WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

Wisconsin Public Service Corporation - Weston Units 3 & 4

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
2501 Morrison Avenue, Rothschild, WI
to
The Upper Wisconsin River in Marathon County

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Russell Rasmussen
Director, Bureau of Watershed Management

_____
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - January 01, 2010 **EXPIRATION DATE - December 31, 2014**

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1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
701	River water intake sampling point for Wisconsin River supply for Weston units 3 and 4

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - INTAKE WATER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Monthly	Grab	Optional monitoring, see paragraph 1.2.1.1

1.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

1.2.1.1 Influent Mercury Sampling

The Department **highly recommends** that the permittee collect a monthly sample that is representative of the intake water from the river and have it analyzed for low level mercury to help determine the intake mercury contribution to the discharge. This permit does not **require** that the permittee report an influent mercury sample result for any month.

1.2.1.2 Cooling Water Intake Structure (CWIS)

The permittee shall at all times properly operate and maintain all CWIS equipment. The permittee shall give advance notice to the Department of any planned changes in the location, design, operation, or capacity of the CWIS.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
112	Discharge from the coal pile runoff containment/detention pond that is treated for metals precipitation, suspended solids removal and pH control
102	Discharge from the metal wastewater treatment pond that includes wastewaters from boiler water acid/caustic demineralizer regeneration, reverse osmosis membrane cleaning, and non-chemical metal surface cleaning that are equalized and treated for metals precipitation, suspended solids removal and pH control
103	Discharge from the Weston 3 bottom ash wastewater treatment pond that includes wastewater from bottom ash sluicing, floor & equipment drain water, and reverse osmosis reject water from groundwater (treated to supply the boiler), that is equalized, treated to remove solids and adjusted for pH control
104	The blowdown discharge from the Weston 3 recycled water, condenser cooling tower system to control the concentration of dissolved solids
105	The blowdown discharge from the Weston 4 recycled water, condenser cooling tower system to control the concentration of dissolved solids
106	Total discharge from the combination of the unit 3 cooling tower blowdown (104) and unit 4 cooling tower blowdown (105) discharges
109	Effluent field blank sample needed to check for contamination of samples collected from outfall 002

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 112 - TREATED COAL PILE RUNOFF

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
Suspended Solids, Total	Daily Max	50 mg/L	3/Week	24-Hr Comp	See note 2.2.2.2
pH (Minimum)	Daily Min	4.0 su	Daily	Continuous	See note 2.2.3.1
pH (Maximum)	Daily Max	11 su	Daily	Continuous	See note 2.2.3.1
pH Total Exceedance Time Minutes	Monthly Total	446 minutes	Daily	Calculated	See note 2.2.3.1
pH Exceedances Greater Than 60 Minutes	Monthly Total	0 Number	Daily	Calculated	See note 2.2.3.1

2.2.2 Sampling Point 102 - METAL TREATMENT WASTEWATER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
pH (Minimum)	Daily Min	4.0 su	Daily	Continuous	See note 2.2.3.1
pH (Maximum)	Daily Max	11 su	Daily	Continuous	See note 2.2.3.1
pH Total Exceedance Time Minutes	Monthly Total	446 minutes	Daily	Calculated	See note 2.2.3.1
pH Exceedances Greater Than 60 Minutes	Monthly Total	0 Number	Daily	Calculated	See note 2.2.3.1
Suspended Solids, Total	Daily Max	100 mg/L	3/Week	24-Hr Comp	See note 2.2.2.2
Suspended Solids, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Comp	See note 2.2.2.2
Oil & Grease (Hexane)	Daily Max	20 mg/L	Weekly	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Weekly	Grab	
Iron, Total Recoverable	Daily Max	1.0 mg/L	Daily	24-Hr Comp	
Copper, Total Recoverable	Daily Max	1.0 mg/L	Daily	24-Hr Comp	

2.2.2.1 Metals Analyses

Unless specified otherwise in the table above, metals analyses shall measure metals as total recoverable. Measurements of total metals and total recoverable metals shall be considered as equivalent.

2.2.2.2 TSS Monitoring (Including Frequency Increase Following Limit Exceedence)

Total Suspended Solids shall be monitored three times per week (if possible, not on consecutive days), except as provided below. A daily sampling frequency for Total Suspended Solids (TSS) is required for 7 days from when sample results are available to the permittee to determine a daily maximum TSS limit exceedence has occurred. A daily sampling frequency for TSS shall be required for 30 days from when sample results are available to the permittee to determine a monthly average TSS limit exceedence has occurred.

2.2.3 Sampling Point 103 - BOTTOM ASH SLUICE WATER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
pH (Minimum)	Daily Min	4.0 su	Daily	Continuous	See note 2.2.3.1
pH (Maximum)	Daily Max	11 su	Daily	Continuous	See note 2.2.3.1
pH Total Exceedance Time Minutes	Monthly Total	446 minutes	Daily	Calculated	See note 2.2.3.1
pH Exceedances Greater Than 60 Minutes	Monthly Total	0 Number	Daily	Calculated	See note 2.2.3.1
Suspended Solids, Total	Daily Max	100 mg/L	3/Week	24-Hr Comp	See note 2.2.3.2
Suspended Solids, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Comp	See note 2.2.3.2
Oil & Grease (Hexane)	Daily Max	20 mg/L	Weekly	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Weekly	Grab	

2.2.3.1 Limitations for Continuous pH Monitoring

The permittee shall maintain the pH of the discharge within the range of 6.0 to 9.0 standard units (s.u.), except excursions are permitted subject to the following conditions:

- The pH is monitored continuously;
- The total time during which the pH is outside the range of 6.0 to 9.0 s.u. shall not exceed 446 minutes in any calendar month;
- No individual pH excursion outside the range of 6.0 to 9.0 s.u. shall exceed 60 minutes in duration; and
- No individual pH excursion shall be outside the range of 4.0 to 11.0 s.u.

2.2.3.2 TSS Monitoring (Including Frequency Increase Following Limit Exceedence)

Total Suspended Solids shall be monitored three times per week (if possible, not on consecutive days), except as provided below. A daily sampling frequency for Total Suspended Solids (TSS) is required for 7 days from when sample results are available to the permittee to determine a daily maximum TSS limit exceedence has occurred. A daily sampling frequency for TSS shall be required for 30 days from when sample results are available to the permittee to determine a monthly average TSS limit exceedence has occurred.

2.2.4 Sampling Point 104 - COOLING TOWER BLOWDOWN 3

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Chlorine, Total Resdl Discharge Time	Daily Max	120 min/day	Daily	See Permit	See note 2.2.4.1 below
Chlorine, Total Residual		µg/L	Daily	Grab	See note 2.2.4.2 below
Chlorine, Variable Limit		µg/L	Daily	Calculated	See note 2.2.4.3 below
Chlorine, Total Resdl Computed Compliance	Daily Max	0 Number	Daily	Calculated	

2.2.4.1 Time of Chlorine Discharge

Neither free available chlorine nor total residual chlorine shall be discharged for more than 2 hours per unit per day, except when chlorinating for macro-invertebrate control (as allowed in s. NR 290.12(2)(c), Wisconsin Adm. Code) in accordance with a Department approved macro-invertebrate management plan. The time of chlorine discharge shall be reported as the time that detectable levels of chlorine, using the analysis methods specified in this permit's "Chlorine Compliance and Analysis Methods" Standard Condition, are present in the cooling water discharge. The time of total residual chlorine discharge shall be monitored and summed for each day that chlorine is added to the condenser cooling water system.

2.2.4.2 Chlorine Sampling Procedure

At least one grab sample for total residual chlorine shall be collected during the peak chlorine discharge of each chlorination event. The discharge monitoring reported value shall be the maximum of the chlorination events for that day. A continuous monitor may be used to determine the peak value and length of chlorine discharge as long as it duplicates the accuracy of a NR 219 approved method.

2.2.4.3 Total Residual Chlorine Limitations

The daily maximum limit for total residual chlorine is 200 µg/L when chlorine is discharged for 160 minutes per day or less. If chlorine is discharged for more than 160 minutes per day, the daily maximum limit is 38 µg/L.

2.2.4.4 Cooling Tower Maintenance Chemicals

This discharge may not contain detectable amounts of any of the 126 priority pollutants contained in cooling tower maintenance chemicals including Chromium and Zinc.

2.2.5 Sampling Point 105 - COOLING TOWER BLOWDOWN 4

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Chlorine, Total Resdl Discharge Time	Daily Max	120 min/day	Daily	See Permit	See note 2.2.5.1 below
Chlorine, Total Residual		µg/L	Daily	Grab	See note 2.2.5.2 below
Chlorine, Variable Limit		µg/L	Daily	Calculated	See note 2.2.5.3 below
Chlorine, Total Resdl Computed Compliance	Daily Max	0 Number	Daily	Calculated	

2.2.5.1 Time of Chlorine Discharge

Neither free available chlorine nor total residual chlorine shall be discharged for more than 2 hours per unit per day, except when chlorinating for macro-invertebrate control (as allowed in s. NR 290.12(2)(c), Wisconsin Adm. Code) in accordance with a Department approved macro-invertebrate management plan. The time of chlorine discharge shall be reported as the time that detectable levels of chlorine, using the analysis methods specified in this permit's "Chlorine Compliance and Analysis Methods" Standard Condition, are present in the cooling water discharge. The time of total residual chlorine discharge shall be monitored and summed for each day that chlorine is added to the condenser cooling water system.

2.2.5.2 Chlorine Sampling Procedure

At least one grab sample for total residual chlorine shall be collected during the peak chlorine discharge of each chlorination event. The discharge monitoring reported value shall be the maximum of the chlorination events for that day. A continuous monitor may be used to determine the peak value and length of chlorine discharge as long as it duplicates the accuracy of a NR 219 approved method.

2.2.5.3 Total Residual Chlorine Limitations

The daily maximum limit for total residual chlorine is 200 µg/L when chlorine is discharged for 160 minutes per day or less. If chlorine is discharged for more than 160 minutes per day, the daily maximum limit is 38 µg/L.

2.2.5.4 Cooling Tower Maintenance Chemicals

This discharge may not contain detectable amounts of any of the 126 priority pollutants contained in cooling tower maintenance chemicals including Chromium and Zinc.

2.2.6 Sampling Point 106 - TOWER BLOWDOWN TOTAL 3 & 4

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
Chlorine, Total Resdl Discharge Time	Daily Max	240 min/day	Daily	See Permit	See note 2.2.6.1 below
Chlorine, Total Residual		µg/L	Daily	Grab	See note 2.2.6.2 below
Chlorine, Total Residual	Daily Max	0.9 lbs/day	Daily	Calculated	See note 2.2.6.3 below
Chlorine, Variable Limit		µg/L	Daily	Calculated	See note 2.2.6.4 below
Chlorine, Total Resdl Computed Compliance	Daily Max	0 Number	Daily	Calculated	

2.2.6.1 Time of Chlorine Discharge

Neither free available chlorine nor total residual chlorine shall be discharged for more than 2 hours per unit per day, except when chlorinating for macro-invertebrate control (as allowed in s. NR 290.12(2)(c), Wisconsin Adm. Code) in accordance with a Department approved macro-invertebrate management plan. The time of chlorine discharge shall be reported as the time that detectable levels of chlorine, using the analysis methods specified in this permit's "Chlorine Compliance and Analysis Methods" Standard Condition, are present in the cooling water discharge. The time of total residual chlorine discharge shall be monitored and summed for each day that chlorine is added to the condenser cooling water system.

2.2.6.2 Chlorine Sample Reporting Procedure

Report the highest result from the daily sample for total residual chlorine collected during the peak chlorine discharge from sample point 104 (unit 3 cooling tower blowdown) or from sample point 105 (unit 4 cooling tower blowdown). The discharge monitoring reported value shall be the maximum of the chlorination events for that day. A continuous monitor may be used to determine the peak value and length of chlorine discharge as long as it duplicates the accuracy of a NR 219 approved method.

2.2.6.3 Chlorine Mass Limit and Reporting

The total residual chlorine mass limit of 0.9 pounds/day and chlorine mass discharge reporting only applies if chlorine is discharged via sample point 106 for more than 160 minutes per day.

2.2.6.4 Total Residual Chlorine Limitations

The daily maximum limit for total residual chlorine is 200 µg/L when chlorine is discharged for 160 minutes per day or less. If chlorine is discharged for more than 160 minutes per day, the daily maximum limits are 38 µg/L and 0.9 lbs/day.

2.2.7 Sampling Point 109 - EFFLUENT FIELD BLANK

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Monthly	Grab	

2.2.7.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3 Surface Water Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
002	Wastewater discharge to the Wisconsin River that is a combination of the process wastewater discharges from sample points 112, 102, 103 and 106
003	Condenser cooling water (from Weston 1&2) that is used for the Weston 3 & 4 operation for dust suppression or to prevent ice formation on the intake screen
004	River water discharged while backwashing the water intake traveling screens
005	Discharge of once-through noncontact cooling water to the Wisconsin River

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 002 - PROCESS WTR TO WIS RIVER

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
Temperature Maximum		deg F	Weekly	Grab	See temperature monitoring paragraph below
Mercury, Total Recoverable	Daily Max	11 ng/L	Monthly	Grab	See mercury monitoring paragraph 3.2.4.5
Copper, Total Recoverable	Daily Max	63 µg/L	Quarterly	Composite	
Copper, Total Recoverable	Daily Max	1.5 lbs/day	Quarterly	Composite	
Hardness, Total as $CaCO_3$		mg/L	Annual	24-Hr Comp	
Acute WET		TU_a	Annual	24-Hr Comp	See WET paragraph for specific quarters for testing

3.2.1.1 Temperature Monitoring

The amount of heat discharged to the Wisconsin River through outfall 002 shall be sampled at least weekly by (1) grab sample measurement of the 002 discharge temperature, or (2) grab or continuous measurement of the temperature of the cooling tower blowdown (sample point 104) from Weston unit 3 and the cooling tower blowdown (sample point 105) from Weston unit 4. Enter the maximum measured temperature for the day in the discharge monitoring report.

3.2.1.2 Copper Analysis Method

The permittee shall utilize test methods listed in Ch. NR 219, Wis. Adm. Code, when analyzing for Total Recoverable Copper, except that use of other equivalent analysis methods may be approved in writing by the Department. The selected Total Recoverable Copper test shall have a method detection level of 1 ug/L or less. Measurement of total metals and total recoverable metals shall be considered to be equivalent.

3.2.1.3 Composite Sample

A representative composite sample of the wastewater discharge shall be created by combining at least three individual grab samples of equal volume taken at approximately equal intervals over a 24 hour period. There shall be at least 1 hour between individual grab samples. The permittee may collect a 24 hour composite sample in lieu of a composite sample.

3.2.1.4 24 hour Composite Sample

A representative composite sample of the wastewater discharge shall be created by combining individual grab samples in proportion to the volume of discharge flow during the 24 hour period as specified in NR 218.04(12), Wisconsin Adm. Code.

3.2.1.5 Polychlorinated Biphenyls

The permittee shall manage polychlorinated biphenyl compounds (PCB's) used in the facility (such as in transformer fluid) so PCB's from the facility are not discharged to the river.

3.2.1.6 Whole Effluent Toxicity (WET) Testing

WET Testing Frequency: Acute whole effluent toxicity tests are required during the following quarters.

- **Acute:** 2nd quarter 2010, 3rd quarter 2011, 4th quarter 2012, 2nd quarter 2013, and 1st quarter 2014.

Primary Control Water: The Wisconsin River, upstream of the WPS Weston discharges. The control water samples shall be collected from areas outside of the mixing zone of any other discharger, if possible.

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Watershed Management, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The original Discharge Monitoring Report (DMR) form and one copy shall be sent to the contact and location provided on the DMR by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: If $LC_{50} \geq 100$, then $TU_a = 1.0$. If LC_{50} is < 100, then $TU_a = 100 \div LC_{50}$.

Additional Testing Requirements: Within 90 days of a WET test which showed a positive result, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90 day reporting period shall begin the day after completion of the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements permit section).

3.2.2 Sampling Point (Outfall) 003 - INTAKE DE-ICE WATER

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Monthly	Estimated	

3.2.2.1 Use of Noncontact Cooling Water for Dust Suppression

Noncontact cooling water, including water allowed to be discharged through outfall 003, can be utilized as source water for dust suppression on roads within the Weston power plant site.

3.2.3 Sampling Point (Outfall) 004 - SCREEN BACKWASH WATER

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Monthly	Estimated	

3.2.3.1 Intake Screen Backwash Discharges

Trash and coarse debris accumulated on the condenser cooling (river) water intake screen shall be captured so it is not returned to the river with the intake screen backwash discharge. The captured material shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the State pusuant to s. NR 205.07(3)(a), Wis. Adm. Code. Fine debris, aquatic organisms and vegetation that cannot reasonably be sorted from living fish may be returned to surface waters.

3.2.4 Sampling Point (Outfall) 005 - NCCW TO WIS RIVER

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
Chlorine, Total Resdl Discharge Time	Daily Max	120 min/day	Daily	Calculated	See paragraph 3.2.4.1 below
Chlorine, Total Residual		µg/L	Daily	Grab	See paragraph 3.2.4.2 below
Chlorine, Variable Limit		µg/L	Daily	Calculated	See paragraph 3.2.4.3 below
Chlorine, Total Resdl Computed Compliance	Daily Max	0 Number	Daily	Calculated	
Chlorine, Total Residual	Daily Max	1.1 lbs/day	Daily	Calculated	See paragraph 3.2.4.4 below
Temperature Maximum		deg F	Weekly	Grab	Report maximum measure temperature for the day
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See mercury monitoring paragraph 3.2.4.5

3.2.4.1 Time of Chlorine Discharge

Neither free available chlorine nor total residual chlorine shall be discharged for more than 2 hours per unit per day, except when chlorinating for macro-invertebrate control (as allowed in s. NR 290.12(2)(c), Wisconsin Adm. Code) in accordance with a Department approved macro-invertebrate management plan. The time of chlorine discharge may be reported as being equivalent to the time of chlorine addition or, alternatively, as the time that detectable levels of chlorine, using the analysis methods specified in this permit's "Chlorine Compliance and Analysis Methods" Standard Condition, are present in the cooling water discharge. The time of total residual chlorine discharge shall be monitored and summed for each day that chlorine is added to the condenser cooling water system.

3.2.4.2 Chlorine Sampling Procedure

At least one grab sample for total residual chlorine shall be collected during the peak chlorine discharge of each chlorination event. The discharge monitoring reported value shall be the maximum of the chlorination events for that day. A continuous monitor may be used to determine the peak value and length of chlorine discharge as long as it duplicates the accuracy of a NR 219 approved method.

3.2.4.3 Total Residual Chlorine Limitations

The daily maximum limit for total residual chlorine is 200 µg/L when chlorine is discharged for 160 minutes per day or less. If chlorine is discharged for more than 160 minutes per day, the daily maximum limits are 38 µg/L and 1.1 lbs/day.

3.2.4.4 Chlorine Mass Limit and Reporting

The total residual chlorine mass limit of 1.1 pounds/day and chlorine mass discharge reporting only apply if chlorine is discharged for more than 160 minutes per day.

3.2.4.5 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). Mercury testing of the water taken in from the Wisconsin River is also highly recommended. The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3.2.4.6 Use of Noncontact Cooling Water for Dust Suppression

Noncontact cooling water, including water allowed to be discharged through outfall 005, can be utilized as source water for dust suppression on roads within the Weston power plant site.

4 Schedules of Compliance

4.1 Mercury Pollutant Minimization Program

The permittee shall continue to implement a pollutant minimization program as defined in s. NR 106.145(2), Wis. Adm. Code.

Required Action	Date Due
Submit Annual Status Reports: The permittee shall submit to the Department an annual status report on the progress of the PMP as required by s. NR 106.145(7), Wis. Adm. Code. Submittal of the first annual status report is required by the December 31, 2010. Note: If the permittee wishes to apply for an alternative mercury effluent limitation, that application is due with the application for permit reissuance by 6 months prior to permit expiration. The permittee should submit or reference the PMP plan as updated by the Annual Status Report or more recent developments as part of that application.	12/31/2010
Mercury Removal Enhancement Study: Wisconsin Public Service shall submit a study plan to the Department for an evaluation to determine whether Weston 3&4 wastewater treatment system changes, such as regular operation of the tertiary filters for the BAT wastewater discharge through sample point 103 or diversion of the sludge belt press filtrate to the wastewater treatment system, would result in a reduction in the discharge of mercury to the Wisconsin River.	12/31/2010
Mercury Removal Enhancement Study: By June 30, 2011, Wisconsin Public Service shall commence the evaluation of whether Weston 3&4 wastewater treatment system changes, such as regular operation of the tertiary filters for the BAT wastewater discharge through sample point 103 or diversion of the sludge belt press filtrate to the wastewater treatment system, would result in a reduction in the discharge of mercury to the Wisconsin River.	06/30/2011
Mercury Removal Enhancement Study Report: Wisconsin Public Service shall submit the results of the study evaluating whether Weston 3&4 wastewater treatment system changes, such as regular operation of the tertiary filters for the BAT wastewater discharge through sample point 103 or diversion of the sludge belt press filtrate to the wastewater treatment system, would result in a reduction in the discharge of mercury to the Wisconsin River.	12/31/2012

5 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): The conditions in ss. NR 205.07(1) and NR 205.07(3), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(3).

5.1 Reporting and Monitoring Requirements

5.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. When submitting a paper Discharge Monitoring Report form, the original and one copy of the Wastewater Discharge Monitoring Report Form shall be submitted to the return address printed on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

All Wastewater Discharge Monitoring Reports submitted to the Department should be submitted using the electronic Discharge Monitoring Report system. Permittees who may be unable to submit Wastewater Discharge Monitoring Reports electronically may request approval to submit paper DMRs upon demonstration that electronic reporting is not feasible or practicable.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

An Electronic Discharge Monitoring Report Certification sheet shall be signed and submitted with each electronic Discharge Monitoring Report submittal. This certification sheet, which is not part of the electronic report form, shall be signed by a principal executive officer, a ranking elected official or other duly authorized representative and shall be mailed to the Department at the time of submittal of the electronic Discharge Monitoring Report. The certification sheet certifies that the electronic report form is true, accurate and complete. Paper reports shall be signed by a principal executive officer, a ranking elected official, or other duly authorized representative.

5.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

5.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

5.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.

- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.

- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

5.1.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

5.1.6 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

5.2 System Operating Requirements

5.2.1 Noncompliance Notification

- The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance;
  - any noncompliance which may endanger health or the environment;
  - any violation of an effluent limitation resulting from an unanticipated bypass;
  - any violation of an effluent limitation resulting from an upset; and
  - any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit.

- A written report describing the noncompliance shall also be submitted to the Department's regional office within 5 calendar days after the permittee becomes aware of the noncompliance. On a case-by-case basis,

the Department may waive the requirement for submittal of a written report within calendar 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

- The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at **1-800-943-0003**.

5.2.2 Unscheduled Bypassing

Any unscheduled bypass or overflow of wastewater at the treatment works or from the collection system is prohibited, and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats., unless:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- The permittee notified the Department as required in this Section.

Whenever there is an unscheduled bypass or overflow occurrence at the treatment works or from the collection system, the permittee shall notify the Department within 24 hours of initiation of the bypass or overflow occurrence by telephoning the wastewater staff in the regional office as soon as reasonably possible (FAX, email or voice mail, if staff are unavailable).

In addition, the permittee shall within 5 days of conclusion of the bypass or overflow occurrence report the following information to the Department in writing:

- Reason the bypass or overflow occurred, or explanation of other contributing circumstances that resulted in the overflow event. If the overflow or bypass is associated with wet weather, provide data on the amount and duration of the rainfall or snow melt for each separate event.
- Date the bypass or overflow occurred.
- Location where the bypass or overflow occurred.
- Duration of the bypass or overflow and estimated wastewater volume discharged.
- Steps taken or the proposed corrective action planned to prevent similar future occurrences.
- Any other information the permittee believes is relevant.

5.2.3 Scheduled Bypassing

Any construction or normal maintenance which results in a bypass of wastewater from a treatment system is prohibited unless authorized by the Department in writing. If the Department determines that there is significant

public interest in the proposed action, the Department may schedule a public hearing or notice a proposal to approve the bypass. Each request shall specify the following minimum information:

- proposed date of bypass;
- estimated duration of the bypass;
- estimated volume of the bypass;
- alternatives to bypassing; and
- measures to mitigate environmental harm caused by the bypass.

5.2.4 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. The wastewater treatment facility shall be under the direct supervision of a state certified operator as required in s. NR 108.06(2), Wis. Adm. Code. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

5.2.5 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

5.2.6 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

5.2.7 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

5.3 Surface Water Requirements

5.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

5.3.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average limits and mass limits:

Weekly/Monthly average concentration = the sum of all daily results for that week/month, divided by the number of results during that time period.

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

5.3.3 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

5.3.4 Total Residual Chlorine Requirements (For De-Chlorinated Effluent)

Test methods for total residual chlorine, approved in ch. NR 219 - Table B, Wis. Adm. Code, normally achieve a limit of detection of about 20 to 50 micrograms per liter and a limit of quantitation of approximately 100 micrograms per liter. Reporting of test results and compliance with effluent limitations for chlorine residual and total residual halogens shall be as follows:

- Sample results which show no detectable levels are considered to show compliance with the concentration limits. These test results shall be reported on Wastewater Discharge Monitoring Report Forms as "< 100 µg/L". (Note: 0.1 mg/L converts to 100 µg/L)

- Sample results showing detectable traces of chlorine will be considered to be in compliance with the 38 ug/L limit if measured at less than 100 µg/L, unless there is a consistent pattern of detectable values in this range for total residual chlorine discharges lasting more than 160 minutes per day. These values shall also be reported on Wastewater Discharge Monitoring Report Forms as "<100 µg/L". The facility operating staff shall record actual readings on logs maintained at the plant, shall take action to determine the reliability of detected results (such as re-sampling and/or calculating dosages), and shall adjust the chemical feed system if necessary to reduce the chances of detected results.

- When total residual chlorine is discharged for more than 160 minutes a day, a sample result showing a detectable level greater than 100 µg/L shall be considered as an exceedance of the 38 ug/L daily maximum limitation, and shall be reported as measured.

- To calculate average or mass discharge values, a "0" (zero) may be substituted for any test result less than 100 µg/L. Calculated values shall then be compared directly to the average or mass limitations to determine compliance.

5.3.5 Additives

For water treatment additives that will be contained in the wastewater discharge to the Wisconsin River, if the permittee wishes to commence use of a water treatment additive, or increase the usage of an additive greater than indicated in the permit application, the permittee must get a written approval from the Department prior to initiating such changes. This written approval shall provide authority to utilize the additives at the specific rates until the permit can be either reissued or modified in accordance with s. 283.53, Stats. Restrictions on the use of the additives may be included in the authorization letter.

5.3.6 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition" (PUB-WT-797*, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

5.3.7 Whole Effluent Toxicity (WET) Identification and Reduction

If a WET retest shows a positive result, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Watershed Management, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, within a 60 day period that begins the day after completion of the positive retest. The WET Identification and Reduction report shall contain, at a minimum, the following information:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;

- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:

  (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
  (b) Identify the compound(s) causing toxicity
  (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
  (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)

- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;

- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Mercury Pollutant Minimization Program -Submit Annual Status Reports	December 31, 2010	13
Mercury Pollutant Minimization Program -Mercury Removal Enhancement Study	December 31, 2010	13
Mercury Pollutant Minimization Program -Mercury Removal Enhancement Study	June 30, 2011	13
Mercury Pollutant Minimization Program -Mercury Removal Enhancement Study Report	December 31, 2012	13
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	14

Report forms shall be submitted to the address printed on the report form. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Watershed Management, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:

Dept. of Natural Resources – Wausau Service Center, Attn: Watershed Engineer, 5301 Rib Mountain Drive, Wausau, WI 54401