

ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

May 2, 1986

Docket No. 50-461

Director of Nuclear Reactor Regulation
Attention: Dr. W. R. Butler, Director
BWR Project Directorate No. 4
Division of BWR Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Clinton Power Station
Elimination of Ultimate Heat Sink (UHS) Temperature
Monitoring Requirements from Technical Specifications

Dear Dr. Butler:

The purpose of this letter is to request elimination of the UHS temperature monitoring requirements from Clinton Technical Specification 3/4.7.1.2. The justification for this request, as discussed and agreed upon with Messrs. J. Ridgely and R. Wescott of your Staff, is provided below.

Analysis of the thermal effects of Clinton Power Station (CPS) operation on its 5000 acre cooling lake have been provided in the CPS Environmental Report and evaluated in NUREG-0854, "Final Environmental Statement Related to the Operation of Clinton Power Station, Unit No. 1." In the evaluation results presented in the latter document, the following conclusions were developed:

1. The peak discharge temperature of circulating water into the Lake Clinton discharge canal for one unit operation at 100% load and under worst case meteorological conditions is 110.4°F. It should be noted, however, that such a temperature cannot be maintained since the environmental discharge permit limits the maximum water temperature as it enters the lake to 108.3°F for a daily average.
2. The maximum water temperature discharge from the Lake Clinton Dam to Salt Creek is 90.1°F. This point of discharge occurs about two-thirds of the way along the flow path of cooling water around the lake.
3. Based upon the calculated 21.2°F temperature rise of circulating water as it passes through the plant, the maximum inlet water temperature at the UHS, located at the plant circulating water inlet, is 89.2°F (110.4°F-21.2°F).


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Thus, based upon the above information, the maximum bulk temperature of Lake Clinton in the area of the UHS is not expected to exceed 90°F under worst case conditions. Monitoring of the lake temperature in this area to assure a temperature below 95°F is not necessary and such requirements can be deleted from the Technical Specifications.

During the above mentioned conversations with your Staff on the lake temperature, analysis of the CPS ultimate heat sink temperature profile under post-LOCA and loss of offsite power conditions was also discussed. This analysis was performed using historical meteorological conditions that result in the highest UHS temperature. Per the Staff's request, Attachment #1 is provided to present the meteorological data for July 24, 1964. These were the meteorological conditions present during the maximum temperature response of the UHS. The analysis showed that the plant intake water temperature did not exceed 95°F under post-LOCA conditions.

It is believed the above information provides adequate basis for our position. Please contact me if you require any additional information.

Sincerely yours,


F. A. Spangenberg
Manager - Licensing
and Safety

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Attachment

cc: B. L. Siegel, NRC Clinton Licensing Project Manager
NRC Resident Office
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety

Ultimate Heat Sink Temperature Analysis
Weather Data for July 24, 1964

Hour	Dry Bulb Temp. (°F)	Dew Point (°F)	Solar Radiation* (BTU/hr.ft ²)	Cloud Cover**	Wind Speed (Knots)	Atm. Pressure (in Hg)
12 mid	80	73	123.6	0	6.0	29.3
3 am	76	73	120.2	0	4.0	29.3
6 am	75	72	248.4	0	2.0	29.3
9 am	87	76	385.4	0	7.0	29.3
12 noon	93	73	383.5	3	8.0	29.3
3 pm	95	74	260.8	4	11.0	29.2
6 pm	91	74	134.8	0	6.0	29.2
9 pm	83	74	129.1	2	5.0	29.2

* Includes atmospheric short and long wave radiation

** 0 = clear
10 = totally cloudy