ORIGINAL

Wisconsin Electric
WISCONSIN ENERGY COMPANIES
WISCONSIN GAS

Wisconsin Electric/Wisconsin Gas
800 Industrial Park Drive
Iron Mountain, MI 49801
Phone 906 779-2400

July 17, 2001

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

Dear Mr. Boergers:

RE: Chalk Hill Hydroelectric Project - FERC No. 2394~~-017~~-052
White Rapids Hydroelectric Project – FERC No. 2357-003 -053
Articles 405 and 406 - Water Quality Monitoring Plan

The Commission issued new licenses on May 7, 1997 for the above projects and by order dated January 21, 1998, the Commission approved and modified Wisconsin Electric's initial water quality monitoring plan.

The initial plan, among several activities, called for the company to continuously monitor temperature and dissolved oxygen in the upstream area of the two projects as well as in the tailraces of both projects during the months of May-September for three years, commencing summer of 1998. The initial plan also allowed the company, after the initial three years of continuous temperature and dissolved oxygen monitoring were accomplished, to petition the Michigan Department of Environmental Quality for adoption of a less-intensive monitoring program for these two parameters if the completed monitoring demonstrated compliance with the State of Michigan's water quality standards for these two parameters. By filings made November 10, 1998, November 2, 1999, and November 7, 2000, the Company provided monitoring data fulfilling this demonstration requirement.

Wisconsin Electric is hereby filing one original and eight copies of a revised water quality monitoring plan. Specifically, section one contains the revised plan, while section two contains the draft plan that was sent to the MDEQ for review. Section two also contains email correspondence with MDEQ and the Wisconsin Department of Natural Resources concerning this proposed modification.

Enclosed is a proof of service to the agencies listed on the copy list.

Please call me at (906) 779-2547 or David Michaud at (414) 221-2187 if you have any questions regarding this matter.

Sincerely,

William Rauscher, Manager
Hydroelectric Operations Division

DM/jlr

Enclosures

cc: Tom Meronek,WDNR
Kurt Newman, MDNR
Jim Fossum, USFWS
James Grant, MDEQ
Peggy Harding, FERC-CRO

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DOCKETED

LJ

Certificate of Service

I hereby certify that I have this day served the foregoing document upon all entities specified in the order to issue license to be consulted on matters related to the Commission filing. Service was done pursuant to Rule 2010 of FERC's Rules of Practice and Procedure 18 CFR, Section 385.2010.

Dated this day Tuesday, July 17, 2001.

Joni Reed
Hydroelectric Operations Division
Wisconsin Electric Power Company

Joni Reed
Wisconsin Electric Power Company
800 Industrial Park Drive
Iron Mountain, MI 49801
(906) 779-2547

CHALK HILL AND WHITE RAPIDS HYDROELECTRIC PROJECTS FERC NOS. 2394 AND 2357

SECTION 1

REVISED WATER QUALITY MONITORING PLAN

Revised Water Quality Monitoring Plan

Chalk Hill - FERC Project No. 2394-006

White Rapids - FERC Project No. 2357-003

Wisconsin Electric Power Company

July 12, 2001

I Temperature / Dissolved Oxygen Monitoring Plan

- Monitoring Locations / Equipment:

- Spot checks of temperature and dissolved oxygen (DO) will occur at two locations; upstream of the Chalk Hill plant adjacent to the USGS gauging station #04066003 (Menominee River below Pemene Creek) and at a point approximately 100 yds. downstream of the White Rapids plant in the plant's tailrace. A Hydrolab Surveyor Instrument or comparable water quality measuring device shall be used. The instrument's DO probe will be cleaned and calibrated prior to use per the manufacturer's specifications while temperature will be checked against a laboratory thermometer. Monitoring Schedule

  The spot check measurements will commence on or about June 1 in both locations and will continue through September 30. Spot check measurements will be taken three times per week in the morning (e.g, 7:00am to9:00am). Spot check measurements will be coordinated with the Water Chemistry Monitoring portion of this plan. As such, the seasonal spot check measurements will occur once every five years. The first season of spot checks is scheduled to occur in 2003.

II Water Chemistry / Sediment / Fish Contaminant Monitoring Plan

- Monitoring Locations / Methods

The once every five years quarterly water chemistry samples will be collected from three locations; upstream of the Chalk Hill dam at the County Highway Z bridge; downstream of the Chalk Hill dam in the plant's tailrace; and downstream of the White Rapids dam in the plant's tailrace. Ten percent of quarterly (December, May, July, October) samples will be replicated.

The once every 5-year sediment samples will be collected at two locations; from the deepest region of each flowage (roughly in the same general area where the winter vertical profile measurements were taken). Replicate, spatially separate sediment samples will be collected from each flowage for analysis.

At least ten legal size walleye (greater than 15 inches) and red horse sucker will be collected during early spring from each flowage using trap nets or electrofishing equipment. Also, if present, at least 10 carp will be retained for MDEQ funded analyses. Since capture of the walleye may be labor intensive, an alternate means may be used. The company would solicit creeled specimens from fishermen. In return, the company will donate $100 to the donor's preferred charity (301(c) recognized) in the donor's name. Fish will be placed on ice until frozen. Edible fish fillets shall be sent to the contracted laboratory to perform the required analyses.

- Monitoring Schedule

  The first - once every five year - quarterly water quality sampling occurred in 1998 coincident with the first year of continuous water quality monitoring. Therefore the next round of quarterly water chemistry sampling will occur in 2003.

  Similarly, since the first sediment samples were collected during 1998 ,the next round of sampling will be conducted in 2003and will be repeated every 5 years hence.

  The initial fish was staggered one year behind the quarterly water chemistry monitoring program (e.g., in 1999) to reduce demands on staff. Thus, the next round of fish samples will collected in 2004.

- Analyses to be Performed

  Each replicate water chemistry sample shall be analyzed using approved US EPA methods for the following parameters:

  Alkalinity, chlorophyll-a[*] *, color, dissolved sulfates, pH, hardness, specific conductivity, total ammonia, total dissolved solids, total nitrates, total nitrites, total nitrogen, total organic carbon, total phosphorus, total suspended solids.*

  Each replicate sediment sample shall be analyzed using US EPA methods for the following parameters:

[*] Note: While the company will make reasonable efforts to analyze this parameter, we are aware that few area contract laboratories perform this analysis.

*Oil and grease, percent volatile solids, total arsenic, total barium, total cadmium, total chromium, total copper, total lead, total manganese, total mercury, total nickel, total nitrogen, total organic carbon, total phosphorus, total selenium, total silver, total zinc, acid volatile sulfides*** *, and total PCB.*

Whole fish samples shall be analyzed using US EPA methods for the following contaminants:

Dieldrin; DDE; DDD; DDT; mercury; PCB (Arochlors 1242, 1248, 1254, 1260); toxaphene; and the chlordane, dioxin, and dibenzofuran congeners listed in Table 1.

** Note: EPA methods exist for acid soluble and acid insoluble sulfides. Non-EPA methods must be used for acid volatile sulfides.

Table 1. Dioxin, dibenzofuran and chlordane congeners to be assayed in fish collected from the Chalk Hill and White Rapids flowages.

Contaminant	Analytical Level of Quantification
CDD	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1.0 ng/kg
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PCDD)	1.0 ng.kg
1,2,3,4,7,8-Hexaxhlorodibenzo-p-dioxin (HxCDD	1.0 ng/kg
1,2,3,6,7,8-HxCDD	1.0 ng/kg
1,2,3,7,8,9-HxCDD	1.0 ng/kg
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.0 ng/kg
OCDD	1.0 ng/kg
CDF	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1.0 ng/kg
1,2,3,7,8-Pentachlorodibenzofuran (PCDF)	1.0 ng/kg
2,3,4,7,8-PCDF	1.0 ng/kg
1,2,3,4,7,8-Hexachlorodibenzofuran (HXCDF)	1.0 ng/kg
1,2,3,6,7,8-HxCDF	1.0 ng/kg
1,2,3,7,8,9-HxCDF	1.0 ng/kg
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1.0 ng/kg
1,2,3,4,7,8,9-HpCDF	1.0 ng/kg
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.0 ng/kg
OCDF	1.0 ng/kg
Chlordane	
Oxychlordane	3 ug/kg
gamma-chlordane	3 ug/kg
trans-Nonachlor	3 ug/kg
alpha-Chlordane	3 ug/kg
cis-Nonachlor	3 ug/kg

III Reporting

- Temperature / Dissolved Oxygen Measurements

  All temperature and DO measurements and calibration notes will be recorded in a dedicated log book. Upon return to the office, all measurements shall be entered onto a dedicated computer file (e.g., EXCEL file or equivalent) and shall be reviewed to determine compliance with the 89°F temperature limit and 5.0 mg/l DO standard. The data will be stored on diskette.

  A final report to appropriate Michigan, Wisconsin, and federal agency contacts as well as to the commission will be prepared within 30 days of the final September measurements. A diskette with all raw data will also be sent to the three agencies.

- Quarterly Water Chemistry Monitoring Program

  The results of the once every five years quarterly monitoring program will be filed with appropriate Michigan, Wisconsin, and federal agency contacts, as well as with the Commission, within 120 days following collection of the final quarterly samples (most likely the winter quarter).

- Sediment, Fish Contaminant Monitoring Program

  The results of these analyses will be filed with appropriate Michigan, Wisconsin, and federal agency contacts, as well as with the Commission, within 90 days of sample collection in the same year(s) the samples were collected.

IV Corrective Measures

- Temperature / Dissolved Oxygen Measurement Program

Background: It must be noted that continuous monitoring for temperature and DO was conducted in this stretch of the Menominee River during the summer seasons of 1990 -1992, and again during 1998-2000. As it turned out, 1990 and 1998 represented low flow years while the summers of 1991 and 1992 were indicative of more average flow years. As our monitoring efforts have demonstrated, neither Chalk Hill nor White Rapids operations have caused nor are they likely to cause temperature exceedances or violations of the DO standard. . Thus, no corrective measures have been required or tested at this site.

Detection and Notification: Upon discovery and verification (e.g., instrument check and recalibration), Wisconsin Department of Natural Resources(WDNR) and Michigan Dept. of Environmental Quality (MI DEQ) will be notified within one working day of the time and duration of the of any water quality-related problem, and whether the condition was caused by upstream disturbances (i.e., if dissolved oxygen levels were below standards at County Z bridge). If upstream conditions are the likely cause of the problem, or if the low dissolved oxygen levels were a transient[1] (e.g., non-recurring) event, no further action on the part of the company would occur unless agreed to by all parties. If plant operation is the suspected cause and if causative actions are likely to persist, the company will initiate corrective actions as soon as possible but no later than within one day of discovery.

[1] A transient event is defined as a once every 10 day event where DO levels fall below 5.0 mg/l for at least one hourly measurement period during a 24 hr sampling period.

Corrective Measures (intentional spilling): WE proposes to mitigate low DO levels caused by project operation and detected by the required monitoring below the Chalk Hill and/or White Rapids projects by passing a portion of the flow destined for the generator(s) through the spillway. Since there have been no low DO levels detected below the project to date, there is no data available to judge the efficacy of any particular method of low DO mitigation. As a starting point for mitigation of any low DO levels that may be detected in the future, WE will, upon notification (within 24 hours) to operations personnel by field personnel doing the monitoring, pass a minimum of 25 percent of the river flow through the spillway. The upper portions of the water column in both flowages have been shown to be well oxygenated through the entire summer season. Additionally, passing the water over the spillway will increase the DO level of the water via turbulent mixing of entrained air. Mixing the higher DO content water from the spillway with the water from the generators will improve the DO levels in downstream waters.

If spills are required as outlined above, WE will perform real time DO measurements below the confluence of the spillway and the power house tailrace to confirm attainment of the DO standardand will perform operational testing to determine what mix of generation and spill will be required to achievethe optimal balance between spilling and generation that will allow for the minimum required DO levels. This testing will begin in consultation with the WDNR, and MI DEQ as soon as practical. The WDNR, and MI DEQ will be consulted at the beginning of testing of operation scenarios intended to meet the water quality standards. If the low DO conditions subside before the operations testing can be completed, WE will return the non-compliant project to normal operation. Normal tailrace monitoring for DO levels will resume when operations return to normal.

Reporting: The occurrences of non-compliance and summaries of WE responses to these occurrences will be filed with the agencies and FERC within 30 days following detection and resultant mitigation action(s).

Alternative Corrective Measures: If low DO occurrences should become common or protracted, it may become necessary to revise this plan. Any revision to this plan will require agency consultation.

CHALK HILL AND WHITE RAPIDS HYDROELECTRIC PROJECTS FERC NOS. 2394 AND 2357

SECTION 2

DRAFT OF WATER QUALITY MONITORING PLAN AND AGENCY CORRESPONDENCE

Revised Water Quality Monitoring Plan
Chalk Hill Hydroelectric Project FERC No. 2394-017
White Rapids Hydroelectric Project FERC No. 2357-0031

Revised Water Quality Monitoring Plan

Chalk Hill - FERC Project No. 2394-006

White Rapids - FERC Project No. 2357-003

Wisconsin Electric Power Company

July 2, 2001~~February 2001~~

Revised Water Quality Monitoring Plan
Chalk Hill Hydroelectric Project FERC No. 2394-017
White Rapids Hydroelectric Project FERC No. 2357-0031

I Temperature / Dissolved Oxygen ~~Continuous Water Quality~~ Monitoring Plan

- Monitoring Locations / Equipment:

Spot checks ~~Continuous monitoring~~ of temperature and dissolved oxygen (DO) will occur at two locations; upstream of the Chalk Hill plant adjacent to the USGS gauging station #04066003 (Menominee River below Pemene Creek) and at a point approximately 100 yds. downstream of the White Rapids plant in the plant's tailrace. A Hydrolab Surveyor Instrument or comparable water quality measuring device shall be used. ~~Continuous recording instruments will be used with actual measurements being programmed to occur on the hour (24 measurements per day, per location).~~

The instrument's DO probes will be cleaned and calibrated prior to use ~~at least once every two weeks, water quality and bio-fouling conditions permitting. Before deployment, the DO probe's measurements will be air calibrated~~ per the manufacturer's specifications while temperature will be checked against a laboratory thermometer. ~~Upon retrieval, all hourly measurements will be scanned for possible violations of the water quality standards as the data are being downloaded from the instruments to the laptop computer. At the end of the downloading process, the instruments' calibration is rechecked per the manufacturer's specifications. The company will seek to achieve an ending calibration error of no more than ± 1.0 mg/l 70% of the time~~.

- Monitoring Schedule

~~Article 405 for each plant specifies that the water quality monitoring plan shall, at a minimum, include monitoring for five years, from May 1 through September 30~~.

~~Neither the 401 Certificate issued by the State of Michigan nor the FERC order required monitoring for five consecutive years. Since the intent of the water quality monitoring is to verify compliance with State water quality regulations after the change in operation to run-of-river, WE proposes to monitor for two consecutive years, with the remaining three years of monitoring to be distributed through the remainder of the license term.~~

~~However, if water quality standards are violated during these initial two years and require mitigative measures, continuous monitoring shall be continued until a cause for the violation is determined. The need for and timing of monitoring beyond the first two years will be determined in consultation with the resource agencies, and MDEQ in particular. Results of this consultation will be filed with FERC for action.~~

The spot check measurements ~~Continuous monitoring~~ will commence on or about June ~~May~~ 1 in both locations and will continue ~~of the first full May 1~~ through September 30. Spot check measurements will be taken three times per week in the morning (e.g, 7:00am to 9:00am). Spot check measurements will be coordinated with the Water Chemistry Monitoring portion of this plan. As such, the seasonal spot check measurements will occur once every five years. The first season of spot checks is scheduled to occur in 2003. ~~period that occurs, not sooner than 60 days following plan approval by FERC. Monitoring will terminate on September 30. For example, assuming FERC approval of this plan by March 1, 1998, the company would conduct the first year of monitoring in 1998. While every attempt will be made to commence monitoring on or by May 1, the timing and extent of spring runoff may postpone startup. In this case, the agencies will be notified that startup is being delayed. If start up is delayed, the agencies will be notified as close to the start-up date as possible. Startup will occur as soon as conditions permit the safe deployment of instruments.~~

~~II Flowage Monitoring Plan~~

~~Monitoring Locations/Equipment~~

~~Surface to bottom measurements of temperature, DO, pH, and conductivity will be taken upstream of the Chalk Hill and White Rapids dams in the deepest region of each flowage. Based on past monitoring efforts, the deepest locations are situated immediately upstream of the spillway sections. A Hydrolab surveyor or equivalent water quality analyzer will be used for the measurements. Secchi depth measurements will also be taken during these surveys, although ice cover and daylight conditions may effect true water column clarity.~~

~~Monitoring Schedule~~

~~As specified in Articles 405 for each plant's license, the vertical profile measurements will be made at 1.0 meter intervals during the months of December, January, February, and March, ice and safety conditions permitting, for the first two years of the water quality monitoring plan to determine whether low DO conditions develop under ice cover in either flowage. These measurements will be taken during the winters of 1998-1999 and 1999-2000 assuming plan approval by March 1, 1998, by FERC, and an initial continuous monitoring period for temperature and DO of May 1 - September 30, 1998.~~

Revised Water Quality Monitoring Plan
Chalk Hill Hydroelectric Project FERC No. 2394-017
White Rapids Hydroelectric Project FERC No. 2357-0034

III Water Chemistry / Sediment / Fish Contaminant Monitoring Plan

- Monitoring Locations / ~~Equipment~~Methods

The once every five years quarterly water chemistry ~~quality~~ samples will be collected from three locations; upstream of the Chalk Hill dam at the County Highway Z bridge; downstream of the Chalk Hill dam in the plant's tailrace; and downstream of the White Rapids dam in the plant's tailrace. Ten percent of quarterly (December, May, July, October) samples will be replicated.

The once every 5-year sediment samples will be collected at two locations; from the deepest region of each flowage (roughly in the same general area where the winter vertical profile measurements were taken). Replicate, spatially separate sediment samples will be collected from each flowage for analysis.

At least ten legal size walleye (greater than 15 inches) and red horse sucker will be collected during early spring from each flowage using trap nets or electrofishing equipment. Also, if present, at least 10 carp will be retained for MDEQ funded analyses. Since ~~the~~ capture of ~~the~~se walleye may be labor intensive, an alternate means may be used. The company would solicit creeled specimens from fishermen. In return, the company will donate $100 to the donor's preferred charity (301(c) recognized) in the donor's name. Fish will be placed on ice until frozen. Edible fish fillets shall be sent to the contracted laboratory to perform the required analyses.

Revised Water Quality Monitoring Plan
Chalk Hill Hydroelectric Project FERC No. 2394-017
White Rapids Hydroelectric Project FERC No. 2357-0035

- Monitoring Schedule

The first - once every five year - quarterly water quality sampling ~~will~~ occurred in 1998 coincident with the first year of continuous water quality monitoring. ~~to take advantage of committed staff resources.~~ Therefore the next round of quarterly water chemistry sampling will occur in 2003.

Similarly, since the first sediment samples were ~~will be~~ collected during 1998 ~~the initial year of monitoring~~ ,the next round of sampling will be conducted in 2003 and will be repeated every 5 years hence.

The initial fish was ~~sampling will be~~ staggered one year behind the quarterly water chemistry monitoring program (e.g., in 1999) to reduce demands on staff. Thus, the next round of ~~initial~~ fish samples will ~~would not be collected until spring 1999. A follow-up fish collection and analysis effort would be conducted~~ collected in 2004.

- Analyses to be Performed

Each replicate water chemistry sample shall be analyzed using approved US EPA methods for the following parameters:

*Alkalinity, chlorophyll-a** *, color, dissolved sulfates, pH, hardness, specific conductivity, total ammonia, total dissolved solids, total nitrates, total nitrites, total nitrogen, total organic carbon, total phosphorus, total suspended solids.*

* Note: While the company will make reasonable efforts to analyze this parameter, we are aware that few area contract laboratories perform this analysis.

Each replicate sediment sample shall be analyzed using US EPA methods for the following parameters:

Oil and grease, percent volatile solids, total arsenic, total barium, total cadmium, total chromium, total copper, total lead, total manganese, total mercury, total nickel, total nitrogen, total organic carbon, total phosphorus, total selenium, total silver, total zinc, acid volatile sulfides[**] , and total PCB.

Whole fish samples shall be analyzed using US EPA methods for the following contaminants:

Dieldrin; DDE; DDD; DDT; mercury; PCB (Arochlors 1242, 1248, 1254, 1260); toxaphene; and the chlordane, dioxin, and dibenzofuran congeners listed in Table 1.

[**] Note: EPA methods exist for acid soluble and acid insoluble sulfides. Non-EPA methods must be used for acid volatile sulfides.

Table 1. Dioxin, dibenzofuran and chlordane congeners to be assayed in fish collected from the Chalk Hill and White Rapids flowages.

Contaminant	Analytical Level of Quantification
CDD	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1.0 ng/kg
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PCDD)	1.0 ng.kg
1,2,3,4,7,8-Hexaxhlorodibenzo-p-dioxin (HxCDD	1.0 ng/kg
1,2,3,6,7,8-HxCDD	1.0 ng/kg
1,2,3,7,8,9-HxCDD	1.0 ng/kg
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.0 ng/kg
OCDD	1.0 ng/kg
CDF	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1.0 ng/kg
1,2,3,7,8-Pentachlorodibenzofuran (PCDF)	1.0 ng/kg
2,3,4,7,8-PCDF	1.0 ng/kg
1,2,3,4,7,8-Hexachlorodibenzofuran (HXCDF)	1.0 ng/kg
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1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1.0 ng/kg
1,2,3,4,7,8,9-HpCDF	1.0 ng/kg
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.0 ng/kg
OCDF	1.0 ng/kg
Chlordane	
Oxychlordane	3 ug/kg
gamma-chlordane	3 ug/kg
trans-Nonachlor	3 ug/kg
alpha-Chlordane	3 ug/kg
cis-Nonachlor	3 ug/kg

Revised Water Quality Monitoring Plan
Chalk Hill Hydroelectric Project FERC No. 2394-017
White Rapids Hydroelectric Project FERC No. 2357-0038

III~~V~~ Reporting

~~1.~~ Temperature / Dissolved Oxygen Measurements ~~Continuous Water Quality Monitoring~~

- All temperature and DO measurements and calibration notes will be recorded in a dedicated log book. ~~scanned upon instrument retrieval and data downloading procedures~~Upon return to the office, all measurements shall be entered onto a dedicated computer file (e.g., EXCEL file or equivalent) and shall be reviewed to determine compliance with the 89°F temperature limit and 5.0 mg/l DO standard. The data will be stored on diskette~~; will be plotted by week; and will be analyzed after the last data has been collected in September with respect to the mean monthly temperature limits and the 5°F limit between upstream and downstream monitoring locations (reference: Article 405(1) - White Rapids Project)~~.

  A final report to appropriate Michigan, Wisconsin, and federal agency contacts as well as to the commission will be prepared within ~~6~~30 days of the final September measurements. A diskette with all raw data will also be sent to the three agencies.

~~2. Flowage Monitoring (vertical profiles)~~

~~Summary tables of the vertical profile measurements will be filed with appropriate Michigan, Wisconsin, and federal agency contacts, as well as with the Commission by May 1st following the March measurements during each of the two years required by Article 405.~~

- Quarterly Water Chemistry Monitoring Program

The results of the once every five years quarterly monitoring program will be filed with appropriate Michigan, Wisconsin, and federal agency contacts, as well as with the Commission, within 120 days following collection of the final quarterly samples (most likely the winter quarter). ~~For example, assuming that the first quarterly sampling program commences May 1998, the summary report would be filed in approximately April 1999.~~

- Sediment, Fish Contaminant Monitoring Program

The results of these analyses will be filed with appropriate Michigan, Wisconsin, and federal agency contacts, as well as with the Commission, within 90 days of sample collection in the same year(s) the samples were collected.

IV Corrective Measures

- Temperature / Dissolved Oxygen Measurement ~~Continuous Monitoring~~ Program

Background: It must be noted that continuous monitoring for temperature and DO was conducted in this stretch of the Menominee River during the summer seasons of 1990 ~~, 1991, and~~ 1992, and again during 1998-2000. As it turned out, 1990 and 1998 represented ~~a~~ low flow years while the summers of 1991 and 1992 were indicative of more average flow years. As our monitoring efforts have demonstrated, ~~in 1992 demonstrated,~~ neither Chalk Hill nor White Rapids operations have caused nor are they likely to cause temperature exceedances or violations of the DO standard. ~~it is very unlikely that either Chalk Hill or White Rapids will cause temperature exceedances or violations of the DO standard~~. Thus, no corrective measures have been required or tested at this site.

Detection and Notification: ~~Since data downloading would occur at a maximum once every two weeks, it is possible that periods of low dissolved oxygen may not~~

~~be detected for a maximum of 14 days.~~ Upon discovery and verification (e.g., instrument check and recalibration), Wisconsin Department of Natural Resources~~,~~ (WDNR) and Michigan Dept. of Environmental Quality (MI DEQ) will be notified within one working day of the time and duration of the of any water quality-related problem, ~~and whether the condition was continuing at time of instrument change out,~~ and whether the condition was caused by upstream disturbances (i.e., if dissolved oxygen levels were below standards at County Z bridge). If upstream conditions are the likely cause of the problem, or if the low dissolved oxygen levels were a transient[1] (e.g., non-recurring) event, no further action on the part of the company would occur unless agreed to by all parties. If plant operation is the suspected cause and if causative actions are likely to persist, the company will initiate corrective actions as soon as possible but no later than within one day of discovery.

Corrective Measures (intentional spilling): WE proposes to mitigate low DO levels caused by project operation and detected by the required monitoring below the Chalk Hill and/or White Rapids projects by passing a portion of the flow destined for the generator(s) through the spillway. Since there have been no low DO levels detected below the project to date, there is no data available to judge the efficacy of ~~support~~ any particular method~~s~~ of low DO mitigation. As a starting point for mitigation of any low DO levels that may be detected in the future, WE will, upon notification (within 24 hours) to operations personnel by field personnel doing the monitoring, pass a minimum of 25 percent of the river flow through the spillway. The upper portions of the water column in both ~~either~~ flowages have~~s~~ been shown to be well oxygenated through the entire summer season. ~~water column.~~ Additionally, passing the water over the spillway will increase the DO level of the water via turbulent mixing of entrained air. Mixing the higher DO

[1] A transient event is defined as a once every 10 day event where DO levels fall below 5.0 mg/l for at least one hourly measurement period during a 24 hr sampling period.

content water from the spillway with the water from the generators will improve the DO levels in downstream waters.

If spills are required as outlined above, WE will perform real time DO measurements below the confluence of the spillway and the power house tailrace to confirm attainment of the DO standard, and will perform operational testing to determine what mix of generation and spill will be required to achieve the optimal balance between spilling and generation that will allow for the minimum required DO levels. This testing will begin in consultation with the WDNR, and MI DEQ as soon as practical. The WDNR, and MI DEQ will be consulted at the beginning of testing of operation scenarios intended to meet the water quality standards. If the low DO conditions subside before the operations testing can be completed, WE will return the non-compliant project to normal operation. Normal tailrace monitoring for DO levels will resume when operations return to normal.

Reporting: The occurrences of non-compliance and summaries of WE responses to these occurrences will be filed with the agencies and FERC within 30 days following detection and resultant mitigation action(s).

Alternative Corrective Measures: If low DO occurrences should become common or protracted, it may become necessary to revise this plan. Any revision to this plan will require agency consultation.

~~Vertical Profile Measurements~~

~~If the winter vertical profile measurements indicate that portions of either flowage becomes deoxygenated under ice cover, the company will prepare a downstream monitoring plan within 10 working days to determine whether continued operations will cause downstream violations of the 5.0 mg/l DO standard~~.

Michaud.Dave

From: John Suppnick [suppnicj@state.mi.us]
Sent: Monday, May 21, 2001 12:01 PM
To: Dave.Michaud@wepco.com
Cc: Kurt Newman
Subject: Review of Revised Water Quality Monitoring Plan

Dave,

I have reviewed your revised water quality monitoring plan dated May 21, 2001 for the Chalk Hills and White Rapids projects and approve of the revisions proposed. The revisions proposed are to reduce the continuous dissolved oxygen and temperature monitoring to spot checks in the early morning, three times per week during the June through September season once every five years beginning in 2003. The remainder of the monitoring plan remains substantially unchanged.

If you have any questions give me a call at 517-335-4192

John

Michaud.Dave

From: Michaud.Dave
Sent: Monday, May 21, 2001 2:34 PM
To: Charles Verhoeven (E-mail)
Subject: FW: Review of Revised Water Quality Monitoring Plan

2001wq monitoring plan.doc

Charles, I have been working with John Suppnick at MDEQ on a revised water quality monitoring plan for the Chalk Hill and White Rapids projects on the Menominee River. This past year, we completed the initial license required 3-years of continuous monitoring (summer months only). Note that no water quality related problems were detected during this period. The attached marked up WQ monitoring plan is our proposed modification to the original plan. While MDEQ is the 401 certifing entity for these projects (the discharges occur in MI waters), John and I thought that you may want to review this modified plan, as well. We would appreciate any comments/recommendations you might have on this plan.

If your role at WDNR has changed since last year when we worked together on the WQ monitoring plan for the WSSA projects, please forward this note to the appropriate staff person in the Lake Michigan District Office.

I'd appreciate your comments by June15th.

Thanks, in advance for your time.
-----Original Message-----
From: John Suppnick [mailto:suppnicj@state.mi.us]
Sent: Monday, May 21, 2001 12:01 PM
To: Dave.Michaud@wepco.com
Cc: Kurt Newman
Subject: Review of Revised Water Quality Monitoring Plan

Dave,

I have reviewed your revised water quality monitoring plan dated May 21, 2001 for the Chalk Hills and White Rapids projects and approve of the revisions proposed. The revisions proposed are to reduce the continuous dissolved oxygen and temperature monitoring to spot checks in the early morning, three times per week during the June through September season once every five years beginning in 2003. The remainder of the monitoring plan remains substantially unchanged.

If you have any questions give me a call at 517-335-4192

John

Michaud.Dave

From: Meronek, Thomas [meront@mail01.dnr.state.wi.us]
Sent: Tuesday, June 05, 2001 4:33 PM
To: 'David T. Michaud'
Cc: 'Jim Fossum'
Subject: 2001WQ monitoring of Little Q.

Dave,

I have the following comments on the WQ plan.

Please change the designation refering to the Regional Water Leader as receiver of the data, to regional FERC coordinator. I believe this occurs
in two spots in the protocol. I will be the contact on the water quality
issues from here forward. Thanks. Tom.