

## CITY OF SHEBOYGAN

### REQUEST FOR CITY PLAN COMMISSION CONSIDERATION

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**ITEM DESCRIPTION:** Application for Site Plan by Wisconsin Power and Light Company to construct, own, and operate a 99 MW alternating current, 4-hour battery energy storage system at the site of WPL's Edgewater Generating Station (Parcels 59281321485, 59281321460, 59281321170, and 59281321160). UI Zone

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**REPORT PREPARED BY:** Ellise Rose, Program Assistant

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**REPORT DATE:** September 28, 2023

**MEETING DATE:** October 10, 2023

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#### FISCAL SUMMARY:

Budget Line Item:	N/A
Budget Summary:	N/A
Budgeted Expenditure:	N/A
Budgeted Revenue:	N/A

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#### STATUTORY REFERENCE:

Wisconsin	N/A
Statutes:	
Municipal Code:	N/A

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#### BACKGROUND / ANALYSIS:

Wisconsin Power and Light Company is proposing to construct, own, and operate a 99 MW alternating current, 4-hour battery energy storage system at the site of WPL's Edgewater Generating Station (Parcels 59281321485, 59281321460, 59281321170, and 59281321160). The applicant states the following about the project:

Description of existing use:

- The entirety of the 9.4-acre BESS Project Area is currently developed or was previously graded, graveled, and used for material storage and laydown yards for the adjacent Edgewater Generating Station. The BESS Project Area contains 7.3 acres of naturalized grassy fields dominated by smooth brome and reed canary grass, approximately 0.4 acres of upland forest, 0.1 acre of non-forested wetland, 0.1 acre of open water, and 1.5 acres of developed non-residential land.
- Despite some of the soils being classified as Prime Farmland if drained within the BESS Project Area, existing and previous land uses will not result in loss of prime farmland.
- A macro-corridor is shown in this application which represents the area where a collector line will be placed to connect the proposed BESS system with the existing Edgewater Substation. The macro-corridor is comprised of 13.3 acres of developed land associated with the Edgewater Generating Station. There is no grassland or upland forest present within the macro-corridor, however, based on aerial imagery, there appears to be two non-forested wetland areas, totaling 0.5 acres associated with stormwater/surface water run-off from the surrounding industrially developed land.

- Because the Edgewater Generating Station has already developed much of the Project Area, the BESS Project will not significantly alter the land cover impacts from the development of the Edgewater Generating Station.

#### Description of proposed use:

- The BESS Project will consist of battery cabinets connected to pad-mounted inverter/transformer skids, which would then connect to switchgear, next to a common bus, which will finally connect with the existing Edgewater Generating Station substation located to the east of the Project Area.
- Additions to the existing substation will be needed to enable the connection of the 34.5kV battery to the 345kV substation.
- In addition to these physical components, the BESS Project will use intelligent battery software and computerized control systems to help determine when to store energy to provide reserves or to release it to the grid.
- Edgewater BESS will provide solar power generation, battery storage, and connect to the existing Edgewater Generating Station.
- There will be no permanent, on-site employees once construction and installation has been completed. Alliant Energy employees will then visit approximately two times per month.
- Construction will require managers, heavy equipment operators, licensed journeymen electricians, and laborers, and WPL expects to use in-state union labor to the extent possible to construct and install the BESS Project.
- WPL estimates that, during peak construction periods, approximately 20 to 40 workers will be needed to construct the BESS Project

#### Site selection:

- The BESS Project is planned in coordination with the Edgewater Generation Plant retirement. Situating Edgewater BESS at WPL's existing generation facilities allows WPL to accelerate the addition of resources by taking advantage of available land and substation infrastructure.
- WPL has designed Edgewater BESS to allow it to be charged and discharged directly to and from the grid. This provides WPL the flexibility to operate Edgewater BESS to maximize capacity accreditation, particularly in the forthcoming winter seasons, while providing energy arbitrage and ancillary service market opportunities when the BESS Project is not needed for capacity accreditation.
- In addition, WPL chose the Edgewater Generating Station site to minimize costs by maximizing economies of scale and by taking advantage of enhanced customer benefits available in the recently enacted Inflation Reduction Act ("IRA" or "the Act"). Under the IRA, WPL's customers will be able to receive investment tax credits ("ITCs") for Edgewater BESS including a ten-percentage point ITC "add-on" due to that project being in an "energy community" as defined by the Act.

#### Site improvements:

- The BESS Project takes advantage of the existing parking area at the adjacent substation, and the Project Area will include roughly 4.3 acres of impervious surfaces. This additional impervious surface will require the construction of two stormwater management ponds located adjacent to the BESS Project and will be approximately 0.5 acres (21,800 ft<sup>2</sup>) in total size and contain both an inlet and outlet at set elevations.

- Stormwater run-off from impervious surfaces will flow to a pond via swales and grading.
- A proposed stormwater pond has been preliminarily sized to cumulatively store approximately two acre-feet of water. The stormwater pond will be designed to mitigate adverse impacts of the BESS Project in terms of water quality and peak run-off rate.
- Additional landscaping will consist of revegetation of grasses.
- The size of the energy storage enclosures (or cabinets) used for preliminary engineering are 4.9 feet wide, 7.6 feet tall, and 4.5 feet deep.
- The inverters, which are part of the power conversion system, are 21.3 feet wide, 7.2 feet tall, and 6.6 feet deep.
- The enclosure that houses the battery components and auxiliary systems are not designed for personnel entry.
- The power conversion system consists of an inverter with an integral medium voltage transformer. The transformers would connect to switchgear, then to a common bus, which will finally connect directly to the Edgewater Generating Station collector substation. Equipment and structures would be mounted on concrete slab or pier foundations.
- To identify the site, a sign with the address will be installed.

#### Additional Information:

- Site work could begin as early as the second quarter of 2024, but the start date will be contingent on receipt of regulatory approvals and local permitting approvals.
- The BESS Project is expected to operate for approximately twenty years based on current forecasts for available equipment. At the end of the BESS Project's useful life, WPL will assess whether to cease operations and decommission the project or to augment/replace equipment to extend the life of the project, and continue the beneficial use of the existing GIA, substation equipment, roads, and siting studies, which will have already been paid for.

#### **STAFF COMMENTS:**

The Plan Commission may want to have the applicant address:

- Any future construction?
- What does construction entail – grading, construction, structures, etc.
- What types of other permits and review are required – environmental, public service, State of Wisconsin, federal, etc.
- What concerns are there with the proposed solar farm in terms of wildlife, maintenance of the property, electrical interference, etc.?

#### **ACTION REQUESTED:**

Staff recommends approval of the project subject to the following conditions:

1. Prior to building permit issuance, the applicant shall obtain all licenses and permits as well as meet all required codes including but not limited to building, plumbing, electrical, HVAC, fire, water, sewer, storm drainage, health, Local, State, Federal, etc.
2. Applicant shall meet all zoning requirements including but not limited to noise, vibration, hazardous materials, etc.
3. Submittal/approval of a proposed storm drainage plan prior to building permit issuance.

4. Outdoor storage of materials, products or equipment shall be prohibited.
5. Fencing shall be installed per Section 15.720(3)(c) of the City of Sheboygan Zoning Ordinance. Applicant shall work with staff with regards to constructing appropriate and well-designed fence/retaining wall and shall obtain the necessary permits prior to installation. If staff has any concerns with proposed fence design, the matter may be brought back to the Plan Commission for their consideration.
6. All new lighting shall be installed per Section 15.707 of the City of Sheboygan Zoning Ordinance (site lighting, building lighting, signage, etc.). There shall be no spillover light onto adjacent properties or the streets that will cause nuisances or traffic hazards.
7. Applicant shall appropriately maintain the landscaping on this site.
8. Applicant shall work with staff with regards to appropriate signage. Only at such time as the sign package has been reviewed and approved may the applicant obtain sign permits to install signage. If staff has any concerns with proposed signage design, the matter may be brought back to the Plan Commission for their consideration.
9. Any work within City of Sheboygan Public rights-of-way shall be discussed with the City Engineering Department and constructed to standard City specifications (including, but not limited to, new and old ingress/egress driveway openings, curb, gutter, sidewalk, pavement, utilities, street trees, grading, etc.).
10. Applicant is responsible for working with all private and public utilities in order to adequately service this development proposal (applicant will need to provide the necessary easements and/or relocate utilities as necessary).
11. Applicant shall immediately clean any and all sediments, materials, tracking, etc. that may be spilled off-site on private or public lands and streets.
12. Streets and infrastructure damaged and/or disturbed during construction of all private and/or public improvements shall be promptly repaired by the applicant.
13. All vehicles, equipment, materials, products, etc. shall be located on the applicant's property (no storage on public rights-of-way).
14. If there are any amendments to the approved use permit (including but not limited to site plan, use, etc.), the applicant will be required to submit a new conditional use application reflecting those amendments.

## **ATTACHMENTS:**

Site Plan Application and required attachments