

Arizona Public Service Company

RECEIVED  
NRC

1984 JUL 16 PM 2:17

July 12, 1984  
ANPP-29951-TDS/TRB

REGION VISE

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

Attention: Mr. T. W. Bishop, Director  
Division of Resident  
Reactor Projects and Engineering Programs

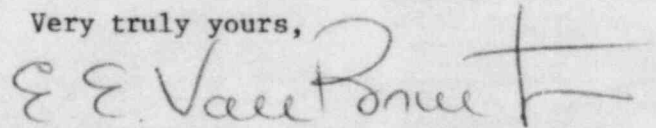
Subject: Final Report - DER 84-23  
A 50.55(e) Reportable Condition Relating To Auxiliary  
Feedwater Pump 'B' Discharge Valve To The Condensate Storage  
Tank.  
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between S. Long and T. Bradish on  
April 15, 1984  
B) ANPP-29493, dated May 14, 1984 (Interim Report)

Dear Sir:

Attached is our final written report of the Reportable Deficiency under  
10CFR50.55(e), referenced above.

Very truly yours,



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

EEVB/TRB:db  
Attachment

cc: See Page Two

8407260027 840712  
PDR ADOCK 05000528  
S PDR

IE-27

Mr. T. W. Bishop  
DER 84-23  
Page Two

cc: Richard DeYoung, Director  
Office of Inspection and Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

T. G. Woods, Jr.  
D. B. Karner  
W. E. Ide  
D. B. Fasnacht  
A. C. Rogers  
L. A. Souza  
D. E. Fowler  
T. D. Shriver  
C. N. Russo  
J. Vorees  
J. R. Bynum  
J. M. Allen  
J. A. Brand  
A. C. Gehr  
W. J. Stubblefield  
W. G. Bingham  
R. L. Patterson  
R. W. Welcher  
H. D. Foster  
D. R. Hawkinson  
L. E. Vorderbrueggen  
R. P. Zimmerman  
S. R. Frost  
J. Self  
D. Canady  
T. J. Bloom

Records Center  
Institute of Nuclear Power Operations  
1100 Circle 75 Parkway, Suite 1500  
Atlanta, GA 30339

FINAL REPORT - DER 84-23  
DEFICIENCY EVALUATION 50.55(e)  
ARIZONA PUBLIC SERVICE COMPANY (APS)  
PVNGS UNITS 1, 2, 3

I. Description of Deficiency

During field testing of Auxiliary Feedwater Pump (1AFB-P01) the yoke sleeve on the Train B Recirculation Valve (1AFB-V027) loosened and the following parts were damaged: yoke sleeve nut, two pinion shaft bearings and two keys. This globe valve is in the 6-inch line used for full-flow recirculation testing (see attached drawing), and the damage was due to the vibration of the 6-inch full-flow recirculation loop during pump full-flow test. The cause of this condition is attributed to the physical layout of the piping and the restrictive action of Flow Orifice 99. During normal operation, since this is only a test circuit, 1AFB-V027 is locked closed.

In addition to the full-flow recirculation line, there is also a 3-inch line used for mini-flow testing of the Auxiliary Feedwater Pumps. Since a full-flow surveillance test for the Auxiliary Feedwater Pumps is not an ASME Section IX requirement, a mini-flow test would be sufficient to meet system requirements. Hence, the 6-inch full-flow recirculation line could be deleted.

II. Analysis of Safety Implications

Valve 1AFB-V027 is open only during full flow test so its mode of failure would be leakage. It is possible that, during emergency plant operating conditions, this could result in an insufficient supply of water to the Steam Generator, thus impairing the safety function of the Auxiliary Feedwater Pump.

Based upon the above, this deficiency is evaluated as reportable under 10CFR50.55(e) since, if left uncorrected, it would constitute a significant safety hazard.

Also, this deficiency, which relates to the design of the 6-inch full-flow recirculation loop, is evaluated as reportable under 10CFR Part 21 since it is a defect in design which could cause a depletion in the water inventory to the Steam Generator thereby affecting the integrity of the Reactor Coolant boundary. This report satisfies all reporting requirements, since full-flow recirculation testing is not used in any other Bechtel-designed plants and this design condition is limited to the PVNGS.

Mr. T. W. Bishop  
AN2P-29951  
Page Two

### III. Corrective Action

- A. The monthly surveillance testing of the Auxiliary Feedwater Pumps required by the Station Technical Specifications will be performed using the existing 3-inch mini-flow lines. Full flow recirculating testing of the Auxiliary Feedwater System is not required by the Technical Specifications.
- B. Recirculation Valves (V018 & V027) in both Trains A and B of the Auxiliary Feedwater Pumps in Units 1, 2, and 3 will be deleted and spectacle flanges will be inserted in place of these valves to permanently block flow in the 6-inch recirculation loop. DCPs 1SM, 2SM, and 3SM-AF-062 Revision 1 have been issued to implement this change.
- C. SAR Change Notice No. 1165 and Design Criteria Manual revision request No. 869 have been initiated to document this change.



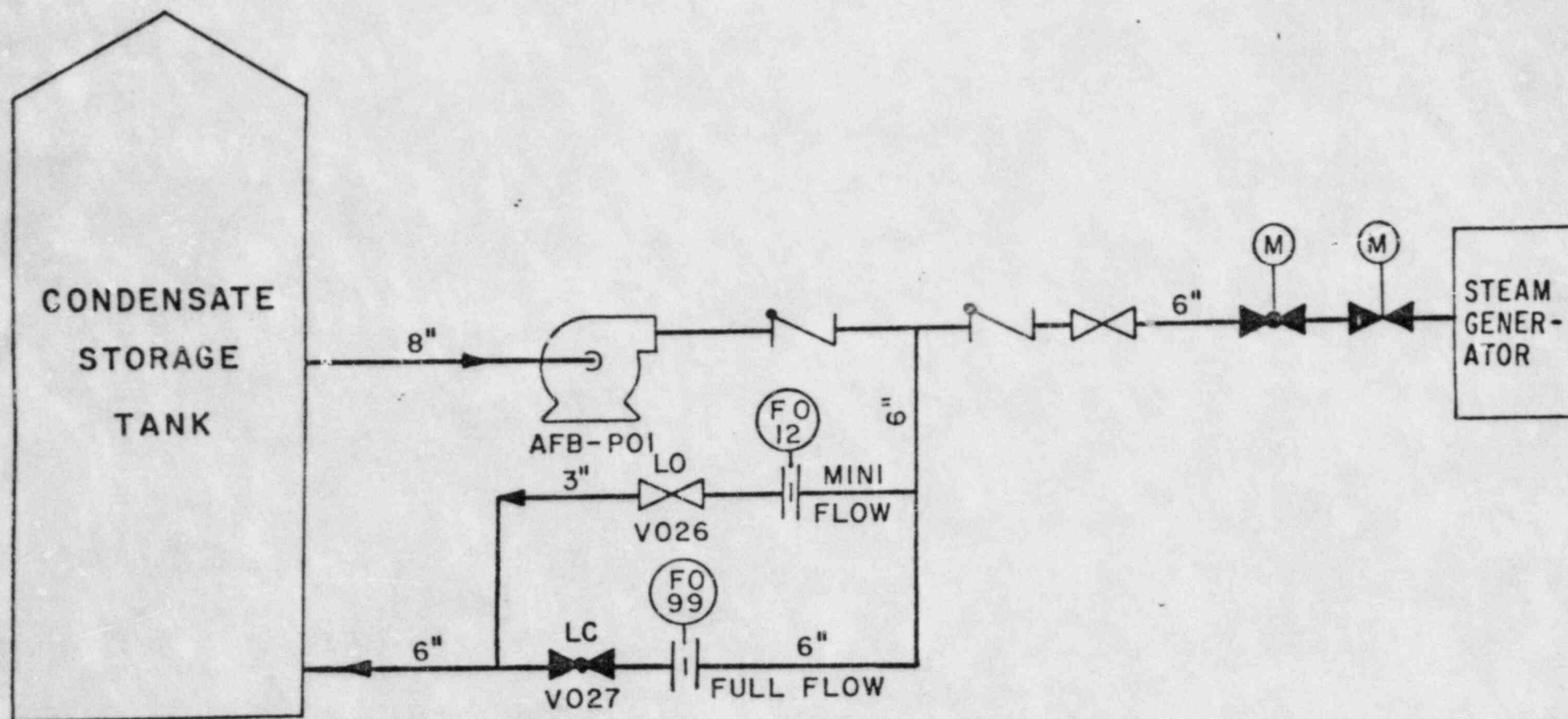


DIAGRAM OF RECIRCULATION TEST  
FOR THE  
AUXILIARY FEEDWATER PUMP