABB-CE plant experiences.

Should you have any further questions, please call Scott A. Bauer at (602) 393-5978.

Sincerely,

WLS/AKK/JRP/rv
Enclosure

cc: L. J. Callan
K. E. Perkins
K. E. Johnston
B. E. Holian

A001

Eddy Current Program Review

Several recent utility presentations have been provided to the NRC Staff regarding improvements/refinements in ECT equipment, scope, and techniques for detection of circumferential defects. In an effort to benchmark the ECT inspections at PVNGS during U1R4 in November 1993, APS has compared its U1R4 program plan with the noted 1994 ABB-CE plant improvements.

Table 1: Comparison of PVNGS ECT and Recent ABB-CE Plant Experience

Improvement/Refinement	Implemented At U1R4	Comments
100% MRPC inspection of hot leg tubesheet transition region	Yes	20% MRPC inspection of cold leg tubesheet transition also conducted in SG 1-2
Review of Pancake Coil Terrain Plot of each tube	Yes	APS ECT procedure requires analyst review of both terrain plot (C-scan) and lissajous presentation
Larger (0.115) pancake coil and low loss cable	Yes	Plant B reported improved signal to noise ratios and reduced impedance with this equipment improvement
Utilized Ultrasonics (UT) to assess MRPC results	Yes	APS demonstrated consistent results between MRPC and independent UT examinations (See report submitted to NRC via letter 102-02716 dated 11/2/93)
Training	Yes	Analysts trained and tested on both axial and circumferential indications. Training included lessons learned from Unit 2 tube pull of geometry indications. Training includes experience/lessons learned from ABB-CE plants.
Independent Primary and Secondary Analyses	Yes	APS utilizes independent analysis teams from CONAM and ABB-CE

Based on the critical nature of circumferential indications at ABB-CE plants, additional enhancements are employed/credited at Palo Verde. APS believes the following items, in Table 2, further indicate a high level of confidence in the ability to detect ID/OD circumferential cracks in PVNGS steam generators.

Table 2: Additional Program Requirements/Enhancements

Program Requirement/Enhancement	Comment
Filters not permitted for detection	Avoid possible signal suppression
In-situ Pressure Test	Verify structural integrity and conservatism of ECT exam
Tubesheet exam typically performed as push (rising) through transition region	Reduce/prevent lift off effect due to transition
Physical differences between PVNGS and other plants reduce effect of interfering signals	1. No evidence of tubesheet denting 2. No evidence of high copper levels in sludge
ID/OD circumferential/axial EDM notch calibration standard utilized as needed	Analyst assistance
Tracking of analyst performance	Comparison and feedback made on daily basis