Docket Nos. 50-528/529/530

50.55(e) Report

Arizona Public Service Company
P.O. BOX 21666 • PHOENIX, ARIZONA 85036

November 19, 1982
ANPP-22348-GHD/BSK

U. S. Nuclear Regulatory Commission
Region V
Creekside Oaks Office Park
1450 Maria Lane - Suite 210
Walnut Creek, California 94596-5368

Attention: Mr. D. M. Sternberg, Chief
Reactor Projects Branch 1

Subject: Final Report - DER 82-47
A 50.55(e) Report Relating to Pullman 24" Pipe Spools For Unit 3 Have Internal Surface Indications Violating Minimum Wall Thickness
File: 82-019-026
D.4.33.2

Reference: (A) Telephone Conversation between T. Young and G. Duckworth on August 31, 1982
(B) ANPP-21926, dated September 30, 1982 (Interim Report)

Dear Sir:

Attached is our final written report of the deficiency referenced above, which has been determined to be Not Reportable under the requirements of 10CFR50.55(e).

Very truly yours,

E. E. Van Brunt, Jr.
APS Vice President
Nuclear Projects Management
ANPP Project Director

EEVBJr/GHD:db

Enclosure

IE19

cc: See Attached Page 2

cc: Richard DeYoung, Director
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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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FINAL REPORT - DER 82-47
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNIT 3

I. DESCRIPTION OF DEFICIENCY

Well water used to cure concrete in the area, and general construction contamination entered the uncompleted 24" safety injection system line in Unit 3 through a torn tape covering on the end of a horizontal section of the line. Nonconformance Report (NCR) PA-4102 was initiated to clean out the contamination, and the line was flushed out per the flushing manual. During the cleaning of the pipe, a leak was discovered in Weld W-005 on adjacent Line SI-424. An internal visual examination of the lines was performed and three (3) corroded areas were discovered: One in the heat-affected-zone (HAZ) of field Weld W-005; one in the HAZ of vendor Weld D; and one at the counterbore adjacent to vendor weld B. NCR PA-4345 was initiated to disposition these indications. A Bechtel Materials and Quality Services (M&QS) representative visually examined the three (3) indications and observed that they were corrosion pits, milky in color, and generally with surface openings slightly smaller than the cavities. The pits were all approximately 0.3" to 0.4" deep, 0.25" to 1.0" long, and 0.25" wide. An additional 0.1" pit was observed in the HAZ of Weld W-005 about 5" from the larger pit. No other corrosion was observed. The approximate time the contaminant was in the pipe was twenty-two (22) months. This is based on the concrete pour in that area in June, 1980, and the discovery of the contamination in April, 1982.

II. ANALYSIS OF SAFETY IMPLICATION

Had this condition gone uncorrected, a small amount of leakage of refueling tank water or containment recirculation sump water (post-LOCA) could have occurred in one or more of the HAZ's following a safety injection actuation signal or a containment spray actuation signal. The piping pressure during safety injection or containment spray operation is low; initially the static head of the RWT above the suction piping or, later during the sump recirculation phase (post-LOCA), the containment pressure (49 psig) plus the static head of the recirculation sump above the suction piping. Gross piping failure or leak path size growth would not be expected to result in these cases, and the maximum leakage is estimated to be less than one (1) gpm. This small leakage would not impair the ability of the safety injection or containment spray system to perform their required safety functions, nor significantly increase off-site post-accident radiation doses. This condition is therefore evaluated as Not Reportable under the requirements of 10CFR50.55(e).

III. CORRECTIVE ACTION

After discussing the findings with an M&QS corrosion specialist, it is believed that the corrosion around the welds was caused by bacteria, and possibly chlorides in the well water used to cure the concrete. This relatively new discovery has been previously reported in numerous publications by DuPont Company. Once the bacterial contamination and corrosion have been removed, there should be no further corrosion in the future.

NCR PA-4345 will be dispositioned to inspect and repair the full possible extent of corrosion in Unit 3. All welds and adjacent counterbore which were exposed to this contamination shall be either radiographically examined or penetrant tested on the internal surface. Also, a visual exam of all base metal and valves (disassembled) exposed to this contamination shall be performed. If any corrosion is detected, it will be removed and repaired when minimum wall is violated.

This condition is limited to Unit 3. Construction Inspection Plans for Units 1 and 2 indicate that the corresponding identical piping systems passed internal cleanliness inspection requirements, thereby indicating that this condition is isolated to Unit 3.

A copy of this report will be transmitted to the Bechtel Construction Manager so that action will be initiated to assure that adequate protective covers are always installed on open piping to preclude any future contaminations.