

PHILADELPHIA ELECTRIC COMPANY

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50-277
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October 29, 1982

Mr. Thomas A. Ippolito
Operating Reactors Branch 3
Division of Reactor Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C., 20555

Dear Mr. Ippolito:

Enclosed is a copy of the Thermal Mapping Report 82-5
covering the isotherm surveys for September 30, 1982

The information has been completed in compliance with the
reporting requirements set forth in Appendix B to the Peach Bottom
Operating License Environmental Technical Specification and Bases.

Yours truly,

W. B. Willsey

W. B. Willsey
Director
Environmental Affairs

W:htr
Enclosure

cc: Mr. R. C. Haynes, Administrator
Region I (w/attachment)
U.S. Nuclear Regulatory Commission
631 Park Ave.
King of Prussia, Pa. 19406

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Peach Bottom Atomic Power Station

Thermal Mapping Report No. 82-5

For

September 30, 1982

For

Thermal Monitoring Requirements

Units No. 2 and 3

Philadelphia Electric Company

SUMMARY

On September 30, 1982 less than three cooling towers were in operation and river flows were less than 15,000 cfs. Therefore thermal plume mapping was performed.

The following table lists conditions on September 30, 1982:

Date	:	September 30, 1982
River Flow (cfs)	:	9,700 cfs
Heat Discharged (BTU/hr)	:	8.11×10^9
# of C.W. Pumps Operating:		6
# of Cooling Towers	:	2-3
Temp Discharge Canal °F ⁽¹⁾	:	79.7°F
Temp State Line °F ⁽²⁾	:	74.5°F
Temp Holtwood Dam °F	:	67.6°F
ΔT Plant = [(STA 23 - STA 1 - TCL)] 1.8		
= [(23.6 - 20.6 - 2.8)] 1.8		
= 36°F		

(1) Bulk temperature of water discharged to Conowingo Pond from discharge canal.

(2) Pennsylvania/Maryland State Line.

Note: Station 1 is located upstream of PBAPS and Station 23 is located at the state line.

TABLE
BOAT SURVEY INFORMATION

SURVEY DATE	9/30/82
TIME:	
Survey Start (EST)	0753
State Line (EST)	0912
+ Survey Finish (EST)	1040

HYDRAULIC DATA:

+ Pond Elevation Start (Ft.)	107.93
+ Pond Elevation Finish (Ft.)	107.68
Natural Flow (24 hour ave., CFS)	9,700
Conowingo Inflow (24 hrs. ave., CFS)	13,100
Conowingo Dam Draft (24 hr. ave., CFS)	11,100

PBAPS Power Output:

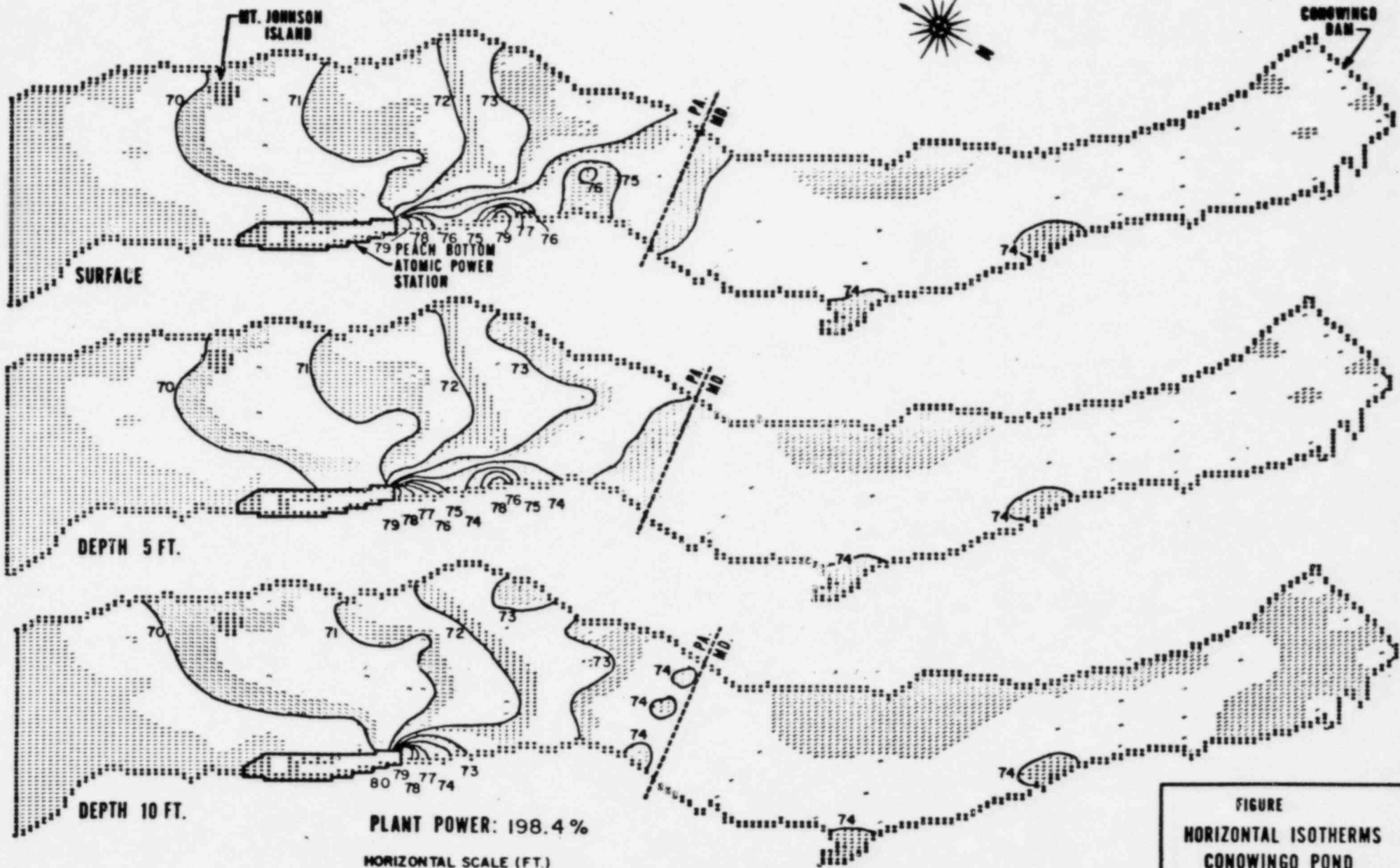
Unit 2: Thermal (MW)	3282.9
Electrical (MW)	1047.5
Unit 3: Thermal (MW)	3240.9
Electrical (MW)	1042.0

METEOROLOGICAL DATA:

Time (EST)	0819
Air Temperature (*F)	62
Relative Humidity (%)	66
Precipitation (24 hour total, in)	0
Wind Speed (mph)	6
Cloud Over	overcast
Location:	Boat Station
Wind Direction	70°

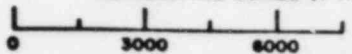
WATER TEMPERATURE (SURVEY)

PBAPS Discharge	*C, (*F)	26.5 (79.7)
Intake	*C, (*F)	20.5 (68.9)
Δ T	*C, (*F)	6.0 (10.8)
Pond Surface Max.	*C, (*F)	25.1 (77.2)
Min.	*C, (*F)	20.5 (68.9)
Pond Bottom Max.	*C, (*F)	23.5 (74.3)
Min.	*C, (*F)	20.4 (68.7)
No. of C.W. Pumps Operating		6
No. of Cooling Towers Operating		2-3



PLANT POWER: 198.4%

HORIZONTAL SCALE (FT.)



ΔT AT STATE LINE = .36°F

FIGURE
HORIZONTAL ISOTHERMS
CONOWINGO POND
DATE 9-30-82
TIME 0753-1040