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AUTH.NAME AUTHOR AFFILIATION
CURTIS,N.W. Pennsylvania Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
SELLS,D.E. Environmental Projects Branch 2

SUBJECT: Forwards responses to NRC 800108 questions re Pond Hill Reservoir.

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TWO NORTH NINTH STREET, ALLENTOWN, PA. 18101 PHONE: (215) 821-5151

NORMAN W. CURTIS
Vice President-Engineering & Construction
821-5381

JAN 1 8 1980

Mr. Donald E. Sells, Acting Chief
Environmental Projects Branch 2
Division of Site Safety and Environmental Analysis
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
POND HILL RESERVOIR INFORMATION REQUEST
ER 100450 PLA-442 FILE 991-2

DOCKET NOS. 50-387
AND 50-388

Dear Mr. Sells:

Attached are responses to questions asked by Mr. Singh Bajwa in a phone conversation on January 8, 1980.

Very truly yours,

N. W. Curtis
Project Director-Susquehanna

/jm
Attachments

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Question

1. Will PL use the best engineering practices in construction of the new pumphouse and screens? Will the area within the flood plain be restored to original grade?

Response

1. All construction activities for the project will be in accordance with generally accepted professional engineering standards. A sediment and erosion control plan which must be approved by Pennsylvania Department of Environmental Resources, will be prepared and followed. Excavations within the flood plain will be restored to original grade and appropriate ground cover established.

Question

2. Will there still be a conservation outlet? Has its location been changed from the original plan?

Response

2. A conservation outlet will be incorporated into the project design. It will be located approximately as shown in our original project application, and is anticipated to have the same operating characteristics as the originally proposed outlet.

Question

3. Will the pumphouse be off the flood plain and does PL own the property where it will be located?

Response

3. The proposed pumphouse will be located off both the Susquehanna River and Pond Hill Creek flood plains. PP&L does not presently own this land but intends to purchase the land necessary for the facility.

Question

4. During low flows in the river (less than Q7-10) how close will the slotted pipe be to the surface? Will it cause any problems to navigation?

Response

4. During low flow conditions (Q7-10) in the Susquehanna River, there will be approximately 2 feet of water above the crown of the screens. Based on our experience with a similar intake for our Montour Plant on the West Branch of the Susquehanna River at Watsontown, this should not pose any navigation problems. Appropriate channel markers will be installed to mark the obstruction.

Question

5. Provide additional information on location and construction of the new road and pipeline down to the pumphouse, if available.

Response

5. As indicated in our December 17, 1979 response, the proposed access road will be constructed on the south side of Pond Hill Creek. The road and the pipeline will be built in the same corridor. This route is shown as Alternative B on Plate A-1 which was part of our response. A copy of the Plate is attached. Details of this road will be determined during final design.

Question

6. Hydrometeorological Report 51 (1978) (HR51) is now used by NRC rather than Technical Paper 40 (1951) (TP40) in determining the PMP. HR51 gives a higher PMP for this area than TP40. NRC does not use any drainage area adjustment factors for the PMP in determining the PMF for Class I structures. A longer duration PMP (12, 24 or 48 hr. as opposed to 6 hr. used) may produce higher reservior elevations. Please comment.

Response

6. U.S. Weather Bureau Technical Paper No. 40 (T.P. 40) (1951) was used to determine the probable maximum precipitation (PMP) because, at the time this work was performed Hydrometeorological Report 5, (1978) had not been published. A review of current Hydrometeorological Reports indicates that HR 40 (1965) (Probable Maximum Precipitation Susquehanna River Drainage above Harrisburg, PA) provides specific detailed information on the project area. For this reason, HR 40 will be used for future calculations of PMP for the project. This report was the basis of PMP calculations presented in the SSES-FSAR.

The use of a 20% reduction in the PMP when used in determining the PMF for drainage basins of less than 10 sq. miles is consistent with current Corps of Engineers practice, and will continue to be used in future analysis of this project.

While we believe the 6 hour PMF is critical for spillway design, we will investigate longer duration PMPs during final design. If a longer duration storm does prove to be critical, it is expected that any increase in flood storage volume necessary to prevent overtopping can be accommodated either by a slight decrease in the normal water storage elevation, or by minor modifications in either project operation (such as making releases thru the inlet-outlet structure during extreme rainfalls) or project design. The method of handling any additional flood volume will be evaluated during final design.

Question

7. A recurrent flood based on a rainfall of 40% of the PMP is used by NRC. Based on HR51, this produces a higher recurrent flood than used for Pond Hill. The recurrent flood occuring two days prior to the PMF may yield higher reservoir levels than if it occurs after the PMF. Please comment.

Response

7. We will also evaluate, during final design, the effect on reservoir operation of the recurrent storm occurring prior to the PMF. A recurrent rainfall equal to 40% of the PMP when based on the PMP value obtained from HR 40 is only slightly higher than the value previously submitted.

1/17/80

RPW:DEB
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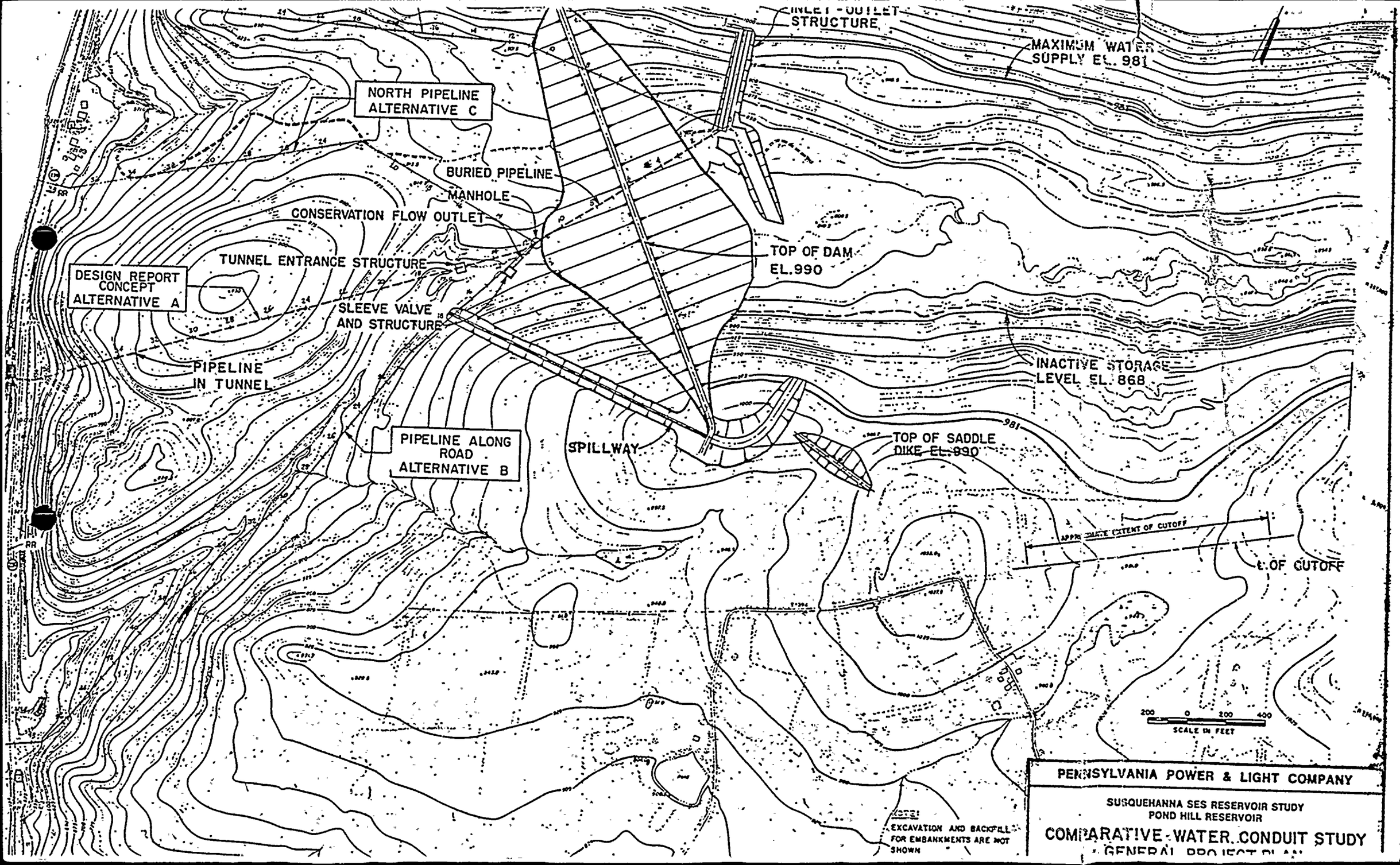
INLET - OUTLET STRUCTURE
MAXIMUM WATER SUPPLY EL. 981
NORTH PIPELINE ALTERNATIVE C
BURIED PIPELINE
MANHOLE
CONSERVATION FLOW OUTLET
TUNNEL ENTRANCE STRUCTURE
DESIGN REPORT CONCEPT ALTERNATIVE A
SLEEVE VALVE AND STRUCTURE
PIPELINE IN TUNNEL
TOP OF DAM EL.990
INACTIVE STORAGE LEVEL EL. 868
PIPELINE ALONG ROAD ALTERNATIVE B
SPILLWAY
TOP OF SADDLE DIKE EL.990
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