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AUTH.NAME AUTHOR AFFILIATION
CURTIS,N.W. Pennsylvania Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
SCHWENCER,A. Licensing Branch 2

SUBJECT: Submits info on spraypond Piezometer 2 high groundwater reading.Piezometer 2 deletion will be included in next FSAR revision.

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AUG 0 3 1982

Mr. A. Schwencer, Chief
Licensing Branch No. 2
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
SPRAYPOND PIEZOMETER NUMBER 2 HIGH
GROUNDWATER READING
ER 100450 FILE 281-01C105 Docket Nos. 50-387
PLA-1189 50-388

Dear Mr. Schwencer:

Per discussions with your staff, the following is a report on the high water level in piezometer number 2.

Background

Seven (7) piezometers exist along the perimeter of the spray pond. According to FSAR response to Question 371.30, if the groundwater level reaches Elevation 663 ft. at any one of the piezometer locations, the following actions will be taken:

1) NRC will be notified of the high (EL 663') groundwater condition;

2) Steps will be taken to identify the cause of the rise in the water level;

3) An assessment of the safety impact of the occurrence will be performed;

4) Appropriate action(s) will be taken based on the findings of the safety impact analysis.

On July 14, 1982 the following groundwater levels at the piezometers was measured:

B001

Piezometer	Groundwater Elevation (Feet)
1	652½
2	677½
3	Dry at 643
4	629
5	Dry at 623
6	Dry at 625
1113	633½

Piezometer number 2 indicated a groundwater level higher than the allowable elevation stated above.

After investigating past readings, it was discovered that piezometer number 2 has always indicated a groundwater elevation greater than the allowable (EL. 663 ft.) The groundwater elevation ranged from 673.4 ft. to 681.1 ft.

Cause of High Groundwater Level

Prior to construction, the bedrock elevation at the southwest end of the spraypond was higher than the present elevation of the spraypond. The bedrock elevation for the remainder of the spraypond dropped off below the existing spraypond elevation. Therefore, the southwest portion of the spraypond is cut into bedrock and the remainder of the spraypond is supported on soil, as shown on FSAR Figures 2.5-17A (attached) and 2.5-30 (attached).

FSAR 2.5.1.2.6 states that the groundwater level appears to be controlled to a large extent by the top of the bedrock. Therefore, the groundwater level should be highest in the southwest portion of the spraypond, which is the case. FSAR 2.5.5.1.2 states "The undisturbed groundwater table elevation beneath the southwest end of the spray pond is about 670 ft. where it is in bedrock. At the east end of the pond, it is in soil at an elevation of 615 ft."

Assessment of Safety Impact

The piezometers are monitored to assure that liquefaction of the soil does not occur. As stated in FSAR 2.5.5.2.2.1, a groundwater elevation of 665 ft. was used in the liquefaction analysis.

Liquefaction relates only to granular soil. Piezometer number 2 cannot assess the possibility of liquefaction because it is located in an area where the spraypond is supported on bedrock.

All piezometers, except number 2, are located in soil and presently have a maximum groundwater level of 652½ feet (12½ feet below the maximum groundwater elevation used in the liquefaction analysis).

Therefore the high groundwater elevation indicated by piezometer number 2 will not affect the safe operations of the spray pond and in turn the Susquehanna Steam Electric Station. Piezometer Number 2 should not be used as an indication of the potential for liquefaction in the future.

The deletion of piezometer number 2 will be included in the next revision of the FSAR. A request to change the Technical Specifications will be made in the near future.

Very truly yours,

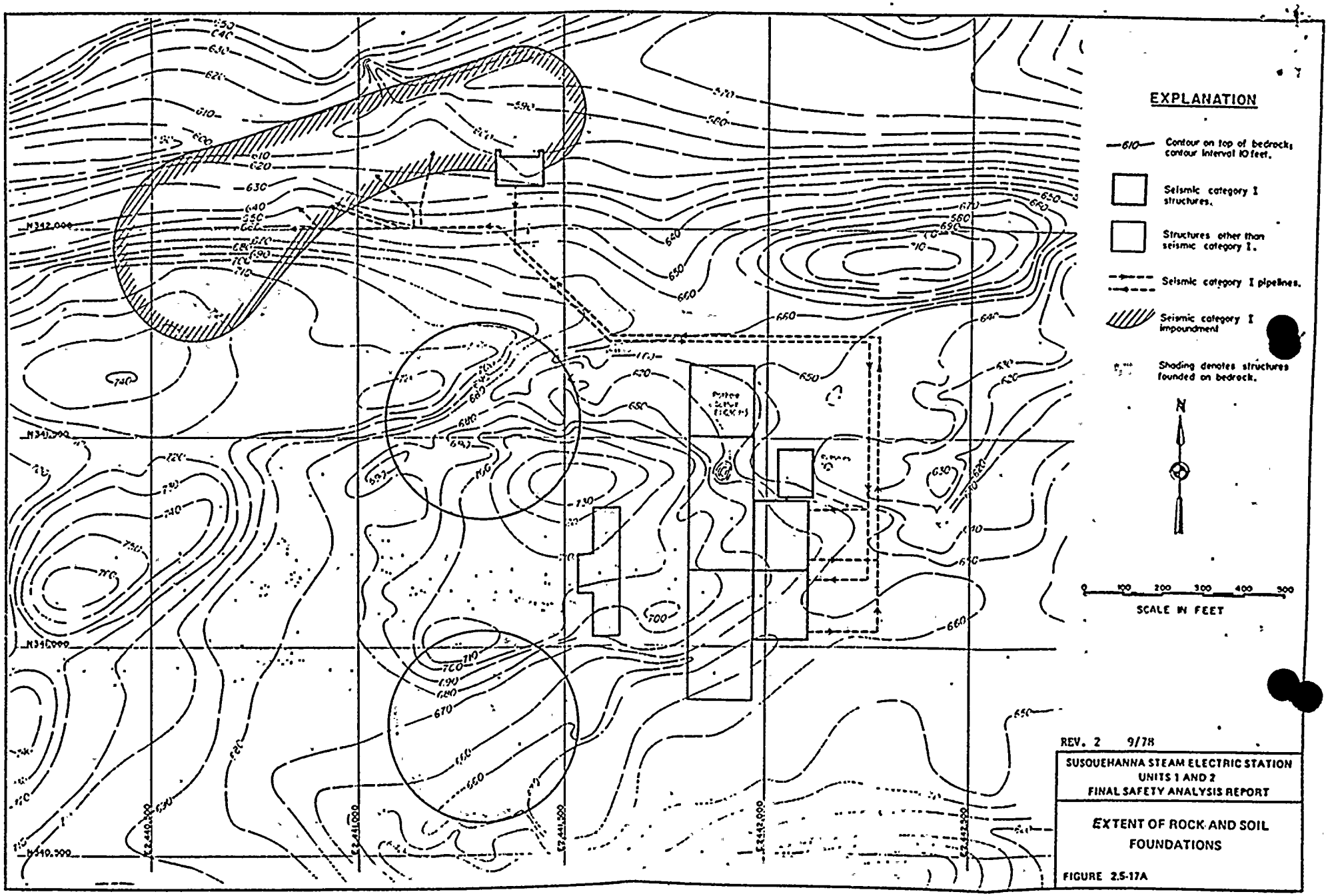
W. H. Sauberich for

N. W. Curtis
Vice President-Engineering & Construction-Nuclear

CTC/mks

Attachments

cc: R. L. Perch - NRC

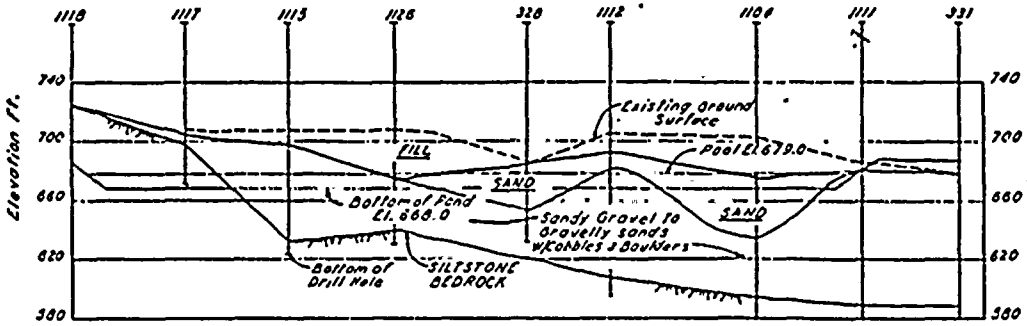


REV. 2 9/78

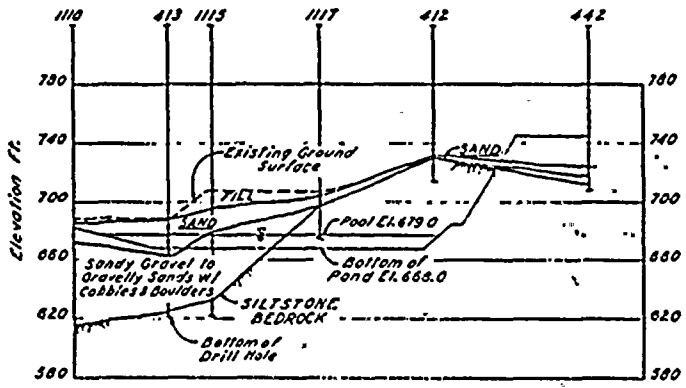
SUSQUEHANNA STEAM ELECTRIC STATION
UNITS 1 AND 2
FINAL SAFETY ANALYSIS REPORT

EXTENT OF ROCK AND SOIL FOUNDATIONS

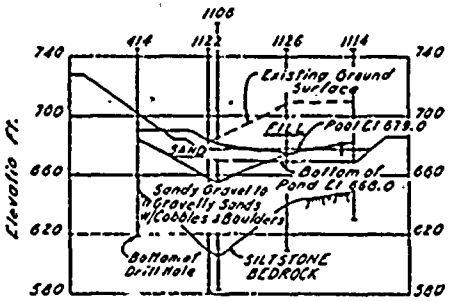
FIGURE 2.5-17A



SECTION A-A



SECTION B-B



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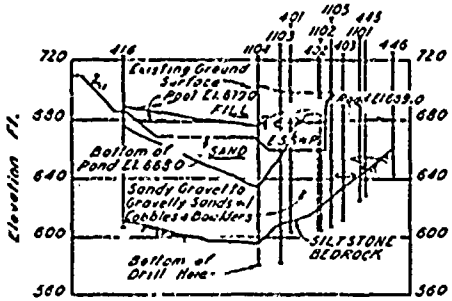

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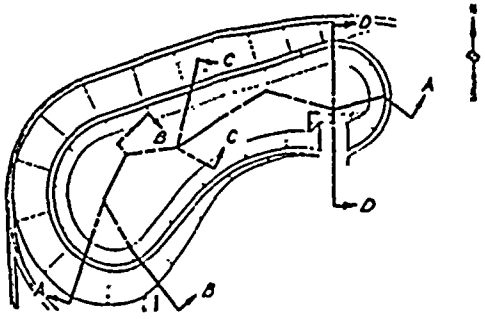
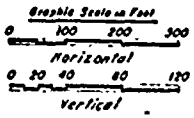


KEY PLAN



SUSQUEHANNA STEAM ELECTRIC STATION
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SPRAY POND - GENERALIZED CROSS-SECTIONS

FIGURE 2.5-30