



Illinois Power Company  
Clinton Power Station  
P.O. Box 678  
Clinton, IL 61727  
Tel 217 935-8881

U-602128  
L30-93(04-28)LP  
1A. 130

April 28, 1993

Docket No. 50-461

Document Control Desk  
Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Clinton Power Station  
Annual Environmental Operating Report

Dear Sir:

In accordance with Appendix B to the Clinton Power Station (CPS) Technical Specifications, Clinton Power Station's Environmental Protection Plan (EPP), Illinois Power (IP) is submitting the Annual Environmental Operating Report (Attachment 1) to the Nuclear Regulatory Commission. This report covers the period January 1, 1992, through December 31, 1992.

Sincerely yours,

F. A. Spangenberg, III  
Manager, Licensing and  
Safety

WTD/nls

Attachments

cc: NRC Clinton Licensing Project Manager  
NRC Resident Office  
Regional Administrator, Region III, USNRC

040090

9305060038 921231  
PDR ADOCK 05000461  
R PDR

TE25  
11

### Annual Environmental Operating Report

The Environmental Protection Plan (EPP) for Clinton Power Station (CPS) requires that the Annual Environmental Operating Report include:

- (A) A list of EPP noncompliances and the corrective actions taken to remedy them.
- (B) A list of all changes in station design or operation, tests, and experiments made in accordance with subsection 3.1 of the EPP which involved a potentially significant unreviewed environmental issue.
- (C) A list of non-routine reports submitted in accordance with subsection 5.4.2 of the EPP.
- (D) Any results and/or assessments for the environmental monitoring programs described in subsection 2.0 of the EPP which were submitted to the respective regulatory agencies during the annual reporting period.

The following provides Illinois Power's response to each listed item.

- A. A list of EPP noncompliances and the corrective actions taken to remedy them:
  - 1. On January 7, 1992, a decision was made to monitor the Total Residual Chlorine (TRC) during disinfection of the Service Water (WS) and Shutdown Service Water (SX) systems (outfalls 002 and 007 respectively) at the seal well (an intermediate point for outfall 002) using the amperometric titration (the Environmental Protection Agency [EPA] approved method) analytical method. The reason for this decision was based on a calculation performed which indicated that the seal well would provide a representative sample for both systems. Therefore, any chlorine exiting outfall 007 would not exceed the NPDES limits at outfall 002 because of the volume of the piping and the resulting uptake in the effluent stream.

To monitor the concentration of TRC in the SX system during the disinfection treatment, process control points were established. The intent of measuring the TRC levels in the SX system was to ensure an effective treatment had occurred. Since CPS only had the capability of measuring TRC levels at one point using the amperometric titration method and it was thought

that the sample taken at the seal well would be representative of both systems, the chlorine chemets (not an EPA approved analytical method) method was used to determine the effectiveness of the treatment in the SX system.

During the treatment, levels of TRC in the seal well compared to the levels found in the process control sampling points in the SX system created doubt that the seal well was a representative sample point for the SX system. Since the chlorine chemets method was being used to measure the TRC level in the SX system, the results could not be used to ensure compliance with the NPDES limits. Therefore, since a non-approved method of analysis had been used, an unmonitored release occurred at outfall 007.

#### Corrective Action

The analysis of samples from the process control point for the final outfall of the SX system is now performed using EPA approved methodologies.

2. On February 5, 1992, during cold weather operation, the warming line valve (1CW004) was open in order to maintain the appropriate water temperature at the greenhouse. The traveling screens were running and dumping into the collection basket. The collection basket became fouled with debris which prevented it from draining properly. This resulted in several hundred fish overflowing from the collection basket into Clinton Lake. This was a violation of special condition 5 of the NPDES permit which prohibits the release of materials backwashed from the traveling screens into the lake.

#### Corrective Action

After the incident was discovered, the traveling screens were stopped and the debris was removed from the collection basket. IP personnel retrieved the fish which had overflowed into the lake. Hourly inspections to detect the build up of debris in the collection basket are now performed continuously when the traveling screens are required to constantly be in use.

3. On February 19, 1992, during Microbiologically Induced Corrosion (MIC) chemical treatment of the Division III SX system, total residual oxidant (TRO) at the final sample point reached a level of concentration of 0.15

mg/l. The NPDES permit requires that TRO concentration be limited to 0.05 mg/l at the final sample point. At the time the noncompliance was investigated, the cause was determined to be that the injection rate of the sodium hypochlorite was set too high. The injection rate had been set high due to problems with the stroke of the chemical injection pump. However, on November 30, 1992, during treatment of Division I of the SX system, TRO concentrations were again found to exceed the limits allowed by the NPDES permit.

#### Corrective Action

As a result of the February noncompliance, the injection rate was decreased and the subsequent sample indicated a TRO residual of 0.05 mg/l. Due to such factors as lake water quality, temperature, and the condition of the heat exchangers, the exact amount of sodium hypochlorite required cannot be determined prior to the start of the treatment process. A 'baseline' value for injection of sodium hypochlorite was calculated to prevent future occurrences. The baseline established as a result of the February event was used during the November treatment of the Division I system of SX. Since the established baseline failed to prevent a recurrence of the noncompliance, the procedure which dictates the chemical treatment of the SX System (CPS 2800.37, "SX Chemical Treatment") was revised. The revised procedure directs the test engineers to initiate SX treatments with a small amount of sodium hypochlorite and continually monitor the TRO levels as the rate of injection is increased. This change to the procedure allows for greater control of the test by the test engineers.

4. Grab samples taken from outfall 005 (Diesel Generator Oil and Water Separator) on April 1 and April 30, 1992, contained oil and grease concentrations of 22 and 25 ppm respectively. A grab sample taken on November 10, 1992, from outfall 005 had oil and grease concentrations of 30 ppm.

#### Corrective Action

Subsequent to the April noncompliances, an investigation was initiated to identify the cause. As of November 10, 1992, the date of the third noncompliance involving the Diesel Generator Oil and Water Separator, site engineers had not yet been able to determine the cause. The inability to determine the cause may be attributed to the infrequency of the events and the relatively low level of concentrations of oil and grease. There has been no common

denominator identified relative to activities being performed on the three dates of the noncompliances. Also, although the engineering department is still investigating the potential that the hardware is the cause of the noncompliances, to date, no definitive reason has been identified to explain why the oil and grease concentrations were elevated on the dates in question. However, as a result of the November noncompliance, oil spill booms have been maintained downstream of the separator as an additional precaution. The investigation to permanently resolve this issue will continue until it is successfully completed.

5. During the month of December, 1992, three noncompliances of the NPDES permit were identified. The noncompliances were the result of exceeding the Biological Oxygen Demand (BOD) in the discharge of the sewage treatment plant (outfall 002a). A sample taken on December 2, 1992, had a BOD value of 110 parts per million (ppm) and a sample taken on December 11, 1992, had a BOD value of 70 ppm. The BOD limit for this sample is 60 ppm. The third noncompliance was the resulting 30-day average of the BOD limit, which was 54 ppm. The limit for the 30-day average is 30 ppm.

#### Corrective Action

CPS operates one of two sewage treatment plants at any time. One plant is an extended aeration plant while the second plant is a contact stabilization plant. At the time of the noncompliance, the latter plant was in service. As in all sewage treatment plants, the contact stabilization plant relies primarily upon the action of microbes in the plant to treat wastes. During cold weather, however, the process does not work as efficiently as it would during warm weather because the microbes are slowed in their action and the contact time of the microbes with the liquor is decreased. This decreased contact time greatly lowers the efficiency of the plant to treat wastes. At the time of the noncompliances, the contact stabilization plant was being operated while the extended aeration plant was in the final stages of being refurbished. Completion of the refurbishment of the extended aeration plant was expedited and the contact stabilization plant was removed from service. In the future, planned outages of the contact stabilization plant will not take place during periods of cold weather

- B. A list of all changes in station design or operation, tests, and experiments made in accordance with



subsection 3.1 of the EPP which involved a potentially significant unreviewed environmental issue:

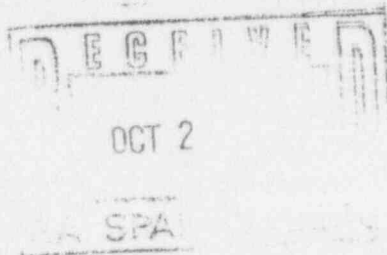
There were no changes in station design or operation, tests, and experiments made in accordance with subsection 3.1 of the EPP which involved a potentially significant unreviewed environmental issue.

- C. A list of non-routine reports to be submitted in accordance with subsection 5.4.2 of the EPP:

There were no non-routine reports submitted in accordance with subsection 5.4.3 of the EPP.

- D. Any results and/or assessments for the environmental monitoring programs described in subsection 2.0 of the EPP which were submitted to the respective regulatory agencies during the annual reporting period:

The Clinton Lake sedimentation survey for 1992 is provided as attachment 2. The survey measured the 1992 depths of Clinton Lake near the Parnell Road bridge and the DeWitt County Highway 15 bridge.



Manager, Licensing & Safety  
V-920

October 19, 1992

RE: Clinton Lake Sedimentation Survey

Attached are the results of the Clinton Lake sedimentation survey for 1992. Annual surveys are required by the CPS Environmental Report - Operating Licensing Stage (Section 6.1.6.8.7). This survey was conducted by EAD-Biological Programs personnel according to Procedure EAD-FB8-1, Rev. 1 on October 15, 1992. Attachments include survey forms and sonar graph recordings conducted along north-south transects adjacent to the Parnell Road Bridge and the DeWitt County Highway 15 Bridge. Two replicate recordings were determined at each bridge.

A handwritten signature in cursive script that reads 'Ron Willmore'.

Ron Willmore  
Supervisor  
Biological Programs

RLW/gw

Attachments

cc: Supervisor, Civil Structural, V-928B  
FBL File, T-33

Clinton Lake Sedimentation Survey Form

Location Dewitt Date 10-15-92

Height of Elevation Pin Above Water 35 IN

Depth of Fathometer Transducer Below Surface 8 IN.

Fathometer Settings

Elapsed Time of 1st Recording 1 MIN 5 Sec

Paper speed MAX

Elapsed Time of 2nd Recording 1 MIN 5 Sec

Sensitivity 6

Suppression OFF

Gray Line 6

Surface Clutter Suppression 2

Pulse Width 50

Lower Depth Limit 30 ft.

Comments:

Persons Conducting Survey:

M. S. Gallo

Ron Willmore



Clinton Lake Sedimentation Survey Form

Location Parnell Date 10-15-92

Height of Elevation Pin Above Water 31 in.

Depth of Fathometer Transducer Below Surface 8 in.

Fathometer Settings

Elapsed Time of 1st Recording 1 min 21 sec

Paper speed MAX

Elapsed Time of 2nd Recording 1 min 18 sec

Sensitivity 6

Suppression 0.5

Gray Line 6

Surface Clutter Suppression 2

Pulse Width 50

Lower Depth Limit 10 ft.

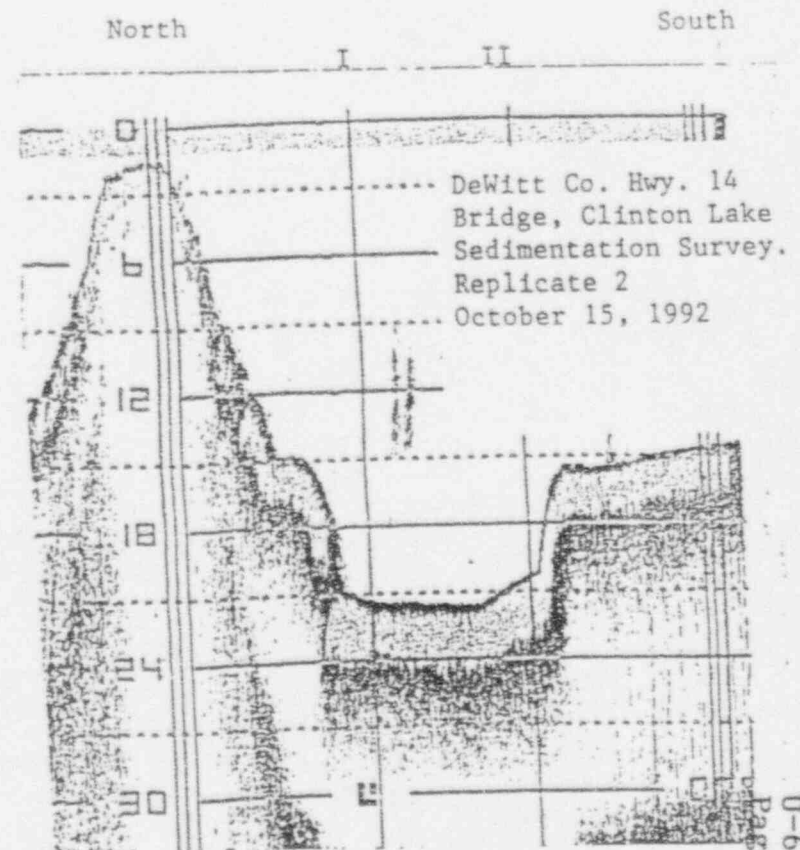
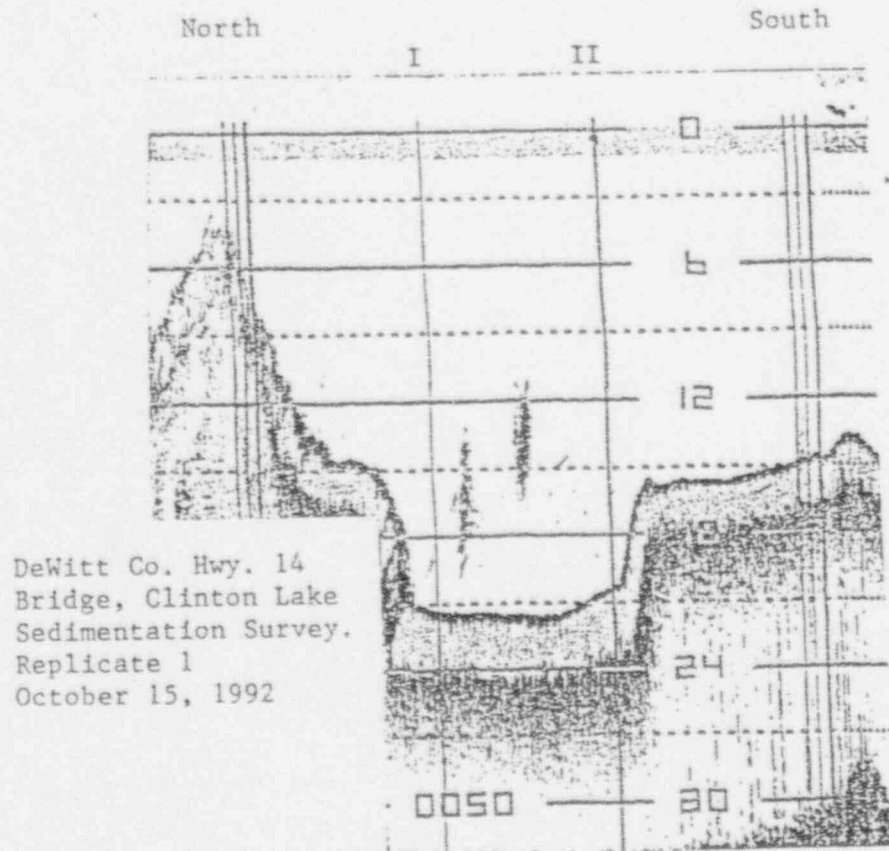
Comments:

100 % cloud cover  
Wind E-NE 0-5 mph  
1130 AM

Persons Conducting Survey:

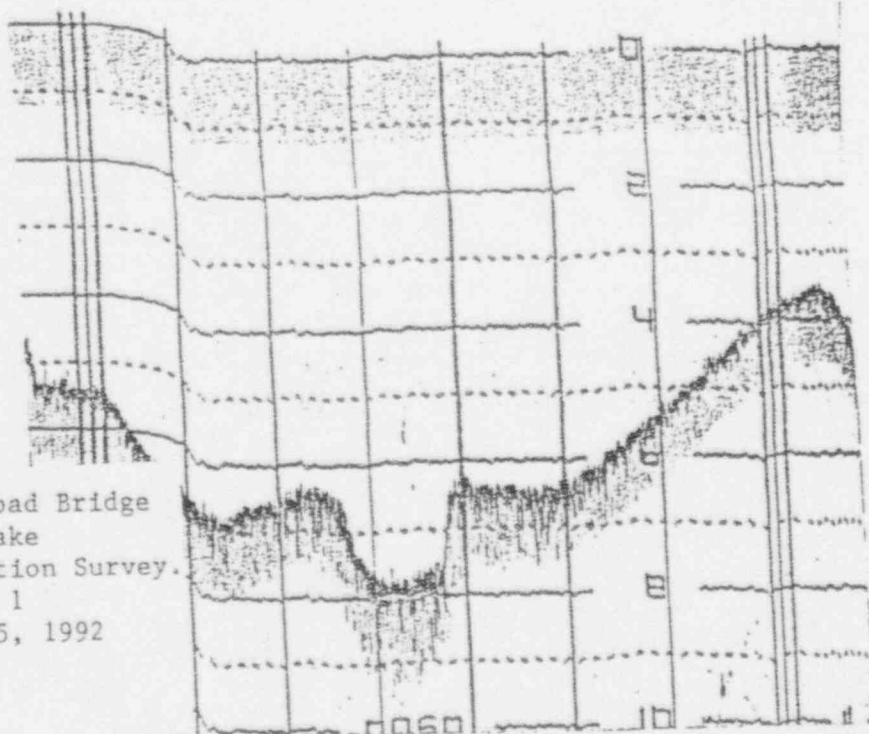
M. L. Fallo

Ron Williams



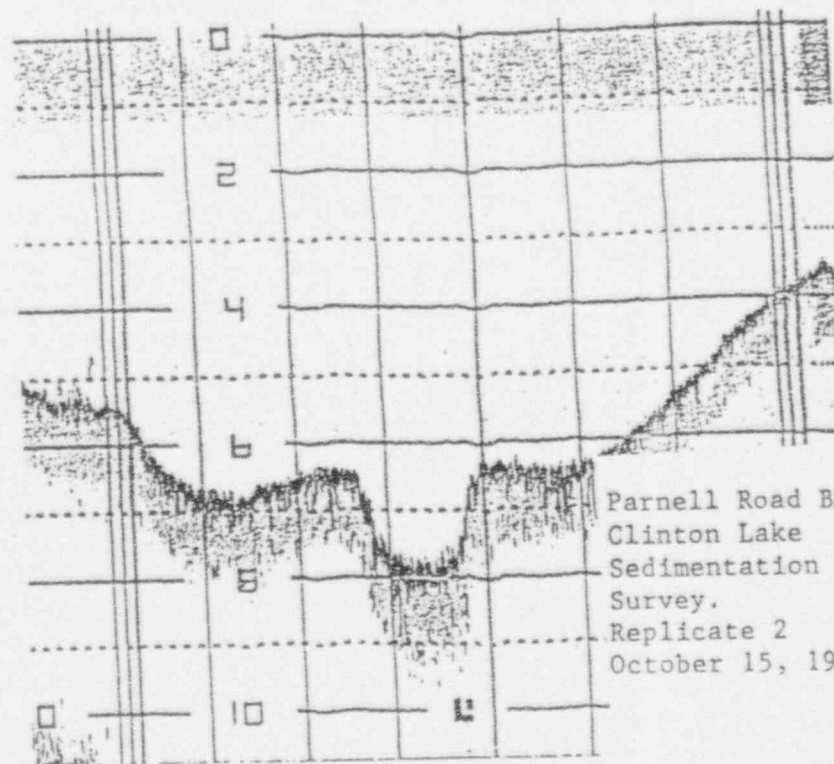
Clinton Lake Sedimentation Survey at DeWitt County Highway 14 Bridge on October 15, 1992.  
Triple vertical lines indicate north and south shorelines under the bridge.  
Single vertical lines indicate position of supporting piers. Piers are labeled by Roman numerals.  
Depth range was set at 0-30 feet.

North I II III IV V VI South



Parnell Road Bridge  
Clinton Lake  
Sedimentation Survey.  
Replicate 1  
October 15, 1992

North I II III IV V VI South



Parnell Road Bridge  
Clinton Lake  
Sedimentation Survey.  
Replicate 2  
October 15, 1992

Clinton Lake Sedimentation Survey at Parnell Road Bridge on October 15, 1992.  
Triple vertical lines indicate positions at north and south shorelines under the bridge.  
Single vertical lines indicate piling locations; pilings are labeled at top of graphs by Roman numerals.  
Depth range was set at 0-10 feet.