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December 5, 1983
ANPP-28349-BSK/KCP

U. S. Nuclear Regulatory Commission
Region V
Creekside 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

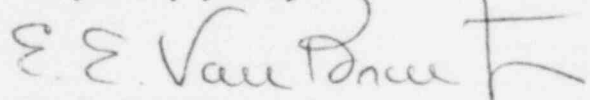
Subject: Final Report, Revision 1 - DER 83-41
A 50.55(e) Reportable Deficiency Relating to Flooding in the
Control Building 'B' Train Room
F' : 83-019-026; D.4.33.2

Reference:) Telephone Conversation between A. D'Angelo and R. Tucker
on June 29, 1983
(B) ANPP-27397, dated July 25, 1983 (Interim Report)
(C) ANPP-27864, dated September 21, 1983 (Final Report)

Dear Sir:

Enclosed is Revision One of the subject Deficiency Evaluation Report,
under the requirements of 10CFR50.55(e). This revision provides
additional information pertinent to the corrective action.

Very truly yours,



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

EEVB/KCP:sls
Attachment

cc: See Page Two

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Mr. T. W. Bishop
DER 83-41
Page Two

cc: Richard DeYoung, Director
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FINAL REPORT - REVISION ONE - DER 83-41
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNIT 1

I. DESCRIPTION OF DEFICIENCY

On June 3, 1983, at 1130 hours, it was discovered that the circulating water intake canal was overfilled. This condition resulted in flooding the control building 74' elevation. The "B" train room was flooded to a depth of 7 inches and the "A" train room to a depth of 1 inch. The path of the flow was an open conduit running between the intake area and the control building.

At the time of the incident the station was in the process of precore start-up testing. The initiating condition was caused by an abnormal system alignment aggravated by confusion during testing and miscommunication between the outside area and control room operators.

During the event, the intake canal water level continued to rise above the normal operating level to the maximum high water level where water then passed through an unsealed pipe penetration to flood the circulating water pump pit area.

An unused (awaiting cable pulling) below grade conduit runs between the circulating water pump pit and the corridor building. Since the corridor building is connected to the control building below grade, a leakage path existed to the area containing safety related equipment. Figure A provides an overall perspective of the flood path.

II. ANALYSIS OF SAFETY IMPLICATIONS

No safety related components or circuits are located in the vicinity of the circulating pump pit area and therefore flooding of the pit itself did not present a significant safety hazard.

The control building 74' elevation is divided into two safety related equipment areas, each provided with its own drainage system. The areas are divided by a non-watertight masonry wall with the door opening being provided with a 7-1/2" high curb. The curb functions, in the event of a flooding condition, to contain the water in one area such that the leak can be detected and isolated prior to flooding presenting a significant hazard to both equipment areas.

Flooding from outside areas had been evaluated from both a ground water and a fluid system standpoint; however, flooding from an outside source through a below grade conduit was not previously evaluated. Even though this specific incident occurred prior to cable pulling through the conduit, the same event could have occurred at some later time if no corrective action were taken.

This incident is evaluated as reportable by 10CFR50.55(e) since the passive flooding protection features provided for the control building 74' elevation were not adequate to preclude flooding of both trains of safety related equipment.

III. CORRECTIVE ACTION

1. The pipe penetrations between the circulating water intake canal and pump pit (shown in Elevation A on Dwg 13-C-CWS-285 Rev. 13, "Intake Structure Sections Sheet 2") will be sealed to limit the leakage rate into the pump pit to within the capacity of the pit drainage system. This will prevent flooding of the area in the event the canal is overfilled at some later time.
2. The seven below grade electrical duct bank penetrations of each power block facility (shown on Dwgs. 13-E-ZVU-006 Rev. 18, 007 Rev. 16, "Underground Electrical Duct Layout Plot Plan Sheets 1, 2 and 3") will be sealed to block the below grade moisture intrusion paths. Dwg. 13-E-AVU-014 Rev. 8, "Underground Electrical Installation Notes, Symbols and Details" will be revised to define where and how internal conduit passages are to be sealed.
3. Dwg. 13-A-ZJD-509 Rev. 8, "Control Building Concrete Block Plans at El. 74'-0, 100'-0 and Wall Elev." and 13-A-ZJD-510 Rev. 7, will be revised to require that all joints in the masonry wall separating the control building elevation 74' Train "A" and Train "B" equipment areas are to be sealed. Sealing will be required to a height of at least 7-1/2". This corresponds to the curb height in the door opening through the wall.
4. To preclude recurrence of a flooding condition in all three units, the following Design Change Packages will be implemented prior to commercial operation of each unit.

1SE-ZY-121
2CE-ZY-121
3CE-ZY-121

1SA-ZJ-105
2SA-ZJ-105
3CA-ZJ-105



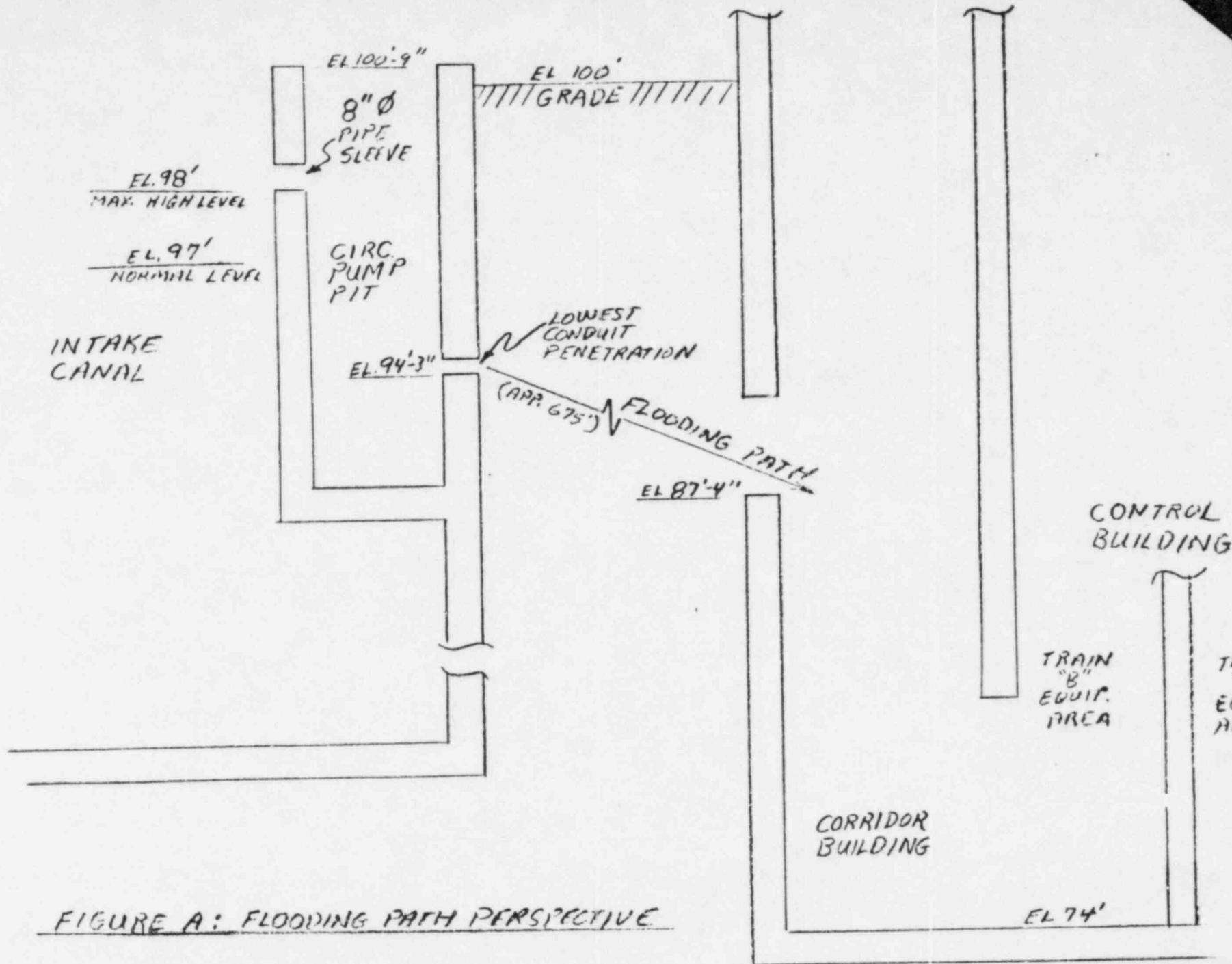


FIGURE A: FLOODING PATH PERSPECTIVE