ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCE BOARD
CREATING RULES

The Wisconsin Natural Resource Board proposes an order to create chapter NR 852 relating to water conservation and water use efficiency for water withdrawals and affecting small business.

DG-24-10

Analysis Prepared by the Department of Natural Resources

1. **Statutes Interpreted:** Sections 281.346(4)(g), 281.346(8), Stats.

2. **Statutory Authority:** Sections 227.11(2)(a), 281.346(4)(g), 281.346(8) and 281.35(10)(b), Stats.

3. **Explanation of Agency Authority:** Section 227.11(2)(a), Stats., expressly confers rulemaking authority on the department to promulgate rules interpreting any statute enforced or administered by it, if the agency considers it necessary to effectuate the purpose of the statute.

   Sections 281.346(4)(g) and 281.346(8), Stats., direct the department to promulgate rules to establish water conservation and efficiency measures.

   Section 281.35(10)(b), Stats., authorizes the department to promulgate rules for implementing the water loss approval program.

4. **Related Statute or Rule:** Wisconsin Statutes Sections 30.18, 281.34, 281.343, 281.344, 281.346, 281.35; chapters NR 809, NR 811, PSC 196, PSC 185, Comm 101, Comm 145 and the following rules under development: Water Use Registration and Reporting, Water Use Permitting, Water Use Fees, Water Use Public Involvement, Water Loss from Consumptive Uses, Water Supply Service Area Plans, and Requirements for the Operation and Maintenance of Public Water Systems.

5. **Plain Language Analysis:** This board order creates a new rule that clarifies and further defines new statutory requirements for water conservation and water use efficiency for withdrawals of waters of the state within the Great Lakes Basin, diversions of water from the Great Lakes Basin, and water withdrawals statewide that require a water loss approval. The new law implements the following:

   - Specifies mandatory water conservation and efficiency measures for waters of the Great Lakes Basin and withdrawals statewide that require a water loss approval.
   - Promotes voluntary statewide water conservation through the identification of water conservation and efficiency measures.

- Guides other department regulatory, planning, resource management, liaison and financial aid determinations.

Persons subject to this chapter are categorized into one of 3 levels:

- Tier 1 includes new and increased withdrawals in the Great Lakes Basin that average 100,000 gallons per day or more in any 30-day period but that do not equal at least 1,000,000 gallons per day for any 30 consecutive days.
- Tier 2 includes new and increased withdrawals in the Great Lakes Basin that equal 1,000,000 gallons per day or more for any 30 consecutive days.
- Tier 3 includes new and increased diversions in a community or county that straddles the sub-continental divide and new and increased withdrawals statewide that will result in a water loss averaging more than 2,000,000 gallons per day in any 30-day period.

This tiered approach is being used to differentiate between the requirements for different types and levels of regulated activities. The level of water conservation and efficiency requirements are increased from Tier 1, to Tier 2, to Tier 3.

In addition to completing a Water Conservation Plan, there are four mandatory water conservation and efficiency measures (CEMs) for all persons for whom water conservation and efficiency requirements are mandatory under this chapter. These CEMs have been determined to be cost-effective, environmentally sound and economically feasible for all water use sectors. Implementation of additional CEMs are required for Tier 2 and Tier 3 only.

The rule sets forth definitions, sector specific water conservation and efficiency measures, elements of a water conservation plan, procedures for conducting an environmentally sound and economically feasible analysis, process for approval and reporting, and process for enforcement.

6. **Federal Regulatory Analysis:** There are no comparable federal regulations pertaining to water conservation and water use efficiency. However, in passing the Great Lakes – St. Lawrence River Basin Water Resources Compact (Compact), each of the Great Lakes states have similar requirements to establish a water conservation and efficiency program that is consistent with the goals and objectives identified by the Great Lakes Compact Council.

7. **Comparison with Rules in Adjacent States:**
The following table compares regulatory requirements for water conservation and efficiency in adjacent states:

Water Conservation and Water Use Efficiency Comparison				
Wisconsin	**Illinois**	**Iowa**	**Michigan**	**Minnesota**
Specifies mandatory water conservation and water use efficiency measures within user sectors for certain levels of new or increased withdrawals and diversions from waters of the Great Lakes Basin and for water withdrawals statewide that require a water loss approval. Promotes voluntary statewide water conservation through the identification of water conservation and efficiency measures.	Specifies all water withdrawals over 100,000 gallons per day in the Great Lakes Basin to obtain a permit. Conservation practices within the user category are specified through permitting process. Requires permittees to submit a plan to reduce wasteful water and unaccounted for water by 8 percent. Requires permittees to submit an annual water use audit form.	Specifies all persons making a water withdrawal of at least 25,000 gallons per day to obtain a water use permit. Iowa statute provides for a water allocation (permit) system based on beneficial use preventing waste, unreasonable use and unreasonable methods of use of water resources. Conservation is expected.	Specifies all persons making large quantity withdrawals averaging 100,000 gallons a day for 30-days to evaluate generic water conservation measures applicable to their sector for review and acceptance by the Department of Environmental Quality. Requires legislative review of the status and preparation and acceptance of water user sector conservation measures by April 1, 2010.	Specifies mandatory efficient use and conservation of water through permitting process for all water users withdrawing water at a rate of 10,000 gallons a day or a million gallons per year. Water conservation must be addressed in water supply plans required for public water systems serving more than 1000 people. Requires mandatory conservation rate structures for all public water utilities located within the basin. Specifies voluntary measures including information and education, retrofitting water fixtures and encouraging water reuse.

8. Summary of the Factual Data and Analysis that Support the Proposed Rule:

Published scientific literature, industry manuals, information from other states, consultation with the Department of Commerce and Public Service Commission, and input from an advisory committee were used as the basis for developing the water conservation plan requirements and required water conservation and efficiency measures.

9. Analysis and Supporting Documentation in Support of the Determination of the Rule's Effect on Small Business: Any person who diverts any amount of water, has a new or increased withdrawal averaging 100,000 gallons per day or more in any 30-day period from the Great Lakes Basin, or a withdrawal with a water loss over 2,000,000 gallons per day must complete a water conservation plan and implement water conservation and efficiency measures. To comply, small businesses follow the same requirements as other persons who withdraw water in the same quantity. The water conservation and water use efficiency requirements are clearly identified in this rule and do not include requirements to retrofit existing equipment. Water

conservation and efficiency measures that are not environmentally sound or economically feasible do not need to be implemented.

10. **Effect on Small Business:** This rule will affect small businesses located in the Great Lakes Basin that supply their own water with water supply systems that actually withdraw water averaging 100,000 gallons per day or more in any 30-day period or have a new or increased withdrawal statewide that will result in a water loss averaging more than 2,000,000 gallons per day in any 30-day period. Water conservation and efficiency measures that are not environmentally sound or economically feasible do not need to be implemented. Small businesses that receive water from a public water supply will not be impacted by this rule.

11. **Agency Contact Person:**
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12. **Place where comments are to be submitted and deadline for submission:** Comments are to be submitted to Kristy Rogers, Bureau of Drinking Water and Groundwater, P.O. Box 7921, Madison, WI 53707 by July 7, 2010.

SECTION 1. Chapter NR 852 is created to read:

CHAPTER NR 852
WATER CONSERVATION AND WATER USE EFFICIENCY

NR 852.01 Purpose. The purpose of this chapter is to establish a statewide water conservation and efficiency program, as required by s. 281.346(8), Stats.; to specify mandatory water conservation and efficiency measures for waters of the Great Lakes Basin and withdrawals statewide that require a water loss approval; to promote voluntary statewide water conservation through the identification of water conservation and efficiency measures; and to guide other department regulatory, planning, resource management, liaison and financial aid determinations.

NR 852.02 Applicability. (1) Unless exempted under par. (d), persons subject to this chapter are categorized into one of three levels, Tier 1, Tier 2, or Tier 3, in order to differentiate between the requirements for different amounts and types of a diversion, withdrawal, or consumptive use. This chapter applies to persons conducting a diversion, withdrawal, or consumptive use according to the following categories:

(a) Tier 1: New and increased withdrawals regulated under s. 281.346(4s), Stats.

Note: Section 281.346(4s), Stats., requires coverage under a general permit for withdrawals from the Great Lakes basin that average 100,000 gallons per day or more in any 30 day period but that do not equal at least 1,000,000 gallons per day for any 30 consecutive days.

(b) Tier 2: New and increased withdrawals regulated under s. 281.346(5), Stats.

Note: Section 281.346(5), Stats., requires an individual permit for withdrawals from the Great Lakes basin that equal 1,000,000 gallons per day or more for any 30 consecutive days.

(c) Tier 3:

1. New and increased diversions regulated under s. 281.346(4)(c), Stats.

Note: Section 281.346(4)(c), Stats., regulates diversions to a straddling community.

2. New and increased intrabasin transfers regulated under s. 281.346(4)(d), Stats.

3. New and increased diversions regulated under s. 281.346(4)(e), Stats.

Note: Section 281.346(4)(e), Stats. regulates diversions to a community in a straddling county.

4. New and increased withdrawals regulated under s. 281.35(4), Stats.

Note: Section 281.35(4), Stats. regulates withdrawals statewide that will result in a water loss averaging more than 2,000,000 gallons per day in any 30-day period.

(d) This chapter does not apply to water withdrawals for any of the following purposes:

1. To supply vehicles, including vessels and aircraft, for the needs of the persons or animals being transported or for ballast or other needs related to the operation of the vehicles.

2. To use in a noncommercial project that lasts no more than 3 months for fire fighting, humanitarian, or emergency response purposes.

3. Temporary pit or trench dewatering including construction pits, sewer extension construction, pipe trenches, and other similar operations.

(2) For public water supply systems subject to this chapter, the requirements apply to those served by the public water supply system in the entire water supply service area, pursuant to s. 281.348, Stats., including consecutive water systems.

NR 852.03 Definitions. In this chapter:

(1) "Consecutive water system" means a public water system that receives some or all of its finished water from one or more wholesale systems through a master metering system. A consecutive water system may also be known as a wholesale purchaser or wholesale customer. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

(2) "Consumptive use" has the meaning specified in s. 281.346(1)(e), Stats.

Note: Section 281.346(1)(e) defines "consumptive use" to mean "a use of water that results in the loss or failure to return some or all of the water to the basin from which the water is withdrawn due to evaporation, incorporation into products, or other processes."

(3) "Commercial and Institutional Water Use Sector" means water users that supply their own water and use water for commercial and institutional uses, including entities such as motels, hotels, restaurants, office buildings, hospitals, schools and other institutions, both civilian and military. Water use in the Commercial and Institutional Water Use Sector includes water used for air conditioning and other similar uses not covered under the public water supply water use sector, and water used for amusement and recreational purposes, such as snowmaking and water slides.

(4) "Department" means the department of natural resources.

(5) "Diversion" has the meaning specified in s. 281.346(1)(h), Stats.

Note: Section 281.346(1)(h), Stats., defines "diversion" to mean "a transfer of water from the Great Lakes basin into a watershed outside the Great Lakes basin, or from the watershed of one of the Great Lakes into that of another, by

any means of transfer, including a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a water course, tanker ship, tanker truck, or rail tanker except that 'diversion' does not include any of the following: 1. The transfer of a product produced in the Great Lakes basin or in the watershed of one of the Great Lakes, using waters of the Great Lakes basin, out of the Great Lakes basin or out of that watershed. 2. The transmission of water within a line that extends outside the Great Lakes basin as it conveys water from one point to another within the Great Lakes basin if no water is used outside the Great Lakes basin. 3. The transfer of bottled water from the Great Lakes basin in containers of 5.7 gallons or less."

(6) "Ecosystem" means the interacting components of air, land, water, and living organisms, including humans.

(7) "Environmentally sound" means not destructive to the ecosystem.

(8) "Environmentally sound and economically feasible water conservation measures" or "measures" has the meaning specified in s. 281.346 (1) (i), Stats.

Note: Section 281.346 (1)(i), Stats., defines "Environmentally sound and economically feasible water conservation measures" to mean "those measures, methods, or technologies for efficient water use and for reducing water loss and waste or for reducing the amount of a withdrawal, consumptive use, or diversion that are, taking into account environmental impact, the age and nature of equipment and facilities involved, the processes employed, the energy impacts, and other appropriate factors, all of the following: 1. Environmentally sound. 2. Reflective of best practices applicable to the water use sector. 3. Technically feasible and available. 4. Economically feasible and cost-effective based on an analysis that considers direct and avoided economic and environmental costs."

(9) "Graywater" has the meaning specified in s. Comm 81.01(112).

Note: Section Comm 81.01(112), Wis. Adm. Code defines "graywater" to mean "wastewater contaminated by waste materials, exclusive of urine, feces or industrial waste, deposited into plumbing drain systems."

(10) "Great Lakes basin" has the meaning specified in s. 281.346 (1)(je), Stats.

Note: Section 281.346 (1)(je), Stats., defines "Great Lakes basin" to mean "the watershed of the Great Lakes and the St. Lawrence River upstream from Trois-Rivieres, Quebec, within the jurisdiction of the parties."

(11) "Increased diversion" means a diversion that exceeds the interbasin transfer amount specified in an approval issued under s. 281.344(3m), Stats.

(12) "Increased withdrawal" means a withdrawal that exceeds the baseline established in accordance with s. 281.346(2)(e), Stats.

(13) "Industrial Water Use Sector" means water users that supply their own water for use in the manufacturing of metals, chemicals, paper, food, beverage, and other products and for use in mining, quarrying and milling. Industrial Water Use Sector does not include water users that supply their own water for use in brine extraction from oil and gas operations.

(14) "Intrabasin transfer" has the meaning specified in s. 281.346(1)(jm), Stats.

Note: Section 281.346(1)(jm), Stats., defines "intrabasin transfer" to mean "the transfer of water from the watershed of one of the Great Lakes into the watershed of another of the Great Lakes."

(15) "Irrigation Water Use Sector" means water users that supply their own water to apply on lands to assist in the growing of crops and pastures or in the maintenance of recreational lands such as parks and golf courses.

(16) “Livestock Water Use Sector” means water users that supply their own water for use in raising or keeping animals such as fish, horses, cattle, sheep, goats, hogs, and poultry.

(17) “Meter” has the meaning specified in s. PSC 185.12 (11), Wis. Adm. Code.

Note: Section PSC 185.12 (11), Wis. Adm. Code, defines “meter” to mean “an instrument installed to measure the volume and/or rate of flow of water delivered through it.”

(18) “New diversion” means a diversion that started on or after December 8, 2008.

(19) “New withdrawal” means a withdrawal that, beginning on December 8, 2008, averages 100,000 gallons per day or more in any 30-day period, including withdrawals that were occurring before December 8, 2008 but were not eligible for a baseline.

Note: Withdrawals not eligible for a baseline include those that were less than the minimum regulated amount of an average of 100,000 gallons per day in any 30-day period.

(20) “Other Water Use Sector” means water users that supply their own water and that are not a public water supply water use sector, commercial and institutional water use sector, irrigation water use sector, livestock water use sector, industrial water use sector, or power production water use sector. Water use in the Other Water Use Sector includes water used for fish or wildlife, environmental, navigation and water quality purposes.

(21) “Power Production Water Use Sector” means water users that supply their own water for use in generating electricity or power. Water use in the Power Production Water Use Sector includes water used for thermoelectric once-through cooling, thermoelectric re-circulated cooling, and hydroelectric.

(22) “Public Water Supply Water Use Sector” means water users that use water that is distributed to the public through a physically connected system of treatment, storage and distribution facilities serving a group of largely residential customers and that may also serve industrial, commercial and other institutional customers. Water withdrawn directly from a water source and not through a public water system is not considered to be used for Public Water Supply Water Use Sector purposes.

(23) “Public water system” has the meaning specified in s. NR 809.04(57), Wis. Adm. Code.

Note: Section NR 809.04(57), Wis. Adm. Code, defines “public water system” to mean “a system for the provision to the public of piped water for human consumption through pipes or other constructed conveyances, if the system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system is either a “community water system” or a “non−community water system”. A system: (a) Includes any collection, treatment, storage and distribution facilities under control of the operator of the system and used primarily in connection with the system. (b) Includes any collection or pretreatment storage facilities not under the system’s control which are used primarily in connection with the system. (c) Does not include any “special irrigation district.”

Note: The definition of public water system in this chapter is broader and includes more water systems than those governed by the public service commission under its definition of a public utility in ch. 196, Stats.

(24) “Retrofit or retrofitting” means to modify or replace equipment that is already in service using parts or equipment developed or made available after the time of original manufacture or construction.

(25) “System losses” means the difference between the volume of water entering the distribution system and the volume of water that is sold.

(26) “Water conservation and efficiency measures” or “CEMs” means structural or non-structural measures, practices, techniques or devices employed to reduce water use, or increase water reuse or water use efficiency.

(27) “Water reuse” means onsite collection and adequate treatment of storm water or graywater for subsequent use in toilet flushing, irrigation, or other processes that do not require water to meet drinking water quality standards.

(28) “Water use audit” means an examination of water use and reuse data that tracks the flow of water in the system from the point of withdrawal or, if the water is provided to the water supply system through a third party, the point of entry into the system, through any treatment and distribution to the end use. The water use audit assesses the quantitative efficiency of a water supply system, water resources, operational, financial impacts, and identifies and quantifies system losses.

Note: The water use audit for a Public Water Supply Water Use Sector includes tracking the water up to the customer service connection.

(29) “Water use intensity” means a measure of water use per unit production, sales unit, or customer served.

(30) “Water Use Sector” means one of the following types of water use sectors: commercial and institutional, industrial, irrigation, livestock, other, power production, or public water supply.

(31) “Withdraw” has the meaning specified in s. 281.346 (1)(y), Stats.

Note: Section 281.346 (1)(y), Stats., defines “withdraw” to mean “to take water from surface water or groundwater.”

(32) “Withdrawal” has the meaning specified in s. 281.346 (1)(z), Stats.

Note: Section 281.346 (1)(z), Stats., defines “withdrawal” to mean “the taking of water from surface water or groundwater, including the taking of surface water or groundwater for the purpose of bottling the water.”

NR 852.04 Required Elements – All. All persons subject to this chapter shall complete all of the following prior to receiving an approval under s. NR 852.10:

(1) Submit a water conservation plan meeting the requirements in s. NR 852.07.

(2) Implement the CEMs in Table 1 as applicable for each water use sector.

Table 1

Mandatory Conservation and Efficiency Measures

CEM #	DESCRIPTION	REQUIRED ELEMENTS
Public Water Supply Water Use Sector (PWS)		
PWS-1	Water Use Audit	A water use audit shall be performed using the process outlined in the AWWA M36 manual as a guide. One of the following shall be met: 1. Public water systems regulated by the Public Service Commission shall follow the water audit procedures indicated in ch. PSC 185. 2. Public water systems not regulated by the Public Service Commission, shall submit water audit results with the water conservation plan required in s. NR 852.07. The department may develop worksheets to assist in the completion of a water use audit. Note: "Manual of Water Supply Practices – M36, Third Edition: Water Audits and Loss Control Programs", Copyright 2009, American Water Works Association may be obtained for personal use from the American Water Works Association, 6666 West Quincy Ave., Denver, Colorado 80235.
PWS-2	Leak Detection and Repair Program	A program shall be established to minimize system losses and replace distribution system infrastructure on a set schedule. One of the following shall be met: 1. Public Water Systems Regulated by the Public Service Commission. The Public water system shall follow the procedures indicated in ch. PSC 185 regarding system losses. 2. Public Water Systems Not Regulated by the Public Service Commission. Where system losses are greater than 15% for systems with more than 1000 service connections and 25% for systems with less than 1000 service connections, the public water system shall complete a survey of leaks using one of the available technical methods and complete a corrective action plan.
PWS-3	Information and Education Outreach	1. Information shall be provided to employees and customers regarding water conservation and efficiency. Materials shall include the following: reasons water conservation is necessary, consequences of not conserving water, and actions needed to achieve the water conservation goals of the community. Information and education specific to landscape watering practices shall be delivered to customers and employees. Public water systems regulated by the Public Service Commission shall follow the utility billing procedures indicated in ch. PSC 185. 2. A training plan shall be developed to educate and train employees on the implementation of water conservation and efficiency measures at the facility.
PWS-4	Source Measurement	All water withdrawals shall be measured monthly or more frequently to allow for identifying and understanding variability in water use over time. Public water systems regulated by the Public Service Commission shall follow the metering requirements indicated in ch. PSC 185
Commercial and Institutional Water Use Sector (CI)		
CI-1	Water Use Audit	A water use audit shall be conducted in accordance with department guidelines.
CI-2	Leak Detection and Repair Program	A protocol shall be established to repair leaks in a timely manner. A survey of leaks shall be conducted and a corrective action plan shall be developed.
CI-3	Information and Education	A training plan shall be developed to educate and train employees on the implementation of water conservation and efficiency measures at the facility.
CI-4	Source Measurement	All water sources shall be measured at a frequency that allows for identifying and understanding variability in water use over time.
Irrigation Water Use Sector (IR)		

IR-1	Water Use Audit	A water use audit shall be conducted in accordance with department guidelines and shall include the system's application efficiency or distribution uniformity as applicable.
IR-2	Leak Detection and Repair Program	A protocol shall be established to repair leaks in a timely manner. A survey of leaks shall be conducted that includes an account of the general condition of the irrigation system and a corrective action plan shall be developed.
IR-3	Information and Education	A training plan shall be developed to educate and train employees on the implementation of water conservation and efficiency measures at the facility.
IR-4	Source Measurement	All water withdrawals shall be measured monthly or more frequently to allow for identifying and understanding variability in water use over time.
Livestock Water Use Sector (LS)		
LS-1	Water Use Audit	A water use audit shall be conducted in accordance with department guidelines.
LS-2	Leak Detection and Repair Program	A protocol shall be established to repair leaks in a timely manner. A survey of leaks shall be conducted and a corrective action plan shall be developed.
LS-3	Information and Education	A training plan shall be developed to educate and train employees on the implementation of water conservation and efficiency measures at the facility.
LS-4	Source Measurement	All water withdrawals shall be measured monthly or more frequently to allow for identifying and understanding variability in water use over time.
Industrial Water Use Sector (IN)		
IN-1	Water Use Audit	A water use audit shall be conducted in accordance with department guidelines and shall determine water inflow and outflow from the facility. Facilities shall identify once-through cooling processes in the audit report.
IN-2	Leak Detection and Repair Program	A protocol shall be established to repair leaks in a timely manner. A survey of leaks shall be conducted and a corrective action plan shall be developed.
IN-3	Information and Education	A training plan shall be developed to educate and train employees on the implementation of water conservation and efficiency measures at the facility.
IN-4	Source Measurement	All water withdrawals shall be measured monthly or more frequently to allow for identifying and understanding variability in water use over time.
Power Production Water Use Sector (PP)		
PP-1	Water Use Audit	A water use audit shall be conducted in accordance with department guidelines and shall determine water inflow and outflow from the facility. Facilities shall identify once-through processes in the audit report.
PP-2	Leak Detection and Repair Program	A protocol shall be established to repair leaks in a timely manner. A survey of leaks shall be conducted and a corrective action plan shall be developed.
PP-3	Information and Education	A training plan shall be developed to educate and train employees on the implementation of water conservation and efficiency measures at the facility.
PP-4	Source Measurement	All water withdrawals shall be measured monthly or more frequently to allow for identifying and understanding variability in water use over time.
Other Water Use Sector (OR)		
OR-1	Water Use Audit	A water use audit shall be conducted in accordance with department guidelines.
OR-2	Leak Detection and Repair Program	A protocol shall be established to repair leaks in a timely manner. A survey of leaks shall be conducted and a corrective action plan shall be developed.
OR-3	Information and Education	A training plan shall be developed to educate and train employees on the implementation of water conservation and efficiency measures at the facility.

OR-4	Source Measurement	All water withdrawals shall be measured monthly or more frequently to allow for identifying and understanding variability in water use over time.

NR 852.05 Required Elements – Tier 2 and Tier 3. Persons identified in Tier 2 and Tier 3 shall complete the elements specified in s. NR 852.04 and the elements specified under either sub. (1) or (2). The elements under either sub. (1) or (2) shall be implemented within 5 years of the date of the department approval under s. NR 852.10.

(1) Implement all CEMs identified in Table 2 for the applicable water use sector, except those CEMs that are not environmentally sound and economically feasible, as determined by an analysis conducted by the applicant pursuant to s. NR 852.09, and approved by the department.

Table 2

Required Conservation and Efficiency Measures

CEM #	DESCRIPTION	REQUIRED ELEMENTS
Public Water Supply Water Use Sector (PWS)		
PWS-R1	Distribution System Pressure Management	An analysis of pressure management of the distribution system shall be performed to identify opportunities to reduce customer use and limit plumbing fixture leaks. Requirements for pressure reducing valves on services are contained in s. Comm 82.40.
PWS-R2	Residential Demand Management Program	Establish and publicize a program to complete residential customer water use audits and leak surveys by request. In developing the program, a waiver of liability and written permission from the customer may be needed.
PWS-R3	Commercial Demand Management Program	Establish and publicize a program to complete commercial customer water use audits and leak surveys by request. In developing the program, a waiver of liability and written permission from the customer may be needed.
PWS-R4	Water Reuse	1. A technical assessment shall be conducted to evaluate the feasibility of reusing process water, graywater and/or stormwater in the operation of the facility. Water reuse projects identified by the assessment and allowed under current law shall be implemented. Requirements for reuse systems are contained in ss. Comm 82.34 and 82.70. 2. A program shall be established to promote customer water reuse. Example program elements include information and education outreach on opportunities for reuse and offering rain barrels or commercially available water reuse systems at a reduced price.
Commercial and Institutional Water Use Sector (CI)		
CI-R1	Cleaning and Dust Control	Reduction or elimination of water used for cleaning or dust control shall be implemented. For example, microfiber or sponge mops could be used in place of cotton mops.
CI-R2	Cooling Process Sensors	Cooling processes that use water shall have sensors to allow the cooling process to operate only when needed.
CI-R3	Towel and Bed Linen Reuse	Lodging guests shall be encouraged to reuse towels and bed linens in order to reduce laundry water use, if applicable.
CI-R4	Water Reuse	A technical assessment shall be conducted to evaluate the feasibility of reusing process water, graywater, and/or stormwater. Water reuse projects identified by the assessment and allowed under current law shall be implemented. Requirements for reuse systems are contained in ss. Comm 82.34 and 82.70.

Irrigation Water Use Sector (IR)		
IR-R1	Irrigation scheduling	The Wisconsin Irrigation Scheduling Program (WISP) or comparable program shall be used to determine the timing and quantity of irrigation. The scheduling program shall include rainfall, irrigation, and soil moisture monitoring in the field.
IR-R2	Crop/Turf Maintenance	1. Crop Residue Management. As appropriate, residue management and conservation tillage shall be implemented to enhance the ability of the soil to retain moisture. 2. Turf Maintenance. Recommended practices for proper turf maintenance shall be implemented. Examples of practices include integrated pest management, frequency of mower blade sharpening, and height of mower cut.
IR-R3	Target Areas	Non-target irrigation including drift caused by wind and irrigation of impervious services and non-targeted areas shall be eliminated or minimized to the extent practicable.
IR-R4	Water Reuse	A technical assessment shall be conducted to evaluate the feasibility of reusing process water, graywater and/or stormwater. Water reuse projects identified by the assessment and allowed under current law shall be implemented. Requirements for reuse systems are contained in ss. Comm 82.34 and 82.70.
Livestock Water Use Sector (LS)		
LS-R1	Cleaning and Dust Control	Pre-clean animal living and production areas prior to washing with water. Reduce or eliminate the use of "new" water for cleaning and dust control.
LS-R2	Determine Water Needs	A technical assessment shall be conducted of the requirements for fresh water inputs for healthy livestock production. Appropriately size, control, and distribute the watering system based upon the requirements.
LS-R3	Animal Cooling	Cycle a water-based animal cooling system based on temperature.
LS-R4	Water Reuse	A technical assessment shall be conducted to evaluate the feasibility of reusing process water, graywater, and/or stormwater including options for circulating water instead of replacing with fresh water inputs. Water reuse projects identified by the assessment and allowed under current law shall be implemented. Requirements for reuse systems are contained in ss. Comm 82.34 and 82.70.
Industrial Water Use Sector (IN)		
IN-R1	Cooling Towers	An evaluation of the cooling tower system operation shall be conducted. The evaluation shall review all phases of cooling tower operation including the amount of water used for make up and release as blowdown, water quality characteristics, treatment application and chemicals used, metering, use of automated monitoring and controls, repair and maintenance schedules and procedures. A complete evaluation will consider the installation of sub-meters to the cooling tower makeup water line.
IN-R2	Sub-metering	Sub-meters shall be installed to account for water usage in specific processes to determine water use and loss in a process and to identify additional water efficiency goals.
IN-R3	Steam Systems	Implement steam system conservation by assessing the system operation and maintenance. Repair system leaks, maximize condensate recovery, and install continuous blowdown heat recovery.
IN-R4	Water Reuse	A technical assessment shall be conducted to evaluate the feasibility of reusing process water, graywater and/or stormwater. Water reuse projects identified by the assessment and allowed under current law shall be implemented. Requirements for reuse systems are contained in ss. Comm 82.34 and 82.70.

Power Production Water Use Sector (PP)		
PP-R1	Cooling Towers	An evaluation of the cooling tower system operation shall be conducted. The evaluation shall review all phases of cooling tower operation including the amount of water used for make up and release as blowdown, water quality characteristics, treatment application and chemicals used, metering, use of automated monitoring and controls, repair and maintenance schedules and procedures. A complete evaluation will consider the installation of sub-meters to the cooling tower makeup water line.
PP-R2	Sub-metering	Sub-meters shall be installed to account for water usage in specific processes to determine water use and loss in a process and to identify additional water efficiency goals.
PP-R3	Steam Systems	Implement steam system conservation by assessing the system operation and maintenance. Repair system leaks, maximize condensate recovery, and install continuous blowdown heat recovery.
PP-R4	Water Reuse	A technical assessment shall be conducted to evaluate the feasibility of reusing process water, graywater and/or stormwater. Water reuse projects identified by the assessment and allowed under current law shall be implemented. Requirements for reuse systems are contained in ss. Comm 82.34 and 82.70.
Other Water Use Sector (OR)		
OR-R1	Water Reuse	A technical assessment shall be conducted to evaluate the feasibility of reusing process water, graywater and/or stormwater. Water reuse projects identified by the assessment shall be implemented. Requirements for reuse systems are contained in ss. Comm 82.34 and 82.70.

(2) Implement CEMs selected from Table 2 in sub. (1), the Optional CEM list in s. NR 852.08(2), or other measures as proposed by the applicant and approved by the department, which can be shown to reduce water use or increase water reuse or efficiency by 10 percent.

(a) The percent reduction in water use or increase in water reuse or efficiency in this subsection shall be based upon a comparison of the water use or water use intensity from the most recent complete year. Water use and water use intensity shall be adjusted to account for unique facility, economic, or weather variability.

(b) The calculation of the 10 percent reduction in water use or increase in water reuse or efficiency shall be in addition to any reduction in water use or increase in water reuse or efficiency achieved through implementation of the CEMs set forth in s. NR 852.04(2) and shall not be included in the calculated percent reduction.

NR 852.06 Required Elements – Tier 3 Only. In addition to the required elements specified in s. NR 852.04 and the required elements specified under either s. NR 852.05(1) or (2), persons identified in Tier 3 shall complete all of the following.

(1) Conduct an analysis pursuant to s. NR 852.09 to identify additional CEMs that are environmentally sound and economically feasible.

(2) Implement all CEMs identified in sub. (1) that are necessary to demonstrate the efficient use and conservation of existing water supplies within 5 years of the date of the department approval under s. NR 852.10.

NR 852.07 Water Conservation Plans. (1) A person who is required to submit a water conservation plan shall submit a plan on a form provided by the Department and shall provide all of the information requested on the form and accompanying instructions.

Note: Plan forms are available on the department's website at _____.

(2) A water conservation plan required by this chapter must at a minimum contain:

(a) A description and quantification of current water uses and reuse as identified by a water audit, including a calculation of water use intensity appropriate to the water use sector. Those public water systems regulated by the Public Service Commission shall follow the water audit procedures indicated in ch. PSC 185.

Note: The department may provide guidance on water use sector specific methods of measuring water use intensity.

(b) The costs associated with producing finished water including energy and treatment costs.

(c) Documentation of the implementation of the CEMs set forth in s. NR 852.04(2) and a description of any other existing conservation, efficiency, and reuse measures, including when they were implemented.

(d) A monitoring plan to assess the success or failure of the implemented CEMs.

(3) Persons identified in Tier 2 shall submit the following information in the water conservation plan, in addition to the information required under sub. (2):

(a) An implementation timeline for implementing the CEMs in s. NR 852.05.

(b) If applicable, the results of an analysis conducted under s. NR 852.09 to determine if a CEM required in Table 2 is environmentally sound and economically feasible.

(4) Persons identified in Tier 3 shall submit the following information in the water conservation plan, in addition to the information required under sub. (2):

(a) The results of the analysis to identify additional CEMs that are environmentally sound and economically feasible as required by s. NR 852.06(1), and if applicable, the results of an analysis conducted under s. NR 852.09 to determine if a CEM required in Table 2 is environmentally sound and economically feasible.

(b) An implementation timeline for implementing the CEMs in ss. NR 852.05 and 852.06.

NR 852.08 Water Conservation and Efficiency Measures. (1) CEMs shall be implemented in compliance with the CEM required elements in s. NR 852.04(2) Table 1, s. NR

852.05(1) Table 2, or the optional list in sub. (2) or additional CEM required elements as identified by the department.

(2) The department shall maintain a list of optional CEMs by water use sector that have been determined to be adequate and effective to reduce water use or increase water reuse or efficiency.

Note: The list of optional CEMs can be found at _____.

(a) The optional list may be used to meet the requirements in ss. NR 852.05(2) and 852.06(1).

(b) The optional list may include retrofitting options.

NR 852.09 Environmentally Sound and Economically Feasible Analysis. (1) An analysis may be conducted to determine if a CEM in ss. NR 852.05(1) or 852.06(1) is environmentally sound and economically feasible. The analysis shall make a determination as to whether the CEM is all of the following:

(a) Environmentally sound.

(b) Reflective of best practices applicable to the water use sector.

(c) Technically feasible and available.

(d) Economically feasible and cost effective, based on an analysis that considers direct and avoided economic and environmental costs over a 5 year planning period.

(2) The economically feasible and cost effective analysis in sub. (1)(d) shall at a minimum include all of the following:

(a) Actual energy and operational costs to pump, treat, transmit water, and treat and dispose of wastewater.

(b) Estimated avoided costs resulting from pumping less water and using less energy.

(c) Estimated capital and operating costs associated with developing new sources of water for this specific new or increased withdrawal.

(d) Estimated capital and operating costs associated with implementing required CEMs.

(e) All other estimated costs or fees associated with obtaining or disposing of the water.

(3) The department may provide analysis tools that shall be used to aid in the submittal of information required in subs. (1) and (2).

NR 852.10 Approval and Reporting Process. (1) The department shall review water conservation plans to determine whether the applicant has met the applicable requirements under this chapter.

(2) The department shall issue an approval if the plan meets the applicable requirements under this chapter. The approval will be in the form of a letter, finding of fact in a permit, or a statement in an approval.

(3) The department shall follow the review timelines set forth in the associated department permit or approval process applicable to an activity that requires compliance with this chapter.

(4) An application for a department approval or permit for an activity that requires compliance with this chapter shall not be considered complete until information required by this chapter has been submitted and all applicable requirements of the Wisconsin environmental policy act, s. 1.11, Stats., have been met.

(5) Persons with an approved water conservation plan shall report the following annually in the manner prescribed by the department:

(a) A narrative summary of the success or failure of implemented CEMs.

(b) A description of any additional CEMs implemented.

(c) For Tier 2, in addition to the information required under pars. (a) and (b), documentation of the implementation of CEMs required under s. NR 852.05.

(d) For Tier 3, in addition to the information required under pars. (a) and (b), documentation of the implementation of CEMs required under ss. NR 852.05 and 852.06.

NR 852.11 Enforcement. (1) Violations of this chapter may be prosecuted by the department under Chapter 281, Stats., and other applicable department authorities.

(2) Any violation of these rules shall be treated as a violation of the statutes they interpret or under which they are promulgated.

(3) Violations may result in forfeitures, abatement of nuisance, and restoration.

(4) Failure to comply with the conditions of a permit or approval issued in accordance with this chapter may result in cancellation of the permit or approval.

SECTION 2. E**FFECTIVE DATE.** This rule shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2) (intro.), Stats.

SECTION 3. B**OARD ADOPTION.** This rule was approved and adopted by the State of Wisconsin Natural Resources Board on _____.

Dated in Madison, Wisconsin_____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____

(SEAL) Matthew J. Frank, Secretary