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January 2, 2003

ORIGINAL

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OFFICE OF THE SECRETARY
03 JAN -6 PM 3:37
FEDERAL ENERGY
REGULATORY COMMISSION

Office of the Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Subject: Monitoring Results of the 2002 Surveys of Water Quality Conditions at the Big Falls (FERC Project No. 2390) and Thornapple (FERC Project No. 2475) Hydro Projects.

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Dear Secretary:

Enclosed is an original and eight copies of the results of the water quality monitoring performed at the above-mentioned projects in 2002 as directed by the Federal Energy Regulatory Commission's (Commission) license orders. The license orders require Northern States Power Company – Wisconsin (d.b.a. Xcel Energy) to perform water quality sampling on the two flowages after ice-out, in mid-July, and mid-August to monitor long-term changes in water quality.

The results of the sampling indicate the water quality parameters sampled for were well within normal ranges for natural environments and were comparable to results from previous years. The sampling results were filed with the Wisconsin Department of Natural Resources (WDNR) on December 11, 2002 and they were allowed time to provide comments on the sampling results (see attached letter). The WDNR provided their comments in a January 2, 2003 e-mail (see attached e-mail).

If you have any questions in regards to the monitoring results or to this filing, please feel free to give me a call at (715) 839-2692 or Mr. Robert Olson of my staff at (715) 839-1353.

Very truly yours,

Lloyd Everhart
Administrator, Hydro Licensing

Attachment: Water quality monitoring results

c: Mr. Jeff Scheirer (Wisconsin DNR)

Water Quality Monitoring Results
Big Falls and Thornapple Flowages

Water Quality Sampling - Big Falls Flowage

Date: 5/13/02

Temperature: 50°F

Weather Conditions: Cloudy, light wind from NW

Depth of Bottom Sample: 6.5 m

Secchi Disk Reading: 4 feet

Dissolved Oxygen and Temperature Profile

Depth	Temperature (C)	Dissolved Oxygen (mg/L)
Surface	7.9	11.4
2	7.8	11.5
4	7.8	11.5
6	7.8	11.5
8	7.8	11.5
10	7.8	11.5
12	7.8	11.5
14	7.8	11.5
16	7.8	11.5
18	7.8	11.5
20	7.8	11.5
22	7.8	11.4
24	7.8	11.4
26	Bottom	Bottom
28		
30		
32		
34		
36		
38		
40		
42		
44		
46		

Remarks: * Sample location was moved slightly from previous years' sampling due to excessive trash accumulations on the boat restraining barriers. The sample was taken at the corner buoy from the west side of the dam.

- H:\excel5\bigfalls\wqsheets
- * Flows were ~8,000 cfs and there was a very noticeable current throughout the flowage.
 - * No navigational hazards were noted in the lower basin.
 - * Eagle nest was checked and no eagles were observed - nest was intact

Water Quality Sampling - Big Falls Flowage

Date: 7/24/03
 Temperature: 70°F
 Weather Conditions: Partly Cloudy
 Depth of Bottom Sample: 11.5 M
 Secchi Disk Reading: 5 ft.

Dissolved Oxygen and Temperature Profile

Depth	Temperature (C)	Dissolved Oxygen (mg/L)
Surface	24.8	7.3
2	24.8	7.3
4	24.7	7.2
6	24.6	7.2
8	24.5	7.2
10	24.4	7.1
12	24.4	7.1
14	24.4	7.1
16	24.4	7.1
18	24.4	7.1
20	24.4	7.1
22	24.3	7.1
24	24.3	7.1
26	24.3	7.1
28	24.3	7.1
30	24.3	7.1
32	24.3	7.0
34	24.3	7.0
36	24.3	7.0
38	Bottom	Bottom
40		
42		
44		
46		

Remarks: * Water samples were collected at the second buoy from the round ball on the west side of the boat restraining barrier
 * Lower segment of the Big Falls Flowage was checked for navigational hazards and none were observed.

H:\excel5\bigfalls\wqsheet * The eagle nest was checked and one adult eagle was observed in a tree next to the nest tree. No young eagles were observed and it is unclear if the the nest site was used this year.

Water Quality Sampling - Big Falls Flowage

Date: 8/28/02
 Temperature: 75°F
 Weather Conditions: Mostly Cloudy
 Depth of Bottom Sample: 37 ft.
 Secchi Disk Reading: 4.75 ft.

Dissolved Oxygen and Temperature Profile

Depth	Temperature (C)	Dissolved Oxygen (mg/l)
Surface	23.8	7.4
2	23.3	7.5
4	23.1	7.5
6	23.1	7.5
8	23.0	7.5
10	22.9	7.4
12	22.8	7.3
14	22.8	7.3
16	22.8	7.3
18	22.8	7.3
20	22.8	7.3
22	22.8	7.3
24	22.7	7.3
26	22.7	7.2
28	22.6	7.1
30	22.4	6.9
32	22.3	6.9
34	22.3	6.8
36	22.2	6.6
38	22.1	6.1
40	Bottom	-
42		
44		
46		

Remarks: * Water samples were collected at the second buoy from the round ball on the west side of the boat restraining barrier;
 * single nest was observed - no eagles
 * lower portion of the flowage was surveyed for migrational herds and none were found
 * performed purple loosestrife survey - no loosestrife present

Water Quality Sampling - Thornapple Flowage

Date: 5/13/02
 Temperature: 52°F, w. wind
 Weather Conditions: Cloudy, chance of rain
 Depth of Bottom Sample: 5.5 m
 Secchi Disk Reading: 4 ft.

Dissolved Oxygen and Temperature Profile

Depth	Temperature	Dissolved Oxygen (mg/L)
Surface	8.7	12.6
2	8.6	12.6
4	8.6	12.6
6	8.6	12.6
8	8.6	12.6
10	8.6	12.6
12	8.6	12.6
14	8.6	12.6
16	8.6	12.6
18	8.6	12.5
20	8.6	12.14
22	Bottom	Bottom
24		
26		
28		
30		
32		
34		
36		
38		
40		
42		
44		
46		

Remarks: * Sample was taken upstream of the dam approximately 400 yards due to the absence of the boat restraining barrier.
 * River flow was ~ 8,000 cfs
 * There was a very noticeable current throughout the flowage that resulted in a well-mixed sample from top to bottom;

Water Quality Sampling - Thornapple Flowage

Date: 7/24/02
 Temperature: 75°F, Partly Cloudy
 Weather Conditions: Wind from Sat ~ 10 mph
 Depth of Bottom Sample: 5.5 M
 Secchi Disk Reading: 4.5 ft.

Dissolved Oxygen and Temperature Profile

Depth	Temperature (C)	Dissolved Oxygen (mg/l)
Surface	25.2	6.1
2	25.1	6.1
4	24.9	5.9
6	24.6	5.9
8	24.5	5.8
10	24.4	5.7
12	24.4	5.6
14	24.4	5.7
16	24.4	5.7
18	24.4	5.7
20	Bottom	Bottom
22		
24		
26		
28		
30		
32		
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42		
44		
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Remarks: * Water samples were collected at the fourth buoy from the post landing side of the boat restraining barrier (buoy with the "River Travel Restricted" sign)
 * a light algal bloom was present at the time of sampling;

Water Quality Sampling - Thornapple Flowage

Date: 8/28/02
 Temperature: 70°F
 Weather Conditions: Cloudy
 Depth of Bottom Sample: 17 ft.
 Secchi Disk Reading: 5 ft.

Dissolved Oxygen and Temperature Profile

Depth	Temperature (C)	Dissolved Oxygen (mg/l)
Surface	22.5	7.5
2	22.5	7.6
4	22.5	7.6
6	22.5	7.5
8	22.4	7.4
10	22.4	7.4
12	22.4	7.4
14	22.4	7.4
16	22.4	7.4
18	22.3	7.3
20		
22		
24		
26		
28		
30		
32		
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44		
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Remarks:

- * Water samples were collected at the fourth buoy from the boat landing side of the boat restraining barrier (buoy with the "River Travel Restricted" sign)
- * Lower portion of flowage was checked for navigational hazards and none were found.
- * flowage was surveyed for people loss-of-life - map developed

Agency Correspondence



1414 West Hamilton Avenue
P.O. Box 8
Eau Claire, WI 54702-0008
Telephone (800) 895-4999

December 11, 2002

Mr. Jeff Scheirer
Wisconsin DNR
875 South 4th Avenue
P.O. Box 220
Park Falls, WI 54552

Subject: Results of the 2002 Water Quality Monitoring Performed On The Big Falls and Thornapple Flowages Pursuant To Article 404 of the Big Falls License (FERC Project No. 2390) and Article 406 of the Thornapple License (FERC Project No. 2475).

Dear Mr. Scheirer:

Enclosed are the results of the water quality sampling that Northern States Power Company – Wisconsin (d.b.a. Xcel Energy) personnel conducted during the 2002 field season on the Big Falls and Thornapple Flowages. The samples were taken after ice-out and during July and August, in the deepest point of the reservoirs, immediately upstream from the boat restraining barriers. The ice-out samples were taken later than normal due to safety concerns with the excessive flows that were experienced this spring on the Flambeau River.

The results indicate that the water quality parameters sampled for were well within normal ranges for natural environments and were comparable to results from the 1998 to 2001 assessments.

Please provide me with any comments that you might have concerning the sampling results by December 27, 2002 so that I can transmit the water quality data and comments that you might have to the Federal Energy Regulatory Commission by January 1, 2003. You can provide your response either by telephone call, e-mail, or written letter. If you have any questions concerning the water quality sampling or the results provided to you, please feel free to give me a call at (715) 839-1353.

Sincerely,

A handwritten signature in black ink that reads 'Robert W. Olson'.

Robert W. Olson
Coordinator, Licensing

Enclosure: Water quality monitoring results

Olson, Robert W

From: Scheirer, Jeffrey W [Jeffrey.Scheirer@dnr.state.wi.us]
Sent: Thursday, January 02, 2003 8:11 AM
To: Olson, Robert W
Subject: FW: Big Falls/Thornapple data

Rob, Here are some minor comments about the 2002 water quality monitoring results from Big Falls and Thornapple. There's no need to change anything if you have already submitted the data to FERC. Craig uses the early sample in a predictive model, but safety should certainly be the first priority. Thanks. Jeff Scheirer.

> -----
> **From:** Roesler, Craig P
> **Sent:** Thursday, December 26, 2002 4:02 PM
> **To:** Scheirer, Jeffrey W
> **Subject:** Big Falls/Thornapple data

> I received the 2002 data for these flowages from you. You asked about the
> timing on the ice-out samples, and I noticed the cover letter mentioned
> they were later due to excessive flows and safety concerns. April or very
> early May samples are better, but I will usually use samples up to the
> middle of May for modeling spring turnover conditions. I'm not too
> concerned about these samples being taken on May 13th.

>
> Craig Roesler
> Water Quality Biologist, Upper Chippewa Basin
> Wisconsin Dept. of Natural Resources
> 10220N State Hwy. 27
> Hayward, WI 54843
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> fax: 715-634-9232
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