

Peach Bottom Atomic Power Station

Thermal Mapping Report No. 80-5

For

August 16, 1980

For

Thermal Monitoring Requirements

Units No. 2 and 3

Philadelphia Electric Company

60-09100 435

Summary

On August 16 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 August 16, 1980.

Date	:	8/16/80
River Flow (cfs)	:	9400
Heat Discharged (BTU/hr)	:	4.0×10^8
# of C.W. Pumps Operating	:	4
# of Cooling Towers	:	0
Temp Discharge Canal °F(1)	:	82.0
Temp State Line °F(2)	:	82.6
Temp Holtwood Dam °F	:	83.1

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

(2) Pennsylvania/Maryland State Line.

TABLE

BOAT SURVEY INFORMATION

SURVEY DATE 8/16/80

TIME:

Survey Start (EST)	0620
State Line (EST)	0735
Survey Finish (EST)	0905

HYDRAULIC DATA:

Pond Elevation Start (Ft.)	107.28
Pond Elevation Finish (Ft.)	107.30
Natural Flow (24 hour ave., CFS)	9400
Conowingo Inflow (24 hrs. ave., CFS)	6675
Conowingo Dam Draft (24 hr. ave., CFS)	1400

PBAPS Power Output:

Unit 2: Thermal (MW)	0
Electrical (MW)	-14.97
Unit 3: Thermal (MW)	0
Electrical (MW)	-14.97

METEOROLOGICAL DATA:

Time (EST)	0605-0620
Air Temperature (°F)	70
Relative Humidity (%)	50
Precipitation (24 hour total, in)	0.04
Wind Speed (mph)	10
Cloud Over	Clear
Location:	Boat Station # 7
Wind Direction	NW

WATER TEMPERATURE (SURVEY)

PBAPS Discharge	°C. (°F)	27.8 (82.0)
Intake	°C. (°F)	27.4 (81.3)
ΔT	°C. (°F)	0.4 (0.7)
Pond Surface Max.	°C. (°F)	28.9 (84.0)
Min.	°C. (°F)	26.7 (80.1)
Pond Bottom Max.	°C. (°F)	28.9 (84.0)
Min.	°C. (°F)	26.5 (79.7)

No. of C.W. Pumps Operating

4

No. of Cooling Towers Operating

0

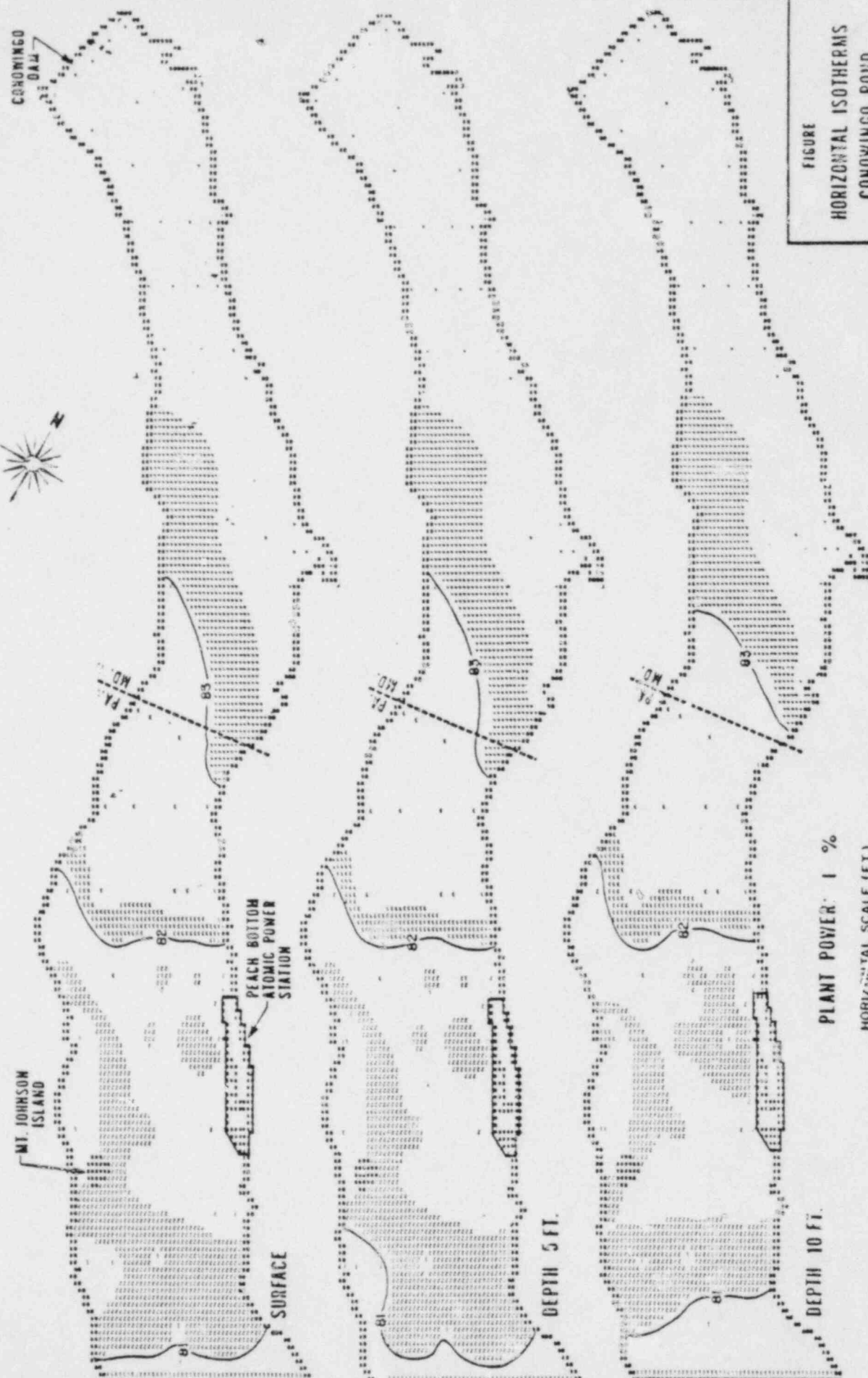


FIGURE
 HORIZONTAL ISOTHERMS
 CONOWINGO POND
 DATE 08-16-80
 TIME 0620-0905

PLANT POWER: 1 %
 HORIZONTAL SCALE (FT)
 0 3000 6000
 ΔT AT STATE LINE = 0°F