

# Welcome to your CDP Water Security Questionnaire 2019

## W0. Introduction

### W0.1

#### **(W0.1) Give a general description of and introduction to your organization.**

We were incorporated in the state of Wisconsin in 1981 and became a diversified holding company in 1986. We maintain our principal executive offices in Milwaukee, Wisconsin. Our wholly owned subsidiaries provide regulated natural gas and electricity, as well as non-regulated renewable energy. In addition, we have an approximate 60% equity interest in American Transmission Company (an electric transmission company operating in Illinois, Michigan, Minnesota and Wisconsin) and an approximate 75% equity interest in ATC Holdco, LLC, a separate entity formed to invest in transmission-related projects outside of American Transmission Company's traditional footprint. On June 29, 2015, Wisconsin Energy Corporation acquired 100% of the outstanding common shares of Integrys Energy Group, Inc. and changed its name to WEC Energy Group, Inc.

Wisconsin Electric Power Company, which is the largest electric utility in the state of Wisconsin, generates and distributes electric energy to customers located in southeastern Wisconsin (including the metropolitan Milwaukee area), east central Wisconsin, and northern Wisconsin. Wisconsin Public Service Corporation generates and distributes electric energy to customers located in northeastern Wisconsin. Effective January 1, 2017, Wisconsin Electric and Wisconsin Public Service transferred their electric customers (other than an iron ore mine which transferred effective April 1, 2019), electric distribution assets, natural gas customers and natural gas distribution assets located in the Upper Peninsula of Michigan to Upper Michigan Energy Resources Corporation, a new stand-alone utility owned by WEC Energy Group.

We own the largest natural gas distribution utilities in Wisconsin, and we operate throughout the state, including the City of Milwaukee and surrounding areas, northeastern Wisconsin, and large areas of both central and western Wisconsin. In addition, Wisconsin Electric has a steam utility that generates, distributes, and sells steam to customers in metropolitan Milwaukee, Wisconsin, for use in processing, space heating, domestic hot water, and humidification. Our Illinois natural gas utilities, The Peoples Gas Light and Coke Company and North Shore Gas Company, serve customers in Chicago and the northern suburbs of Chicago, respectively. Our other natural gas utilities include Minnesota Energy Resources Corporation, serving customers in various cities and communities throughout Minnesota, and Michigan Gas Utilities, serving customers in the southern portion of lower Michigan. Upper Michigan Energy Resources also serves natural gas customers in the Upper Peninsula of Michigan. Our non-utility operations include W.E. Power, LLC, which designed and built certain electric generating units that it now leases to Wisconsin Electric; Bluewater Natural Gas Holding, LLC, which owns natural gas storage facilities in Michigan that provide approximately one-third of the current storage needs for our Wisconsin natural gas utilities; WEC Infrastructure LLC, which owns ownership interests in non-utility wind generating facilities; Wispark LLC, which develops and invests in real estate; and WPS Power Development LLC, which owns non-regulated solar projects.

## W-EU0.1a

**(W-EU0.1a) Which activities in the electric utilities sector does your organization engage in?**

- Electricity generation
- Distribution

## W-EU0.1b

**(W-EU0.1b) For your electricity generation activities, provide details of your nameplate capacity and the generation for each power source.**

	Nameplate capacity (MW)	% of total nameplate capacity	Gross generation (MWh)
Coal – hard	5,493	54	21,569,000
Lignite	0	0	0
Oil	0	0	0
Gas	3,745	36.8	10,578,000
Biomass	58	0.6	100,000
Waste (non-biomass)	0	0	0
Nuclear	0	0	0
Geothermal	0	0	0
Hydroelectric	174	1.7	835,000
Wind	508	5	1,048,000
Solar	190	1.9	0
Other renewable	0	0	0
Other non-renewable	0	0	0
Total	10,168	100	32,248,000

## W0.2

**(W0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date
Reporting year	January 1, 2018	December 31, 2018

## W0.3

**(W0.3) Select the countries/regions for which you will be supplying data.**

- United States of America

## W0.4

**(W0.4) Select the currency used for all financial information disclosed throughout your response.**

USD

## W0.5

**(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.**

Other, please specify

Equity share of consolidated companies

## W0.6

**(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?**

No

## W1. Current state

### W1.1

**(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.**

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Have not evaluated	Our power plant operations use open-cycle cooling or wet cooling tower systems that withdraw from intake structures from nearby freshwater sources.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Have not evaluated	Our Fox Energy Center beneficially reuses treated effluent to supply its process water and cooling water needs. The beneficial reuse of treated effluent results in a net reduction in the quantity of pollutants that would otherwise be discharged, resulting in a net benefit to the public and the aquatic environment in the Fox River.

### W1.2

**(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?**

	<b>% of sites/facilities/operations</b>	<b>Please explain</b>
Water withdrawals – total volumes	76-99	Water withdrawals are calculated as required by state water use reporting requirements.
Water withdrawals – volumes from water stressed areas	Not relevant	Water withdrawal volumes from water stressed areas are not relevant.
Water withdrawals – volumes by source	76-99	Water withdrawals are calculated as required by state water use reporting requirements.
Water withdrawals quality	76-99	Water withdrawals quality is monitored in connection with state water discharge (NWPDES) permit applications and for other purposes.
Water discharges – total volumes	76-99	Water discharges (volume and quality) are monitored as required by state water discharge (NWPDES) permits and reported on Discharge Monitoring Reports.
Water discharges – volumes by destination	76-99	Water discharges (volume and quality) are monitored as required by state water discharge (NWPDES) permits and reported on Discharge Monitoring Reports.
Water discharges – volumes by treatment method	76-99	Water discharges (volume and quality) are monitored as required by state water discharge (NWPDES) permits and reported on Discharge Monitoring Reports.
Water discharge quality – by standard effluent parameters	76-99	Water discharges (volume and quality) are monitored as required by state water discharge (NWPDES) permits and reported on Discharge Monitoring Reports.
Water discharge quality – temperature	76-99	Water discharge temperature and heat addition are monitored at our power plants as required by state water discharge (NWPDES) permits and reported on Discharge Monitoring Reports.
Water consumption – total volume	76-99	Water consumption is calculated for the annual corporate performance report and in some cases for municipal sewerage system forms.
Water recycled/reused	76-99	Water recycled/reused is reported for the Fox Energy Center. Our Fox Energy Center beneficially reuses treated effluent to supply its process water and cooling water needs. The beneficial reuse of treated effluent results in a net reduction in the quantity of pollutants that would otherwise be discharged, resulting in a

		net benefit to the public and the aquatic environment in the Fox River.
The provision of fully-functioning, safely managed WASH services to all workers	76-99	All staffed buildings provide clean water for drinking and adequate facilities for hygiene and waste management.

## W-EU1.2a

**(W-EU1.2a) For your hydroelectric operations, what proportion of the following water aspects are regularly measured and monitored?**

	% of sites/facilities/operations measured and monitored	Please explain
Fulfilment of downstream environmental flows	100%	
Sediment loading	100%	
Other, please specify	Not relevant	

## W1.2b

**(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?**

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	3,600,000	Higher	Higher withdrawal volume was influenced by increased operation of Oak Creek-Elm Road and Pulliam plants.
Total discharges	3,580,000	Higher	Higher discharge volume was influenced by increased operation of Oak Creek-Elm Road and Pulliam plants.
Total consumption	20,000	Lower	Lower consumption was influenced by a decrease in water loss due to evaporation from cooling towers primarily as a result of the shutdown of Pleasant Prairie Power Plant.

## W1.2h

**(W1.2h) Provide total water withdrawal data by source.**

	Relevance	Volume	Comparison	Please explain
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		(megaliters/year)	with previous reporting year	
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	3,600,000	Higher	Our power plant operations rely on open-cycle cooling or wet cooling tower systems that withdraw from intake structures on freshwater sources. Customarily, for plants with open cycle cooling systems, about 99.2% of water withdrawn for plant operations is returned to the source. (Note: All water used for cooling is returned and there are evaporative losses of under 1% due to equipment such as wet flue gas desulfurization systems.) For facilities with cooling towers, about 25% of the water is returned to the source with the balance of the water loss going to the air during the evaporative cooling process.
Brackish surface water/Seawater	Not relevant			Our company does not withdraw from brackish surface water or seawater.
Groundwater – renewable	Relevant	1,000	About the same	Less than one percent of water withdrawal for plant operations is from groundwater sources.
Groundwater – non-renewable	Not relevant			Our company does not withdraw from non-renewable groundwater.
Produced/Entrained water	Not relevant			Our company does not withdraw from produced or entrained water.
Third party sources	Relevant	3,000	About the same	Fox Energy Center beneficially reuses treated effluent to supply its process water and cooling water

				needs.
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## W1.2i

**(W1.2i) Provide total water discharge data by destination.**

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	3,580,000	Higher	Most of our power plants operate open-cycle cooling systems that withdraw from freshwater sources and return most of the water to the source
Brackish surface water/seawater	Not relevant			Our company does not discharge to brackish surface water or seawater.
Groundwater	Not relevant			Our company does not discharge to groundwater.
Third-party destinations	Relevant	1,000	About the same	Some power plants discharge a small percentage of the water withdrawn to a municipal treatment system.

## W1.2j

**(W1.2j) What proportion of your total water use do you recycle or reuse?**

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	Less than 1%	About the same	Fox Energy Center beneficially reuses treated effluent to supply its process water and cooling water needs.

## W-EU1.3

**(W-EU1.3) Do you calculate water intensity for your electricity generation activities?**

No, and we have no plans to do so in the next two years

## W2. Business impacts

### W2.1

**(W2.1) Has your organization experienced any detrimental water-related impacts?**

No

## W2.2

**(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?**

No

## W3. Procedures

### W-EU3.1

**(W-EU3.1) How does your organization identify and classify potential water pollutants associated with your business activities in the electric utilities sector that could have a detrimental impact on water ecosystems or human health?**

We identify a range of pollutant discharges from our electric generating facilities during permit application processes. We follow a classification system for potential water pollutants used by the Wisconsin DNR in their water quality standards codes. The DNR classifications are established for: 1) protection of fish and aquatic life; 2) protection of human health, including carcinogenic substances; and 3) protection of wildlife from the effects of bioaccumulation in the aquatic environment.

### W-EU3.1a

**(W-EU3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants associated with your activities in the electric utilities sector on water ecosystems or human health.**

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
Thermal pollution	Great Lakes and tributaries	Community/stakeholder engagement Other, please specify Cooling towers and discharge diffusers.	
Other, please specify	Great Lakes and tributaries	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	All discharges at electric generating facilities are monitored for a large range of substances and evaluated to help determine which limits are needed in state issued permits.



## W3.3

### (W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

## W3.3a

### (W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

#### Direct operations

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##### Coverage

Full

##### Risk assessment procedure

Water risks are assessed in an environmental risk assessment

##### Frequency of assessment

Not defined

##### How far into the future are risks considered?

>6 years

##### Type of tools and methods used

Other

##### Tools and methods used

Internal company methods

##### Comment

Prior to siting any electrical generating facility, the company fully evaluates the quantity and quality of groundwater and surface water resources to ensure there will not be detrimental effects on water ecosystems and resources. Water-resource related risks are also evaluated in advance of the construction of all gas and electric distribution infrastructure.

Also, water-related risks are evaluated at all electric generating stations during each five-year water discharge permit renewal process.

#### Supply chain

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##### Coverage

Full

##### Risk assessment procedure

Water risks are assessed as a standalone issue

##### Frequency of assessment

Not defined

##### How far into the future are risks considered?

>6 years

**Type of tools and methods used**

Other

**Tools and methods used**

Internal company methods

Other, please specify

Safety Data Sheets; on-line approval process

**Comment**

All products that require Safety Data Sheets (SDS) are evaluated to ensure use will not cause water-related risks. This is a formal on-line approval process used within our electric utilities.

**Other stages of the value chain**

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**Coverage**

Full

**Risk assessment procedure**

Other, please specify

Legal, regulatory and policy evaluation

**Frequency of assessment**

Not defined

**How far into the future are risks considered?**

>6 years

**Type of tools and methods used**

Other

**Tools and methods used**

Internal company methods

**Comment**

Corporate Environmental Department tracks all relevant new or modified water laws, regulations, and policies to ensure the company meets all current requirements.

**W3.3b**

**(W3.3b) Which of the following contextual issues are considered in your organization’s water-related risk assessments?**

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Studies done during siting assessments to evaluate water availability and quality at a basin.catchment level.

Water quality at a basin/catchment level	Relevant, always included	Studies done during siting assessments to evaluate water availability and quality at a basin.catchment level.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Stakeholder conflicts are resolved during public meetings held in advance of, and during, any facility permitting processes.
Implications of water on your key commodities/raw materials	Relevant, always included	Studies are done to evaluate implications of water availability and quality in cases where multiple sites are being evaluated for a company project.
Water-related regulatory frameworks	Relevant, always included	Studies done during siting assessments to evaluate water availability and quality at a basin.catchment level.
Status of ecosystems and habitats	Relevant, always included	Studies done during siting assessments to evaluate water availability and quality at a basin.catchment level.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	
Other contextual issues, please specify		

### W3.3c

**(W3.3c) Which of the following stakeholders are considered in your organization’s water-related risk assessments?**

	Relevance & inclusion	Please explain
Customers	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Employees		All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Investors	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Local communities	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
NGOs	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.

Other water users at a basin/catchment level	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Regulators	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
River basin management authorities	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Statutory special interest groups at a local level	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Suppliers	Not relevant, explanation provided	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Water utilities at a local level	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.
Other stakeholder, please specify	Relevant, always included	All stakeholders are involved in siting of electrical generating station projects and during the water permit renewals every five years.

### W3.3d

**(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.**

Our process is largely designed around the Clean Water Act, Water Resources Development Act and related state laws that govern regulatory programs in the Great Lakes region. These federal and state programs are designed around risk-based approaches to regulating water quality and quantity. These programs have been identified and assessed by our Environmental Department staff. Our response is to develop internal programs and procedures to manage these water-related risks when siting new facilities and when operating existing facilities.

## W4. Risks and opportunities

### W4.1

**(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?**

No

## W4.1a

**(W4.1a) How does your organization define substantive financial or strategic impact on your business?**

There are not constraints on our operations related to water use due to our Great Lakes basin and Mississippi River basin operating locations. Therefore, we do not have metrics used to define substantive change to our business, operations, revenue or expenditure from water risk.

## W4.2b

**(W4.2b) Why does your organization not consider itself exposed to water risks in its direct operations with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	Our electrical generating facilities are all located in an area of the U.S. without water shortages, including the Great Lakes and Mississippi River basin. Our largest baseload facilities are located on Lake Michigan and the Wisconsin River. We also work to comply with all existing and anticipated future water regulations.

## W4.2c

**(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	There may be water risks associated with our supply chain purchases of fuel and materials; however, we are not aware of any cases where a substantive impact could be reasonably anticipated.

## W4.3

**(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes, we have identified opportunities, and some/all are being realized

## W4.3a

**(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.**

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**Type of opportunity**

Efficiency

**Primary water-related opportunity**

Improved water efficiency in operations

**Company-specific description & strategy to realize opportunity**

Due to our Great Lakes basin and Mississippi River basin locations, many of our generating stations utilize open-cycle cooling. All of the water used for open-cycle cooling is returned to the water body. Among options for power plant cooling, our open-cycle systems are the most efficient technology choice. Therefore, this form of cooling maximizes plant efficiency and affords lower carbon emissions per unit of electrical generation compared to any other cooling technology options.

**Estimated timeframe for realization**

>6 years

**Magnitude of potential financial impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact**

The company has invested in advanced cooling water intake structure technologies and analyzed cooling water thermal discharges. We have received long-term government agency approvals for these systems that will be operable for well beyond six years. A quantitative estimate of the inherent financial impacts of the opportunity is not currently available.

## **W6. Governance**

### **W6.1**

**(W6.1) Does your organization have a water policy?**

No

### **W6.2**

**(W6.2) Is there board level oversight of water-related issues within your organization?**

Yes

## W6.2a

**(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.**

Position of individual	Please explain
Other, please specify Board of individuals/Sub-set of Board	Briefings occur via quarterly environmental report to Audit and Oversight Committee of Board of Directors

## W6.2b

**(W6.2b) Provide further details on the board's oversight of water-related issues.**

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Overseeing major capital expenditures Reviewing and guiding risk management policies Reviewing innovation/R&D priorities Setting performance objectives	The Board monitors implementation and performance; oversees and approves major capital expenditures; and reviews and guides risk management policies and practices.

## W6.3

**(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).**

**Name of the position(s) and/or committee(s)**

Other C-Suite Officer, please specify  
Senior Executive Vice President

**Responsibility**

Both assessing and managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

Quarterly

**Please explain**

## W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

**(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?**

No, and we do not plan to introduce them in the next two years

## W6.5

**(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?**

Yes, direct engagement with policy makers

Yes, trade associations

Yes, funding research organizations

Yes, other

## W6.5a

**(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?**

WEC Energy Group is routinely engaged in water policy review, development, and modification with federal and state agencies, such as USEPA, FERC, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, WI Dept of Natural Resources, MI Dept of Natural Resources, and MI Dept of Environmental Quality. The company also is engaged in water policy evaluation, research, and funding with trade and other nongovernment organizations such as the Electric Power Research Institute (EPRI), National Hydropower Association, Midwest Hydro Users Group, MI Manufacturers Association, MI Hydro Licensing Coalition, and River Alliance of WI. Company interactions are vetted through environmental, regulatory, and operations business support teams. Established processes include procedural based review and/or comment on policy and regulatory documents, participation at policy-based stakeholder meetings, active committee and board appointments in trade organizations, and attendance at trade and industry research meetings.

WEC Energy Group commented on the U.S. EPA's Effluent Limitation Guidelines program, which establishes wastewater treatment requirements for steam electric power plants. The company has financially supported EPRI research and provided a pilot study site to test an emerging technology to remove selenium, nitrogen compounds and mercury from power plant scrubber discharges. This technology uses an advanced biological metals removal process to improve discharge water quality.

## W6.6

**(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?**

Yes (you may attach the report - this is optional)



## W7. Business strategy

### W7.1

**(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?**

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	> 30	Water resource considerations are factored into location planning for new operations and site expansions, impacting the types of facilities that can be considered.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	> 30	Water resource considerations are factored into location planning for new operations and site expansions.
Financial planning	Yes, water-related issues are integrated	> 30	Proximity to water resources is one of the most important siting criteria used for power plant location planning for new operations and site expansions. Availability of water affects choices of cooling and other systems and technologies. Also, waterfront access can facilitate ship and barge delivery of fuel and other bulk materials needed for power plant operations, impacting costs.

### W7.2

**(W7.2) What is the trend in your organization’s water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?**

Row 1

**Water-related CAPEX (+/- % change)**

0

**Anticipated forward trend for CAPEX (+/- % change)**

0

**Water-related OPEX (+/- % change)**

0

**Anticipated forward trend for OPEX (+/- % change)**

0

**Please explain**

No significant changes are expected to the company's water-related operating expenditures.

### W7.3

**(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?**

	Use of climate-related scenario analysis	Comment
Row 1	Yes	Our use of climate-related scenario analysis is explained in our response to the climate change questionnaire.

### W7.3a

**(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?**

No

### W7.4

**(W7.4) Does your company use an internal price on water?**

Row 1

**Does your company use an internal price on water?**

No, and we do not anticipate doing so within the next two years

**Please explain**

Due to the very low business risk from being located in the Great Lakes Region where there is a large supply of high quality fresh water, we currently do not see value in using an internal price on water.

## W8. Targets

### W8.1

**(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.**

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Site/facility specific targets and/or goals	None are monitored at corporate level	We set specific goals at all of our generating facilities related to anticipated regulatory and permit compliance activities, some of which may be associated with water-related compliance requirements.

## W9. Linkages and trade-offs

### W9.1

**(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?**

Yes

### W9.1a

**(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.**

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#### Linkage or tradeoff

Linkage

#### Type of linkage/tradeoff

Other, please specify

Cooling water use, fuel use, energy efficiency and air emissions

#### Description of linkage/tradeoff

Open-cycle versus closed-cycle (cooling towers) cooling water system options and their impacts on the overall environment, aquatic life, water consumption, energy efficiency, aesthetics and cost when comparing trade-offs between these systems.

#### Policy or action

For the generation expansion project at our Oak Creek site (on Lake Michigan near Milwaukee) completed in 2011, the company evaluated both open-cycle and closed-cycle (cooling towers) cooling water system options and studied impacts on the overall environment, aquatic life, water consumption, energy efficiency, aesthetics and cost when comparing trade-offs between these systems. The open cycle approach was selected because it provides: greater energy efficiency, use of less coal to produce a kilowatt-hour of electricity; conservation of water, with virtually no evaporative water loss; reduced air emissions per kilowatt-hour, including CO<sub>2</sub>; reduced cost to build and operate; no visual impact of cooling towers and related vapor cloud; and public fishing access at an on-shore cooling water discharge. The linkage between cooling water use and fuel combustion efficiency creates direct, unavoidable trade-offs with air emissions. Our solution at Oak Creek was to construct a cooling water intake structure with wedge-wire screens to protect fish and aquatic life. Also, the thermal component of the cooling water system discharge was studied, and agency scientists agreed there were no adverse effects (in fact, we were asked for a public fishing pier at our discharge structure). Management of these trade-offs allowed the Oak Creek expansion units to be more energy-efficient, resulting in lower air emissions, including CO<sub>2</sub>, while minimizing impacts to the water environment.



## W10. Verification

### W10.1

**(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?**

No, we do not currently verify any other water information reported in our CDP disclosure

## W11. Sign off

### W-FI

**(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

### W11.1

**(W11.1) Provide details for the person that has signed off (approved) your CDP water response.**

	Job title	Corresponding job category
Row 1	Senior Executive Vice President	Other, please specify Senior Executive Vice President, Member, Office of the Chair

### W11.2

**(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].**

Yes

## Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors



**Please confirm below**

I have read and accept the applicable Terms