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 FEDERAL ENERGY REGULATORY COMMISSION

December 19, 2001

Mr. David P. Boergers, Secretary
 Federal Energy Regulatory Commission
 888 First Street, NE
 Washington, D.C. 20426

Subject: Monitoring Results of the 2001 Surveys of Water Quality Conditions at the Big Falls (FERC Project No. 2390) and Thornapple (FERC Project No. 2475) Hydro Projects. 039 044

Dear Secretary:

Enclosed is an original and eight copies of the results of the water quality monitoring performed at the above-mentioned projects in 2001 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) and the U.S. Fish and Wildlife Service (USFWS) on September 28, 2001 and they were allowed time to provide comments on the sampling results (*see attached letter*). Comments were not received as of the transmittal of this letter.

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. Jim Fossum (U.S. Fish and Wildlife Service)
 Mr. Jeff Scheirer (Wisconsin DNR)

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02 JAN -4 AM 11:47
FEDERAL ENERGY
REGULATORY COMMISSION

Water Quality Monitoring Results
Big Falls and Thornapple Hydro Projects
December 19, 2001

DATE June 13, 2001

FROM T M Leverentz LOCATION CSC-1

TO Rob Olson LOCATION EAU CLR SC

SUBJECT ANALYSIS OF BIG FALLS AND THORNAPPLE RIVERS

1.0 Purpose of Testing

The Testing Lab analyzed samples of water from the Big Falls and Thornapple rivers.

2.0 Test Methods

The samples were analyzed for Total Phosphorus according to EPA Method 365.3. Chlorophyll a was analyzed by PACE Labs.

3.0 Test Results

Lab No	Sample Description	Date Sampled	Phosphorus, Total mg/L P	Chlorophyll a mg/L
516.13	BIG FALLS SURFACE	5/8/2001	0.04	0.0006
516.14	BIG FALLS BOTTOM	5/8/2001	0.05	
516.15	THORNAPPLE SURFACE	5/8/2001	0.04	0.0013
516.16	THORNAPPLE BOTTOM	5/8/2001	0.05	

"Less than" values indicate the result is less than the Reporting Limit.

T. M. LEVERENTZ, SENIOR CHEMIST

BY 

T.M Leverentz
Senior Chemist

DATE August 20, 2001

FROM T M Leverentz LOCATION CSC-1

TO Rob Olson LOCATION EAU CLR SC

SUBJECT ANALYSIS OF BIG FALLS AND THORNAPPLE RIVERS

1.0 Purpose of Testing

The Testing Lab analyzed samples of water from the Big Falls and Thornapple rivers.

2.0 Test Methods

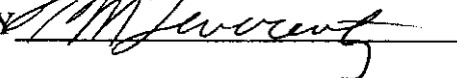
The samples were analyzed for Total Phosphorus according to EPA Method 365.3. Chlorophyll a was analyzed by PACE Labs.

3.0 Test Results

Lab No	Sample Description	Date Sampled	Phosphorus, Total mg/L P	Chlorophyll a mg/L
530.20	BIG FALLS SURFACE	7/24/2001	0.04	0.0043
530.21	BIG FALLS BOTTOM	7/24/2001	0.06	
530.22	THORNAPPLE SURFACE	7/24/2001	0.04	0.0014
530.23	THORNAPPLE BOTTOM	7/24/2001	0.05	

“Less than” values indicate the result is less than the Reporting Limit.

T. M. LEVERENTZ, SENIOR CHEMIST

BY 

T.M Leverentz
Senior Chemist

DATE September 26, 2001

FROM T M Leverentz LOCATION CSC-1

TO Rob Olson LOCATION EAU CLR SC

SUBJECT ANALYSIS OF BIG FALLS AND THORNAPPLE RIVERS

1.0 Purpose of Testing

The Testing Lab analyzed samples of water from the Big Falls and Thornapple rivers.

2.0 Test Methods

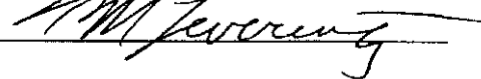
The samples were analyzed for Total Phosphorus according to EPA Method 365.3. Chlorophyll a was analyzed by PACE Labs.

3.0 Test Results

Lab No	Sample Description	Date Sampled	Phosphorus, Total	Chlorophyll a
			EPA 365.3	
			mg/L P	mg/L
537.13	BIG FALLS SURFACE	8/22/2001	0.04	0.0022
537.14	BIG FALLS BOTTOM	8/22/2001	0.06	
537.15	THORNAPPLE SURFACE	8/22/2001	0.04	0.0048
537.16	THORNAPPLE BOTTOM	8/22/2001	0.04	

"Less than" values indicate the result is less than the Reporting Limit.

T. M. LEVERENTZ, SENIOR CHEMIST

BY 

T.M Leverentz
Senior Chemist

Water Quality Sampling - Big Falls Flowage

Date: 5/7/01 (1:30 p.m.)

Temperature: 19.5 °C

Weather Conditions: Partly cloudy, west wind @ 15 mph

Depth of Bottom Sample: 12.5 M

Secchi Disk Reading: 4.0 Ft.

Dissolved Oxygen and Temperature Profile

Depth (M)	Temperature (°C)	Dissolved Oxygen (mg/L)
Surface	14.6	9.5
2	14.5	9.4
4	14.2	9.4
6	14.1	9.4
8	14.0	9.4
10	14.0	9.4
12	14.0	9.4
14	14.0	9.4
16	14.0	9.3
18	14.0	9.3
20	14.0	9.3
22	14.0	9.3
24	14.0	9.2
26	14.0	9.2
28	14.0	9.2
30	14.0	9.2
32	14.0	9.2
34	14.0	9.2
36	14.0	9.2
38	14.0	9.1
40	Bottom	-
42		
44		
46		

Remarks:

- * Sample was taken at the second buoy from the west side
- * checked eagle nest - one adult eagle was observed in the nest
- * no navigational hazards were observed on the lowermost portion of the flowage!

Water Quality Sampling - Thornapple Flowage

Date: 5/7/01
 Temperature: 14.5 °C
 Weather Conditions: Cloudy, West wind @ ~10mph
 Depth of Bottom Sample: 6 M
 Secchi Disk Reading: 4.0 ft.

Dissolved Oxygen and Temperature Profile

Depth (ft)	Temp (°C)	Dissolved Oxygen (mg/L)
Surface	14.5	8.9
2	14.5	8.9
4	14.4	9.0
6	14.4	9.0
8	14.4	9.0
10	14.4	9.0
12	14.4	9.0
14	14.3	9.0
16	14.3	8.9
18	14.3	8.9
20	14.3	8.1
22	Bottom	-
24		
26		
28		
30		
32		
34		
36		
38		
40		
42		
44		
46		

Remarks: * Sample was taken at the buoy with the canal portage take-out sign
 * Lower part of lake was checked for navigational hazards (none were observed)
 * The flowage boat landing was cleaned of trash (4 bags of garbage)

Water Quality Sampling - Big Falls Flowage

Date: 7/24/01
 Temperature: 78°F
 Weather Conditions: Partly Cloudy
 Depth of Bottom Sample: 11.5 m
 Secchi Disk Reading: 4.5 ft.

Dissolved Oxygen and Temperature Profile

Surface	27.0	7.1
2	27.0	7.0
4	26.9	6.9
6	26.3	6.5
8	26.2	7.1
10	26.1	6.7
12	26.1	6.2
14	26.1	5.8
16	26.0	5.4
18	25.9	5.5
20	25.9	5.8
22	25.9	5.9
24	25.9	6.0
26	25.9	6.0
28	25.8	6.0
30	25.8	5.5
32	25.7	5.2
34	25.6	5.0
36	25.6	3.6
38	25.5	3.1
40	Bottom	-
42		
44		
46		

Remarks: * Sample was taken at the second buoy from the west side of the boat restraining barrier;
 * Checked the lower portion of the flowage for mangonid birds - none observed;
 * Three eagles, two immatures and one adult, were observed near the rest site.

Water Quality Sampling - Thornapple Flowage

Date: 7/24/01
 Temperature: 75°F
 Weather Conditions: partly cloudy
 Depth of Bottom Sample: 5m
 Secchi Disk Reading: 4.5'

Dissolved Oxygen and Temperature Profile

Depth (ft)	Temperature (°F)	Dissolved Oxygen (mg/L)
Surface	25.7	6.2
2	25.5	6.2
4	25.2	6.4
6	25.1	6.4
8	25.0	9.8
10	25.0	7.2
12	25.0	5.6
14	25.0	5.4
16	24.9	5.4
18	24.4	4.6
20	24.0	4.1
22	Bottom	-
24		
26		
28		
30		
32		
34		
36		
38		
40		
42		
44		
46		

Remarks: * Sample was taken at the canal portage take-out sign located on the boat restraining barrier;
 * The lower portion of the flowage was surveyed for navigational hazards - none were observed although there were many trees down on the shoreline as a result of storms that occurred back in June;

Water Quality Sampling - Big Falls Flowage

Date: 8/22/01

Temperature: 75°F

Weather Conditions: Cloudy

Depth of Bottom Sample: 11.5 m

Secchi Disk Reading: 5.5 ft.

Dissolved Oxygen and Temperature Profile

Surface	22.5	8.0
2	22.4	7.8
4	22.4	7.8
6	22.5	7.7
8	22.3	7.7
10	22.3	7.7
12	22.2	7.7
14	22.3	7.6
16	22.2	7.6
18	22.2	7.5
20	22.1	7.3
22	22.0	7.2
24	21.9	7.2
26	21.8	7.1
28	21.8	7.0
30	21.7	7.0
32	21.7	6.7
34	21.1	6.6
36	21.0	6.6
38	20.9	6.4
40	Bottom	
42		
44		
46		

Remarks: *Eagle nest - or immature eagle
No navigational hazards observed*

Water Quality Sampling - Thornapple Flowage

Date: 8/22/01
 Temperature: 80°F
 Weather Conditions: Sunny
 Depth of Bottom Sample: 6M
 Secchi Disk Reading: 5 ft.

Dissolved Oxygen and Temperature Profile

Depth (ft)	Temperature (°F)	Dissolved Oxygen (mg/L)
Surface	27.4	8.4
2	25.5	8.5
4	24.3	8.50
6	23.8	8.1
8	23.3	7.8
10	23.1	7.0
12	22.9	6.7
14	22.8	7.1
16	22.5	6.0
18	22.4	5.9
20	22.3	5.8
22	22.3	5.5
24	Bottom	
26		
28		
30		
32		
34		
36		
38		
40		
42		
44		
46		

Remarks: - Sample was taken at the canoe take-out sign
 - No navigational hazards were observed in the lower part of the flowage

Agency Correspondence



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

September 28, 2001

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

Mr. Jim Fossum
Department of the Interior
U.S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54301

Subject: Results of the 2001 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 and Mr. Fossum:

Enclosed are the results of the water quality sampling that Northern States Power Company – Wisconsin (d.b.a. Xcel Energy) personnel conducted during the 2001 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 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, 1999 and 2000 assessments.

Please provide me with any comments that you might have concerning the sampling results by October 30, 2001 so that I can transmit the water quality data and any resource agency comments to the Federal Energy Regulatory Commission by January 30, 2002. If I don't hear from you by the above-mentioned date, I will assume that you do not have any comments or recommendations. 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 cursive script that reads 'Robert W. Olson'.

Robert W. Olson
Coordinator, Licensing

Enclosure: Water quality monitoring results