ILLINOIS POLLUTION CONTROL BOARD
October 19, 1978

ILLINOIS POWER COMPANY,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 78-12
	)	
ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
Respondent.	)	

MR. SHELDON A. ZABEL, SCHIFF, HARDIN & WAITE, APPEARED ON BEHALF OF PETITIONER;
RUSSELL R. EGGERT, ASSISTANT ATTORNEY GENERAL, APPEARED ON BEHALF OF THE AGENCY.

OPINION AND ORDER OF THE BOARD (by Mr. Dumelle):

Petitioner has requested a determination, pursuant to Rule 203(i)(5) of Chapter 3: Water Pollution, that the thermal discharge from its Havana Station has not caused and cannot reasonably be expected to cause significant ecological damage to the Illinois River. A hearing was held on August 16, 1978 at the Board's Chicago office.

Part VI of the Board's Procedural Rules sets out the requirements for this proceeding. Exhibit 1 contains the information required by Rule 602. The Agency recommended that the Board accept Exhibit 1 and require Petitioner to submit a supplemental report after two years of operating data can be obtained on Petitioner's recently expanded facility.

In a response to the Agency's Recommendation, counsel for Petitioner indicated that the new generating unit will utilize a mechanical draft cooling tower. Blowdown from the tower will be discharged to an ash lagoon which will discharge to the Illinois River at a point 2300 feet downstream from the present thermal discharge. Under full-load conditions the ash lagoon will be receiving 42 million BTU's/hr. Since this amount of heat rejection is significantly less than the 0.5 billion BTU's/hr. requirement for the study of new sources under Rule 203(i)(5), no further study will be required. For the purposes of this proceeding, only the pre-existing thermal discharge will be considered.

The Havana Station is an oil-fired electric generating facility located on the Illinois River at River Mile 118.4 near Havana,

Illinois. The plant, built between 1947-1950, consists of five units with capacities of 53 MW each. A once through cooling system is employed using single pass condensers. In the period 1972-1976, capacity ranged from 14.1-28.8%. This range is expected to continue with no estimated retirement date for any unit. Shutdowns have ranged 18-99 hours in duration.

Under typical operating conditions, the flow of cooling water is 569 cfs with a maximum capacity of 757.5 cfs. The temperature rise of the cooling water at maximum capacity is 11.4°F. Temperature of the discharge ranges from 48.2 to 93.2°F.

The thermal plume from the Havana Station was determined to be shoreline attached by a process of elimination and field observations. Downstream temperature distribution in the plume was determined by modelling. Worst case conditions were projected by associating low flow with maximum generating capacity and actual ambient river temperature. The days with the lowest recorded river flow (early autumn) did not coincide with highest river temperature (late summer). Even under worst case conditions, the 5°F isotherm is within the standard for mixing zones in Rule 201 of Chapter 3: Water Pollution. An extreme worst case prediction combining low flow with maximum capacity and temperature produced similar results.

Minimal changes in aquatic biota have been observed in the immediate vicinity of the discharge for typical, and worst case and extreme worst case conditions and may be expected to continue to occur. These changes are not necessarily due to the thermal discharge alone. In any event no significant ecological damage to the Illinois River has been observed, and none is expected. No impact on animal life or recreation was observed or anticipated.

This Opinion constitutes the Board's finding of fact and conclusions of law in this matter.

ORDER

Petitioner has demonstrated that the thermal discharge from its Havana Station has not caused and cannot be reasonably expected to cause significant ecological damage to the Illinois River.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 19th day of October, 1978 by a vote of 4-0.

Christan L. Moffett

Christan L. Moffett, Clerk
Illinois Pollution Control Board