We energies

231 W. Michigan Street
Milwaukee, WI 53203
www.we-energies.com

ORIGINAL

June 28, 2004

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: Chalk Hill Hydroelectric Project-FERC No. 2394-~~017~~ 066, -067
White Rapids Hydroelectric Project-FERC No. 2357-~~003~~ 067, -068
Article 405-Water Quality Monitoring Plan
Article 406-Water Chemistry / Sediment Chemistry / Fish Contaminant Monitoring Plan

Dear Ms Sales:

Wisconsin Electric (WE) doing business as We Energies, is hereby filing one original and eight additional copies of the revised Water Quality Monitoring Plan for the above mentioned Projects.

The revisions primarily impact the sections of the Plan addressing fish contaminant monitoring. Specifically, the revised plan identifies the species of fish to be collected and the analyses to be performed on these fish.

The original Water Quality Monitoring Plan (Article 405) was approved by the Commission by order dated January 21, 1998 while, the Water Chemistry / Sediment Chemistry / Fish Contaminant Monitoring Plan (Article 406) was approved by the Commission by order dated December 30, 1997.

As a clarifying note, all of the monitoring elements specified in Articles 405 and 406 (Water Quality; Water Chemistry / sediment Chemistry; Fish Contaminant) are addressed in the enclosed document entitled: **Water Quality Monitoring Plan** . The initial Water Quality Monitoring Plan was subsequently modified by the Company, approved by the state agencies, and filed with the Commission in correspondence dated July 17, 2001.

Included in this filing are the following:

Exhibit A; The final revised version of the plan;
Exhibit B; Comments received from the two state agencies consulted as part of this revision action;
Exhibit C; The marked up July, 2001 version of the plan illustrating where changes suggested by the company and agencies were made.

All recommended changes suggested by the agencies were incorporated into the final version of the plan.

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

Please call me at 906-779-2547 if you have any questions regarding this matter.

Sincerely

William Rauscher

William Rauscher
Manager, Hydroelectric Operations

cc: Thomas Meronek, WDNR
Jessica Mistak, MDNR
Larry Thompson. USFWS
John Suppnick, MDEQ

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 Monday, June 28, 2004

Annie Salmona
We Energies

Annie Salmona
We Energies
333 W. Everett Street
Milwaukee, WI 53203
(414) 221-4151

EXHIBIT A

Revised Water Quality Monitoring Plan

Chalk Hill - FERC Project No. 2394-006

White Rapids - FERC Project No. 2357-003

Wisconsin Electric Power Company

June 28, 2004

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. Alternately, Winkler Titrations of water samples retained from the river may be conducted to yield measurements of D.O. 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 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.

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.

Ten legal size walleye (greater than 15 inches) and 10- bottom-feeding fish, such as white sucker or red horse sucker will be collected during early spring from each flowage using trap nets or electrofishing equipment. Gill nets may only be used if trap nets or electrofishing fails to capture sufficient numbers of fish. . Prior to fish collection activities, the company or its contractor for fish collection shall notify the appropriate fish managers and game wardens for both Wisconsin and Michigan as to their anticipated collection activities (e.g., days on site; numbers and kinds of fish being collected; purpose, etc.).

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 (501(c)3-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:

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

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

phosphorus, total selenium, total silver, total zinc, acid volatile sulfides[**], *and total PCB.*

Edible fish filets shall be analyzed using US EPA methods for the following contaminants: *Mercury and total PCBs*

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 federa 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 a so 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

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

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

[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.

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 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 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.

EXHIBIT B

Michaud.Dave

From: Michaud.Dave
Sent: Monday, April 26, 2004 8:04 AM
To: 'charles.verhoeven@dnr.state.wi.us'
Cc: Rauscher.Bill; 'suppnicj@michigan.gov'
Subject: FW: Suggested Revisions-Water Quality Monitoring Plans- CH, WR, WSSA-covered Projects

Charles:

I believe you are still the person referenced in the Water Quality Section of the Wilderness Shores Settlement Agreement with whom we are to interact as it relates to changes in the Water Quality Monitoring Plan for We Energies' hydroelectric projects on the Menominee River.

Attached to this note are two revised plans; one covers the Chalk Hill and White Rapids Projects, the other covers our remaining projects on the Michigamme and Menominee Rivers. It is our understanding that the MDEQ is the agency of record for the 401 certificates that have been issued for all of these plants and so we began discussions with the MDEQ on this matter. Please note that the changes largely involve the collection and analysis of fish to fulfill the contaminant monitoring provisions of these two plans. None the less, since five of these plants are situated on the border with Wisconsin, we believed it was appropriate to provide your staff an opportunity to review these documents before they are filed with FERC.

We would appreciate your comments / recommendations by May 31,2004.

I can be reached at 414-221-2187 if you have any questions regarding this matter.

Thank you in advance for your time.

-----Original Message-----
From: John Suppnick [mailto:SUPPNICJ@michigan.gov]
Sent: Monday, April 19, 2004 2:01 PM
To: Dave.Michaud@we-energies.com
Cc: Jessica Mistak
Subject: Re: Suggested Revisions-Water Quality Monitoring Plans- CH, WR, WSSA-covered Projects

Dave,
We have reviewed the revised water quality monitoring plans for the Wilderness Shores Facilities and for the Chalk Hill/White Rapids Facilities that you sent us via email on April 7, 2004. We agree with the plan for Chalk Hill and White Rapids projects except that on page 5 the reference to fish samples should say edible filets not whole fish samples.

We concur with the revised plan for the Wilderness Shores Facilities except that in Appendix A the language describing the fish samples to be collected from the Kingsford and Big Quinnesec Falls Impoundments should be revised to make it clear that 20 fish (10 predators and 10 bottom feeders) will be collected from each impoundment.

We agree that the plan should be sent to the State of Wisconsin for review also. Jessica Mistak has informed me that Tom Meronek is no longer the DNR contact on these matters however he would probably know who now covers FERC issues. His email is:
Thomas.Meronek@dnr.state.wi.us The Settlement Agreement lists the Northeast Regional Water Leader as the contact point for modifications of the study plan.

Let me know if you have any questions about these comments.

John

John Suppnick
Michigan Department of Environmental Quality
Water Division
517-335-4192
suppnicj@michigan.gov

>>> "Michaud.Dave" <Dave.Michaud@we-energies.com> 04/07/04 10:10AM >>>
Per our discussions regarding the fish contaminant monitoring effort and per your request, I've revised the two subject WQ monitoring plans. After your review and concurrence, I'd suggest that the revised plans be forwarded to *WDNR for their review prior to plan revision finalization and filing* with FERC.

<<CH Wr july, 2001 WQ monitoring plan, 4-2004 rev.DOC>> <<2001wq monitoring plan,April,2004 revision.doc>>

Michaud.Dave

From: Strom, Paul E. [Paul.Strom@dnr.state.wi.us]
Sent: Friday, May 28, 2004 2:18 PM
To: Dave.Michaud@we-energies.com; suppnicj@michigan.gov
Cc: Verhoeven, Charles R; Vollbrecht, Mary Ellen; Scott, Michael D.
Subject: WQ Monitoring Plans - CH, WR, WSSA-covered projects

Dave, John, and others,

Thank you for providing WDNR with copies of the revised water quality monitoring plans for the Chalk Hill/White Rapids and Wilderness Shores facilities. I have reviewed both plans and concur with them as is, including the revisions requested by MDEQ. One very minor comment is that both plans refer to the option of soliciting creeled specimens from fishermen and in return donating $100 to the donor's preferred charity (301(c) recognized). My question is simply should this be 501(c)3 recognized? I just wasn't familiar with 301(c) and thought perhaps a typo was involved. I did an internet search for 301(c) and found nothing related to charities either. If 301(c) is correct for these purposes please just ignore this comment! (but I'd be curious to know what it refers to)

Both plans refer to contacting the WDNR Northeast Region Water Leader under various circumstances. This remains the case for these conditions regardless of recent changes in fishery and state FERC staff. I believe there will be a new fisheries contact in our Northeast Region soon.

Again, Thank you for providing us with copies of these revised plans.

Paul E. Strom
Rivers Team Leader
Bureau of Fisheries Mgt. and Habitat Protection
WDNR - Madison
608-266-9273

EXHIBIT C

Revised Water Quality Monitoring Plan

Chalk Hill - FERC Project No. 2394-006

White Rapids - FERC Project No. 2357-003

Wisconsin Electric Power Company

June 2, 2004~~July 2, 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. Alternately, Winkler Titrations of water samples retained from the river may be conducted to yield measurements of D.O. 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 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.

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~~ tTen legal size walleye (greater than 15 inches) and 10- bottom-feeding fish, such as white sucker or red horse sucker will be collected during early spring from each flowage using trap nets or electrofishing equipment. Gill nets may only be used if trap nets or electrofishing fails to capture sufficient numbers of fish. ~~Also, if present, at least 10 carp will be retained for MDEQ funded analyses~~. Prior to fish collection activities, the company or its contractor for fish collection shall notify the appropriate fish managers and game wardens for both Wisconsin and Michigan as to their anticipated collection activities (e.g., days on site; numbers and kinds of fish being collected; purpose, etc.).

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 (3501(c)–3-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.*

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

~~*Dieldrin; DDE; DDD; DDT*~~; ~~*m*~~*Mercury ; and total PCBs* ~~*(Arochlors 1242, 1248, 1254, 1260); toxaphene; and the chlordane, dioxin, and dibenzofuran congeners listed in Table 1.*~~*(to be deleted)*

** 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 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.

20040702-0076

We Energies
231 W. Michigan Street
Milwaukee, WI 53203
www.we-energies.com

June 28, 2003

ORIGINAL

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: Way Dam Hydroelectric Project and Michigamme Reservoir- FERC No. 1759-035
Hemlock Falls Hydroelectric Project - FERC No. 2074-007
Peavy Falls Hydroelectric Project - FERC No. 11830-000
Lower Paint Hydroelectric Project - FERC No. 2072-008
Michigamme Falls Hydroelectric Project - FERC No. 2073-008
Twin Falls Hydroelectric Project - FERC No. 11831-000
Kingsford Hydroelectric Project - FERC No. 2131-020
Big Quinnesec Falls Hydroelectric Project- FERC No. 1980-009

Articles 407 (Project Nos. 2072, 11830); 408 (Project Nos. 2073, 2074, 2131, 11831); and 409 (Project Nos. 1759, 1980) - Water Quality Monitoring Plan Modifications

Wisconsin Electric (WE) doing business as We-Energies, is hereby filing, for FERC approval, one original and eight additional copies of a revised Water Quality Monitoring Plan (the Plan) dated June 15, 2004, for the subject projects. The initial Plan was filed with FERC in correspondence dated April 11, 2000 and the Plan's monitoring requirements, as specified by MDEQ, the 401 permitting authority for these projects, were subsequently adopted by FERC as Articles 407, 408, and 409 for the subject projects as specified above. The continuous monitoring portion of the plan was subsequently modified and the modified plan was filed with FERC in correspondence dated May 20, 2003. These latest modifications to the Plan are being done with approval from the Wisconsin and Michigan state water quality agencies who are responsible for water quality issues in the river segments affected by these projects.

As required by the original plan, We Energies was to initiate sampling of selected adult fish in 2004 for chemical contaminant measurement. Prior to initiating this work, We Energies initiated discussions with MDEQ. As a result of these discussions, both MDEQ and We Energies believed it was necessary to revise the original plan section addressing both the number of fish to be collected and their analyses.

Attached are the following:

- Exhibit A, a final version of the revised Plan;
- Exhibit B, state agency comments received on the draft revisions;
- Exhibit C, a copy of the proposed revisions.

If you have any questions regarding this action, you may contact me at 906-779-2547

Sincerely,

William Rauscher

Mr. William R. Rauscher, Manager
Hydroelectric Operations Division

Attachments

cc: Mr. Thomas Meronek, WDNR
Ms Jessica Mistak, MDNR
Mr. John Suppnick, MDEQ
Mr. Gerald Saalfeld, MDEQ

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 Monday, June 28, 2004

Annie Salmona
We Energies

Annie Salmona
We Energies
333 W. Everett Street
Milwaukee, WI 53203
(414) 221-4151

EXHIBIT A

FINAL WATER QUALITY MONITORING PLAN

For Projects referred to
in the Wilderness Shores Settlement Agreeement
"WSSA"

Way Dam and Michigamme Reservoir	FERC Project No.	1759
Hemlock Falls Plant	"	2074
Lower Paint Plant, Dam and Diversion Canal	"	2072
Peavy Falls Plant and Peavy Pond	"	11830
Michigamme Falls Plant	"	2073
Twin Falls Plant	"	11831
Kingsford Plant	"	2131
Big Quinnesec Falls Plant	"	1980

Wisconsin Electric Power Company

June 15 2004

Preface

The initial Water Quality Monitoring Plan (the Plan filed with FERC in April, 2000) specified two years of continuous monitoring for Temperature (T) and / or Dissolved Oxygen (DO) at up to 9-locations within the Michigamme / Menominee River basin. This monitoring work was completed in 2002. No compliance problems were encountered at any of the T-only monitoring locations and as a result, the Company requested that monitoring work at these locations be discontinued. Problems in meeting the DO standard were encountered at three projects, but not at the remaining ones. Continuous monitoring for T and DO is being continued at the three projects per agreement with the MDEQ. These projects are specified in the revised Plan.

Similarly, vertical profile measurement work has been reduced in the revised Plan; these measurements will now only be made in the flowages where continuous monitoring for T, DO will occur.

No other changes to the Plan are contemplated until DO problems are resolved at the three projects. A long term monitoring plan for all projects covered by the WSSA will be prepared in early 2006.

I. Continuous Water Quality Monitoring

A. Temperature

As stated in the Wilderness Shores Settlement Agreement the company shall not discharge water from the subject projects that exceeds the following monthly maximum temperatures (in degrees F,) when flows are greater than or equal to the 95 percent exceedance values:

J	F	M	A	M	J	J	A	S	O	N	D
38	38	41	56	70	80	83	81	74	64	49	39

To determine compliance, continuous monitoring for temperature shall occur at two locations:
downstream of Peavy Falls Dam; and downstream of Michigamme Falls Dam

Continuous recording instruments will be used with actual measurements being programmed to occur on the hour (24 measurements per day, per location).

B. Dissolved Oxygen (DO)

As stated in the WSSA, the Company shall not cause the dissolved oxygen (DO) concentration measured in the Michigamme, Paint, and Menominee Rivers immediately downstream of the subject projects to be less than 5.0 mg/l. To determine compliance with this standard, continuous monitoring for DO and percent oxygen saturation shall occur

at three locations where compliance with the DO standard has not been attained, based on the initial two years of continuous monitoring: Within the Way Dam powerhouse; downstream of but within the tailraces of the Peavy Falls, and Michigamme Falls, powerhouses. Monitoring conducted in the Michigamme River between the Way and Hemlock dams during July, 1997 demonstrated that little variation in DO either with depth or downstream distance occurs in the deep run river segment between these two dams, thus it is unnecessary to monitor downstream of either as long as the DO levels in the water being released by Way Dam is known. Maintenance of the standard for DO below Way dam will guarantee maintenance of the DO standard below Hemlock Dam.

With the exception of the instrument installed within the Way Dam powerhouse, all remaining instruments to be used will be portable, pre-programmed continuous recording instruments (eg, such as the Hydro Lab Recorder) that will take DO measurements on the hour (24 measurements per day, per location).

The Schneider Model WQ100 instrument, that has been plumbed into the turbine bearing cooling line within the Way Dam powerhouse, will likewise be programmed to measure DO each hour during the period May through September. This instrument draws water from the cooling line, which in turn, draws water from the intake forebay. The intake forebay supplies water to the turbine which is then discharged to the plant's tailrace. The intake forebay is situated at a depth that is often below the summer thermocline. The water at these depths, following periods of low inflow to the reservoir and warm ambient air temperatures, often exhibits DO levels below the DO standard. Monitoring performed by Wisconsin Electric in 1995-96 established the relationship between low DO levels in the reservoir below the thermocline and subsequent low DO levels in the tailrace.

C. Quality Assurance

The instrument's probes will be cleaned and calibrated at least once every two weeks, water quality and bio-fouling conditions permitting. If extensive fouling precludes servicing the meters on this schedule, meters will be changed out on a more frequent basis. 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 certified by NIST. 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.

D. Monitoring Schedule

Monitoring shall be initiated, water conditions permitting, as close to July 1 as possible and shall continue through September 30. The continuous monitoring portion of this program shall continue at the above -specified locations until all facilities are in compliance with the DO standard.

The MDEQ shall be consulted to devise a strategy for identifying the cause of the violations and to identify the actions needed to correct the problem.

II. Impoundment Monitoring

A. Locations / Schedule

Surface to bottom vertical profiles of temperature and DO shall be made in the one deepest location closest to each of the three project's intake, every two weeks from July 1 through September 30 . Measurements shall be made at 1.0 meter increments until water temperature is found to change more than 1.0 degrees Centigrade (C) per meter, then sampling shall be done at 0.5 meter increments. Secchi disk water transparency measurements shall be made concurrent with the vertical profile measurements. When secchi disk measurements are taken, time of day, weather conditions (including cloud cover), and wave cond tions will be recorded on the field data sheets.

B. Equipment / Quality Assurance

A Hydrolab surveyor or equivalent water quality analyzer will be used for the measurements. Instrument calibration shall be consistent with procedures used for the continuous monitoring equipment (see Section I.C).

III. Chemical Monitoring

Water, sediment, and fish shall be monitored as prescribed in Appendix A to this document.

IV. Reporting

The company will compile and summarize all temperature and DO data in annual written reports provided to the Chief of the Surface Quality Division of the MDEQ and WDNR Northeast Region Water Leader. Reports shall be made immediately anytime water quality violations are found. At all other times, water quality data will be provided to the Chief of the Surface Water Quality Division of the MDEQ, and the WDNR Northeast Region Water Leader within five (5) working days of the

request. For profile sampling, the results of all measurements shall be submitted including any replicate measurements. For each continuous monitoring locations, the following will be provided:

- Determinations of the daily minimum, daily maximum and daily average DO and temperature each day monitored. All raw data will be provided. An accounting shall be made for the entire monitoring period. All data gaps shall be fully explained;

- An upstream/downstream comparison of the DO and temperature including the frequency and magnitude of any values that exceed or violate the standard at each station;

- An evaluation of the relationship between any observed temperature or DO violations and other environmental factors that were monitored such as the time of day, stream flow, and operating characteristics of upstream projects;

- All quality assurance data.

Chemical Monitoring Plan

1. Monitoring Locations / Equipment

The quarterly water chemistry samples will be collected from eight locations[1]. Ten percent of quarterly (December, May, July, October) samples will be replicated.

Sediment samples will be obtained from 8-locations representing depositional areas in each impoundment. Two spatially composited fine-grained sediment samples will be collected at each location for analysis using the Great Lakes and Environmental Assessment Section (GLEAS) Procedure #64 (copy attached to this plan).

With respect to the fish contaminant portion of this monitoring plan, it is important that the contaminant data collected support the objectives of both states' fish consumption advisory programs. The MDEQ recommends that for the purpose of supporting the consumption advisories, the upper Menominee River watershed be divided into two reaches; the Michigamme River and the Menominee River.

Prior to the collection of fish by the company or its contractor, the appropriate fish managers and game wardens for Michigan and, as necessary, for Wisconsin shall be notified. Specifically, the appropriate individuals shall be informed as to when and where fish collection is to be conducted; what fishing gear will be employed; what species are to be collected, as well as the numbers of each species that may be retained for contaminant analysis.

The fish will be collected during early spring from the subject waters. With respect to gear type used for fish collection, MDNR and MDEQ recommend that fish be collected using electroshocking or trap netting. If neither of these techniques yield sufficient specimens for analysis, limited gillnetting may be used.,
The MDEQ requests that the following number and species of fish be collected from each respective water body for analysis:

For the Michigamme River projects (Michigamme Reservour, Peavy Pond, Michigamme Falls impoundment , a total of 30 legal size fish, representing two top predator fish species (walleye and northern pike) shall be collected; no less than 10-individuals shall be collected from each impoundment; at least 10 but not more than 20-individuals of each species should be collected in total from all three water bodies, but the 10 individuals do not have to be taken from the same impoundment.

[1] Upstream and downstream Michigamme Reservoir; downstream of Peavy, Michigamme Falls, Lower Paint, Twin Falls, Kingsford, Big Quinnesec dams.

For the Twin Falls impoundment, a total of 20- legal size to predator fish, (10-walleye, 10-northern pike) shall be collected.

For the Kingsford and Big Quinnesec Falls impoundments, a total of 20-fish (10-legal size walleye or northern pike plus 10-bottom feeder-type species, such as sucker, of a size that would be retained for eating) shall be collected from each of the two impoundments.

Since the capture of top predator species, such as 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 (501 (c)3 -recognized) in the donor's name.

Collected fish will be placed on ice until frozen. The fish fillets shall be sent to a contract laboratory for the required analyses.

The fish collected from the Michigamme Reservoir, Peavy Pond, Michigamme Falls impoundment, and Twin Falls impoundment shall be analyzed for mercury only. The fish collected from the Kingsford and Big Quinnesec Falls impoundments shall be analyzed for mercury and total PCBs.

2. Monitoring Schedule

The first - once every five year - quarterly water quality samples will be collected coincident with the first year of continuous water quality monitoring to take advantage of committed staff resources.

The first sediment samples will be collected during the 20th year of the new license period.

The first fish contaminant sampling will be staggered three years after the first two years of the continuous water quality monitoring program (e.g., the first collection effort will be in 2004) to reduce demands on staff and will be repeated every ten years of the license period.

3. Analyses to be Performed

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

Alkalinity, chlorophyll-a [2], color, dissolved sulfates, pH, hardness, Secchi depth, specific conductivity, total ammonia, total dissolved solids, total

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

nitrates, total nitrites, total nitrogen, total organic carbon, total phosphorus, total suspended solids.

Each 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 [3], and total PCB.

Edible fish fillets shall be analyzed using US EPA methods for mercury and total PCBs.

[3] EPA methods exist for acid soluble and acid insoluble sulfides. Non-EPA methods must be used for acid volative sulfides.

EXHIBIT B

Michaud.Dave

From: Michaud.Dave
Sent: Monday, April 26, 2004 8:04 AM
To: 'charles.verhoeven@dnr.state.wi.us'
Cc: Rauscher.Bill; 'suppnicj@michigan.gov'
Subject: FW: Suggested Revisions-Water Quality Monitoring Plans- CH, WR, WSSA-covered Projects

Charles:

I believe you are still the person referenced in the Water Quality Section of the Wilderness Shores Settlement Agreement with whom we are to interact as it relates to changes in the Water Quality Monitoring Plan for We Energies' hydroelectric projects on the Menominee River.

Attached to this note are two revised plans; one covers the Chalk Hill and White Rapids Projects, the other covers our remaining projects on the Michigamme and Menominee Rivers. It is our understanding that the MDEQ is the agency of record for the 401 certificates that have been issued for all of these plants and so we began discussions with the MDEQ on this matter. Please note that the changes largely involve the collection and analysis of fish to fulfill the contaminant monitoring provisions of these two plans. None the less, since five of these plants are situated on the border with Wisconsin, we believed it was appropriate to provide your staff an opportunity to review these documents before they are filed with FERC.

We would appreciate your comments / recommendations by May 31,2004.

I can be reached at 414-221-2187 if you have any questions regarding this matter.

Thank you in advance for your time.

-----Original Message-----
From: John Suppnick [mailto:SUPPNICJ@michigan.gov]
Sent: Monday, April 19, 2004 2:01 PM
To: Dave.Michaud@we-energies.com
Cc: Jessica Mistak
Subject: Re: Suggested Revisions-Water Quality Monitoring Plans- CH, WR, WSSA-covered Projects

Dave,
We have reviewed the revised water quality monitoring plans for the Wilderness Shores Facilities and for the Chalk Hill/White Rapids Facilities that you sent us via email on April 7, 2004. We agree with the plan for Chalk Hill and White Rapids projects except that on page 5 the reference to fish samples should say edible filets not whole fish samples.

We concur with the revised plan for the Wilderness Shores Facilities except that in Appendix A the language describing the fish samples to be collected from the Kingsford and Big Quinnesec Falls Impoundments should be revised to make it clear that 20 fish (10 predators and 10 bottom feeders) will be collected from each impoundment.

We agree that the plan should be sent to the State of Wisconsin for review also. Jessica Mistak has informed me that Tom Meronek is no longer the DNR contact on these matters however he would probably know who now covers FERC issues. His email is: Thomas.Meronek@dnr.state.wi.us The Settlement Agreement lists the Northeast Regional Water Leader as the contact point for modifications of the study plan.

Let me know if you have any questions about these comments.

John

John Suppnick
Michigan Department of Environmental Quality
Water Division
517-335-4192
suppnicj@michigan.gov

>>> "Michaud.Dave" <Dave.Michaud@we-energies.com> 04/07/04 10:10AM >>>
Per our discussions regarding the fish contaminant monitoring effort and per your request, I've revised the two subject WQ monitoring plans. After your review and concurrence, I'd suggest that the revised plans be forwarded to WDNR for their review prior to plan revision finalization and filing with FERC.

<<CH Wr july, 2001 WQ monitoring plan, 4-2004 rev.DOC>> <<2001wq monitoring plan,April,2004 revision.doc>>

Michaud.Dave

From: Strom, Paul E. [Paul.Strom@dnr.state.wi.us]

Sent: Friday, May 28, 2004 2:18 PM

To: Dave.Michaud@we-energies.com; suppnicj@michigan.gov

Cc: Verhoeven, Charles R; Vollbrecht, Mary Ellen; Scott, Michael D.

Subject: WQ Monitoring Plans - CH, WR, WSSA-covered projects

Dave, John, and others,

Thank you for providing WDNR with copies of the revised water quality monitoring plans for the Chalk Hill/White Rapids and Wilderness Shores facilities. I have reviewed both plans and concur with them as is, including the revisions requested by MDEQ. One very minor comment is that both plans refer to the option of soliciting creeled specimens from fishermen and in return donating $100 to the donor's preferred charity (301(c) recognized). My question is simply should this be 501(c)3 recognized? I just wasn't familiar with 301(c) and thought perhaps a typo was involved. I did an internet search for 301(c) and found nothing related to charities either. If 301(c) is correct for these purposes please just ignore this comment! (but I'd be curious to know what it refers to)

Both plans refer to contacting the WDNR Northeast Region Water Leader under various circumstances. This remains the case for these conditions regardless of recent changes in fishery and state FERC staff. I believe there will be a new fisheries contact in our Northeast Region soon.

Again, Thank you for providing us with copies of these revised plans.

Paul E. Strom
Rivers Team Leader
Bureau of Fisheries Mgt. and Habitat Protection
WDNR - Madison
608-266-9273

EXHIBIT C

FINAL WATER QUALITY MONITORING PLAN

For Projects referred to
in the Wilderness Shores Settlement Agreeement
"WSSA"

Way Dam and Michigamme Reservoir	FERC Project No.	1759
Hemlock Falls Plant	"	2074
Lower Paint Plant, Dam and Diversion Canal	"	2072
Peavy Falls Plant and Peavy Pond	"	11830
Michigamme Falls Plant	"	2073
Twin Falls Plant	"	11831
Kingsford Plant	"	2131
Big Quinnesec Falls Plant	"	1980

Wisconsin Electric Power Company

June 2, ~~May 15,~~ 2003

Preface

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IV. Reporting

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request. For profile sampling, the results of all measurements shall be submitted including any replicate measurements. For each continuous monitoring locations, the following will be provided:

- Determinations of the daily minimum, daily maximum and daily average DO and temperature each day monitored. All raw data will be provided. An accounting shall be made for the entire monitoring period. All data gaps shall be fully explained;

- An upstream/downstream comparison of the DO and temperature including the frequency and magnitude of any values that exceed or violate the standard at each station;

- An evaluation of the relationship between any observed temperature or DO violations and other environmental factors that were monitored such as the time of day, stream flow, and operating characteristics of upstream projects;

- All quality assurance data.

Chemical Monitoring Plan

1. Monitoring Locations / Equipment

The quarterly water chemistry~~quality~~ samples will be collected from eight locations[1]. Ten percent of quarterly (December, May, July, October) samples will be replicated.

Sediment samples will be obtained from 8-locations representing depositional areas in each impoundment. Two spatially composited fine-grained sediment samples will be collected at each location for analysis using the Great Lakes and Environmental Assessment Section (GLEAS) Procedure #64 (copy attached to this plan).

With respect to the fish contaminant portion of this monitoring plan, it is important that the contaminant data collected support the objectives of both states' fish consumption advisory programs. The MDEQ recommends that for the purpose of supporting the consumption advisories, the upper Menominee River watershed be divided into two reaches; the Michigamme River and the Menominee River.

Prior to the collection of fish by the company or its contractor, the appropriate fish managers and game wardens for Michigan and, as necessary, for Wisconsin shall be notified. Specifically, the appropriate individuals shall be informed as to when and where fish collection is to be conducted; what fishing gear will be employed; what species are to be collected, as well as the numbers of each species that may be retained for contaminant analysis.

The fish will be collected during early spring from the subject waters. With respect to gear type used for fish collection, MDNR and MDEQ recommend that fish be collected using electroshocking or trap netting. If neither of these techniques yield sufficient specimens for analysis, limited gillnetting may be used.,

The MDEQ requests that the following number and species of fish be collected from each respective water body for analysis:

For the Michigamme River projects (Michigamme Reservoir, Peavy Pond, Michigamme Falls impoundment , a total of 30 legal size fish, representing two top predator fish species (walleye and northern pike) shall be collected; no less than 10-individuals shall be collected from each impoundment; at least 10 but not more than 20-individuals of each species should be collected in total from all three water bodies, but the 10 individuals do not have to be taken from the same impoundment.

[1] Upstream and downstream Michigamme Reservoir; downstream of Peavy, Michigamme Falls, Lower Paint, Twin Falls, Kingsford, Big Quinnesec dams.

For the Twin Falls impoundment, a total of 20- legal size to predator fish, (10-walleye, 10-northern pike) shall be collected.

For the Kingsford and Big Quinnesec Falls impoundments, a total of 20-fish (10-legal size walleye or northern pike plus 10-bottom feeder-type species, such as sucker, of a size that would be retained for eating) shall be collected from each of the two impoundments. ~~Individual fish data collected from the Michigamme Reservoir, Michigamme Falls Impoundment, Peavy Pond, and the Paint River Pond can therefore be pooled. Similarly, individual fish data from the Twin Falls, Kingsford, and Big Quinnesec Impoundments can be pooled.~~

~~The fish will be collected during early spring from the subject waters, using trap nets or electrofishing equipment.~~ Since the capture of top predator species, such as 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 (5301 (c)3 -recognized) in the donor's name.

Collected ~~F~~fish will be placed on ice until frozen. The fish fillets shall be sent to a contract laboratory for the required analyses. ~~The MDEQ will be consulted prior to the initiation of the required analyses as to whether the MDEQ wishes portions of collected fish tissues for comparitive analyses~~

The fish collected from the Michigamme Reservoir, Peavy Pond, Michigamme Falls impoundment, and Twin Falls impoundment ~~River waters (Table A-1)~~ shall be analyzed for mercury only. The fish collected from the Kingsford and Big Quinnesec Falls impoundments, ~~while the fish collected from the Menominee River waters (Table A-2)~~ shall be analyzed for mercury and total PCBs. ~~the organic contaminants listed in Section 3 and Table A-3~~

2. Monitoring Schedule

The first - once every five year - quarterly water quality samples will be collected coincident with the first year of continuous water quality monitoring to take advantage of committed staff resources.

The first sediment samples will be collected during the 20th year of the new license period.

The first fish contaminant sampling will be staggered three years after the first two years of the continuous water quality monitoring program (e.g., the first collection effort will be in 2004) to reduce demands on staff and will be repeated every ten years of the license period.

3. Analyses to be Performed

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

Alkalinity, chlorophyll-a [2], color, dissolved sulfates, pH, hardness, Secchi depth, specific conductivity, total ammonia, total dissolved solids, total nitrates, total nitrites, total nitrogen, total organic carbon, total phosphorus, total suspended solids.

Each 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 [3], and total PCB.

Edible fish fillets shall be analyzed using US EPA methods for mercury and total PCBs. ~~the organic contaminants: Dieldrin; DDE; DDD; DDT; PCBs (Arochlors 1242, 1248, 1254, 1260); toxaphene; Heptachor epoxide; and the chlordane congeners listed in Table A- 3.~~

[2] While the company will make reasonable efforts to analyze this parameter, we are aware that few area contract laboratories perform this analysis.
[3] EPA methods exist for acid soluble and acid insoluble sulfides. Non-EPA methods must be used for acid volative sulfides.

~~Table A-1 Species and Size Ranges of Fish from the Michigamme River mpoundments to be analyzed for mercury.~~

~~Species~~	~~Quantity~~	~~Fish Length Range (inches)~~	~~Type of Filet~~
~~Walleye~~	~~5~~	~~15" - 18.9 "~~	~~Skin on Filet~~
~~Walleye~~	~~5~~	~~19" +~~	~~Skin on Filet~~
~~Burbot~~	~~10~~	~~19" +~~	~~Skin off Filet~~
~~Northern Pike~~	~~10~~	~~22"+~~	~~Skin off Filet~~
~~White Sucker~~	~~10~~	~~12" +~~	~~Skin on Filet~~

~~*Table A-2. Species and size ranges of fish from the Menominee River Impoundments to be analyzed for Mercury and Organic Contaminants*~~

~~Species~~	~~Quantity~~	~~Fish Length Range (inches)~~	~~Type of Filet~~
~~Walleye~~	~~5~~	~~15-18.9"~~	~~Skin on Filet~~
~~Walleye~~	~~5~~	~~19 +~~	~~Skin on Filet~~
~~Red Horse Sucker~~	~~10~~	~~12 +~~	~~Skin on Filet~~
~~White Sucker~~	~~10~~	~~12 +~~	~~Skin on Filet~~
~~Carp~~	~~10 (if possible)~~	~~any length *~~	~~Skin off Filet~~

~~* Since carp are hard to collect in this reach, any carp collected should be retained.~~

Table A-3. Mercury and organic contaminants to be assayed in fish collected from the (WSSA) Specified flowages, and related levels of quantification to be achieved by analytical laboratory.

Contaminant	Analytical Level of Quantification
Dieldrin	5 ug/kg
4,4'-DDE	3 ug/kg
4,4'-DDD	5 ug/kg
4,4'-DDT	5 ug/kg
Mercury	10 ug/kg
PCBs (arochlors 1242, 1248, 1254, 1260)	25 ug/kg
Heptachor epoxide	3 ug/kg
Oxychlordane	3 ug/kg
gamma-Chlordane	3 ug/kg
alpha-Chlordane	3 ug/kg
trans-Nonachlor	3 ug/kg
cis-Nonachlor	3 ug/kg