UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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MEMORANDUM FOR: Thomas M. Novak, Assistant Director for Licensing, DL

THRU: George W. Knighton, Chief, Licensing Branch No. 3, DL

FROM: E. A. Licitra, Project Manager, Licensing Branch No. 3, DL

SUBJECT: UPDATED STATUS ON PALO VERDE RCS PUMPS AND RELATED MATTERS

On November 16, 1983, Chuck Ferguson, CE provided a telephone update on the status of the efforts for resolving the anomalies found at Palo Verde Unit 1 following hot functional testing. Also participating on the call were George Davis, CE and Bill Quinn, APS. The status is an update of the status provided at the October 12, 1983 meeting and is summarized as follows.

RCS Pumps

Testing of the full scale prototype pump with the original design (baseline) has been completed at the CE Newington facility. Data is currently being processed and evaluated. Preliminary indications are that higher strains and accelerations occur in the area that is 180° from the discharge side of the pump. Also, the strains and accelerations do increase with increased flow rates. After the pump was disassembled for design modifications, there were no broken or loose bolts. However, a crack was found in the diffuser section on the opposite side of the discharge line.

The prototype pump has been modified to incorporate the design changes (e.g., larger gap size, more and longer bolts, cut-back of the diffuser vanes and backfiling of the impeller vanes) and testing of the pump was scheduled to start by 11/17/83 (actually started 11/19/83).

Modifications to the Unit 1 pump internals is nearing completion and work on the Unit 2 parts is in progress. To expedite the work, surface machining, hole drilling and rough cutting are being performed at both Newington and in a shop in Cleveland. Final machining is being done at Newington. Shipment of the modified Unit 1 parts to the Palo Verde site should be completed by 11/28/83.

Thermal Sleeves

The four thermal sleeves from the cold legs have been removed from Unit 1 and the expansion groove has been ground out of three locations. Grinding of the last location is in progress.

Thermowells

The vortex shedding testing of the modified thermowell design at the Windsor facility has been completed. Data reduction is in progress. Additional testing of the design will be performed at the Newington pump facility while testing the modified pump design.

Modifications to Palo Verde Unit 1, to incorporate the modified thermowell design, are 80% complete.

CEA Shroud Assemblies

Hydraulic testing and most of the mechanical testing of the model shroud components have been completed and the data are currently being reduced. An additional model test to induce cracking is scheduled to start shortly. In addition, the Unit 1 shroud assembly had been shipped to Newington and testing of this was assembly to start shortly to compare results to those obtained via component testing.

After all the testing is complete, the results will be reviewed with APS to determine what should be done to correct the cracking problems encountered during hot functional testing at Unit 1. Identification of the mods is tentatively scheduled for around the end of November 1983.

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