

Peach Bottom Atomic Power Station

Thermal Mapping Report No. 81-6

For

October 26, 1981

For

Thermal Monitoring Requirements

Units No. 2 and 3

Philadelphia Electric Company

SUMMARY

On October 26, 1981, 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 October 26:

Date	:	10/26/81
River Flow (cfs)	:	11,100
Heat Discharged (BTU/hr)	:	4.57×10^9
# of C.W. Pumps Operating:		5
# of Cooling Towers	:	2
Temp Discharge Canal °F ⁽¹⁾	:	61.0
Temp State Line °F ⁽²⁾	:	61.9
Temp Holtwood Dam °F	:	52.3

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

(2) Pennsylvania/Maryland State Line.

TABLE
BOAT SURVEY INFORMATION

SURVEY DATE	10/26/81
TIME:	
Survey Start (EST)	0915
State Line (EST)	1017
Survey Finish (EST)	1205
HYDRAULIC DATA:	
Pond Elevation Start (Ft.)	108.70
Pond Elevation Finish (Ft.)	108.67
Natural Flow (24 hour ave., CFS)	11,100
Conowingo Inflow (24 hrs. ave., CFS)	11,225
Conowingo Dam Draft (24 hr. ave., CFS)	11,650
PBAPS Power Output:	
Unit 2: Thermal (MW)	3212.2
Electrical (MW)	1015.8
Unit 3: Thermal (MW)	1165.2
Electrical (MW)	309.9
METEOROLOGICAL DATA:	
Time (EST)	0900-0915
Air Temperature (°F)	53
Relative Humidity (%)	82
Precipitation (24 hour total, in)	0.5
Wind Speed (mph)	0
Cloud Over	100%
Location:	Boat Station #7
Wind Direction	0
WATER TEMPERATURE (SURVEY)	
PBAPS Discharge °C, (°F)	16.1(61.0)
Intake °C, (°F)	12.3(54.0)
Δ T °C, (°F)	3.8 (6.9)
Pond Surface Max. °C, (°F)	17.2(63.0)
Min. °C, (°F)	11.9(53.4)
Pond Bottom Max. °C, (°F)	18.6(65.5)
Min. °C, (°F)	11.8(53.2)
No. of C.W. Pumps Operating	5
No. of Cooling Towers Operating	2

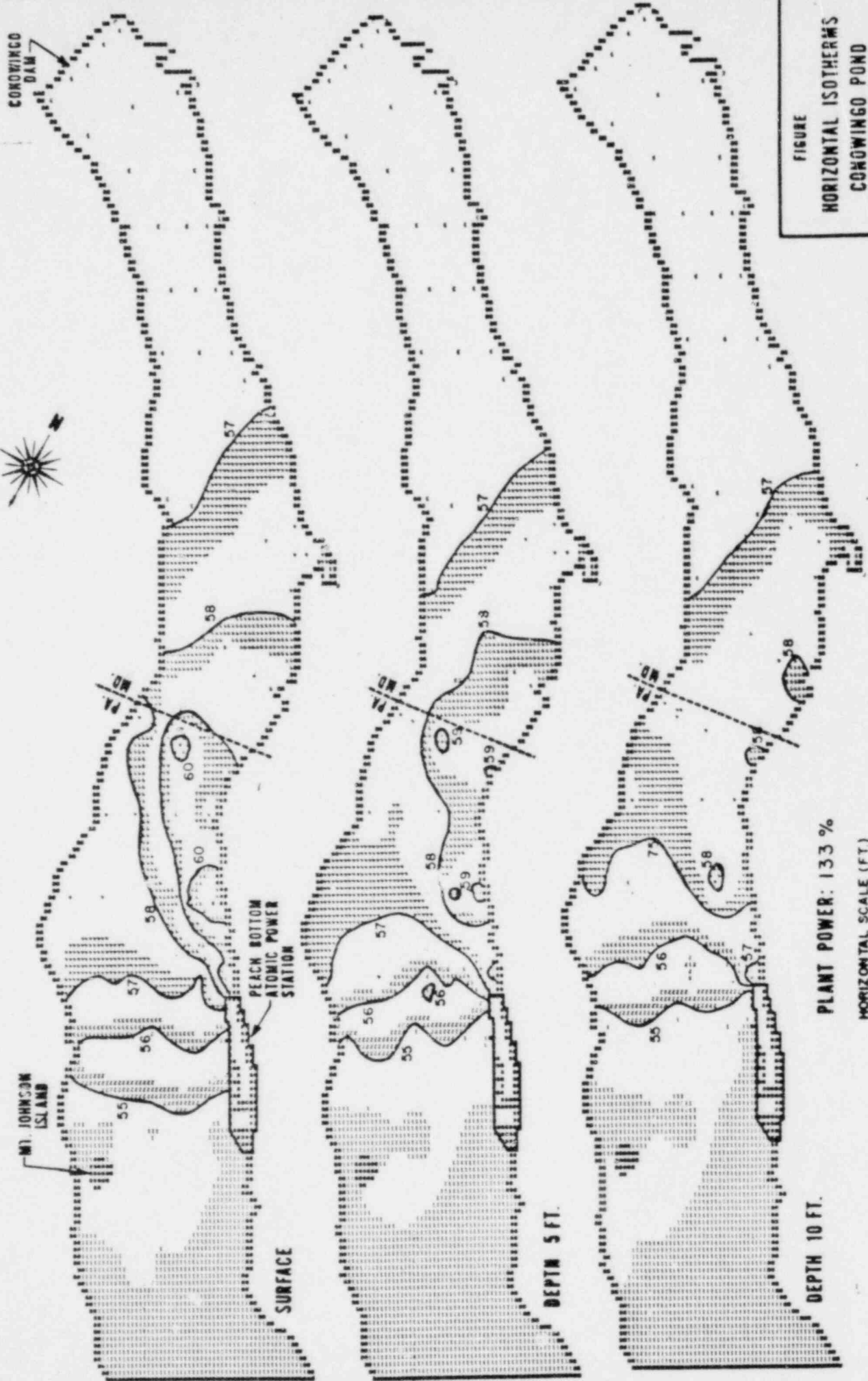
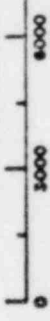


FIGURE
HORIZONTAL ISOTHERMS
CONOWINGO POND
DATE 10-26-81
TIME 0915-1205

PLANT POWER: 133 %

HORIZONTAL SCALE (FT)



AT STATE LINE - 4.5 °F

DEPTH 10 FT.