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

June 30, 1987

Docket No.: 50-255

MEMORANDUM FOR: William G. Guldemond, Chief
Projects Branch No. 2
Division of Reactor Projects
Region III

FROM: Thomas V. Wambach, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects
Office of Nuclear Reactor Regulation

SUBJECT: PALISADES SHUTDOWN JUNE 20, 1987 - BOP Failures

On June 20, 1987, Palisades Plant was taken to Hot Standby because of a crack in the EHC tubing that resulted in the turbine valve control oil being sprayed into the turbine building. Following a manual trip of the turbine, there were several component failures in secondary-side equipment. The Steam Generator "A" Main Feedwater Regulating Valve failed to respond to high steam generator level, the Main Feedwater Pump P-1A high pressure trip and throttle valve failed to isolate, the steam inlet isolation valve to the moisture separator reheater failed to isolate, and one of the steam generator level indicators in the control room failed. The NRC staff was concerned whether these failures reflected adversely on the effectiveness of the material condition improvement program instituted after the May 19, 1986, reactor trip and used as a basis for restart in March 1987. As a result, the Project Manager was dispatched to assist in an on-site review of the circumstances of these failures.

The EHC system was included in the improvement program (Observation No.: TGS-01). Work was performed to stop internal leaks (MOOG valve and dump valves) and external leaks (flared fittings). In 1985, another EHC tube ruptured at the control block for another valve which had excessive leakage past the dump valves producing vibration. At that time, all the flared ends of tubing to Nos. 1 and 4 governor valves and of the high pressure tubing to all other valves were inspected using DPT. One tube showed a possible indication. That tubing and the one that failed were replaced. The tubing that failed on June 20, 1987, showed no crack indications. During operation since the maintenance outage, the EHC system was monitored by system walk-down at least once a shift. The failed tubing was replaced and the system has now been instrumented to allow detection and improved monitoring of vibrations during return to operation.

The Main Feedwater Regulating Valves were also included in the improvement program (Observation No. FWS-01). The failure of the valve was attributed to a blockage of a 3-5 mil nozzle in the pneumatic controls for the valve by foreign matter. During the maintenance outage prior to this restart, the air system was systematically blown out including these lines for these valves. The blow was checked for foreign material prior to completion. The licensee now believes that a carbon steel valve harness around a filter in the air

8707060501 870630
PDR ADOCK 05000255
S PDR

supply to this pneumatic control system is a source of continuing contamination to this system and that the filter itself is too coarse for the small nozzle in this application. They, therefore, have now replaced the carbon steel with copper and installed a five micron filter.

The remaining three failures were in components that did not fall under the purview of the Material Condition Task Force because there were no outstanding work orders on those components, there was no previous history of failures for the isolation valves, and the licensee had previously planned replacement of the type indicators used for the steam generator level over a four-year period based on an undesirable "fail-as-is" feature and anticipated maintenance problems with the servo-drive feature. In addition, the isolation valves for the steam to the main feedwater pump turbines and to the moisture separator reheater would not have fallen under the scope of the Task Force as being components important to reliable plant operation or safety related.

Based on the above considerations, the staff concluded that these failures would not invalidate the conclusion on plant readiness for operation. Follow-up on the implementation of the specific corrective measures for these failures is continuing by the resident inspectors.

Original signed by

Thomas V. Wambach, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

cc: E. Swanson
M. Virgilio

DISTRIBUTION:
Docket File
NRC & Local PDR
PD31 Rdg File
GHolahan
RIngram
TWambach

LA/PD31:DRSP	PM/PD31:DRSP	D/PD31:DRSP
RIngram	TWambach:lt	MVirgilio
/ /87	6/30/87	6/30/87

OFFICIAL RECORD COPY