

**LaSalle Environmental Audit
Response to Request for Additional Information**

Index #: 008 **RAI #:** MA-08 **Category:** Meteorology, Air Quality & Noise

Statement of Question:

In support of NRC's greenhouse gas, climate change, and cumulative impacts analysis, address the following:

- a. Has a river warming trend been observed in the Illinois River during the period of plant operations? Please provide any study(s), relevant information, or historical and current data that covers the last 20 years that support the conclusions reached (e.g., mean annual, seasonal, and/or or monthly water temperature trend for the period of record).
- b. Has a warming trend been observed in the cooling pond during the period of plant operations? Please provide any study(s), relevant information, or historical and current data that covers the last 20 years that support the conclusions reached (e.g., maximum observed water temperature values and date of occurrence, mean annual, seasonal, and/or or monthly water temperature trend for the period of record).

Response:

- a. LSCS Units 1 and 2 began operating in January and October, 1984, respectively. LSCS has not maintained a long-term computer database of river water temperatures. The nearest downstream U.S. Geological Survey (USGS) gaging station (05543500) on the Illinois River with temperature data is at Marseilles, Illinois, approximately 4.5 km (3 mi) downstream of the LaSalle discharge (blowdown). The following table identifies the temperature data collected by the USGS at that gaging station. Given that only field measurements of temperature are available, and given that these measurements have been taken irregularly as part of monthly grab samples over the 44-year period of record, the available USGS river temperature data set does not lend itself to any temperature trend analysis.

**Description of Illinois River Temperature Data
Available from USGS Gaging Station 05543500 (Marseilles, Illinois)**

Type of data	Time period	Notes
Single (presumably surface) temperature; recorded monthly, at a minimum	1970 - present	Measured in the field in association with monthly grab samples. In total, 1153 water temperature measurements have been taken since October 1970, approximately 26 per year.
"water temperature"	water years 1975 -1981	USGS 2013 water-data report for station 05543500 (Illinois River at Marseilles) lists "WATER TEMPERATURE: water years 1975-1981" under Surface Water Records, however, the historic data available at the USGS website do not include water temperature.

- b. LSCS circulating water inlet temperatures are logged in the plant operating data system. However, maintenance of the data in a computerized database did not begin until 1998. Attachment 1 to this RAI response provides a graph of the daily circulating water temperatures collected at 00:00 each day. No increasing trend in these temperatures is visually apparent.

List of Attachments:

1. Graph of LaSalle Circulating Water Inlet Temperature Data from Oct 1998 to Dec 2014.

RAI # MA-08
ATTACHMENT 1

