October 2024

PUBLIC SERVICE COMMISSION OF WISCONSIN
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Paris RICE Project

Draft Environmental Impact Statement

PSC Docket 6630-CE-316

Date Issued: October 2024

PUBLIC SERVICE COMMISSION OF WISCONSIN

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Paris

RICE Project

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This draft Environmental Impact Statement for the proposal of Wisconsin Electric Power Company to construct, own, and operate the Paris RICE project, which includes power plant facilities and electric transmission lines, is progress towards compliance with the Public Service Commission's requirement under Wis. Stat. § 1.11and Wis. Admin. Code § PSC 4.30. It also is progress toward compliance with the Department of Natural Resources requirements under Wis. Admin. Code § NR 150.22.

By: 

Date: October 31, 2024

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To the Reader

This draft environmental impact statement (EIS) fulfills part of the requirements of the Wisconsin Environmental Policy Act (WEPA) Wis. Stat. § 1.11. WEPA requires state agencies to consider environmental factors when making major decisions. The purpose of this EIS is to provide the decision makers, the public, and other stakeholders with an analysis of the social, cultural, and environmental impacts that could result from the construction of a new power plant and its associated facilities. This document has been prepared jointly by the Public Service Commission of Wisconsin (Commission or PSC) and the Wisconsin Department of Natural Resources (DNR or WDNR).

You are encouraged to comment on this draft EIS. The state agency comment period on this draft EIS ends on Monday, December 16, 2024. Please use the PSC docket number 6630-CE-316 on all e mail and correspondence. Written comments should be addressed to:

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Comments may also be submitted electronically at the Commission's web site at http://psc.wi.gov. Once at the site, click on the "File a Public Comment" at the bottom of the page. On the next page select the "File a comment" link that appears on the left side of the page. Locate the WI Electric Paris RICE docket (6630-CE-316) and file a comment. Specific questions on the draft EIS should be addressed to:

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Comments received during the comment period will be used to prepare the final EIS, which will become part of the record used by the Commission to make its final decisions on this project. At this time, the Commission decision on the proposed project is expected in mid-2025.

This draft EIS will become part of the record used by the Commission to make its final decisions on this project. At this time, the Commission decision on the proposed project is expected in mid-2025.

The Commission decision on the merits of this project will be based on the record of public and party hearings that will be held in January of 2025. The hearing will satisfy the WEPA requirements of the Commission and DNR. The final EIS and testimony from the public and party hearings will be included in the hearing record.

If necessary, DNR will hold separate hearings on its water permits or other DNR regulatory actions discussed in this final EIS.

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Executive Summary

PROPOSAL

Wisconsin Electric Power Company (WEPCO or applicant) proposes to build a new natural gas powered electric generating facility in the Town of Paris in northern Kenosha County. The proposed facility is referred to as the Paris Reciprocating Internal Combustion Engine (RICE) plant.

On June 10, 204, WEPCO submitted an application to the Public Service Commission of Wisconsin (Commission or PSC) for a Certificate of Public Convenience and Necessity (CPCN) under Wisconsin Statutes (Wis. Stat.) § 196.491(3) and Wisconsin Administrative Code (Wis. Admin. Code) ch. PSC 111, for authority to construct and operate a large natural gas fired electric generating facility with a capacity of approximately 128 megawatts (MW) and a 2.15-mile long 138 kilovolt (kV) generator tie line (gen-tie)[1].

This draft EIS provides discussion and analysis of impacts to natural resources and the local community that could occur from construction of the proposed power plant and the associated transmission line.

PROJECT LOCATION

The applicant has evaluated three potential locations for the Paris RICE, the Proposed Site, Alternative Site 1, and Alternative Site 2 (see Figure ES-1). All three sites are located in the Town of Paris in Kenosha County, Wisconsin. The Proposed Site is located approximately two miles east of the existing Paris Generating Station (PGS). The site is accessible from County Highway (CTH) KR/1st Street via Interstate (I-) 94 from the east or State Highway (STH) 45 from the west. The site is approximately 14 acres in size with an additional 21.6 acres of laydown/trailer area on the 78-acre parcel owned by WEPCO. It is currently developed for agricultural use.

The gen-tie associated with the Proposed Site would run west from the facility footprint to the western property line, then south just past the southern property line, then approximately two miles west through primarily agricultural land to the Paris Solar substation. The Paris Solar substation is accessible from 172nd Avenue via CTH KR from the north. The Proposed Gen-Tie and Alternative Gen-Tie associated with the Proposed Site run in common centerline with the exception of approximately 1.25 miles where the Alternative Gen-Tie route splits north approximately 250 feet and runs parallel before converging back south across existing transmission rights-of-way (ROW) to the Proposed Gen-Tie route.

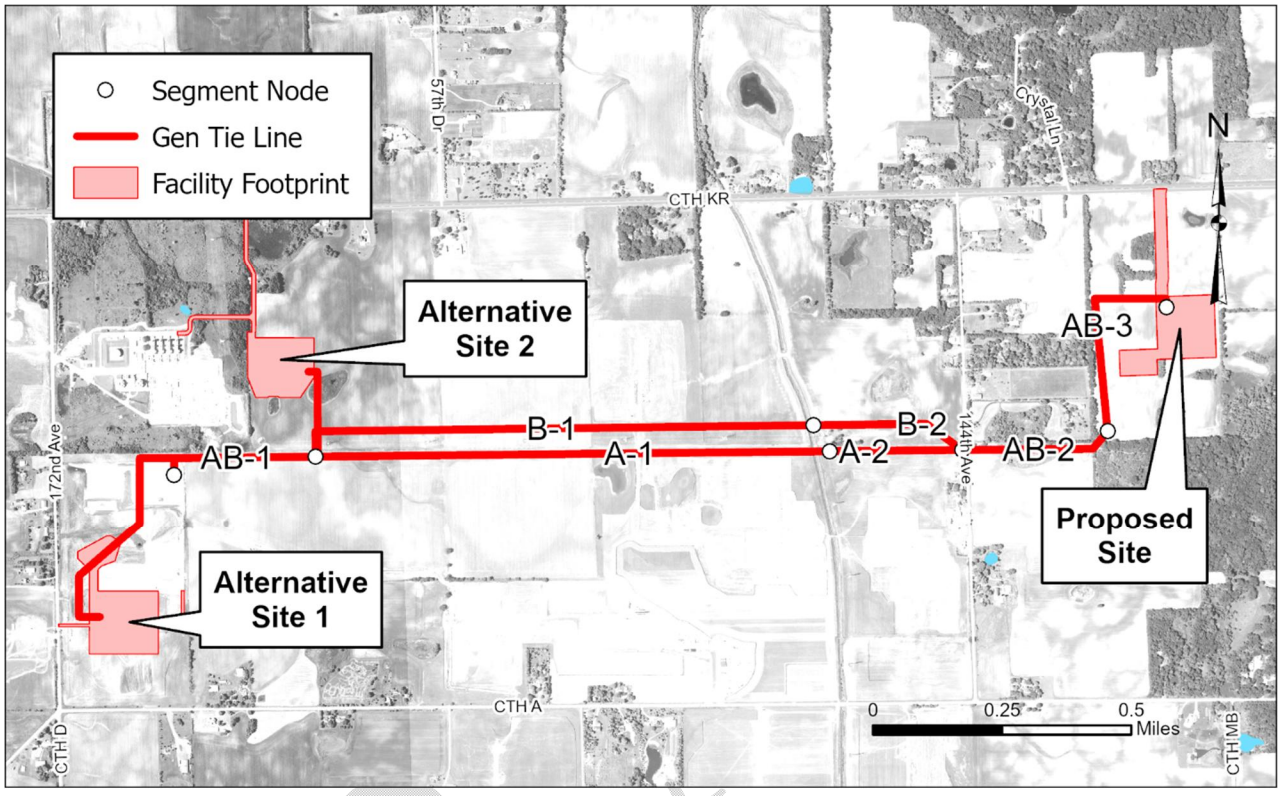
Alternative Site 1 is located approximately one-half mile south of the existing PGS. The site is accessible from 172nd Avenue via CTH KR from the north. The site is approximately 13.6 acres in size with an additional 18.5 acres of laydown/trailer area, construction matting, and other disturbances on a 78-acre parcel owned by WEPCO. It is currently developed to host solar panels as a portion of the Paris Solar generation facility (Paris Solar). Alternative Site 1 has only one gen-tie route and it would run from the west side of the facility footprint roughly northeast to the Paris Solar substation.

Alternative Site 2 is located adjacently east of the existing PGS. The site would be accessible via the PGS property to the west or CTH KR to the north. The site is approximately 11 acres in size with an additional 31 acres of laydown/trailer area, construction matting, and other disturbances on a 111-acre parcel that is

[1] Considered a type of electric transmission line.

not currently under ownership by WEPCO. It is currently developed for agricultural use. Alternative Site 2 has only one gen-tie route and it would run from the east side of the facility footprint south and then roughly west to the Paris Solar substation.

Figure ES-1 General location map



PROJECT DESCRIPTION

WEPCO has requested Commission approval for a natural gas fired electric generating facility with a capacity of approximately 128 MW. The project would consist of seven Wärtsilä W18V50SG RICE generators. Each RICE generator would have a nominal capacity of 18.8 MW. The plant would burn natural gas without the capability to use a backup fuel.

The proposed Paris RICE facility would be 100 percent owned by WEPCO. WEPCO is an investor-owned public utility, as defined in Wis. Stat. § 196.01(5)(a), engaged in rendering electric service in Wisconsin. WEPCO would be exclusively responsible for the design of the facility, construction, startup testing, and operation and maintenance.

The project would require a 138 kV gen-tie from the proposed RICE facility to the existing 138 kV Paris Solar Collector Substation. For the Proposed Site, the gen-tie line would be between 2.1 and 2.2 miles long, depending on the route selected, and would predominantly consist of a 138 kV single pole single circuit configuration. For Alternative Site 1 and Alternative Site 2, the gen-tie line would be approximately 3,000 feet and 3,600 feet, respectively. No existing transmission is expected to be impacted by the proposed project.

A natural gas pipeline lateral would be constructed to supply fuel for the proposed RICE facility. The new 12-inch pipeline would be between 500 and 1,500 feet long, depending on the site selected, and extend

from the existing Lakeshore Lateral Project (LLP) natural gas distribution lateral to the proposed Paris RICE facility. Wisconsin Electric – Gas Operations (WE-GO) owns the distribution lateral that would supply natural gas to the proposed project; construction and operation of the interconnection would be coordinated between WEPCO and WE-GO.

PROJECT NEED AND COST

The Paris RICE project is part of the applicant's plan to meet its considerable load obligations for the 2026 timeframe, when significant load in the applicant's service territory is expected.[2] Commission staff is evaluating how the proposed project fits into the applicant's generation portfolio and how it compares to other alternatives, the results of which will be discussed at the technical hearing for this project. The applicant indicates that resources such as solar photovoltaic (PV) electric generation units, wind electric generation units, and battery energy storage system (BESS) units have been an important part of meeting the applicant's environmental and economic goals, while those same resources can create complexities in ensuring reliability, resiliency, and transmission system stability.[3] The applicant states that the right mix of generation resources is vital to ensuring reliability, and that the Paris RICE project would "provide capacity, ramping, dynamic voltage control, system inertia, and frequency response necessary for electric system stability."[4]

The applicant cited criteria for consideration in the development of its resource portfolio, which included:

- Resource dispatchability: Having fully dispatchable resources such as RICE generators, combustion turbines (CT), and BESS can help the applicant to ensure energy availability for customers at all hours when intermittent resources such as solar PV or wind may not be available.
- Resource diversity: Having a blend of varying resource types allows the applicant to more reliably serve load, utilizing the different operational attributes to collectively complement other resources as the applicant's generation fleet undergoes a transition.

In development of this portfolio, the applicant used Energy Exemplar's PLEXOS market simulation program to model capacity expansion and production cost for the applicant's system. The applicant notes that PLEXOS can simultaneously solve unit commitment and energy dispatch at the same time as considering capacity expansion.[5] The applicant's utility holding parent company, WEC Energy Group (WEC), has similarly used PLEXOS in applications supporting a variety of different resource types, including solar PV and BESS hybrid projects, wind projects, and new dispatchable thermal resources.

In support of this application, the applicant developed four different planning futures and reviewed these futures over a 30-year time period, from 2023 to 2052.[6] These planning futures assume different input assumptions for variables, including demand and energy growth, natural gas pricing, inflation rates, carbon dioxide penalty costs, and renewable tax credits.[7] The applicant further designed two different resource planning approaches, a capacity assurance resource plan and an energy assurance resource plan.[8] The capacity assurance resource planning approach focused on maintaining the requisite planning reserve margin (PRM) required by the Midcontinent Independent System Operator, Inc. (MISO) in each season,

[2] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), Section 2.1.
[3] *Id.*
[4] *Id.*
[5] *Id.* p. 54.
[6] PSC REF#: 496389 Paris RICE Appendix D CONFIDENTIAL (REDACTED COPY), p. 17-18.
[7] *Id.* p. 17.
[8] *Id.* p. 14-16.

while the energy assurance resource planning approach also required that only the applicant's generation resources could provide energy and access to the MISO market is no longer available by 2026.[9]

Additionally, the applicant provided a number of sensitivities reviewing other variables, including accreditation of solar resource capacity, accreditation of BESS capacity, changes to project capital costs, and changes to demand and load forecasts. The applicant concludes that "Paris RICE provides both quantitative and qualitative benefits to Wisconsin Electric's customers in the majority of scenarios and sensitivities analyzed."[10]

The construction of the proposed project would cost approximately $279.6 million, with an additional Allowance for Funds Used During Construction (AFUDC) estimate of $23.7 million.[11] The applicant presents these estimated costs, which include engineering, procurement, and construction of the facilities, the equipment supplier costs, and owner's costs. WEPCO would solely own and operated the proposed project facilities.

ENVIRONMENTAL IMPACTS

The potential environmental, community, and social impacts of the project are analyzed in greater detail in Chapters 5, 6, 7, and 8 of the EIS. Overall, the land cover in the wider project area is primarily agricultural land use, with existing utility infrastructure and some residences. Two of the three project sites and all gen-tie ROWs are made up primarily of agricultural land at 85 percent of land cover for the Proposed Site and gen-tie routes and 87 percent of land cover for Alternative Site 2. Alternative Site 1 is currently developed as part of the Paris Solar facility but was previously developed as agricultural land as well. If appropriate construction and restoration methods are employed, most if not all of the impacts on these lands should be temporary in nature with the exception of permanent facilities.

The existence of infrastructure such as the existing PGS, Paris Solar, and Paris Substation in close proximity to the two alternative sites would make them generally less impactful than the Proposed Site to the human and natural environment.

Very generally, the Proposed Site, including the Gen-Tie Corridor, would impact approximately 82 acres, of which 4.4 acres would be in wetlands and 69 acres would be in agricultural lands. Alternative Site 1 and associated gen-tie would impact approximately 39 acres, of which 0.24 acres would be in wetlands and 33 acres would be in agricultural lands developed for photo-voltaic electric generation. Alternative Site 2 and associated gen-tie would impact approximately 48 acres, of which 0.8 acres would be in wetlands and 42 acres would be in agricultural lands.

Impacts that may occur as a result of construction include:

- the risk of soil compaction in agricultural lands or wetlands,
- damage to drainage tiles or other hydrologic features,
- potential introduction of invasive species or pests to areas where these do not exist,
- noise, dust, and chemical exposures in areas near laydown yards or where construction is occurring,

[9] *Id.* p. 14-16.
[10] PSC REF#: 496389 Paris RICE Appendix D CONFIDENTIAL (REDACTED COPY), p. 31.
[11] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), p. 94.

- disturbance or take of rare species,
- erosion of soil during construction and ongoing stormwater impacts due to increased impermeable surfaces at substations,
- restrictions on subsequent use of land not previously encumbered by a utility easement,
- removal of trees and other woody vegetation, converting that land cover to an open grassland habitat and potentially removing windbreaks from along field edges,
- ongoing noise or corona effects from the operation of transmission lines,
- visual changes to the landscape by installing more high voltage transmission lines and substations, and,
- impacts to other existing infrastructure such as railroads, highways, and gas pipelines, as a result of construction or ongoing operation of the generation facilities.

Many of the above impacts could be avoided or mitigated by the use of appropriate Best Management Practices (BMP), communication with landowners prior to the commencement of work, or recommended actions to avoid impacts to rare species. These mitigation actions are commonly used on electric generation, transmission line, and substation construction projects to reduce the impacts to communities and the natural environment.

COMMISSION DECISIONS

The Commission, in reviewing WEPCO's application for a CPCN, will decide, among other items, whether to build the plant, and where to build the plant. If it approves the plant, the Commission will also decide whether to impose any conditions on the construction of these facilities. In addition, the Commission would decide the location and configuration of the gen-tie associated with the Proposed Site, if it is approved.

CHAPTER

1

1. Project Overview and Regulatory Requirements

1.1. PROJECT OVERVIEW

1.1.1. Proposed project

Wisconsin Electric Power Company (WEPCO or applicant) is proposing to build a new natural gas-fired, reciprocating internal combustion engine (RICE) electric generation facility in the Town of Paris in County. The proposed facility is referred to as the Paris RICE (project) and would have a total generating capacity of approximately 128 megawatts (MW). The facility would include seven Wärtsilä W18V50SG RICE generators, each with a nominal capacity of 18.8 MW. The plant would be fueled exclusively with natural gas. The plant would have an anticipated life span of at least 30 years.

The applicant has evaluated three potential locations for the Paris RICE Generating Facility, the Proposed Site, Alternative Site 1, and Alternative Site 2 (Figure ES-1). All three 10-acre sites are located in the Town of Paris within Kenosha County, Wisconsin. The Proposed Site is located at the property of the existing Lakeshore Capacity Improvement Project (LCIP) Regulator Station, approximately 1.9 miles east of the existing Paris Generating Station (PGS). The site would be accessible from 1st Street from the north. It is currently developed for agriculture and is located in the central portion of the 78-acre parcel of land owned by WEPCO. Alternative Site 1 is located south of the existing PGS on a 78-acre parcel of land owned by WEPCO. The site would be accessible from 172nd Avenue from the west. Alternative Site 2 is located immediately east of the existing PGS on a 111-acre parcel of land with property rights being pursued by WEPCO. The site would be accessible from 172nd Avenue from the west and County Line Road from the north.

WEPCO applied to the Commission for a Certificate of Public Convenience and Necessity (CPCN) under Wis. Stat. § 196.491(3) and Wis. Admin. Code ch. PSC 111, to construct and operate a large natural gas-fired electric generating facility with a capacity of approximately 128 MW. WEPCO is a Wisconsin subsidiary of WEC Energy Group (WEC). WEPCO serves retail electric customers and is a public utility under Wisconsin law.

The proposed Paris RICE facility would be 100 percent owned by WEPCO. WEPCO would be responsible for the plant's design, construction, start-up testing, and operations and maintenance. WEPCO would be the construction and operating agent for the proposed plant. The proposed plant could be operated as both a base load and peaking plant as defined in 1997 Wisconsin Act 204, the Electric Reliability Act, which legalized the development of wholesale merchant plants in the state.

1.1.2. Project cost and ownership

The proposed Paris RICE project, if approved, would be solely owned and operated by WEPCO. The total project cost is estimated at approximately $279.6 million for WEPCO's Proposed Site, approximately $280.6 million for Alternative Site 1, and $271.6 million for Alternative Site 2.

1.1.3. Proposed construction schedule

In its original application, WEPCO stated it would like to begin construction in February of 2025, after it secures state approval, permits, and any ROW acquisition. If WEPCO receives approval for the proposed project and begins construction in accordance with the proposed schedule, construction is expected to be completed by July 2026.

1.2. ROLE OF THE PUBLIC SERVICE COMMISSION OF WISCONSIN

1.2.1. Approval, denial, or modification of this proposed project

Under Wis. Stat. § 196.491(3), the Commission has the authority of approve, deny, or modify any and all facilities proposed by the applicant in the Paris RICE application. If the project is approved, the Commission would select the generation site and design for the associated generator tie line (gen-tie).

1.2.2. Commission considerations

Regulatory interests of the Commission cover the need for the project, the project cost and electrical performance, and the project's short and long term environmental social impacts (other than those specifically addressed under DNR permits).

1.2.2.1. Certificate of Public Convenience and Necessity law

This rigorous analysis is mandated under Wis. Stat. § 196.491(3) and requires the Commission to make all of the following determinations prior to approving construction of a project such as Paris RICE:

- Under Wis. Stat. § 196.491(3)(d)2, the proposed facilities must satisfy the reasonable needs of the public for an adequate supply of electric energy.
- Under Wis. Stat. § 196.491(3)(d)3, the facilities must be in the public interest, considering: alternative sources of supply, alternative locations or routes, individual hardships, engineering factors, economic factors, safety, reliability, and environmental factors.
- Under Wis. Stat. § 196.491(3)(d)3r, the generator tie line that is proposed to increase the transmission import capability into this state must be routed through existing rights-of-way to the extent practicable and the routing and design of the high-voltage transmission line minimizes environmental impacts in a manner that is consistent with achieving reasonable electric rates.
- Under Wis. Stat. § 196.491(3)(d)4, the facilities must not have undue adverse impact on environmental values such as, but not limited to: ecological balance, public health and welfare, historic sites, geological formations, aesthetics of land and water, and recreational use.
- Under Wis. Stat. § 196.491(3)(d)5 and 196.49(3)(b), the facilities must not substantially impair the efficiency of the applicant's service or reasonably exceed the applicant's probable future requirements, and the value or available quantity of service the facilities provide must be proportionate to their cost.

- Under Wis. Stat. § 196.491(3)(d)6, the facilities must not unreasonably interfere with the orderly land use and development plans for the area involved.
- Under Wis. Stat. § 196.491(3)(d)7, the facilities must not have a material adverse impact on competition in the relevant wholesale electric service market.
- Under Wis. Stat. § 196.491(3)(d)8, the large generating facility must be located in brownfields, as defined in s. 238.13(1)(a) to the extent practicable.

1.2.2.2. Required priorities for meeting energy demands

In addition to these statutory determinations, the Commission must address the priorities provided in Wis. Stat. §§ 1.12 and 196.025. These laws require the Commission to give reasonable priority to specific methods of meeting energy demands. The Commission must consider options based on the following priorities, in the order listed, for all energy-related decisions:

- Energy conservation and efficiency
- Noncombustible renewable energy resources
- Combustible renewable energy resources
- Nonrenewable combustible energy resources, in the order listed:
  - Natural gas
  - Oil or coal with a sulfur content of less than one percent
  - All other carbon-based fuels

If the Commission finds that any of these statutorily preferred options, or a combination of these options, constitutes a cost-effective and technically feasible alternative to the proposed project, the Commission must reject all or a portion of the project as proposed.

1.2.2.3. Required priorities for electric transmission corridors

Wisconsin Stat. § 1.12(6) also directs the Commission to consider corridor sharing opportunities when reviewing transmission facility projects. The statute states that, when siting new electric transmission lines, it is the policy of the state to attempt to share existing corridors to greatest extent feasible. Corridors to be considered for sharing are prioritized in the following order:

- Existing utility corridors
- Highway and railway corridors
- Recreational trails, to the extent that the facilities may be constructed below ground and that the facilities do not significantly impact environmentally sensitive areas
- New corridors

However, when selecting corridors to share, the Commission must also determine that the corridor sharing is consistent with economic and engineering considerations, electric system reliability, and environmental protection.

1.2.3. Intervenors in the PSC process

A few organizations and individuals have requested to "intervene" to become "parties" to the docket before the Commission. The intervenors would have some additional legal rights and obligations as

participants in the Commission proceeding. Those who have requested full party status as intervenors in the docket at this point in the proceeding are:

- Citizens Utility Board (CUB)
- City of Milwaukee
- Clean Wisconsin
- Kenosha County
- RENEW Wisconsin., Inc.
- Town of Paris
- Wisconsin Industrial Energy Group
- Wisconsin Local Government Climate Coalition (WLGCC)

1.2.3.1. Intervenor compensation in the PSC process

Under Wis. Stat. § 196.31 and Wis. Admin. Code ch. PSC 3, the Commission may compensate any organization or individual for the cost of participating in its proceedings if all the following conditions are met:

- The intervening organization or individual is a customer of the utility that is the subject of the proceeding or is someone who may be materially affected by the proceeding's outcome.
- The intervening organization or individual must have been granted full party status and will participate as such in the proceeding.
- Without compensation, the intervenor would experience "significant financial hardship."
- Without compensation for the intervenor, an interest that is material to the proceeding would not be adequately represented.
- The intervenor's interest and position must be represented to result in a fair determination in the proceeding.

1.2.4. Public Involvement

Public involvement and comments throughout the Commission's review process is encouraged. Public input is solicited through:

- Written and spoken comments from the public information outreach and meetings that are sponsored by either the applicant or the Commission.
- Written comments on the draft EIS.
- Testimony at public hearings held by the Commission.

1.2.4.1. Applicant-sponsored public outreach

The outreach and communication activities conducted by WEPCO for this proposed project included a public informational one meeting (i.e., open house meeting) to inform the public of the project, obtain feedback, and record any issues or concerns.

1.2.4.2. Comments received during draft EIS scoping period

The Commission received 68 comments regarding the proposed Paris RICE project under docket 6630-CE-316.

Several comments were received from members of the public and representatives from organizations such as Clean Wisconsin, Healthy Climate Wisconsin, Renew Wisconsin, Sierra Club, and Union of Concerned Scientists in general opposition to the project. The concerns raised include cost, energy burden, environmental justice, fossil fuel dependence, air pollution, water pollution, health impacts, greenhouse gas emissions, climate change, and cumulative environmental impacts as a result of the proposed project. Several studies and articles were cited within some of the comments, and they are addressed in applicable sections throughout this EIS.

Local residents as well as the Town of Paris expressed concerns relating to the disturbance and nuisance that the eventual plant would create, including drainage issues, property devaluation, noise impacts, and visual impacts. Comments from these sources also expressed preference toward the alternative sites in the event of a project approval. The Town of Paris specifically prefers Alternative Site 1.

1.2.4.3. Comments received on the draft EIS

Comments will be requested upon release of this draft EIS, reviewed and considered for integration into the final EIS.

1.2.5. Commission-sponsored EIS scoping and hearings

The Commission solicited scoping comments from the public in a letter[12] sent on July 16, 2024, to interested and affected persons, towns, counties, municipalities, and libraries. Throughout the time that Commission staff was preparing the draft EIS, comments and questions continued to be received at the Commission by first-class mail, e-mail, telephone, and through the PSC website.

Following the release of the draft EIS, a 45-day public comment period will be observed. Written comments made to staff during this comment period will be considered by Commission staff as it prepares the final EIS.

The Commission staff review process focuses on gathering, organizing, and analyzing information for the hearings on the project. Public hearings are required to be held in the project area. A period of at least 30 days will occur between the issuance of the final EIS and the opening of the hearings for this case. This period will allow the public and government offices the opportunity to review the final EIS prior to the technical and public hearings so that they can prepare appropriate, informed, and useful written or oral testimony or comment.

Testimony received during the technical and public hearings will become part of the case record. The Commission will approve, reject, or modify the applicant's proposal based on its reading and discussion of the case record. At the hearing sessions, a court reporter will record the oral and written testimony presented by Commission staff, utility staff, staff of other agencies, representatives of intervening organizations, and the public. The final EIS will be entered into the hearing record as a portion of Commission staff's testimony. At this time, the technical and public hearings for the Paris RICE are

[12] PSC REF#: 508771 Environmental Impact Statement Scoping Letter - WEPCO-Kenosha Cty.

expected in February of 2025. An official notice that includes specific times for these hearings will be mailed to the entire project mailing list before the final EIS is issued.

1.3. INTER-AGENCY RELATIONSHIPS IN THE COMMISSION PROCESS

Commission staff routinely consult with various government regulatory agencies to better understand the potential impacts of a project. However, certain Wisconsin departments are more integrated into the preparation of this EIS. These include DNR, which by law is a co-author of the EIS, and the Wisconsin Historical Society (WHS). The related responsibilities of these agencies are described briefly in this section and integrated into the impact discussions later in the document where appropriate.

1.3.1. Role of the Department of Natural Resources

During its review of this project, Commission staff has consulted with the Wisconsin Department of Natural Resources (DNR or WDNR) to assess the potential impact the project may have on Wisconsin's resources. DNR enforces provisions of Wis. Stat. ch. 30 on navigable waterways, including approval for temporary clear span bridges (TCSB) over streams. It enforces provisions of Wis. Stat. § 281.36 on wetlands, also, including the Wetlands Practicable Alternatives Analysis required under Wis. Admin. Code ch. NR 103.

DNR is the permitting authority also for construction site erosion control. Stormwater permits must be obtained from DNR under Wis. Stat. ch. 283 and Wis. Admin. Code chs. NR 216 and NR 151.

Connected with this permitting, DNR will also process any Incidental Take Authorization for Endangered or Threatened Species, as needed, under Wis. Stat. § 29.604, depending on the route approved.

DNR works with the U.S. Army Corps of Engineers (USACE) and the U.S. Fish and Wildlife Service (USFWS) as well as with the Commission. However, these federal agencies may require separate permitting beyond what may be provided by DNR or ordered by the Commission.

With the Chapter 30 permits, the Commission and DNR are required under Wis. Stat. § 196.025(2m)(b)(1)1. and 3. to prepare the final EIS cooperatively and include all of the information needed by both agencies to carry out their respective duties under Wis. Stat. § 1.11 (Wisconsin Environmental Policy Act, or WEPA – governmental consideration of environmental impact). This agency is the co-author of the final EIS, with the Commission as the primary agency.

1.3.2. Role of the Wisconsin Historical Society

WHS serves as the central unit of state government to coordinate the activities of all state agencies in connection with historic properties. Under Wis. Stat. § 44.40, the Commission must determine if a requested action is going to affect historic properties that are listed properties, on the inventory, or on the list of locally designated historic places. If the Commission determines that a requested action will affect any historic property, it must notify the State Historic Preservation Officer (SHPO) or SHPO designee. Historic properties include archeological, architectural, and other cultural resources. The Commission, like all Wisconsin state agencies, must report to WHS on potential impacts of the proposed project to listed historic properties. WHS determines if those impacts would be adverse and provides direction to the Commission for avoiding or reducing potential impacts. If sites must be protected or their impacts mitigated as part of a proposed project, the Commission must enforce those mitigation measures in its certification of the project.

WHS also has federal obligations. It is the home of the Wisconsin SHPO, who provides direction to federal agencies complying with Section 106 of the National Historic Preservation Act (NHPA) in Wisconsin. There may be federal interest in portions of the Paris RICE project, as described under "Federal Interest and Permits" in the next section of the EIS. The NHPA requirements for the federal agencies supersede but do not eliminate the requirements of Wis. Stat. § 44.40 for the Commission. They often are more stringent than state law requirements and are enforced directly by the interested federal agency complying with the NHPA. WHS as the SHPO might require a field survey of any federal area of potential effect. Resolution of all Section 106 requirements might not be completed at the time of the Commission hearing for this project.

A review of the Wisconsin Historic Preservation Database (WHPD) for historic resources maintained by WHS found incidences of potential cultural resources near the proposed project area. WHS may require a field survey of any cultural resource, prior to construction activities.

1.3.3. Role of the Department of Transportation

Under Wis. Stat. § 86.07(2), WisDOT controls whether and how utility facilities and access driveways may be constructed/located on highway ROW. Under Wis. Stat. § 86.16, utilities may locate their facilities along and across highway ROW with the written consent of the maintaining jurisdiction. The maintaining jurisdiction would be WisDOT and its regional highway offices for the state trunk highway system. The state trunk highway system includes state highways, federal highways, and the Interstate System, and WisDOT is the maintaining authority for the entire system except for connecting highways. WisDOT also has federal obligations under 23 USC 111 and 23 Code of Federal Regulations (CFR) 645. This includes maintaining a Utility Accommodation Policy, which is approved by the U.S. Department of Transportation, Federal Highway Administration (FHWA), and the protection of scenic easements from aboveground construction of any type under federal law.

There are no roads in the project area that have scenic easements that would be affected by the construction of the proposed transmission lines.

WisDOT and PSC have a Cooperative Agreement and liaison procedures to ensure that, whenever practical, existing transportation or transmission corridors are used for new electric transmission facilities instead of new corridors.

For this project, WEPCO would need WisDOT Utility Permits for oversize loads and weight limits on highways for the transport of construction materials for the project, under Wis. Stat. ch 348.

1.3.4. Role of the Department of Agriculture, Trade, and Consumer Protection

The Department of Agriculture, Trade and Consumer Protection (DATCP) has responsibilities to farm landowners that begin after a CPCN is issued and easement negotiations have commenced. Under Wis. Stat. § 32.035(4), DATCP must prepare an Agricultural Impact Statement (AIS) if the project involves the potential exercise of the power of eminent domain and if more than five acres of any farm operation could be taken. The AIS must include a list of the acreage and description of all land lost to agricultural production and all other land with reduced productive capacity, plus DATCP's analyses, conclusions, and recommendations concerning the agricultural impact of the project. When an AIS is prepared, it is made available to farm land owners to aid them in easement negotiations. For this project, an AIS was produced by DATCP for the Proposed and Alternative Gen-tie routes associated with the Proposed Site.

1.4. FEDERAL INTERESTS AND PERMITS

USACE, USFWS, and Federal Aviation Administration (FAA) each may have responsibilities related to construction of the proposed project. Table 1-1 summarizes the different potential federal interests and their status.

Table 1-1 Federal interests in the construction of the Paris RICE project

Agency	Activity Regulated	Permit Type	Status
FAA	Approval for stack location and height from the FAA. Construction cranes also regulated.	7460 Notice of Proposed Construction or Alteration (14 CFR S77.13)	Filed on 3/20/2024 for the gen-tie and 3/22/2024 for Stacks
USFWS	Land disturbance construction activities that could affect federally listed species	Potential impacts to federally protected species, including migratory birds.	Consultation in process; Guidelines to be followed
USACE	Discharge of dredge or fill materials into waters of the U.S.	Clean Water Act, Section 401/404 Permit	TBD

The Commission must make a number of determinations regarding construction projects in a short timeframe without knowing whether other regulatory permits will be issued. The Commission typically includes language in an order authorizing a project that states an applicant is required to obtain all necessary federal, state, and local permits prior to starting construction on either the entire project, or project "construction spread", as a practical way of mitigating that uncertainty. In previous projects, the Commission has identified "construction spreads" as the following:[13]

> "Construction spread means any subpart or segment of the proposed project established by the applicant for the purposes of managing construction of the project."

The reason for this requirement is to ensure the Commission does not approve, and the applicant begin work on, a section of a project that would not be able to obtain permits from other regulatory agencies, or begin construction in an area without following possible mitigation or construction requirements that are required by another regulatory agency permit.

1.5. COUNTY AND LOCAL GOVERNMENT INTERESTS AND PERMITS

County and local governments have numerous responsibilities that can be addressed during the PSC project review. They attempt to ensure that the routes and design of the proposed transmission facilities meet local agency standards and permitting requirements and conform to local ordinances and zoning regulations. They also provide information including land use plans, county forest plans, watershed management plans, recreational plans, and agricultural extension programs. Only the Town of Paris in Kenosha County's jurisdiction would be affected by the proposed Paris RICE and any associated facilities.

The situation with local permits is less firm than with state or federal permits. In terms of potential local impacts, potential effects on a local government jurisdiction should and would be considered by the Commission as an impact on the existing local social environment. However, it must be noted that, in a situation where a project CPCN is approved, Wis. Stat. § 196.491(3)(i) says:

[13] From Docket Nos. 5-CE-142 and 5-CE-146.

"If installation or utilization of a facility for which a certificate of convenience and necessity has been granted is precluded or inhibited by a local ordinance, the installation and utilization of the facility may nevertheless proceed."

WEPCO has shown in its application that it is fully cognizant of this section of the statutes, and it has established a policy of applying for permits under local ordinance where they involve matters of public safety. Depending on the municipality, applicable local safety ordinances might include road crossing permits, road weight limits, noise abatement ordinances like those regulating hours or times of construction, building permits, and driveway and culvert permits. Permits of this type that WEPCO would anticipate applying for this project would include road ROW permits in Kenosha County for delivery of oversized equipment, fire safety system installation, and overhead transmission line crossings of local roadways, among others.

Local ordinances often address siting and location issues for the construction of utility facilities or land use issues, including recreational uses and aesthetics. Local authorizations or permits (such as conditional use permits, zoning permits, or zoning variances affecting shoreland, wetland, and/or floodplain requirements in addition to environmental matters such as construction site erosion and stormwater management) often involve quasi-judicial proceedings and the exercise of discretion by local units of government. Because a potential Commission order and DNR utility permit would address the siting of proposed facilities, land use, recreational use, aesthetics, and environmental effects in the siting and route selection for transmission lines and substations, WEPCO states that it does not apply for these types of permits or authorizations. However, WEPCO would supply the involved local governments with information and would respond to requests that local governments provide to the Commission and to WEPCO with comments or concerns regarding the siting and location of the proposed project. Further, if WEPCO were made aware of any local environmental design requirements more stringent than the applicable state standards, WEPCO would use its best efforts to follow the local requirements.

Before the CPCN can be issued, the Commission under Wis. Stat.§196.491(3)(d)6. must determine that:

> "The proposed facility will not unreasonably interfere with the orderly land use and development plans of the area involved."

This last section of the CPCN statute indicates that the Commission must be aware of potential conflicts with existing local ordinances, zoning or land use plans and determine whether they are reasonable when making its final decisions about the project.

1.6. REGIONAL PLANNING COMMISSION INTEREST

Related to the Commission's requirement to consider local land use and development plans is a requirement to keep the regional planning commissions (RPC) apprised of its cases and project reviews. Regional planning commissions are listed as one of the categories of organizations and government offices that receive copies of Commission notices and environmental impact statements. The RPC in the project area is the Southeastern Wisconsin Regional Planning Commission (SEWRPC), which includes Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties. No comments have been received at the Commission from this RPC.

1.7. LANDOWNERS' STATUTORY RIGHTS

1.7.1. Landowners' rights specified in Wisconsin statutes

Landowners whose property is directly affected by the construction of high-voltage transmission lines greater or equal to 100 kV, longer than one mile, and built after 1976, have rights which are specified in Wis. Stat. § 182.017(7)(c) through (h). Many of these rights relate to potential mitigation measures to reduce impacts and are expressed as utility requirements. Since the gen-tie for the alternative sites would be less than one mile in length, these statutes would only apply to the Proposed Site upon approval.

The applicable statute is as follows:

(c) In constructing and maintaining high-voltage transmission lines on the property covered by the easement, the utility shall:

1. If excavation is necessary, ensure that the topsoil is stripped, piled, and replaced upon completion of the operation.
2. Restore to its original condition any slope, terrace, or waterway which is disturbed by the construction or maintenance.
3. Insofar as is practicable and when the landowner requests, schedule any construction work in an area used for agricultural production at times when the ground is frozen in order to prevent or reduce soil compaction.
4. Clear all debris and remove all stones and rocks resulting from construction activity upon completion of construction.
5. Satisfactorily repair to its original condition any fence damaged as a result of construction or maintenance operations. If fence cutting is necessary, a temporary gate shall be installed. Any such gate shall be left in place at the landowner's request.
6. Repair any drainage tile line within the easement damaged by such construction or maintenance.
7. Pay for any crop damage caused by such construction or maintenance.
8. Supply and install any necessary grounding of a landowner's fences, machinery or buildings.

(d) The utility shall control weeds and brush around the transmission line facilities. No herbicidal chemicals may be used for weed and brush control without the express written consent of the landowner. If weed and brush control is undertaken by the landowner under an agreement with the utility, the landowner shall receive from the utility a reasonable amount for such services.

(e) The landowner shall be afforded a reasonable time prior to commencement of construction to harvest any trees located within the easement boundaries, and if the landowner fails to do so, the landowner shall nevertheless retain title to all trees cut by the utility.

(f) The landowner shall not be responsible for any injury to persons or property caused by the design, construction or upkeep of the high-voltage transmission lines.

(g) The utility shall employ all reasonable measures to ensure that the landowner's television and radio reception is not adversely affected by the high-voltage transmission lines.

(h) The utility may not use any lands beyond the boundaries of the easement for any purpose, including ingress to and egress from the right-of-way, without the written consent of the landowner.

1.7.2. Waiving landowner rights during easement negotiations

Easements are private contracts between the utility and the property owner. As contracts, they should be written in legally precise language. The landowners' statutory rights listed above are generally included by

the utility as part of the offered contract and labeled as an "Exhibit." The offered contract may state that marked or crossed out rights are "waived." When negotiating the easement contract, a landowner may agree to waive one or more of these rights if asked but is not required to do so. All parts of the easement contract except those required by law are negotiable. The landowner may negotiate additional stipulations from the utility which may include specific clearing or remediation obligations, notifications, timing of activities, or payments.

1.7.3. Existing and new easements

Under Wis. Stat. § 182.017(7)(a), any easement for a high-voltage transmission line must include:

- The length and width of the ROW.
- The number, type, and maximum height of all structures to be placed on the property in the ROW.
- The minimum height of the transmission cables above the landscape.
- The number and maximum voltage(s) of the line(s).

If a new transmission project was to be built on a property that already included an existing transmission line, the existing easement for the property may not include allowances for the new line being proposed. However, none of the routes are expected to require changes to existing electric transmission easements. If a new line were approved, a new easement would need to be negotiated and obtained by the applicant.

CHAPTER
2

2. Project Description

2.1. PROJECT DESIGN

2.1.1. Generating facilities

2.1.1.1. Description of generation facilities

The Paris RICE project consists of the construction of seven Wärtsilä Reciprocating Internal Combustion Engines and associated generators. Each generator would have a nominal capacity of 18.8 MW, and combined would have total of 128 MW generating capacity at the facility. A reciprocating internal combustion engine operates with the same principles of that which may be found in an automobile, though for the Paris RICE project it would be operating at a much larger scale to generate electric power. The engines can be started and stopped quickly and separately dispatched. This provides flexibility for transmission grid operators to meet fluctuations in customer load demand, other generator intermittency, or other transmission grid support requirements. The proposed RICE facility would be designed for continuous service, though it may be operated at only peak times of the year.

Figure 2-1 **An example of a Wärtsilä RICE engine similar to the ones proposed (photo from Wärtsilä trade publication)**

The proposed generating facility would burn only natural gas and would be supplied through a new 12-inch diameter pipeline from the existing Lakeshore Lateral Project (LLP) distribution lateral to new on-site gas conditioning equipment. As stated by the Applicants, the newer engines are more efficient and perform with fewer emissions as compared to older fossil fuel generators. This assertion is supported by information provided by the U.S. Energy Information Administration (EIA):

> "Reciprocating engines can start up even when the grid has no power, which helps electric transmission grid operators match fluctuating power requirements and restore power after major storms. Engine manufacturers have also made advances in efficiency and emission reductions, particularly emissions of nitrogen oxides (NOx). In addition, power plants using internal combustion engines tend to require significantly less water than similarly sized combined-cycle or simple-cycle natural gas turbine plants."[14]

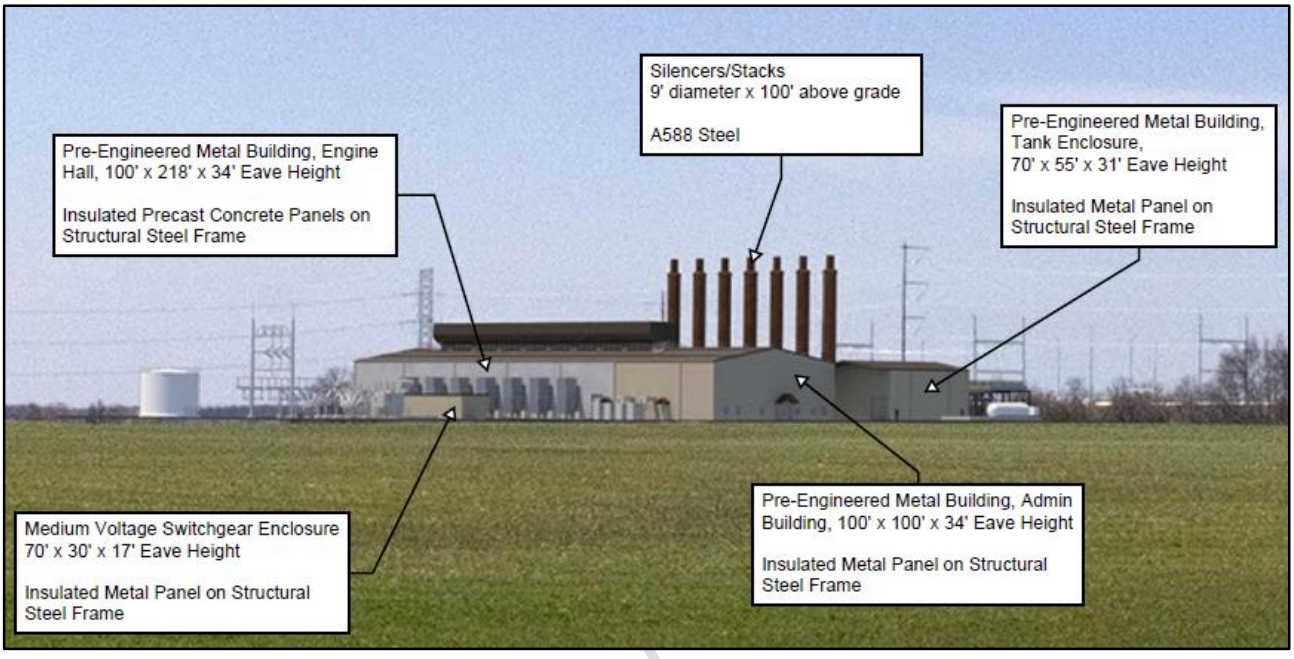
The facility would have other major systems such as a natural gas-fired emergency start generator, a natural gas heater, an engine cooling system, a compressed air system, air emissions control systems, engine lubricating systems, and fire protection and detection systems. The engines themselves would each be approximately 420 tons in weight once installed and require specialized transportation to reach the Paris site. The engines would be equipped with air quality control systems including selective catalytic reduction (SCR) for NOx control. The engines would also have oxidation catalyst systems for

[14] US Energy Information Administration. 2019. Today in Energy: Natural gas-fired reciprocating engines are being deployed more to balance renewables. Accessed at: https://www.eia.gov/todayinenergy/detail.php?id=37972 on 09/20/2024.

carbon monoxide (CO), volatile organic compound (VOC), and organic hazardous air pollutant (HAP) control.

The RICE units and generators would be housed in an engine hall, approximately 100 feet by 218 feet in size, with an attached administration building, approximately 100 feet by 100 feet in size. A simulated image of the project buildings is shown in Figure 2-2 below.

Figure 2-2 Representative image of the RICE facility structures



A new 4,000-gallon maintenance water tank would also be in the engine hall. This tank would store a mixture of water, glycol, and corrosion inhibitor for use in the closed loop radiator system. Radiators would be located outside the engine hall to cool the engines. A separate tank enclosure building would house the lubricating oil, aqueous ammonia, and process wastewater tanks. A storage tank containing an aqueous ammonia solution would be located next to the tank storage building and would be equipped with local and remote level indication monitoring in addition to a low ammonia level alarm for transfer pump control. This ammonia would be used for exhaust gases generated by the engine operations that would pass through emission control equipment and out the emission stacks located at each of the RICE units. The process water tanks would be equipped with tank venting, leak detection, level transmitter, and associated high-level alarms. Overall, the proposed facilities would be located on approximately 10 acres either at the property of the LCIP Regulator Station or adjacent to the existing Paris Generating Station.[15]

2.1.1.2. Expected hours of operation, outages, and plant life

The proposed project would be available to operate at any time that it is not in a planned or forced outage for maintenance, including both night and day on weekdays, weekends, and holidays. Several factors affect when the facility operates, including overall system power demand, system power prices, natural gas

[15] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), p. 26.

pricing, temporary transmission constraints, outages of other units, etc. Since these factors vary, operation of the facility would vary.

Based upon historical operation data obtained from existing RICE generating stations owned and operated by subsidiaries of WEC Energy Group, the equivalent availability factor for the facilities are approximately 91 percent with approximately 4 percent equivalent forced outage factor and approximately 4.5 percent equivalent un-forced outage factor. These data reflect operation of the above-mentioned facilities reporting to Generating Availability Data System (GADS) in the year 2023, which operate RICE units of the same manufacturer and model proposed for Paris RICE and were constructed 2019 and 2023.

The applicant expects the reliability and associated availability for the proposed facility to be equivalent or better than the real-world data summarized above.

2.1.1.3. Reliability

Wis. Stat. § 196.491(3)(d) requires the Commission to consider reliability of the electric system in its determination of whether a project requiring a CPCN is in the public interest. A new power plant would become part of the electric system. Power plant design and location affects electric system reliability.

Factors affecting power plant potential reliability:

- The choice of fuel and back-up fuel, if any. Natural gas supply is discussed further in this chapter.
- Restrictions on operation specified within the DNR air permit. The DNR air pollution control permit issues are discussed for each site under "Air Emissions" in Chapters 5.4.1, 6.4.1, and 7.4.1.
- Restrictions based on the DNR water use or discharge permits. The DNR water permit issues are discussed for each site under chapter 5.4.9-10, 6.4.9-10, and 7.4.9-10. The project does not require a WPDES Industrial Discharge Permit for operation since no wastewaters would be discharged to surface waters of the State.
- The potential impacts on the existing electric transmission system and the modifications to that system that might be needed. The applicant anticipates that no transmission system network upgrades would be required, and no existing transmission would be impacted by the proposed project.
- Equipment availability and maintenance.

2.1.2. Auxiliary facilities required for the Paris RICE facility

If the proposed Paris RICE project is constructed, the facility would require additional infrastructure for day-to-day operation, including fuel and electricity delivery to the plant. Fuel for the plant would be provided by the construction of an approximately 500-to-1,500-foot new natural gas pipeline that would connect the plant to the existing LLP distribution lateral. Access to the existing electric transmission system to deliver electricity produced by the plant would be provided by a new 138 kV generator tie-line which would connect the plant to the tie-in location at the existing 138 kV Paris Solar Collector Substation. In addition to natural gas and electricity, Paris RICE would require a potable supply of water, as well as the facilities necessary to collect and store wastewater, which would be hauled offsite for treatment as required.

2.1.2.1. Natural gas fuel source and pipeline connection

The proposed project would be designed to operate on pipeline quality natural gas without an option for backup fuel. The interstate pipelines that supply the existing Paris Generating Station site are ANR

Pipeline, Guardian Pipeline, and Northern Natural Gas. A 12-inch diameter pipeline, approximately 500 feet in length for the Proposed Site and 1,500 feet in length for either of the alternative sites, would be installed for the supply of natural gas to the proposed facilities.

The new pipeline would be routed from the existing distribution lateral built as part of the LLP to new gas conditioning equipment on-site. The LLP distribution lateral is owned by Wisconsin Electric – Gas Operations (WE-GO) and extends from the existing Bluff Creek Gate Station in the Town of LaGrange, Wisconsin to the LCIP Regulator Station on the property of the Proposed Site. No modifications to the existing pipeline system are anticipated to serve the proposed project.

The applicant has requested firm natural gas from WE-GO. The applicant states that it is seeking firm supply for the proposed RICE facilities due to the "significant and real reliability concerns facing the grid."[16] With future additional resources, WE-GO plans to provide firm pipeline capacity to meet the peak day requirement for its firm sales customers, including the proposed project. The applicant states that the proposed project is intended to have a target firm supply of approximately 17,000 Metric Million British Thermal Unit (MMBtu)/day, and that this level of firm capacity provides enough fuel for 16 hours of full load operation.[17]

Natural gas would not be stored onsite.

Fuel handling for the proposed project would include a new fuel gas filter/coalescer, regulating valves and associated valves and piping. The proposed project would also utilize existing gas conditioning equipment including fuel gas heaters, regulation, and metering. An additional fuel gas water bath heater is planned for the proposed project, but it may be removed during detailed design should existing infrastructure and heating be deemed sufficient.

2.1.2.2. Generator tie-line

In addition to the RICE facilities, the project would require the construction of an overhead electric gen-tie to connect the proposed generating facility to the transmission grid. The gen-tie line would be a single-circuit 138 kV line and would interconnect to the existing 138 kV Paris Solar Collector Substation, requiring a new 138 kV bus to be constructed within the existing fenced substation area. The inclusion of the proposed project would not require additional step-up transformers at the Paris Solar Collector Substation; however, two step-up transformers would be installed at the proposed RICE facility. The applicant does not anticipate any expansions to the existing substation pad and fenced area for the proposed project.

The applicant anticipates that the proposed gen-tie line structure type would generally be composed of steel self-supporting monopoles on concrete foundations or direct embedded. The length of the line and number of structures needed would vary depending on the site selected. The Proposed Site would require an approximately 2.1-mile gen-tie line, while Alternative Site 1 and Alternative Site 2 would require an approximately 3,000-foot and 3,600-foot gen-tie line, respectively. Due to its length, the applicant provided a proposed and alternative route for the gen-tie line from the Proposed Site. The proposed route would require 15 structures to support 2.1 miles of tie-line, while the alternative route would require 17 structures to support 2.2 miles of tie-line.

[16] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), p. 80-81.
[17] *Id*, p. 80.

A portion of the route alternatives would be underground construction from near the Proposed Site to east of the East Branch of the Root River Canal. A riser structure would be required for all transitions from below grade to above grade construction. Steel H-frame structures are also anticipated for the portion of the gen-tie line that would potentially cross under the existing 345-kV ATC line.[18]

2.1.2.3. Water supply and storage

Water use for all three sites would include service water and potable water sourced from a newly installed, onsite low capacity well. Service water would be primarily used for refilling the closed cooling water systems associated with each engine as evaporation occurs, and periodic spray washes of the compressor side of the engine turbo charger. Potable water would be provided to the control room, break rooms, restrooms, and office areas, as well as plumbed safety showers and eyewash stations located in the engine hall building and in the tank enclosure building. The applicant states that the proposed facility's water system would be designed to maximize water reuse and recycling and minimize water consumption within the facility.[19]

A new onsite 3-inch diameter water supply pipeline would be installed to bring water from the new well to the proposed facility. Water supply needs would be withdrawn directly from the new well and would not be stored onsite; however, a new fire water storage tank would be constructed onsite to provide fire water for the proposed facility. The total annual plant water use is estimated to be 34,164,000 gallons (or less than 93,600 gallons per day).

2.1.2.4. Water discharge

Process wastewater used for the proposed project would be collected onsite and stored in an above grade tank within a concrete containment. Process wastewater would be hauled offsite for treatment, as required. Sanitary wastes would also be directed to a holding tank, then collected and hauled offsite through contracted services.[20]

2.2. COSTS

The construction of the proposed 128 MW Paris RICE project would cost approximately $279.6 million, with an additional Allowance for Funds Used During Construction (AFUDC) estimate of $23.7 million.[21] The applicant presents an analysis of additional total annual costs, which include fuel costs, depreciation, taxes, and return on rate base.

2.2.1. Commission review of economic analysis

Commission staff reviewed the applicant's economic analysis as presented in the application. The modeling that informs this economic analysis was performed in PLEXOS. Commission staff does not currently have the PLEXOS model available to them in order to perform direct validation of the applicant's modeling claims. Commission staff requested additional information from the applicant to validate the model data and to better understand the input assumptions used in the modeling process.

Commission staff notes that with any modeled economic analysis, the conclusions depend on the range of inputs chosen and the quality of the information underlying those inputs. The applicant provided the results of the analysis of a base case scenario in which a range of U.S. Environmental Protection Agency

[18] *Id.* p. 90-91.
[19] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY, p. 82-83.
[20] *Id*, p. 84.
[21] *Id.* p. 94.

(EPA) greenhouse gas (GHG) emission restrictions were considered.[22] This analysis also included various levels of regulatory penalty costs associated with carbon emissions.[23]

Commission staff also requested modeling for a variety of alternatives to be "forced into" the model in place of the proposed project so direct comparisons could be made within the model for a variety of generation and storage alternatives.[24] Among the alternative resources requested were solar photovoltaic (PV) and Battery Energy Storage System (BESS) hybrid units and Combustion Turbine (CT) units, in addition to the previously provided BESS alternative. This information helps to provide a contrast between the proposed project and potentially viable alternatives, which complements runs where the model could freely pick amongst a variety of resource types.

[22] PSC REF#: 496389 Paris RICE Appendix D CONFIDENTIAL (REDACTED COPY), p. 9.
[23] *Id.* p. 20-21.
[24] PSC REF#: 517932 Data Request-PSC-Chee-5.

CHAPTER

3

3. Assessment of Need, System Solutions, and Alternatives to the Proposed Project

3.1. NEED AND SYSTEM SOLUTIONS

The Paris RICE project is part of the applicant's plan to meet its considerable load obligations for the 2026 timeframe, when significant load in the applicant's service territory is expected.[25] Commission staff is evaluating how the proposed project fits into the applicant's generation portfolio and how it compares to other alternatives, the results of which will be discussed at the technical hearing for this project. The applicant indicates that resources such as solar photovoltaic (PV) electric generation units, wind electric generation units, and battery energy storage system (BESS) units have been an important part of meeting the applicant's environmental and economic goals, while those same resources can create complexities in ensuring reliability, resiliency, and transmission system stability.[26] The applicant states that the right mix of generation resources is vital to ensuring reliability, and that the Paris RICE project would "provide capacity, ramping, dynamic voltage control, system inertia, and frequency response necessary for electric system stability."[27]

The applicant cited criteria for consideration in the development of its resource portfolio, which included:

- Resource dispatchability: Having fully dispatchable resources such as RICE generators, combustion turbines (CT), and BESS can help the applicant to ensure energy availability for customers at all hours when intermittent resources such as solar PV or wind may not be available.
- Resource diversity: Having a blend of varying resource types allows the applicant to more reliably serve load, utilizing the different operational attributes to collectively complement other resources as the applicant's generation fleet undergoes a transition.

In development of this portfolio, the applicant used Energy Exemplar's PLEXOS market simulation program to model capacity expansion and production cost for the applicant's system. The applicant notes that PLEXOS can simultaneously solve unit commitment and energy dispatch at the same time as

[25] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), Section 2.1.
[26] *Id.*
[27] *Id.*

considering capacity expansion.[28] The applicant's utility holding parent company, WEC Energy Group (WEC), has similarly used PLEXOS in applications supporting a variety of different resource types, including solar PV and BESS hybrid projects, wind projects, and new dispatchable thermal resources.

In support of this application, the applicant developed four different planning futures and reviewed these futures over a 30-year time period, from 2023 to 2052.[29] These planning futures assume different input assumptions for variables, including demand and energy growth, natural gas pricing, inflation rates, carbon dioxide penalty costs, and renewable tax credits.[30] The applicant further designed two different resource planning approaches, a capacity assurance resource plan and an energy assurance resource plan.[31] The capacity assurance resource planning approach focused on maintaining the requisite planning reserve margin (PRM) required by the Midcontinent Independent System Operator, Inc. (MISO) in each season, while the energy assurance resource planning approach also required that only the applicant's generation resources could provide energy and access to the MISO market is no longer available by 2026.[32]

Additionally, the applicant provided a number of sensitivities reviewing other variables, including accreditation of solar resource capacity, accreditation of BESS capacity, changes to project capital costs, and changes to demand and load forecasts. The applicant concludes that "Paris RICE provides both quantitative and qualitative benefits to Wisconsin Electric's customers in the majority of scenarios and sensitivities analyzed."[33]

3.2. ALTERNATIVES TO THE PROPOSED PROJECT

isconsin Admin. Code § PSC 4.30(3)(c) requires an EIS evaluate the reasonable alternatives to the proposed project and significant environmental consequences of the alternatives, including those alternatives that could avoid some or all of the proposed project's adverse environmental effects and the alternative of taking no action.

3.2.1. No Action alternative

A No Action alternative could consist of a denial of the application by the Commission, or the applicant having never filed the application with the Commission, the latter which is considered in some of the below discussion of other alternative actions. The potential environmental impacts described in this EIS that are anticipated if the project is constructed and operated would not occur. No electric power would be generated by the proposed RICE units and placed on the transmission grid. If this No Action alternative occurs, and the applicant has a need for the power that would be generated by this project, it would need to be obtained from a different source. The applicant notes that a No Action alternative may eschew benefits associated with the project such as enhanced reliability and resiliency and diversifying the applicant's resource portfolio. Further, the No Action alternative would not provide a hedge against Midcontinent Independent System Operator, Inc. (MISO) market price uncertainty as the broader MISO market shifts away from traditional generation resources to more intermittent resources.

[28] *Id.* p. 54.
[29] PSC REF#: 496389 Paris RICE Appendix D CONFIDENTIAL (REDACTED COPY), p. 17-18.
[30] *Id.* p. 17.
[31] *Id.* p. 14-16.
[32] *Id.* p. 14-16.
[33] PSC REF#: 496389 Paris RICE Appendix D CONFIDENTIAL (REDACTED COPY), p. 31.

Taking No Action on this proposed project may result in the applicant needing to develop an alternate source of energy and may result in a subsequent application to the Commission or other alternative actions that would have their associated, but at this time unknown, environmental impacts.

3.2.2. Commission Energy Priority requirements

Wisconsin Stat. §§ 1.12 and 196.025 require the Commission to give priority to specific methods of meeting energy demands, to the extent these methods are "cost-effective and technically feasible." The Commission must consider options based on the following priorities, in the order listed, for all energy-related decisions:

1. Energy conservation and efficiency.
2. Noncombustible renewable energy resources.
3. Combustible renewable energy resources.
4. Advanced nuclear energy using a reactor design or amended reactor design approved after December 31, 2010, by the U.S. Nuclear Regulatory Commission.
5. Nonrenewable combustible energy resources, again in the order listed.
    a. Natural gas.
    b. Oil or coal with a sulfur content of less than one percent.
    c. All other carbon-based fuels.

If the Commission identifies an option to the proposed power plant during its review that is cost-effective and technically feasible, it could reject the project as proposed. It could not, however, order the applicants to build something else in its place.

3.2.2.1. Energy conservation and efficiency

The concept of load represents the amount of energy that the utility needs to supply in an area to meet the energy demand. There are different types of load reduction.

- Energy conservation saves energy or reduces demand by reducing the use of energy services (*e.g.* turning off lights, changing thermostat settings, taking shorter showers, etc.). Conservation generally involves behavioral changes among customers.
- Energy efficiency is the application of technologies or processes that use less energy to provide the same level of energy services. These technologies are generally long-lasting and save energy whenever the equipment is in use.

The most significant economic advantage of conservation and cost-effective energy efficiency is that it can reduce customers' electric bills. Conservation and energy efficiency both result in lower bills because consumers use fewer kWhs. While load management does not generally lower electric usage, it generally results in lower cost per kWh. The reduction in cost resulting from conservation and cost-effective energy efficiency helps makes Wisconsin businesses more competitive. Additionally, if the demand for electricity is reduced, less fuel needs to be bought and transported, and fewer power plants or power lines need to be built. By reducing the amount of money spent on energy in Wisconsin, energy efficiency can also improve the state's economy in general. This is because every dollar spent on coal, natural gas, and uranium—the fuels used by power plants to generate electricity—is a dollar spent outside Wisconsin and outside the state's economy.

From an environmental perspective, conservation and energy efficiency are the best options for meeting energy needs. Conservation and energy efficiency reduce air pollution, water use, coal and uranium mining, disposal of radioactive waste, production of greenhouse gases, and the depletion of nonrenewable resources, all by reducing the demand for power plants to produce. Conservation and

energy efficiency can reduce the need for power plants and transmission lines themselves, thereby reducing the negative impacts of constructing and operating these facilities. These negative impacts can include the use of valuable land, destruction of natural habitats, and aesthetic impacts.

There are potential negative impacts associated with some energy efficiency measures. One example of a negative impact from energy efficiency is the need to dispose of spent fluorescent light bulbs properly because of their mercury content. If the energy efficiency measure involves switching fuels there would still be impacts associated with the use of the alternative fuel. Load management, if not properly designed, can lead to discomfort or the inefficient disruption of industrial production. However, the negative effects of energy efficiency, fuel switching, and load management measures are negligible compared to the impacts associated with building and operating power plants and transmission lines.

Using conservation and energy efficiency to meet baseload electric system needs can have both economic and environmental advantages over using supply resources such as power plants. One type of energy efficiency that is often considered, load management or demand response, shifts energy use away from periods when demands are the highest to periods when demands are lower. It is generally used to help address peak load instead of baseload and would be best applied to reduce the need for peak load generation.

The applicant participates in the annual funding of energy conservation and energy efficiency programs through its contributions to Wisconsin's Focus on Energy program. The applicant incorporated an energy and demand forecast in developing the need for the proposed project, which includes energy efficiency and conservation. As previously discussed, the applicant's stated need for the proposed generating facility is to meet the capacity and energy needs of the significant load growth that is anticipated in its service territory and maintain system reliability and resiliency. The applicant states that due to the capacity need being significantly larger than the energy efficiency and conservation levels previously achieved by Focus on Energy programs, energy efficiency and demand response are not practical or cost-effective alternatives to the proposed project.[34]

3.2.2.2. Non-combustion and combustion renewable energy resources

Wisconsin Stat. § 196.378(1)(h) defines a renewable resource as a resource that derives electricity from biomass, wind power, solar thermal, PV, tidal or wave action, or a fuel cell that uses a renewable fuel. As identified in Section 6.2. in this chapter, Wis. Stat. § 1.12(4) creates a priority list of preferred method for meeting future electricity demand. After conservation or energy efficiency, the next two priorities for electrical energy sources are renewable resources:

1. Non-combustion renewables (wind, solar, hydro, etc.)
2. Combustion renewables (biomass and biogas)

The proposed power plant would use natural gas as the fuel to generate electricity. In some instances, renewable energy sources can be used to supplement, or provide a partial alternative to, the power produced by natural gas fueled power plants. In Wisconsin, these energy sources may include solar power, wind power, hydroelectric power, and biomass fuels.

There are generally fewer or lesser environmental impacts with generation from renewable resources than with generation from fossil fuels. Most of the environmental advantages of renewable resources are related to air emissions. None of the renewable resources noted above produce significant air emissions, if any,

[34] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), p. 61.

except for the burning of biomass fuel. Of the various renewable resource technologies, only biomass power would have water use impacts similar to a fossil fueled power plant. Each of the renewable resources would have their own impacts on land use. Some renewable technologies also have particular kinds of negative impacts. For instance, wind power in certain locations has been criticized for aesthetic reasons or for its potential to cause bird and bat injuries and deaths due to collisions with the towers and turbines.

The applicant conducted modeling analysis which included wind, solar, biomass, and, although not considered a renewable energy resource, BESS units as resource alternatives. The applicant asserts that the results of its modeling demonstrate that the proposed Paris RICE project is part of the optimal resource mix that is needed to provide firm, dispatchable energy that can operate reliably all day and in every season.[35]

3.2.2.3. Nuclear power as an alternative

Nuclear power has an advantage with zero greenhouse gas emissions, and its implementation across the U.S. could reduce greenhouse gas emissions and natural gas consumption. There are, however, still strong concerns about waste management as well as construction costs. Given the significantly higher costs and longer lead time required to construct a new nuclear facility, the applicant states that it is not a feasible alternative to the proposed project. The applicant currently has a long term purchased power agreement to utilize approximately 1,030 MW of nuclear capacity from the Point Beach nuclear facility. The applicant states that it is evaluating nuclear technology as it develops and may include it in future plans.[36]

3.2.3. Alternative sites

Site selection for Paris RICE was based a number of factors including the following in no particular order of priority:

- Proximity to existing utility, highway, and railroad corridors
- Ownership status of property
- Sound requirement adherence
- Presence of brownfields
- Presence of sensitive properties and sites
- Impact on local community for applicant-owned properties
- Risk to project schedule

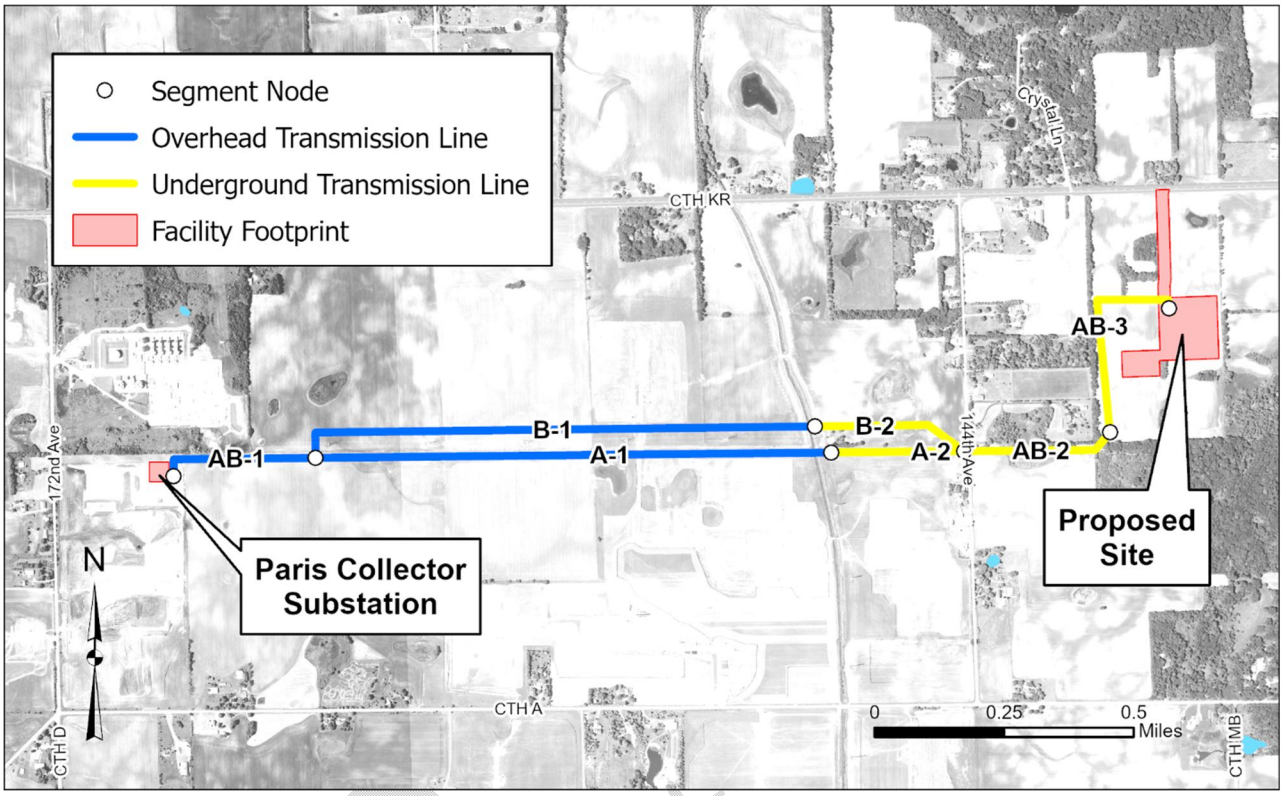
3.2.3.1. Proposed site

The Proposed Site is owned by WEPCO and already houses a regulator station owned by WE-GO. This site is in close proximity to required existing transmission and natural gas infrastructure. Siting near the Paris Solar collector substation allows the applicant to use MISO's Generation Surplus process. This site was selected by the applicant over the alternatives because it (1) is already owned by the applicant, (2) it would adhere to sound requirements with standard mitigation measures, and (3) would pose the lowest risk to project schedule and impact on local community for applicant-owned properties.

[35] PSC REF#: 496389 Paris RICE Appendix D CONFIDENTIAL (REDACTED COPY), p. 30.
[36] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), p. 67.

The Proposed Site would require an approximate 2.15-mile long 138-kilovolt (kV) gen-tie. The applicant provided two gen-tie routes that are located in the Gen-Tie Corridor. The Proposed Gen-Tie and Alternative Gen-Tie run parallel east-west between the Proposed Site and Paris Solar substation.

Figure 3-1 Map of the proposed site and gen-tie routes

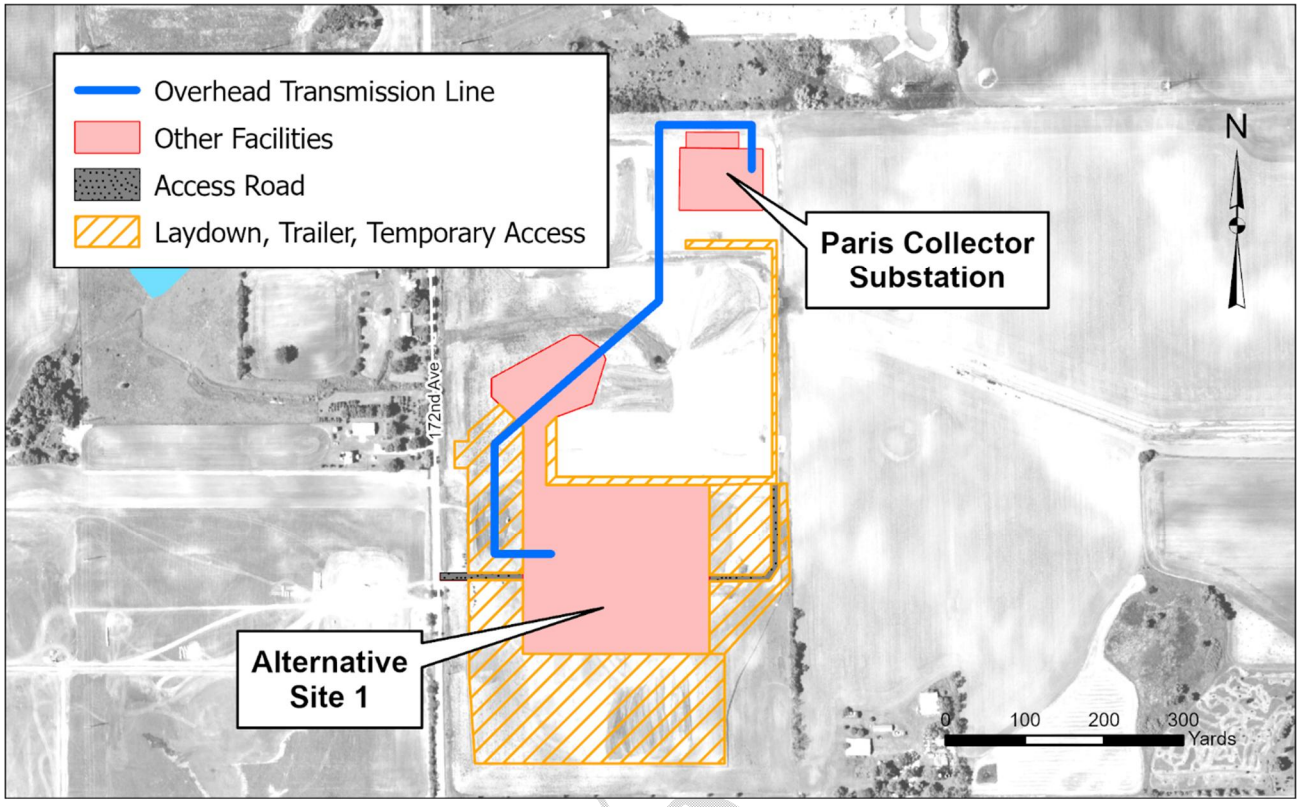


3.2.3.2. Alternative Site 1

Alternative Site 1 is located south of the existing PGS on land that is owned by the applicant. The applicant states that it does not prefer this site because additional sound mitigation measures would be required and would increase total project costs to be in excess of the estimated project costs for the Proposed Site.[37] Additionally, the site would require relocating solar collectors currently installed at Alternative Site 1. The applicants have stated that the estimated delay to the Paris RICE scheduled startup due to utilizing Alternative Site 1 would be approximately one year due to relocating portions of the Paris Solar facility, environmental studies, permitting changes, and design changes.[38] The associated gen-tie would run approximately 3,000 feet in length and be located within the existing Paris Solar facility, also on land owned by the applicant.

[37] PSC REF#:511414 Response-Data Request-PSC-Chee-3-PSCW-KG-2.11.pdf
[38] PSC REF#:511415 Response-Data Request-PSC-Chee-3-PSCW-KG-2.16.pdf

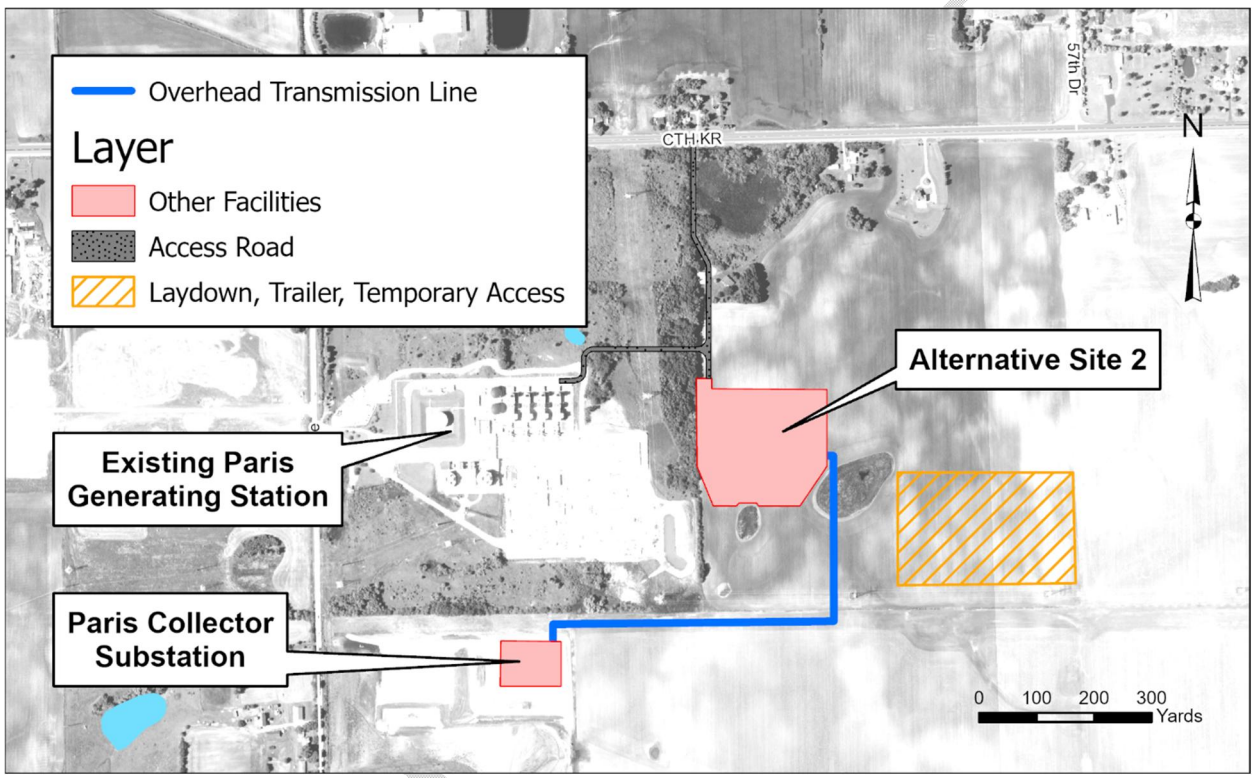
Figure 3-2 Map of Alternative Site 1 and associated gen-tie



3.2.3.3. Alternative Site 2

Alternative Site 2 is located adjacently east of the point of interconnection, at Paris Solar Collector Substation, near the existing PGS, and would require the shortest length of gen-tie. The applicant states that it does not prefer this site because they do not currently own the property. The applicant asserts that utilizing this site would delay Paris RICE scheduled startup by approximately one year due to environmental studies, permitting changes, and design changes.[39] The associated gen-tie would run approximately 3,600 feet in length and be located on agricultural land that is not under ownership by the applicant.

Figure 3-3 Map of Alternative Site 2 and associated gen-tie



3.2.4. Other alternative actions

Alternative actions to the proposed project could consist of the construction and operation of a different type of electric generation facility or facilities. Each type of facility would have its own set of impacts during construction or operation. The applicant has attempted to minimize direct impacts to communities, wildlife, and natural habitats by siting the proposed facility near an existing power generation site. Some impacts, such as those to air emissions, would be different based on the type of electric power generation that might be selected. The construction of additional renewable energy facilities such as wind or solar would result in less air emission impacts. Those types of facilities would likely have larger project footprints. The Commission must weigh the types of impacts that would occur as a result of all infrastructure projects that come before the Commission.

The applicant provided a discussion in its application on the generation reshaping plan developed across a range of projects. Construction of other generation was evaluated using the PLEXOS modeling tool. The model is given the opportunity to select generic generation resources, while constrained in the near-term

[39] *Id.*

for the feasibility to permit and construct a facility, for different types to find the most economic mix of new generation to construct. The outcome of this process allows the Paris RICE project to be weighed against construction of different technologies as alternatives, including BESS, solar PV and BESS hybrid, and CT units. The modeling analysis provided by the applicant demonstrates that the various alternatives cost more on a net present value (NPV) basis when compared against the proposed project in a head-to-head comparison. Other alternatives include purchasing power or capacity from other generators or from the MISO market. The applicant rejects these alternatives on the basis of pricing and risks associated with not owning the generating facilities. As previously mentioned, the applicants assert that the GRP mix of solar and wind generation, BESS, acquisition of natural gas generation, and the construction of the Paris RICE project provide the best balance of renewable resource benefits and generation availability.

CHAPTER
4

4. Typical Environmental Considerations for Electric Generation Projects and Gen-Ties

4.1. ASSESSING POTENTIAL IMPACTS

4.1.1. Quantifying potential impacts

The environmental and socioeconomic impacts from the construction of a high-voltage electric transmission line may be measured in several different ways including area (acreage), distance (miles or feet), or the number of transmission structures. Precise measurements of impacts are generally not practical for proposed electric transmission line projects. While construction and maintenance activities would generally take place within the proposed ROW, the amount of the ROW actually affected would vary depending on location, type of construction equipment utilized, and soil and weather conditions. The analyses in this EIS generally assume that the entire ROW width could be affected; although actual impacts may differ.

4.1.2. Determining the degree of potential impacts

In general, the degree of impact of a proposed electric transmission line is determined by the quality or uniqueness of the existing environment along the selected route. The quality of the existing environment is influenced by several factors identified below.

- **The degree of disturbance that already exists**
  The significance of prior disturbances can be evaluated by comparing how close the area resembles pre-settlement conditions. This can be determined by examining such items as recent and historical photographs, historical sources, or conversations with local residents. Many areas in Wisconsin have been substantially altered by logging, drainage, cultivation, and commercial or residential developments.
- **The uniqueness of the resource**
  Proposed transmission line routes are reviewed for the presence of species or ecological community types that are uncommon or in decline in the region or state. The environmental review evaluates whether the land along a proposed route possesses features that would make it unique such as its size, species diversity, or whether it plays a special role in the surrounding landscape.
- **The threat of future disturbance**

The resource is compared to surrounding land uses that may affect the quality of the existing resource over time. Considerations include whether current and likely future land uses or management practices might threaten some aspect of the resource or whether the resource is valued by the adjacent communities and likely to be preserved.

Environmental features such as soil type, topography, land cover, and weather may affect the degree of impact expected from proposed electric generation projects. For example, heavy clay soils may be more affected by compaction than sandy soils if construction occurs when the substrate is wet. Physical features of the proposed project could also affect the degree of impact. Such features may include the design and placement of the structures for transmission lines and the amount of ROW required. For example, a horizontal configuration of conductors may allow the conductors to be located at canopy-level of nearby forests decreasing aesthetic impacts and minimizing potential avian collisions, but it may also require a wider ROW than a vertical configuration of conductors.

4.1.3. Identifying potential cumulative impacts

When assessing impacts, it is important to consider the duration of these impacts. In Wisconsin, generation and transmission facilities are designed to operate between 35 and 40 years, but transmission lines often last upwards of 60 years. Long-term impacts may occur as long, and in some cases longer, as the facility exists, and short-term impacts may occur only during certain phases of a project or during infrequent intervals. Both short- and long-term impacts are considered in this EIS. As long as the proposed and related associated facilities are operating, cumulative air emissions would occur from direct emissions from the RICE units and the associated downstream impacts from the natural gas production and delivery system.

The effect of a new electric generation facility and associated gen-tie on an area depends on several landscape variables including the topography, land cover, and land use. In forested areas, for example, the entire extent of an approved layout for a generation facility and ROW for a gen-tie may be cleared and maintained free of most trees and shrubs for the entire life of the facility. The result is a permanent change to the ROW land cover as well as the existing and adjacent ecological community. In agricultural areas, heavy construction vehicles traverse the ROW potentially damaging crops and temporarily suspending the use of land for crop production. After construction ends, and if the fields are properly restored, the land beneath the gen-tie can be cropped or pastured. For this reason, the agricultural land permanently affected by the line can be much smaller than the area temporarily affected during construction. However, a generation facility layout would result in more area of permanent impacts. Where generation facilities and transmission lines are sited through areas that are valued for their scenic qualities, the visual impacts of the line may extend well beyond the extent ROW.

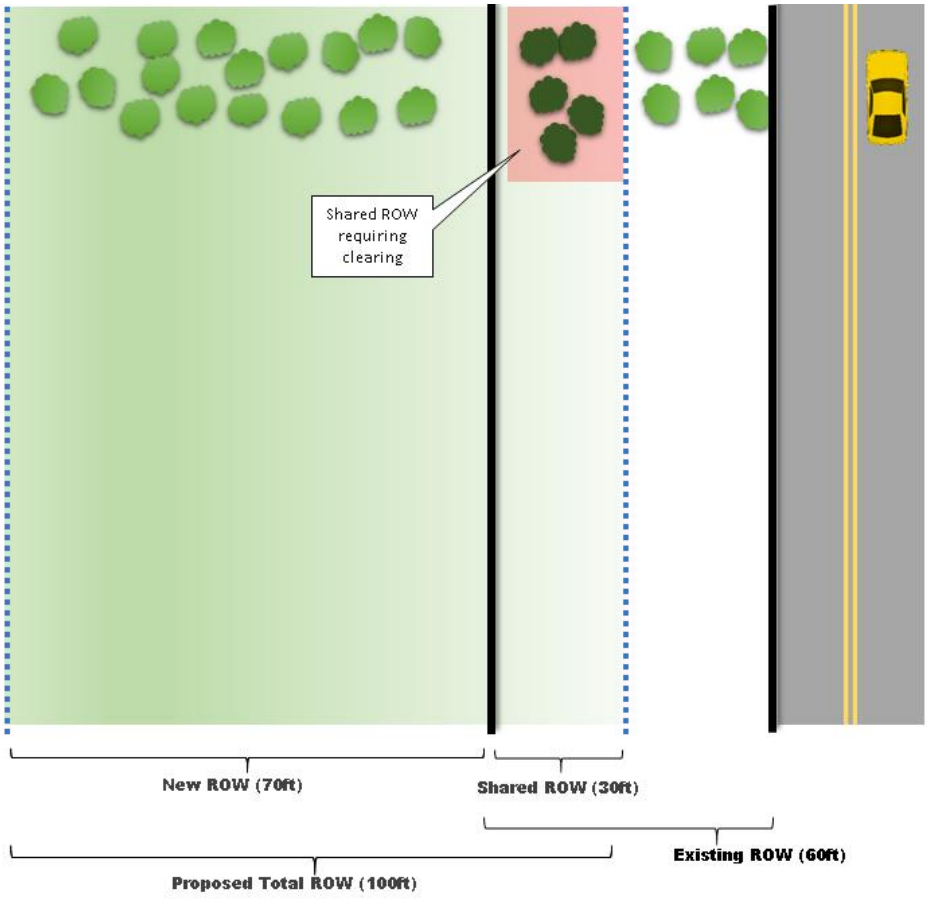
It is important to note that short-term impacts can become long-term impacts if not properly managed or mitigated. Prevention and mitigation of long-term and short-term impacts is important and can be achieved.

For purposes of analyzing the potential impacts of a utility construction project, applicants are required to identify existing ROWs that could be shared with the proposed project. The quantification of resources in these areas of the proposed ROW by the applicants are critical for evaluating incremental as well as cumulative impacts of proposed infrastructure with infrastructure that already exists in the landscape. An example of how proposed, existing, and shared ROWs for transmission lines are considered by the Commission is depicted in Figure 4-1. If the existing ROW that would be shared with a proposed project is also a utility ROW where the applicants would continue to manage and own the easement rights to, then the existing ROW would also be included in the total proposed ROW area.

Cumulative impacts discussed in this EIS include impacts that could result from reasonably foreseeable actions or projects that would occur in the near future, and in the immediate vicinity of the proposed project. Moreover, this discussion focuses on actions that, when considered alongside the proposed project, could result in incremental and additive impacts separate from those already discussed in this document. Specific actions and impacts considered in this discussion are related to the construction of additional natural gas, water, and electric infrastructure components that would be required for the daily operation of the proposed electric generation facility. It is anticipated that the largest and most direct cumulative impact to natural resources would be habitat loss resulting from vegetation clearing construction activities. Notable cumulative impacts to the local community may include an increase in traffic congestion on local roads, as well an increase in the overall level and duration of noise levels during the construction phase(s) of other nearby projects. While this proposal would potentially result in another natural gas power plant on the landscape, it does not appear that this project would necessarily lead to or be associated with additional proposals of a similar type and nature that would also be proposed, with the exception of other proposals currently under Commission review for another natural gas plant (docket 6630-CE-317) and a proposed new liquefied natural gas facility in docket 6630-CG-140. In addition, a new proposed natural gas pipeline is under review by the Commission in docket 6630-CG-139 that is associated with the current proposals listed here where that proposed pipeline could supply natural gas for the proposed Paris RICE project described in this EIS and for the proposed facilities in dockets 6630-CE-317 and 6630-CG-140.

Clean Wisconsin stated that the draft EIS must address all project impacts—direct, indirect, and cumulative. Clean Wisconsin believes the draft EIS could understate the impacts to neighbors, by not looking cumulatively at all the plant impacts. These impacts are addressed one by one, in the section where each of these impacts is considered in this EIS. Yet neighbors would experience a significant and wide range of adverse impacts during construction, including substantial construction traffic, heavy trucks bringing in an as-yet unquantified amount of fill, transmission construction, dust from traffic and construction, safety hazards associated with truck traffic and construction, and noise. After the plant is constructed, those same neighbors would be subject to increased air emissions, visual impacts, employee traffic, lights, possible stormwater changes.

Figure 4-1 Example ROW figure from PSC's Application Filing Requirements for Transmission Line Projects



4.2. MITIGATION OF POTENTIAL IMPACTS

4.2.1. General mitigation strategies

Some of the potential environmental, landowner, and community impacts that could occur as part of the proposed project might be mitigated or minimized by certain construction methods, route choices, or other pre-and post-construction practices. The Commission can require the applicant to incorporate specific mitigation methods into the project design, construction process, and/or maintenance procedures. Some examples of mitigation techniques are outlined in Table 4-1 on the following page.

Table 4-1 Examples of mitigation strategies

Project Phase	Feature	Example Design Phase Mitigation Methods
Design Phase	Route	Use corridor-sharing to minimize new ROW requirements.
	Transmission Structure	Choose a different transmission pole with different construction requirements and aesthetic appeal: • H-frame structures, while requiring wider ROWs, have longer span lengths which may make it easier to cross rivers, wetlands, or other resources with fewer impacts. • The darker color of oxidized steel structures may blend in better with forested backgrounds. • Low profile poles, while necessarily closer together with possibly wider ROWs, can be used near airports to avoid interference with flight approaches.
	Pole Placement	Make minor adjustments in pole locations to avoid archaeological sites or minimize effects on agricultural operations.
	Add-ons	Add flight diverters to conductors to minimize bird collisions with the wires.
Construction Phase	Timing	Alter the timing of the construction periods: • Construct when the ground is frozen and vegetation is dormant to minimize impacts to wetlands or other sensitive habitats. • Delay construction in agricultural areas until after harvest to minimize crop damage and reduce soil compaction (if done while ground is frozen).
	Specific Construction Equipment	Use wide-track vehicles and matting to reduce soil compaction and rutting in sensitive soils and natural areas.
	Erosion Control	Install and maintain proper erosion controls during construction to minimize run-off of topsoil and disturbances to natural areas.
Post-Construction Phase	Invasive Species Management	Clean equipment as work finishes in one area to avoid spreading invasive plants to new areas. Annually survey for and eliminate new populations of invasive species caused by construction disturbances.
	Restoration	Decompact soils in agricultural areas to allow soil structure to redevelop and reduce impacts to crop yields. Revegetate ROW with appropriate seed mixes, include native seed mixes in wetlands or areas with high potential pollinator corridor values.
	ROW Maintenance	Allow low-growing shrub species along the ROW border to minimize aesthetic impacts and maintain a gradual transition from forest to open ROW. Develop maintenance schedules and techniques to enhance habitat for rare or desirable species and communities; delay brush-cutting or mowing until nesting birds have fledged.

Three of the features are discussed in more detail in the subsections below: corridor sharing, structure design, and construction timing. The other features are discussed below in particular categories of impacts, or in particular sections of this EIS where they might apply.

4.2.2. Corridor sharing with existing infrastructure

Utilizing existing infrastructure corridors is recognized as a policy of the state (Wis. Stat. § 1.12(6)) as a way to site new transmission lines and mitigate some of the impacts that are associated with new line construction. Corridor sharing involves sharing all or part of the new transmission line ROW with existing facilities such as other electric transmission lines, major roads, gas or oil pipelines, and railroad corridors. The corridor sharing must be consistent with economic and engineering considerations, reliability of the electric system, and protection of the environment. ROW-sharing with some types of corridors has more advantages than others.

Sharing corridors with existing facilities may reduce impacts by:

- Reducing the amount of new ROW required;
- Concentrating linear land uses and reducing the number of new corridors that fragment the landscape;
- Creating an incremental, rather than new, impact.

Often, the preferred type of corridor sharing is with an existing transmission line. An existing line may be double-circuited with a new transmission line and therefore require little or no expansion of the existing ROW. However, in some situations corridor sharing has drawbacks. Some examples of potential drawbacks to corridor sharing are described below in Table 4-2.

Table 4-2 Examples of possible disadvantages of corridor sharing

Existing ROW	Examples of Corridor Sharing Drawbacks
Railroads	• Some railroad ROWs have long distances between road crossings, and additional access roads would be needed for construction. • Railroad corridors that pass through wetlands are generally berms that are too narrow to support transmission structures. Structures would have to be located off the berm, resulting in additional impacts to wetlands. • Some railroad companies require corridor-sharing transmission lines to be located at the edge or outside of the railroad ROW, which might be far enough away that they create a new corridor, eliminating the benefits of corridor sharing.
Gas Pipelines	• Pipeline ROWs often run cross-country with little or no visual or agricultural effects. However, transmission lines constructed along the same cross-country route might interfere with farm operations and produce a negative visual impact. • For reasons of safety, gas pipelines often require a transmission line ROW to parallel the pipeline ROW with no or very minimal overlap. This minimizes the potential benefits of corridor sharing.
Rural Roads	• Some roads may have wooded areas adjacent with tree branches forming a canopy over the road. The construction of a transmission line ROW adjacent to the road would require the clear cutting of these trees and negatively impact aesthetic views and residential properties. • Where wind-blown soil is a problem, a transmission line ROW requiring clear cutting of windbreak trees could lead to soil loss and traffic hazards from "brown-outs," or "white-outs" in winter. • Rural roads typically do not have sufficient ROW available, so additional ROW must be obtained from adjacent landowners, with associated impacts.
Existing Transmission Lines	• Locating a new transmission line ROW parallel with an existing line on separate structures can increase impacts to natural landscapes, farmlands, or residential communities. • New double-circuited structures may be taller than any existing transmission structures and create increased hazards for bird or airport flyways. • Increasing the width of an existing corridor can increase edge effects and barriers to wildlife.

Corridor-sharing with an existing utility may require some modification to the proposed transmission structures resulting in additional costs to the project. For example, corridor sharing with a railroad may require the installation of underground communication circuits for the railroad. Sharing a corridor with a gas pipeline may require the installation of cathodic protection to prevent pipeline corrosion caused by induced currents. Transmission structures located within a highway ROW must be moved at the ratepayers' expense if a highway improvement project requires that the transmission line be relocated.

One additional drawback to corridor sharing is that landowners who have an easement for one facility may be burdened by the addition of more facilities. A cumulative impact from adding more utility facilities such as transmission lines or pipelines could include new disruptions to the environment with each subsequent project. Additional utility easements may further limit their rights and the use of their property. Obtaining just compensation for the additional degradation and loss of use and enjoyment of

their property would occur during the easement negotiation process that takes place between the landowner and the utility.

4.2.3. Structure design

Transmission line structures can be designed with alternate designs, heights, materials, and colors. Different design solutions would result in different costs and impacts.

Structures can consist of a single pole or multiple poles (such as an H-frame with two poles). Single-pole structures are generally taller and narrower than two-pole structures for similarly sized conductors. Two-pole structures with conductors mounted in a single plane can be used in situations where structure height is a concern, such as near an airport or along important bird migratory flight paths. Single-pole structures may be more desirable when crossing agricultural fields or in wetlands because two-pole structures disturb and take up more surface area than single-pole structures and require wider ROW. See Figures 4-2 below and 4-3 on the following page for representative photos of the two types of transmission line structures.

Figure 4-2 **Typical two-pole H-frame structures (image is for illustration purposes only – structures are not necessarily those proposed for this project)**

In addition to the structure's physical layout, the pole material (*i.e.*, wood, laminated wood, steel) and the type of insulators and conductors used can affect the appearance of the transmission line. Wooden poles may blend into the background in landscapes that are forested. Steel poles can be unpainted galvanized

steel (gray), painted (often light blue), or unpainted steel that is designed to oxidize to a brown color. The decision on what surface treatment to use can be influenced by the surrounding environments and aesthetic concerns (see Section 3.2.1.2 for more discussion of aesthetics in this EIS). Poles can be directly embedded into the soil surface or bolted onto buried concrete foundations.

Figure 4-3 **Typical single-pole double circuit structures (image is for illustration purposes only – structures are not necessarily those proposed for this project)**

4.2.4. Construction timing

The seasonal timing of construction can determine the severity of construction impacts to cropland, wetlands, high-quality natural areas, endangered and threatened species, and the potential spread of invasive species and plant diseases (*e.g.*, oak wilt). Limiting construction to winter months or to times of year when plants are dormant and the ground is frozen can reduce many adverse impacts. On the other hand, the urgency of some projects, the need to perform construction during scheduled electric outages, and the availability of skilled labor cannot always accommodate winter scheduling, especially on long or complex projects.

Some limitations on construction activity, however, may still be necessary. One way to avoid impacts to threatened or endangered species is to avoid construction during the active nesting or spawning period. To protect fish habitat during spawning seasons, activities such as bridge placement or dredging that would occur below the ordinary high water mark are restricted for trout streams and navigable tributaries. DNR has developed construction protocols that minimize or eliminate construction-related impacts on

certain protected species. These measures include seasonal restrictions on work or other activities that cause disturbance, movement barriers, and other methods. Each project and each species must be evaluated in the context of the entire project and project schedule to ensure protection of resources.

CHAPTER
5

5. Environmental Review: Proposed Site

5.1. SITE DESCRIPTION

The Proposed Site is located approximately two miles east of the existing PGS. The site is accessible from County Trunk Highway (CTH) KR/1st Street via Interstate (I-) 94 from the east or State Highway (STH) 45 from the west. The site is approximately 14 acres in size with an additional 21.6 acres of laydown/trailer area on a 78-acre parcel owned by WEPCO. It is currently developed for agricultural use. The Proposed Site is bordered by CTH KR to the north; a wooded fence line, additional agricultural land, and wooded and herbaceous wetland to the east; a wooded fence line, additional agricultural land, and rural residential properties to the west; and an undeveloped woodland block to the south.

The gen-tie associated with the Proposed Site would run west from the facility footprint to the western property line, then south just past the southern property line, then approximately two miles west through primarily agricultural land to the Paris Solar substation. The Paris Solar substation is accessible from 172nd Avenue via CTH KR from the north.

The Proposed Gen-Tie and Alternative Gen-Tie associated with the Proposed Site run in a common centerline with the exception of approximately 1.25 miles where the Alternative Gen-Tie route splits north approximately 250 feet and runs parallel before converging back south across existing transmission ROW to the Proposed Gen-Tie route. The Gen-Tie Corridor runs east-west between the Proposed Site and Paris Solar collector substation. The Gen-Tie routes were primarily sited along existing utility corridors, mostly located in agricultural lands. Several small areas of fragmented forested lands are present within the route alternatives, with a large area of undeveloped forested land on private property along the eastern boundary of the proposed corridor.

During field investigations completed in November and December 2023, seven wetland areas were identified within the Proposed Site and 13 within the Gen-Tie Corridor. Wetland communities observed included fresh (wet) meadow and seasonally flooded basins (farmed) wetlands. Within the seasonally flooded basin (farmed) wetlands identified within the active agricultural portion of the Proposed Site and Gen-Tie Corridor, vegetation was not present due to recent fall crop harvest and lack of volunteer/weedy vegetation. The agricultural areas on the Proposed Site were planted to corn in 2023 and harvested at the time of the field investigation with little volunteer vegetation observed. The agricultural areas along the Gen-Tie Corridor were planted to corn and soybean in 2023 and harvested at the time of the field

investigation with little volunteer vegetation observed. Following field verification completed in June 2024, no additional wetlands were identified, however some wetland boundaries were modified.

5.1.1. Site history

The Proposed Site is located at existing cultivated agricultural land on a 78-acre parcel owned by WEPCO. The property was historically used as cultivated agricultural land, and the property was cultivated agricultural land when it was purchased in 2020.

The Proposed Gen-Tie route for the Proposed Site intersects active agricultural fields, residential and other developed land, old field vegetation, woodland, and wetlands located on seven parcels owned by Alvin and Jean Wilks, Kenosha Beef International, Marjorie and Wayne Coughlin, the Fliess Revocable Trust, the Jamie Fliess Family Trust, and John and Joan Hanover. The Alternative Gen-Tie route consists of similar land cover and intersects seven parcels owned by Marjorie and Wayne Coughlin, John and Joan Hanover, the Stephanie O. Jaeger Family Asset Trust, the Jamie Fliess Family Trust, Kenosha Beef International, and Vignieri Farms LLC. These properties have historically been utilized for agricultural and residential purposes. To the best of the applicant's knowledge, none of the previous uses at any of the Sites or gen-tie ROW resulted in site contamination.

5.1.2. Land use and zoning

The Proposed Site and Gen-Tie Corridor consists primarily of agricultural land with small, fragmented upland forest areas and old field communities, as well as wet meadow and seasonally flooded basin (farmed) wetlands.

All three of the sites are located within the Town of Paris, and the current land use is based on the Kenosha County Comprehensive Plan 2035 that provides guidance to the towns, villages, and cities within the county. All three sites share an A-1 agricultural land zoning classification. The applicant does not anticipate a zoning change would be required for any of the sites to host the generation facility under conditional use for utility infrastructure.

5.2. AGRICULTURAL RESOURCES

Utility construction can affect farm operations in many ways including:

- interruption or damage to irrigation and drainage systems;
- temporary modifications to grazing areas, row crops, and existing fencing;
- field flooding; and
- non-compliance with organic practices.

After construction is completed, the project may continue to affect agricultural productivity for years afterwards. Yield reductions can be caused by inadequate protection of topsoil, changes to surface and subsurface drainage, construction debris left in fields, and opportunistic weed growth. Agricultural properties may also have issues working under and near operating electric lines such as induced voltage and problems with grounding. These and other problems can increase costs for the farm operators.

For new transmission lines 100 kV or greater and longer than 1.0 mile, state law requires the utility to repair much of the damage that can occur during construction and/or provide monetary compensation in addition to any easement compensation (Section 4.4).

The placement of transmission structures can cause the following agricultural impacts:

- Damage topsoil due to soil mixing and compaction;
- Increase soil erosion by damaging contour strips and other erosion-control practices or removing windbreaks;
- Alter water regimes in fields due to dewatering operations, damage to drain tiles, or preventing the proper operation of irrigation systems
- Create obstacles for farm machinery interrupting efficient fieldwork patterns;
- Create inaccessible areas around transmission structures promoting weed growth and reducing the yield capacity of the field;
- Cause the spread of weed seeds, insects, pathogens, and other unwanted pests due to the use of contaminated construction equipment;
- Hinder or prevent aerial spraying or seeding activities by planes or helicopters;
- Cause injury to livestock and damage to farm machinery when construction debris is not removed from the ROW after construction is completed;
- Require the grounding of fences and metal buildings paralleling the new line;
- Hinder future consolidations of farm fields or residential development of the farmland.

Cropland and pastures depend on the preservation of topsoil. The quality of agricultural soils are affected when construction activities allow topsoils to be mixed with underlying inorganic subsoils, the compaction of soils, or the removal of topsoils.

Soil mixing occurs during excavation activities or when soils are significantly rutted. Excavated subsoils should not be mixed with topsoils or spread on the surface of cropland or pasture. Significant rutting can mix soil layers and compact soils. The compaction of soils reduces soil productivity by reducing pore space resulting in reduced uptake of water and nutrients by crops, restricted rooting depth, and increased surface runoff. Heavy construction equipment can compact soils to a depth that cannot be removed by conventional tillage. The degree to which soils are compacted and damaged by heavy construction equipment depends mostly on the type of soil and its saturation level.

Construction activities can destabilize soil horizons and cause topsoil to erode and potentially migrate off of the ROW. Erosion can occur on construction sites wherever proper erosion controls are not maintained. This is especially true during wet conditions and in areas with steep slopes. Many agricultural fields have existing erosion control practices such as diversion terraces, grassed or lined waterways, outlet ditches, water and sediment control basins, vegetated filter strips, and terracing. Construction activities can damage these practices and lead to the loss of valuable topsoil. Additionally, manure and crop residue along with pesticides can be carried away from the field with eroded soil. Agricultural soils that have been improperly protected or mitigated may suffer decreased yields for several years after the construction of the transmission line is completed.

Windbreaks consisting of one or more rows of trees are another method to reduce soil erosion. The removal of windbreaks can result in a continuing loss of topsoil.

Proper field drainage is vital to a successful farm operation. Construction can cause the disruption to drainage tiles, grassed waterways, and drainage ditches that regulate the flow of water on farm fields. Crop health can be affected during construction and well after due to alterations to field contours, soil compaction, and drain tiles damage. Alterations to these facilities can cause water to pond, damaging crops and other vegetation. Additionally, transmission structure construction may require dewatering activities. Discharge of excessive water in cropland can also cause damage to crops.

Transmission structures located in fields or along the edges of fields often create obstacles for farmers. They may become hazards for farmers trying to maneuver equipment near foundations as farmers attempt to minimize unusable cropland. Farm machinery that accidently hits a transmission structure would most likely not damage the structure but can cause significant damage to the farm equipment. This could impact farm operations by causing a delay in planting, harvesting, or other necessary fieldwork.

Transmission lines can also interfere with the movements of irrigation equipment. Many crop fields are irrigated with center-pivot or lateral-moving irrigation systems. If irrigation systems are disrupted by construction, crops outside of the proposed ROW could be negatively affected by a lack of water. Because cropland within a construction ROW is typically removed from production during a growing season, crop rotation patterns could be disrupted in some fields. This could require additional adjustments in crop production or livestock feeding.

Issues of biosecurity are a concern to many farm operators. Construction equipment that is not properly cleaned between farms can transport weed seeds, insects, pathogens, and other unwanted pests. Equipment brought from another region can introduce new pests not commonly found in the project area. For organic producers with limited options for pest management, this can be a significant concern.

In addition, areas surrounding transmission structures are typically inaccessible to farm equipment. These areas can become havens for opportunistic weeds, insects, and other pests. The spread of these pests into the adjacent cropland would then require additional pest management to prevent affecting crop productivity.

Another hazard of transmission line construction is the debris that is sometimes left in the field after construction is completed. This debris can include surveyor stakes and flags, broken pieces of timber mats, rocks that have been brought to the surface from lower levels, and trash from construction crews. If construction debris is not properly removed from fields and pastures, it can harm livestock as well as cause damage to farm machinery. Wires and other metal objects can be swallowed by livestock causing lethal injuries to the animal.

Occasionally, transmission lines may induce currents on parallel metal objects. To avoid these induced currents on wire fencing and metal buildings paralleling new transmission lines, fences and buildings would be needed to be properly grounded.

Some agricultural operations depend on the use of aerial application of seed and chemicals. Transmission wires can become an obstacle for these low-flying helicopters and planes.

5.2.1. Agricultural impact statement

An AIS is required when the applicants for a public construction project have the power to condemn property (eminent domain) and would acquire an interest of more than 5 acres of land from at least one agricultural property. Wisconsin Stat. § 32.035 details what DATCP is required to include in an AIS, the AIS timeline, and the objectives for the program.

The AIS is prepared to help make sure farmers are well-informed of their rights and the potential range of impacts of the project, how to effectively mitigate these impacts to agricultural resources and farm operations, help farmers determine appropriate compensation for their losses, and to document for the public record the agricultural impacts of public projects. Easement contracts between farmers and utilities should include a discussion of anticipated damages and mutually agreed-upon reparation.

DATCP has prepared an AIS for the transmission line associated with the Proposed Site of the project.[40]

5.2.2. General mitigation strategies

The utility should work with agricultural landowners well in advance of construction to help identify potential impacts and how best to minimize impacts to farm operations and farm facilities. Landowners and utilities may work out solutions that include minor changes in structure heights, specific structure locations, or construction timing. Alternatively, farmers provided with information on the construction activities that would occur, as well as where and when these activities would occur, would allow farmers to make adjustments to their operations to better accommodate the project activities. Protection of organic farm certifications requires critical communication with the farmer and a thorough understanding of existing operations along the ROW. By incorporating these solutions in written agreements, agricultural impacts can be prevented, minimized, and mitigated.

A utility working with landowners can:

- Avoid or minimize construction through sensitive farmland;
- Identify, address, and document concerns before construction begins;
- Find resolutions for anticipated impacts (e.g., payments to temporarily suspend farming activities or the installation of a temporary fence).

Problems with structure placement can be mitigated to some extent if the utility works with farmers to determine optimal structure locations. The following approaches might be useful:

- Using single-pole structures instead of H frame or other multiple pole structures so that there is less interference with farm machinery, less land impacted, and fewer weed encroachment issues.
- Locating the transmission line along fence lines, field edges, or roadsides to minimize impacts to fields, driveways, and buildings.
- Locating transmission lines and poles so as to minimize interference with farm operations such as the use of driveways, grain bins or other tall agricultural facilities and machinery, and irrigation systems.
- Using transmission structures with longer spans to clear fields;
- Orienting the structures with the field work pattern to reduce inaccessible areas around transmission poles.
- Minimizing pole heights and installing markers on the shield wires above the conductors in areas where aerial spraying and seeding are common.
- Using special transmission designs to span existing irrigation systems or, if necessary, reconfiguring

[40] PSC REF#: 508349 Agricultural Impact Statement 4574 - Paris RICE 138 kV Gen-Tie Line

the irrigation system at the utility's expense.

Problems with the spread of farm pests or diseases and contamination of soils can be reduced by:

- Thoroughly cleaning construction equipment or other vehicles at the beginning of their use on a project to avoid bringing in new pests from outside the construction zone.
- Thoroughly cleaning construction equipment or other vehicles before entering any organic farmland.
- Identifying farms that have written biosecurity plans and making sure construction crews are aware of those policies so they are followed where practicable.
- Following the direction of any posted biosecurity signs where practicable to avoid contamination.
- Having the farmer avoid spreading manure or pasturing livestock in the transmission line ROW prior to construction. (This is the most cost-effective method to prevent the spread of animal disease.)
- Avoiding access through or construction in areas that may contain manure.
- Learning about individual farm activities such as planting, tillage, and crop rotations so that construction methods and timing can be adapted to the timing of crop work.
- Installing exclusion fencing to keep livestock away from construction activities or installing markers to identify where construction is occurring, in consultation with the farmer, so that fieldwork and construction do not overlap.
- Putting barriers between equipment and manure or disease contaminated soil.
- Physically removing manure or contaminated soil from equipment in compliance with existing farm disease control efforts.
- Using mats to minimize direct contact between construction equipment and soil.

Mitigation of farm impacts includes prevention of mixing topsoils with subsoils and the underlying parent material. Wisconsin Stat. § 182.017(7)(c) requires utilities that construct transmission lines that are 100 kV or larger and longer than 1.0 mile to ensure that topsoil is stripped, piled, and replaced upon completion of the construction operation.

One method to avoid rutting and minimize soil compaction is to use mats during construction. This allows crews to continue working in wet conditions while minimizing the potential for soil mixing and compaction. Matting also allows machinery to stay cleaner, reducing the potential for spreading pests.

If construction activity occurs during wet conditions and soils are rutted, repairing the ruts as soon as possible can reduce the potential for impacts. However, improperly timed repairs can further compact the soil column and cause more damage. Allowing time for the soil to begin drying and then smoothing, grading, and filling in the ruts is an acceptable mitigation approach. The Atterberg field test should be used to determine when the soil is friable enough to allow rutting to be remediated safely. Figures 5-1 through 5-3 illustrate how ruts made by heavy equipment can be repaired.

Figure 5-1 Minor soil rutting in pasture land

Figure 5-2 Ruts being smoothed with blade. Soil is not waterlogged as shown in Figure 5-1.

Figure 5-3 Smoothing out ruts by backblading with a dozer

To minimize soil compaction during construction in low lying areas, on saturated soils, and/or on sensitive soils, low impact machinery with wide tracks can be used. DATCP has recommended that such machinery and tires also be used across agricultural land if it must be worked during wet conditions. Alternatively, easily compactable soils can be worked on during frozen conditions. Wisconsin Stat. § 182.017(7)(c) requires construction work across land used for agricultural production to be done at times when the ground is frozen, when practicable and when requested by the landowner.

Where construction equipment crosses cropland, the soils are likely to be compacted. Utilities can choose to decompact the soils themselves or pay the farmer to either restore the soils themselves or hire a contractor to do the work for them. Proper restoration of the compacted soil is necessary for crop yields to return to pre-construction levels. Even so, sometimes it may take several years for the soil health to return.

Problems with potential damage to soil productivity from the impacts of soil mixing, soil compaction, and soil erosion can be lessened by:

- Identifying site specific soil characteristics and concerns from the landowner and farm operator before construction begins.
- Avoiding areas where impacts might occur by altering access routes to the construction sites.
- Using existing roads or lanes utilized by the landowner.

- Using construction mats, ice roads, or low ground pressure or tracked equipment to minimize compaction, soil mixing, rutting, or damage to drainage systems.
- Segregating topsoil or soil horizons during excavation and construction to minimize soil mixing.
- De-compacting soils following construction with appropriate equipment and when moisture levels allow for successful restoration efforts until the degree of soil compaction levels in the ROW is similar to soils off the ROW.
- Avoiding construction and maintenance activities during times when soils are saturated.
- Avoiding the removal of critical windbreaks and replanting windbreaks with lower growing woody species to minimize soil erosion due to wind.

5.2.3. Wis. Stat. § 182.017(7)©

This statute describes a number of restoration practices that the utility must employ when building a high-voltage transmission line on private property. This statute includes requirements, such as:

- removing rock and all construction debris;
- restoring all disturbed slopes, terraces, and waterways to their original condition;
- repairing drainage tile lines and fences damaged by construction; and
- paying for crop damage.

Unless landowners waive their rights in an easement agreement, the utility is required to implement these mitigation practices. If a route that passes primarily through agricultural land is selected, DATCP has recommended that, to aid enforcement of the statute requirements, detailed Best Management Practices (BMP) should be incorporated into the project construction manuals and agricultural specialists should be available to consult with the environmental monitors to oversee the contractors and ensure that these protections are implemented.

5.2.4. Protection programs

5.2.4.1. USDA Conservation Reserve Program lands

There are farmlands in Wisconsin enrolled in U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) programs established to preserve wetlands, grasslands, and farmlands, and to reduce erosion. Federal easements on these lands may have restrictive land uses not consistent with the construction of a transmission line. For example, a finding of incompatibility by the FSA could affect Conservation Reserve Program (CRP) payments to the landowner.

CRP is a federal voluntary program established to protect cropped lands that are vulnerable to erosion. CRP provides participants with an annual per-acre rent plus half the cost of establishing a permanent land cover (usually grass or trees). In exchange, the participant retires highly erodible or environmentally sensitive cropland from farm production for 10 to 15 years. Sensitive lands would also include land converted from crops to wildlife habitat or special shallow water areas, filter strips along surface waters, and grass covers for erosion control.

Federal funding for the program is limited. Offers for CRP contracts are ranked according to an index which includes the following factors:

- Wildlife habitat benefits resulting from covers on contract acreage;

- Water quality benefits from reduced erosion, runoff, and leaching;
- On farm benefits from reduced erosion;
- Benefits that would likely endure beyond the contract period;
- Air quality benefits from reduced wind erosion;
- Cost.

Each transmission structure located in CRP land could require that one tenth of an acre be removed from the contract. A repayment of past payments, damages, and interest on the removed area would need to be made by the landowner. If the transmission line requires the removal of trees and the CRP contract requires that the trees remain, the area where the trees would be removed would also need to be removed from the contract and previous CRP payments, damages, and interest repaid. If the CRP land is acquired through eminent domain, the repayment would not be required.

The landowners and locations of land enrolled in the CRP program are confidential. As such, the applicants would not know until after the CPCN is granted and individual easement negotiations begin whether any of the affected farmland is in CRP. Landowners can and do sometimes volunteer the information when they comment to the applicants during public meetings.

5.2.4.2. Conservation Reserve Enhancement Program lands

The Conservation Reserve Enhancement Program (CREP) is a resource to help farmers meet their conservation goals, particularly those who till or graze land along rivers and streams. CREP is a joint effort between the federal, state, and county governments.

CREP pays landowners to install filter strips along waterways or to return continually flooded fields to wetlands while leaving the remainder of the adjacent land in agricultural production. Some of the more common practices are filter strips, riparian buffers, and wetland restorations. Enrollment options are either a 15-year agreement or a perpetual easement. CREP financial incentives include cost sharing of conservation practice installation, upfront incentive payments, and annual soil rental payments.

The USDA Farm Service Agency (FSA) is responsible for deciding if transmission line construction affects CREP agreements. FSA may decide whether the entire agreement must be terminated, the agreement and/or the practice can be modified, or if there is no effect on the agreement. CREP land affected by transmission lines may have financial costs to landowners. Landowners should negotiate compensation for these costs during their easement negotiations.

5.2.4.3. Farmland Preservation Programs

Landowners with farmland that is located within an area zoned for farmland preservation can participate in the Farmland Preservation Program (FPP) or landowners located in other zoning districts may have existing FPP agreements with DATCP. DATCP has changed their policy and no longer releases a database that lists individual landowners who have voluntarily filed an FPP agreement. The applicant states that there are no known parcels enrolled in farmland preservation programs at any of the Sites or along the gen-tie ROW.

5.2.4.4. Managed Forest Lands

The Managed Forest Law (MFL) program is another source of income for many farm owners/operators. Additional information can be found in Section 4.4.2.3. No properties in the project area are enrolled in the MFL program that could be impacted by the proposed project.

5.2.5. Agricultural impacts at the Proposed Site

The applicant states that the agricultural practices review they conducted was based on field observations along accessible routes, aerial photograph review, database queries and review of public comments provided to the applicant in their open meeting process.

The Proposed Site would permanently disturb 12.92 acres of agricultural land, with the laydown area(s) and other disturbances resulting in approximately 21.5 acres of temporary impacts to agricultural land. If approved with the Proposed Site, the Proposed Gen-Tie would temporarily disturb 7.55 acres, while the Alternative Gen-Tie would temporarily disturb 20.66 acres of agricultural land. The applicant states that no irrigation systems, aerial seeding or spraying, or organic farms were observed at the Proposed Site or along the Gen-Tie Corridor. Windbreaks were observed along the western boundary of the Proposed Site as well as the western and eastern terminus of the gen-tie corridor. Clearing of the windbreaks within the route corridor, if the Proposed Site is approved, would be anticipated. While not observed, it is possible that drain tiles are present on both the Proposed Site and along the Gen-Tie corridor that may be impacted if the Proposed Site is approved.

The applicant anticipates minimal construction impacts in and around agricultural lands, outside of the proposed layout of the project facilities. The applicant would minimize impacts to agricultural soils by segregating topsoil from the construction area and stockpiling it separately from other excavated soils; and utilizing erosion controls such as silt fences, straw bales, and erosion matting. As needed, the applicant would restore soils via de-compaction of the subsoil, replacement and de-compaction of topsoil, and removal of any rocks in the topsoil. The applicant would minimize impacts to agricultural infrastructure by working with landowners and the county drainage board to identify the location of known drain tiles. Any damage to irrigation systems or drain tiles would be repaired.

5.3. ARCHAEOLOGICAL AND HISTORIC RESOURCES

Construction of electric generation facilities may affect historic properties in multiple ways. Inadvertent disturbance or excavation may remove artifacts from their depositional context and therefore limit their potential use in the archaeological record. Construction of new structures may affect the character of a historic structure and consequently limit or remove its potential to be listed on the National Register of Historic Places (NRHP). Heavy construction equipment may compact soils and effect subsurface artifacts or sites. Use of or close proximity to human burials or traditional cultural properties during construction or for placement of new structures may negatively affect the sacredness of those places.

The applicants must identify any known historic properties within the proposed project area. Any historic properties that may be impacted by the project would be evaluated in accordance with the programmatic agreement between PSC and SHPO. The applicants may also survey for known and unknown historic properties and burial sites in accordance with Section 106 of the NHPA.

According to Wis. Stat. § 44.31(3), historic properties include any building, structure, object, district, area or site, whether on or beneath the surface of land or water, that is significant in the history, prehistory, architecture, archaeology, or culture of this state, its rural and urban communities, or the nation. Historic

properties are also defined at the federal level by the Advisory Council on Historic Preservation as a prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the NRHP. This includes artifacts, records, and remains that are related to and located within such properties. It also includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

Wisconsin Stat. § 44.31(1) defines adverse effects to historic properties, many of which may result from construction activities or the placement of new structures. Adverse effects include: physical destruction, damage, or alteration of any part of a property; isolation of a property from or alteration of the character of the property's setting when that character contributes to the property's qualification as a listed property; introduction of visual, audible, or atmospheric elements that are out of character with a property or alter its setting; and neglect of a property resulting in its deterioration or destruction.

Under Wis. Stat. § 157.70, no person may intentionally cause or permit the disturbance of a human burial site. Burial sites are defined as any place where human remains are buried, which may be any part of the body of a deceased person in any stage of decomposition in a context indicating substantial evidence for burial. Burial sites are often indicated by stone monuments, spirit houses, wooden crosses, or Native American mounds. The statutes define disturbance as defacing, mutilating, injuring, exposing, removing, destroying, desecrating, or molesting in any way a burial site. The applicants must identify any known burial sites within their proposed project area. Any human burial sites that may be disturbed by the project must be avoided or a Permit to Disturb a Human Burial from WHS must be obtained.

The *Guide for Public Archeology in Wisconsin*, by Dudzik, et al., outlines the procedure that the applicants should use to identify any historic properties or human burials within the project area. The guide also identifies common mitigation methods to reduce adverse effects to historic properties. The preferred mitigation method is avoidance of the site by project rerouting. If this cannot be performed, then data recovery, such as through excavation, may occur. Monitoring of construction activities would also be used in any areas where disturbance of historic properties or human burials may be considered likely. Such mitigation activities may employ the use of historic preservation professionals including archaeologists, architecture historians, historians, and Native American tribal representatives. A consultation between PSC and SHPO is ongoing, which will discuss any potentially affected historic properties as well as any suggested mitigation that the applicants should perform.

5.3.1. Compliance with Wis. Admin. Code § PSC 4.30(3)(f) and Wis. Stat. § 44.40

On September 16, 2024, the Commission sent a letter to the Wisconsin State Historic Preservation Office (SHPO) requesting review and comment in accordance with Wis. Admin. Code § PSC 4.30(3)(f) and the PSC-SHPO Interagency Programmatic Agreement (PSC-SHPO Agreement). Please see Appendix A of this EIS for copies of the letter, SHPO Review Request Form, and SHPO Response email.

Wisconsin Admin. Code § PSC 4.30(3)(f) states that the content of an EIS prepared by the Commission shall include an evaluation of the archaeological, architectural, and historic significance of any affected resources. This evaluation shall include a consultation with the state historical society of Wisconsin. Therefore, this letter and request for SHPO consultation is meant to serve as the Commission's compliance with Wis. Admin. Code § PSC 4.30(3)(f).

Additionally, in the PSC-SHPO Agreement, Appendix of PSC Authorization Actions Subject to Wis. Stat. § 44.40, this project is listed as Type I(a) Electric power plant siting and construction or expansion.

Therefore, Commission authorization of the project must comply with Wis. Stat. § 44.40 by requesting a SHPO review when projects would affect historic properties.

Although no historic properties are currently expected to be affected by this project, which under Wis. Stat. § 44.40 usually means the Commission would not request SHPO review, the letter was still sent to request SHPO review in accordance with Wis. Admin. Code § PSC 4.30(3)(f).

5.3.2. Commission review of WHPD properties

The Commission's Historic Preservation Officer (HPO) reviewed and evaluated the project application materials related to historic properties, which were provided by the applicant as part of the PSC Application Filing Requirements. These include a literature review and field survey report. The Commission HPO also reviewed and evaluated property records using the Wisconsin Historic Preservation Database (WHPD or database) online portal and its associated GIS data. As stated in the PSC-SHPO Agreement (3), the WHPD contains all listed property, the Wisconsin inventory of historic places, and the list of locally designated historic places. These recorded properties comprise all relevant "historic properties" for the purpose of this review. The University of Wisconsin-Milwaukee Cultural Resource Management (UWM-CRM) conducted historic property investigations for the project and submitted related documents for Commission review.

5.3.3. Area of Potential Effect (APE)

The APE is the area where WHPD properties may be affected by the proposed activity. The PSC-SHPO Agreement (7g), requires the Commission HPO to determine the APE.

The APE is the area where WHPD properties may be affected by the proposed activity. The PSC-SHPO Agreement (7g), requires the Commission HPO to determine the APE. The Agreement classifies the APE as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The scale and nature of the undertaking influence shape and extent of the APE, resulting in delineated areas of effects that may be different depending on the kinds of effects caused by the undertaking.

The direct APE is determined as the area where physical ground-disturbance occurs. Examples of ground disturbing activity include but are not limited to excavation, soil grading, and the compression of soils through heavy machinery movement and material staging. The indirect APE is determined as the distance from the project where visual disturbance reasonably occurs (e.g. line of sight).

5.3.4. WHPD Archaeological Site Inventory (ASI) properties in the APE

There would be three WHPD ASI properties coincident with the direct APE: KN-0024, KN-0025, and KN-0070. All three of the properties are recorded as archaeological sites comprising of campsite/villages of indeterminate precontact Native American affiliation. None of the WHPD ASI properties are codified as burial sites, therefore there is no requirement for the applicant to obtain a Permit to Disturb (PTD) from SHPO as stipulated under Wis. Stat. § 157.70.

1. KN-0024 (Buckley)

According to WHPD, this archaeological site is defined as an indeterminate precontact Native American affiliation campsite/village, located in upland fields south of CTH KR and east of a town road. The report describes that the location of the site was determined by a symbol depicted on the Town of Paris CEB Atlas. The site's boundary appears on GIS to be poorly defined and may

represent the local landowner boundary where artifacts were originally reported, rather than the exact location of the find.

In 2020, UWM-CRM conducted Phase I archaeological field investigations within portions of the site boundaries (Sterner 2020). The report describes that their investigations consisted of pedestrian survey and limited subsurface testing. No cultural materials were found, and shovel testing indicated a disturbed Ap horizon over an intact B horizon. Based on these findings, the archaeologist recommended the site within the investigated portion lacks the criteria and integrity for listing in the National Register of Historic Places (NRHP) and therefore it would also not meet the historic properties criteria under Wis. Stat. § 44.36(2).

2. KN-0025 (Holmes)

This archaeological site is recorded in WHPD as an indeterminate precontact Native American affiliation campsite/village, located in upland fields south of CTH KR. The consultant's report references a letter to C.E. Brown included a record of a collection owned by Roy Holmes, "The campsite is located just across the county line in Racine, but many of the specimens were found in both counties, as part of the Holmes estate is in both counties" (Merrill B. Henn to Charles E. Brown, letter, 26 August 1936, CEB Manuscripts, Wisconsin Historical Society, Madison). Brown mapped a campsite within the NW 1/4 of Section 1 in Township 1 North of Range 21 East. The applicant's report states that given the provided description used for reporting the site, it is unclear the location where the artifacts were collected, and the delineation of the site is generalized at best. The site's boundary appears on GIS to be poorly defined and may represent the local landowner boundary where artifacts were originally reported, rather than the exact location of the find.

UWM-CRM conducted Phase I archaeological field investigations within portions of the site boundaries in 2018 (Haas et al 2019). The investigations consisted of pedestrian survey and shovel probe testing. A small scatter of artifacts was found on the surface within the southern portion of the site, consisting of a chipped stone tool and two pieces of lithic debitage. The area containing the lithic scatter was subject to shovel probe testing. Only one shovel test recovered any cultural materials, and this consisted of one small piece of lithic debitage. It was concluded that the materials were derived from a disturbed Ap horizon. The plowzone in this portion of the site appeared deflated and likely caused from habitual plowing which extended into B horizon soils. The applicant's report states that given the limited results; it was determined the site within the investigated portion was not eligible for listing on the NRHP (Haas et al 2019).

Much of the site remains unevaluated for NRHP significance.

3. KN-0070 (Horn Farm)

This archaeological site is described in WHPD as an indeterminate precontact Native American affiliation Campsite/village, located north of CTH A and east of a town road on the Horn farm with uplands on the west end overlooking marshland to the east. A side notched point was recovered from the "Horn Farm" in 1937. Little else is documented about the site, including the specific location or detailed description of the artifact. In the absence of specific locational information, KN-0070 is mapped as encompassing the entire southeast quarter of Section 2. The site's boundary appears on GIS to be poorly defined and may represent the local landowner boundary where artifacts were originally reported, rather than the exact location of the find.

UWM-CRM conducted Phase I archaeological field investigations within portions of the site boundaries in 2020 (Sterner 2020). The investigations consisted of pedestrian survey and shovel probe testing. No cultural materials were found, and shovel testing indicated a disturbed Ap horizon over an intact B horizon. No further work was recommended.

5.3.4.1. Wis. Stat. § 44.36(2) criteria for WHPD ASI properties in the APE

The results of the field investigations determined that WHPD ASI property KN-0025 lacks the materials and integrity to qualify as a historic property under the criteria listed in Wis. Stat. § 44.36(2).

WHPD ASI properties KN-0024 and KN-0070 were not subjected to additional field investigations due to access to those properties not being granted. A Phase I field survey is recommended once access to the property is obtained to assess whether significant resources are present in the project area that may be affected by the project.

The applicant stated that if the Commission approves the Proposed Site, the route of the associated generation tie line is coincident with and would result in ground disturbance of WHPD ASI properties KN-24 and KN-70 and the applicant would conduct an archaeological field survey prior to construction. This would occur once access is granted, or the properties are acquired. Following archaeological field surveys, the applicant would work with the PSC HPO and SHPO to complete or modify the Wis. Stat. § 44.40 review and implement any recommended mitigation measures, as needed.

5.3.5. WHPD Architecture History Inventory (AHI) properties in the APE

There would be one WHPD AHI property potentially within the indirect APE:

1. **Meyers-Thomas House (AHI# 225108)**

   The Myers-Thomas House is located at 606 172nd Ave in the Town of Paris, Kenosha County, Wisconsin. According to the WHPD, the house was identified in 2014. In 2019, a survey revealed that the house on the property had been demolished, and no structures remain. As a result, the project has no potential to cause effects to any significant architecture/history resources currently listed in the WHPD.

5.3.5.1. Historic properties affected by the project and applicant's recommended mitigation

None of the WHPD properties in the APE would currently meet the criteria to qualify as a historic property under Wis. Stat. § 44.36(2).

However, the applicant was unable to determine potential affects to two of the WHPD ASI properties (KN-0024 and KN-0070) where land access for field surveys was denied by landowners. Commission staff asked the applicant[41] to describe whether they would, prior to construction, conduct an archaeological field survey of the authorized project area where there would be ground disturbance (e.g., line route, facility, access roads, laydown yards, etc.) within the boundaries of the WHPD ASI properties KN-0024 and KN-0070, and work with PSC Historic Preservation Officer and State Historic

[41] PSC REF#: 510531 Response-Data Request-PSC-Chee-3-PSCW-TT-2.04.pdf

Preservation Office to complete the Wis. Stat. s 44.40 review and implement any recommended mitigation measures, if applicable.

The applicant stated that, at this time, permission to access the properties on which WHPD ASI KN-0024 and KN-0070 are coincident with the project areas has not been granted. If the Commission approved the Proposed Site, the route of the associated generation tie line is coincident with and would result in ground disturbance of ASI properties KN-0024 and KN-0070 and the applicant would conduct an archaeological field survey prior to construction. This would occur once access is granted or the properties are acquired. Following archaeological field surveys, the applicant would work with the PSC Historic Preservation Officer and SHPO to complete the Wis. Stat. § 44.40 review and implement any recommended mitigation measures, as needed.

5.3.6. SHPO review

On September 30, PSC received a response from SHPO that they have completed review of the proposed project. SHPO found that that the project would have no adverse effect on historic properties within the APE because there are no eligible properties in the project area to the best of our knowledge at this time. SHPO stated that pending the results of the applicant's additional fieldwork (Phase I survey) for properties to be obtained, this finding may be modified. SHPO stated that if plans change or cultural materials/human remains are found during the project, please halt all work and contact SHPO. SHPO provided an email as your official SHPO concurrence for the project.

5.4. NATURAL RESOURCES

This section describes many of the common natural resource impacts related to the construction and operation of electric generation facilities as well as potential impacts associated with approval of the Proposed Site and associated facilities.

5.4.1. Air emissions

The following section provides general information about air emissions and permitting as well as specific potential impacts associated with construction and operation at the Proposed Site.

The potential for air quality impacts is an important consideration for a proposed power generation project. Though estimates still lack precision, direct, indirect, and cumulative effects of fossil fuel combustion have been shown to impact human health and mortality worldwide.[42,43,44] The facility is proposed to be a 128 MW natural gas-fired reciprocating internal combustion engine electrical generation facility.

Before commencing construction on its proposed electric generation project, WEPCO must obtain an air pollution control permit from the Wisconsin DNR, which partners with the EPA for administering appropriate parts of the federal Clean Air Act (CAA). The DNR has responsibility for review of permit applications and issuance of air pollution control permits in accordance with federal CAA requirements and Wisconsin Statutes. The Commission must adhere to Wis. Stat. §§ 196.491(3)(d)3. and 4.:

[42] Pozzer, et. al. 2022. Mortality Attributable to Ambient Air Pollution: A Review of Global Estimates. GeoHealth.
[43] Murray, et. al. 2020. Global burden of 87 risk factors in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. Lancet.
[44] Schraufnagel, et. al. 2019. Air Pollution and Noncommunicable Diseases: A Review by the Forum of International Respiratory Societies' Environmental Committee, Part 2: Air Pollution and Organ Systems. Chest.

"In its consideration of environmental factors, the Commission may not determine that the design or location or route is not in the public interest because of the impact of air pollution if the proposed facility will meet the requirements of ch. 285."

Wisconsin Stat. ch. 285 is the chapter on "Air Pollution" and is enforced by the DNR.

This section addresses the status of the DNR air pollution construction permit review process at the time of the Commission's EIS preparation.[45]

5.4.1.1. Pollutants and controls

Unlike constructional air quality impacts that would depend on construction vehicles and equipment and fugitive dust, operational air quality impacts would depend largely on the fuel used in power generation rather than vehicles that would be on property. The fuel proposed to be used in the electric generator units is natural gas.

In the DNR air permit, potential air pollutants or impacts to be examined include:

- CO
- NO_X
- Filterable PM
- Particulate matter less than 10 microns (PM_{10}) and less than 2.5 microns ($PM_{2.5}$) in diameter
- Sulfur dioxide (SO_2)
- VOCs
- Sulfuric acid (H_2SO_4)
- Lead (Pb)
- Opacity
- GHG, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and sulfur hexafluoride (SF_6)
- HAPs regulated under the CAA and 40 CFR Part 63, and Wisconsin Hazardous Air Contaminants (HAC) regulated under Wis. Admin. Code ch. 445.

Potential emission sources to be examined in the construction permit include:

- Seven (7) identical Wärtsilä Model 18V50SG spark ignition, 4-stroke lean burn natural gas-fired reciprocating internal combustion engines, each with a nominal gross electric output of 18,817 kilowatts (kW) and an engine rating of 25,850 horsepower (hp). Each unit is equipped with its own selective catalytic reduction (SCR) system to control emissions of NO_X and its own oxidation catalyst system to control emissions of CO and VOCs (including HAPs).
- One (1) Caterpillar Model G3512 (or equivalent) natural gas-fired emergency generator with an

[45] This EIS was prepared cooperatively by the DNR and the Commission under Wis. Stat. s. 196.025(2m)(b)1 and in accordance with the Commission's WEPA procedures. Although this EIS may inform the DNR's air permit decision, the DNR categorizes minor source construction air permits as minor actions for WEPA compliance purposes under Wis. Admin. Code s. NR 150.20(1m)(o) and may follow a different process to satisfy its WEPA obligations when issuing an air permit decision.

electrical output of 1,000 kW and an engine rating of 1,520 hp.

- One (1) natural gas-fired gas heater with a heat input capacity of 3.0 MMBtu/hr).
- Miscellaneous natural gas-fired space and water heaters with a combined heat input capacity of 4.5 MMBtu/hr.
- Circuit breakers and switchgear insulated with sulfur hexafluoride (SF_6), which is a GHG.
- Natural gas piping components – including valves, connectors and pressure relief valves – which are potential sources of fugitive leaks of VOCs and GHGs.

The facility would also include four (4) existing natural gas-fired gas heaters that were constructed at the site in 2021. The heat input capacity of each of these heaters is 3.0 MMBtu/hr.

The DNR air pollution control construction permit for this project would include requirements for adherence to federal standards – including New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) – and to assure compliance with National Ambient Air Quality Standards (NAAQS). The DNR air permit addresses, among other things, permit conditions to address ambient air impacts and ensure the proposed project complies with NAAQS and Prevention of Significant Deterioration (PSD) increments.

The air pollution control construction permit application submitted by WEPCO to the DNR includes a dispersion modeling analysis and addresses the potential ambient air impacts of the proposed project. The DNR review of the air permit application is in process; the DNR review will verify the potential ambient air impact of the proposed facility.

5.4.1.2. Criteria pollutants

Because of the adverse impacts of air pollutant emissions on health, welfare, and the environment, federal, and state laws are implemented to reduce emissions to levels that research has shown would protect the majority of individuals and reduce overall impacts on ecosystems.

The EPA has established NAAQS to regulate the emissions of six "criteria" pollutants: CO, NO_x, ozone (O_3), lead (Pb), particulates (PM_{10}, $PM_{2.5}$), and SO_2. The standards are based on health impact research related to those pollutants. The EPA sets the NAAQS levels with the intent to protect not only the general population, but also susceptible populations, individuals with asthma, young children, and the elderly. To achieve this level of protection, the EPA requires that air dispersion modeling for new facilities' air pollution control permits be performed at the maximum permitted emission level. Five years of meteorology data would also be required for the model to evaluate worst-case meteorological conditions.

The DNR has responsibility for review of permit applications and issuance of air pollution control permits in accordance with federal CAA requirements and Wisconsin Statutes. DNR air permits regulate the emissions of the six criteria pollutants and other classes of pollutants in Wisconsin. Some criteria pollutants require a different approach than the others. O_3 is generally controlled by controlling the emission of NO_x and VOCs that react in the presence of heat and sunlight to form O_3. $PM_{2.5}$ particles are emitted directly from combustion sources and are also formed chemically in the atmosphere involving reactions of NO_x and SO_2.

The proposed electrical generator units would emit all six criteria pollutants. Air impacts from Pb emissions are not an issue for this project because Pb is not a pollutant emitted in large amounts by natural

gas fired combustion units. GHG emissions, as carbon dioxide equivalents (CO_2e), are being considered in the permit review as pollutants. Treatment of GHGs is discussed below in subsection 5.4.1.7.

5.4.1.3. Maximum potential emissions and PSD thresholds

The CAA requires more stringent regulation and control of emissions from a new major source of air contaminants or a major modification of an existing major source located in area designated as attainment. The PSD rules contain these more stringent requirements for major sources and major modifications. Any new major source or any major modification of an existing major source proposed for an attainment area in Wisconsin must apply for and receive a PSD permit from the DNR prior to commencing construction.

Under the PSD rules, a major source is one that has the potential to emit 250 tons per year or more of regulated new source review (NSR) air contaminant, unless the source is in a named source category with a lower major source threshold. The proposed Paris RICE facility would not be in a named source category.

The Proposed Site currently hosts the LCIP Regulator Station which includes four natural gas-fired gas heaters. This existing facility is considered a minor source under PSD because the potential to emit of each regulated NSR air contaminant is less than the PSD major source threshold. The process for determining whether a project to construct new emissions units at an existing minor source requires a PSD permit is to compare the potential project emissions for each regulated air contaminant against the PSD major source threshold of 250 tons per year. If the potential project emissions for each contaminant are less than the PSD threshold, then the project does not need a PSD permit.

WEPCO is proposing to limit emissions from the proposed RICE, such that the facility-wide potential to emit of each regulated NSR air contaminant would be less than 250 tons per year. The potential to emit of the project represents the emissions expected from the project when operating at maximum capacity under its physical and operational design and includes any physical or operational limitation on the capacity of a source to emit an air contaminant that would be made federally enforceable, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed.

Table 5-1 summarizes the emissions for the proposed project by emissions unit(s).

Table 5-1 Project emissions by emissions unit in tons per year

Pollutant	7 Gas Engines	Emergency Generator	Gas Heater	Gas Piping Systems	SF6 Insulated Equipment	Gas Space and Water Heaters	Total Potential to Emit	PSD Major Source Thresholds
NO_X	116.9	0.7	2	--	--	2.96	122.6	250
CO	194.2	1.3	1.1	--	--	1.66	198.3	250
SO_2	3.2	0.001	0.01	--	--	0.01	3.2	250
VOC	157.8	0.33	0.07	0.17	--	0.11	158.5	250
PM	84.1	0.1	0.1	--	--	0.15	84.5	250
PM_{10}	84.1	0.1	0.007	--	--	0.01	84.2	250
$PM_{2.5}$	84.1	0.1	0.006	--	--	0.01	84.2	250
H_2SO_4	0.8	0.0002	$8x10^{-5}$	--	--	$1x10^{-4}$	0.8	250
Pb	0.02	$1x10^{-6}$	$7x10^{-6}$	--	--	$1x10^{-5}$	0.02	250
CO_2e	586,638	121.8	1,539	200.2	16.1	2,308	590,823	--

Because the potential to emit of each regulated NSR air contaminant for the project is below the PSD major source threshold, the project would not require a PSD permit at the Proposed Site.

In order to ensure that project emissions of NO_x would not exceed the PSD major source threshold and that the project would not cause or contribute to the exceedance of any NO_x NAAQS or increment, WEPCO proposes to control NOx emissions from the RICE generator units P01 to P07 by using SCR systems. In order to ensure that project emissions of CO and VOC would not exceed the PSD major source threshold, WEPCO proposes to control CO and VOC emissions from the RICE generator units P01 to P07 by using oxidation catalysts.

5.4.1.4. Air quality impacts of the facilities

The proposed Paris RICE facility would be located in an area that is designated as attainment or unclassifiable for all criteria pollutants.

WEPCO submitted the results of an air dispersion modeling analysis with the permit application.

This analysis assesses the impact to ambient air of the emissions of particulate matter (PM10), sulfur dioxide (SO_2), CO, and nitrogen oxide (NO_X) from the proposed electric generation facility. An air dispersion modeling analysis is required to demonstrate that emissions from the proposed project, in conjunction with emissions from other existing sources, would not cause or exacerbate a violation of applicable NAAQS or PSD increments.

Whether the predicted concentrations of air pollutants would be expected to create an adverse impact depends not only on whether they would cause or contribute to the violation of any NAAQS but also on whether they exceed the amount of PSD increment. The PSD increment is the maximum allowable increase in concentration that is allowed to occur above a "baseline concentration" in an attainment area for a particular pollutant and averaging period. The baseline concentration is defined separately for each pollutant and relevant averaging period. According to the EPA, it is "the ambient concentration existing at the time that the first complete PSD permit application affecting the area is submitted."

The air dispersion modeling analysis submitted by WEPCO indicates that the impact of the facility would be below the significant impact levels (SILs) for the following pollutant standards: annual PM10, 1-hour CO, 8-hr CO, 1-hr SO_2, 3-hr SO_2, 24-hr SO_2, and annual SO_2. SILs are the EPA-defined concentrations of criteria pollutants in the ambient air that are considered inconsequential in comparison to the NAAQS. Thus, if a modeled impact is less than the SIL, it is considered to not cause or exacerbate an exceedance of the NAAQS or PSD increment for that pollutant standard.

For pollutant standards for where the project impact is greater than the SIL (i.e., 1-hr NO_2, annual NO_2, and 24-hr PM10) the air dispersion modeling results indicate that the facility impact would be less than the NAAQS and PSD increments.

Table 5-2 summarizes the results of the SIL air dispersion modeling analysis submitted by WEPCO.

Table 5-2 Paris RICE - SIL modeling results

Pollutant & Averaging Period	Maximum Modeled Impact (µg/m³)	SIL (µg/m³)
PM_{10} (Annual)	0.47	1
CO (1-hr)	435	2,000
CO (8-hr)	364	500
SO_2 (1-hr)	3.1	7.8
SO_2 (3-hr)	2.7	25

Pollutant & Averaging Period	Maximum Modeled Impact (µg/m³)	SIL (µg/m³)
SO_2 (24-hr)	2	5
SO_2 (Annual)	0.2	1

Table 5-3 summarizes the results of the NAAQS and PSD increment air dispersion modeling analysis submitted by WEPCO.

Table 5-3 Paris RICE - NAAQS increment modeling results

Pollutant (Averaging Period)	Total Impact (Modeled plus Background) (µg/m³)	NAAQS (µg/m³)
NO_2 (1-hr)	83.3	188
NO_2 (Annual)	14.9	100
PM_{10} (24-hr)	33.6	150

Table 5-4 summarizes the results of the NAAQS and PSD increment air dispersion modeling analysis submitted by WEPCO.

Table 5-4 Paris RICE - PSD increment modeling results

Pollutant (Averaging Period)	Maximum Modeled Impact (µg/m³)	PSD Class II Increment (µg/m³)
NO_2 (Annual)	5.4	25
PM_{10} (24-hr)	8.3	30

The modeled concentrations of all modeled pollutants are, either less than the SIL, as shown in Table 5-2, or less than the respective NAAQS and PSD increments, as shown in Tables 5-3 and 5-4.

As part of its review of the permit application, the DNR would verify the results of the modeling analysis submitted by WEPCO.

Regardless of whether the facility's impact is below the NAAQS or PSD increment, there is also often a question of whether more sensitive individuals are adequately protected. In general, when air pollution levels increase, sensitive individuals might experience adverse respiratory symptoms. The most vulnerable members of a population are generally the young, the elderly, and the infirm. Members of the public who are most susceptible to environmental stress can often be found in hospitals, public schools, day care centers, and retirement homes. The purpose of the NAAQS, however, is to protect not only the general population but also susceptible or more vulnerable populations, such as individuals with asthma, young children, and the elderly.

Impacts to air quality resulting from construction or operation of the generating facility would not vary significantly between the site alternatives. However, combustion of fossil fuels would cause direct effects to air quality through the emission of pollutants, including greenhouse gases, and the direct contribution to the overall effect of climate change therefore result in impacts on the natural and human environment.

5.4.1.5. Hazardous air pollutants

HAPs are a special classification of pollutants known also as toxic air pollutants or air toxics under the CAA. The CAA requires the EPA to reduce the routine daily emissions of air toxics first by a technology-based approach, and the EPA has created NESHAPs that establish Maximum Achievable Control Technology (MACT) standards for each major type of facility within an industry group. The standards are based on emissions levels that are already being achieved by the better-controlled and lower-emitting sources in an industry. Permittable emission levels under MACT are expected to be low enough to protect human health according to the EPA.

A major source of federal HAPs under the federal CAA[46] is defined as one that emits at least 10 tons per year of any individual federal HAP or more than 25 tons per year of combined federal HAP. The Paris RICE facility would be a major source of federal HAPs with the completion of this project and the RICE generating units P01 to P07 and emergency generator P11 would be subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines in 40 CFR Part 63, Subpart ZZZZ.

In addition, ch. NR 445, Wis. Adm. Code, regulates many federal HAPs plus several "state-only" HAC that are not regulated under the federal standards. HAC emissions from the combustion of natural gas are exempt from regulation under ch. NR 445, Wis. Adm. Code.

5.4.1.6. Dust and diesel exhaust from equipment

Fugitive dust during construction of the proposed electric generation project is not anticipated to be substantial. No fugitive dust is expected to result from normal daily operation of the proposed project because the fuels would be natural gas. There would be no storage or movement of solid fuels. There would be occasional maintenance truck traffic associated with the project that would create small amounts of fugitive dust.

Diesel exhaust from trucks and construction equipment is composed of two phases, gas or particle. The gas phase is composed of several urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. Diesel particulates of greatest health concern are fine and ultra-fine particles. The fine and ultra-fine particles might be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals, and other trace elements. There is limited evidence indicating that inhalation of diesel exhaust causes acute and chronic health effects. Acute effects could include irritation to the eyes, nose, throat, and lungs, some neurological effects such as lightheadedness, and a cough or nausea or exacerbation of asthma. Human epidemiological studies have shown an association between diesel exhaust exposure and increased lung cancer rates in certain occupational settings. The expected increase in truck traffic at the Paris RICE facility due to the proposed project is very small. The potential for impacts to nearby residents in the Town of Paris due to this increase is also very small.

5.4.1.7. Greenhouse gases

GHGs would be emitted by the proposed electric generation project during operation. Potential impacts of GHG emissions on global climate change and the potential effects of climate change are described in the reports of the Intergovernmental Panel on Climate Change, the scientific body set up by the World Meteorological Organization and the United Nations Environment Programme to provide information about global climate change.[47] The December 2020 report produced by Governor Evers's Task Force on Climate Change summarizes the human and economic costs of climate change on Wisconsin communities and emphasizes that the potential climate change impacts in Wisconsin would disproportionately impact Black, Indigenous, and other communities of color and low-income communities.[48] The Wisconsin Initiative on Climate Change Impacts (WICCI) has also reported on how Wisconsin's climate continues to change and the impacts of our warming climate on Wisconsin residents.[49]

Global warming potentials of the various GHGs are widely different and are measured and calculated as CO_2 equivalents (CO_{2e}). For example, the global warming potential of N_2O emissions is 298 times that of

[46] Section 112(b) of the CAA.
[47] For example, the website of the Intergovernmental Panel on Climate Change provides a source of information and reports about global climate change: https://www.ipcc.ch/.
[48] Governor's Task Force on Climate Change Report. December 2020, pp. 14-17.
[49] Wisconsin Initiative on Climate Change Impacts: https://wicci.wisc.edu.

CO_2, so N_2O emissions are also given as CO_2e. Table 5-5 shows the relative CO_2e multipliers for several GHGs associated with the project.[50]

Table 5-5 Relative CO_{2e} impacts multiplies for Global Warming Potentials (GWP) of GHG components

GHG component	Multiplier
CO_2	1
CH_4	25
N_2O	298
SF_6	22,800

CO_2 would comprise most of the GHGs emitted from the electric generation project, and these emissions would come mostly from the RICE generator units. Potential annual GHG emissions from the project based on the maximum capacity of each emissions unit under its physical and operational design, would equate to approximately 590,809 tons of CO_2e per year. As the proposed project would not require a PSD permit, there would be no GHG permit requirements.

In addition to the direct GHG emissions from the proposed gas-fueled electric generation facility, it is important to note that operation of the facility requires the production, transport, and storage of natural gas, mostly composed of CH_4, which, as noted above, has 25 times the potency of CO_2 as a GHG. The EPA produces national estimates of CH_4 emissions that result from natural gas production, transport, and storage, but the actual values may be ~60% higher due to abnormal operating conditions in the supply chain.[51]

5.4.2. Endangered resources

The following section provides general information about endangered resources, including animal and plant species and habitat protection laws as well as specific potential impacts associated with construction and operation of the proposed project.

5.4.2.1. WI's endangered species law

Endangered resources include rare or declining species, high quality or rare natural communities, and unique or significant natural features. For the purposes of this EIS, rare species are defined as federal- or state-listed threatened and endangered species, federal candidate and proposed species, and state special concern species.

- **Endangered** species are any species whose continued existence is in jeopardy.
- **Threatened** species are those that are likely to become endangered.
- **Special concern** species are those about which some problem of abundance or distribution is suspected but not yet proved. The purpose of this category is to focus attention on certain species before they become threatened or endangered. Special concern species are not covered by Wisconsin's Endangered Species Law, but they may be protected by other state and federal laws.

The state's Endangered Species Law, Wis. Stat. § 29.604, makes it illegal to take, transport, possess, process, or sell any wild animal that is included on the Wisconsin Endangered and Threatened Species List. In addition, it is illegal to remove, transport, carry away, cut, root up, sever, injure or destroy a wild

[50] Global warming potential given in Table 4-7- are from 40 CFR part 98, Subpart A, Appendix A, Table A-1.
[51] Alvarez, et. al. 2018. Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain. Science.

plant on the Wisconsin Endangered and Threatened Species List on public lands. However, forestry, agricultural, utility (including electric), and bulk sampling practices are exempted from the taking prohibitions of listed plant species.

The Wisconsin Endangered Species law allows DNR to authorize the taking of a threatened or endangered species if the taking is incidental to the carrying out of an otherwise lawful activity and the taking meets the requirements outlined in Wis. Stat. § 29.604. Authorization generally occurs through an Incidental Take Permit. If the activity is conducted by DNR itself or if another state agency (including the Commission) conducts, funds, or approves the activity, authorization would occur through Incidental Take Authorization. The Incidental Take Permit/Authorization would include minimization and mitigation measures for the specific impacted species.

The DNR Bureau of Natural Heritage Conservation manages the Natural Heritage Inventory (NHI) database, which lists known occurrences of rare plants, animals, and natural communities. The database includes the location and status of these resources. However, most areas of the state have not been surveyed extensively or recently, especially on privately-owned lands, so the NHI database should not be relied upon as a sole information source for rare species. Therefore, potential impacts on endangered resources along segments dominated by private properties may be incomplete.

5.4.2.2. Federal Migratory Bird Treaty Act

Almost all bird species are protected by the Migratory Bird Treaty Act (MBTA). Under the MBTA, it is unlawful to take, capture, kill, or possess migratory birds, their nests, eggs, and young. This may apply to birds nesting in or adjacent to the ROW if construction disturbance results in nest abandonment. Avoidance of impacts to nesting birds can be achieved if construction activities are scheduled in habitat areas outside the breeding and nesting season from approximately March through August. A recent legal opinion issued by the Federal Department of the Interior on December 22, 2017, provides clarification on its opinion of "take" as it relates to intentional vs. unintentional take.

5.4.2.3. Pre-construction surveys

If preliminary research and field assessments indicate that rare species or natural communities may be present in the project area, specific, appropriately-timed surveys should be conducted prior to construction. Pre-construction surveys may be used to assess the nature and magnitude of potential impacts to rare species along the project routes. They may also be used to identify whether a particular species is present in the affected area or to what extent suitable habitat for a species is present along a route. If a threatened or endangered species is observed during the surveys, measures may be employed to avoid or minimize impacts to the species and its habitat.

5.4.2.4. Potential endangered resource impacts

Construction and maintenance of generation facilities and transmission lines might destroy individual plants and animals or might negatively alter their habitat so that it becomes unsuitable. Potential impacts may include:

- Destroying individual animals, or their habitat, by crushing or digging with heavy equipment, blasting for construction of foundations, surface disturbance of soil and vegetation during clearing, drilling, or from traffic;
- Degrading water quality through soil erosion and siltation into rivers and wetlands that provide habitat for rare animals;
- Introducing and encouraging the growth of invasive or common species resulting in a reduction in

species diversity;

- Disturbing habitats during the active nesting period of rare species.

5.4.2.5. General mitigation strategies

In some limited cases, when managed correctly transmission line ROWs may improve habitat for some rare species, communities, or pollinators that prefer open herbaceous habitats. For example, appropriate ROW management that facilitates growth of native plants and maintains an open herbaceous habitat can provide long-term benefits to many pollinator species. Close cooperation between utilities and DNR is necessary to protect listed species and their habitat.

When negative impacts are expected, the Commission has the authority to order applicants to conduct mitigation measures to avoid or minimize the potential impact of an approved project to endangered resources. Impacts to rare and protected species can also be avoided or minimized by doing the following:

- Conducting pre-construction surveys and subsequently avoid or minimizing activity in these areas.
- Requiring an environmental monitor to be present during construction activities.
- Implementing DNR recommended actions.
- Modifying the project route.
- Changing the design of the transmission line.
- Altering the construction schedule to avoid critical life cycle events.
- Reducing the workspace at a particular location.
- Employing special construction techniques.

This list is not all-inclusive, and will vary based on the species, location, habitat, and planned scope of work. Consultation with species experts at DNR would provide information on what other mitigation measures may decrease the risk to rare and protected species.

5.4.2.6. Anticipated impacts and recommended mitigation

A Certified Endangered Resources (ER) review was completed by the DNR's ER Energy Liaison on April 4, 2024 for the project areas. The DNR provided recommended actions for each species. 'Recommended actions' are those the Department strongly encourages to help prevent future endangered resources listings and protect Wisconsin's biodiversity for future generations. Based on the results of the review, there is potential for suitable habitat for one special concern bird species and one special concern crustacean at the Proposed Site. Conducting a habitat assessment would be recommended, and if suitable habitat is found for either of these species, presence/absence surveys should be conducted. If the rare bird is present, avoiding work during the nesting season is recommended. Minimizing impacts to the crustacean would be difficult since it is typically found underground but minimizing impacts during its active season would help.

The NHI database contains known records for endangered resources; however, most areas of the state have not been surveyed extensively or recently, so the NHI data should not be solely relied upon, particularly in areas dominated by private lands. In areas where suitable habitat exists for protected species, but occurrences have not been recorded in the NHI database, there may be recommended activities that could mitigate or avoid potential impacts to protected species.

If approved, this project may begin construction over a year from the ER review date. DNR regularly updates the NHI database as new species records are discovered and when previous records are checked to determine if the species is still present. If the project is approved, the applicants should conduct an updated review closer to the construction start date to determine if any change to the ER review would create the need for additional actions to avoid impacts to protected species.

5.4.3. Forested resources

For the purposes of this EIS, forested lands are defined as areas where mature trees are present, forming mostly closed canopies (greater than 20 percent canopy cover) of trees with diameter at breast height (dbh) of 6.0 inches or more. Narrow tree lines (*e.g.*, fence rows) and windbreaks are not included in total forest cover. The following terms were used to describe forest resources throughout this draft EIS:

- "Saplings" refer to live trees from 1.0 to 5.0 inches dbh.
- "Structure timber" ranges from 5.0 to 9.0 inches dbh for softwoods and from 5 to 11 inches dbh for hardwoods.
- "Saw timber" is greater than 9.0 inches dbh for softwoods, and greater than 11 inches dbh for hardwoods.

Different machines and techniques are used to remove trees from the transmission ROW depending on whether the forest contained mature trees, have large quantities of understory trees, or are in sensitive environments such as a forested wetland. These can range from large whole tree processors which can cause rutting and compaction of the forest floor, to hand clearing with chainsaws in more sensitive environments.

Wisconsin statutes (Wis. Stat. § 182.017(7)(e)) require that all timber removed for construction of a high-voltage transmission line remains the property of the landowner. Thus, the landowner should discuss with the ROW agent, at the time of easement negotiations, the disposition of all timber to be cut. Larger timber might be stacked on the edge of the ROW for the owner. Smaller diameter limbs and branches may be chipped or burned. According to the landowner's wishes, wood chips may be spread on the ROW, piled to allow transport by the landowner to specific locations, or chipped directly into a truck and hauled off the ROW.

Wisconsin forests provide recreational opportunities, habitat for wildlife, diverse plant communities, and merchantable timber for commercial and private uses. Many of the tree species mentioned in this EIS would be considered incompatible vegetation by transmission owners and therefore would be actively eliminated within the proposed ROW during initial construction as well as throughout the life of the facilities. This would significantly alter, and permanently affect, the existing and future ecological communities within the proposed ROW. This would result in a significant alteration (conversion) of any existing forested community into a more open, disturbed grassland community subject to quick colonization by pioneer species (including invasive species and tree seedlings) and continued impacts through cyclic vegetation management practices.

One mile of 150-foot ROW (the average ROW width of the proposed project) through a forested area results in the loss of approximately 18 acres of trees. The potential impacts of a new transmission ROW on forested land includes, but are not limited to:

- forest fragmentation,
- the loss and degradation of forested habitat,

- loss of merchantable timber,
- decreased carbon sequestration,
- a reduction of aesthetic enjoyment of the resource,
- loss of income,
- creation of a movement barrier or corridor, and
- opportunities for invasive species and disease organisms to spread.

More specifically, the construction activities associated with clearing trees and installing a high-voltage transmission line through, or along the edge, of forested areas can destroy and degrade forest habitat by introducing seeds and other propagating parts of non-native plants that are carried [inadvertently] to the interior of the forest by construction equipment. Disturbance caused by construction can then encourage aggressive growth of invasive species. Habitat providing food and cover for local wildlife may be altered or lost if these invasive species out-compete existing native plants, resulting in a loss of plant and animal diversity.

In addition, numerous observations of the trees remaining along the outer edges of recently cleared ROWs have shown that they are more prone to falling (i.e. creation of hazard trees) the first few years after clearing, due to the loss of support from the surrounding trees. After a number of years (sometimes a decade or more) these trees may eventually become conditioned to the empty space and less prone to failure.

Cleared ROWs can also create a barrier to movement, or a new corridor for movement, for certain species. This could eventually lead to a decrease in genetic variability, leaving the remaining species and populations more susceptible to disease and less adaptable to change. Several pests and diseases are worth noting here, including the fungi that cause oak wilt and heterobasidion root disease, the emerald ash borer (EAB), and spongy moth:

- Red oak (Quercus rubra), black oak (Quercus velutina), and northern pin oak (Quercus ellipsoidalis) are especially susceptible to oak wilt and will often die within one year of infection. The cause of the disease is a fungus that is carried by sap-feeding beetles or spread through common root systems. In the upper Midwest, pruning or removal of oaks should be avoided from late spring to midsummer, when the fungus most commonly produces spores.
- Heterobasidion root disease occurs in red and white pine (Pinus resinosa and P. strobus) plantations. It is considered among the most important and destructive diseases affecting conifers in the north temperate regions of the world. The infection is caused by the fungus, Heterobasidion irregular and spreads easily both above ground and through root contact transmission. Its spores can be carried by the wind over many miles. Cut stumps offer a surface for the spores to land and grow. Symptoms typically appear in nearby trees two to three years after the stumps are infected. The best method of control is prevention by treating stumps of cut pines with recommended fungicides on the day the tree is cut. Recent research indicates that higher numbers of viable spores are in the air in spring and fall.
- The EAB is an insect (Agrilus planipennis) that has origins in Russia, China, Japan and Korea. It is not certain how it arrived in the United States, but the transport of wood or wood products on ships may have been a primary cause. In North America, so far, the borer has been found only in ash trees. The canopies of trees that are infested begin to thin above infested portions of the trunk and major branches because the borer destroys the water and nutrient conducting tissues under the

bark. One third to one half of the branches can die within one year. Most of the tree's canopy can be dead within two years of when symptoms are first observed. The EAB spreads primarily through the transport of infested wood from infested areas to non-infested areas. EAB adults can fly at least 0.5 mile from the tree where they emerge. All counties in Wisconsin are now under quarantine for emerald ash borers. An EAB quarantine is intended to help prevent the spread of EAB and rules have been established to prevent the transport of wood from quarantined areas to non-quarantined areas.

- The spongy moth (Lymantria dispar) is an invasive, leaf-eating insect that can feed on most types of trees and shrubs in North America. When their populations are high, spongy moth caterpillars can strip an entire neighborhood or forest of leaves in May and June. The moth was brought to North America in the 1800's and reached Wisconsin in the late 1980s. It is native to Europe, Asia, and North Africa. The caterpillars are very hardy and have been found feeding on over 300 species of trees and shrubs. They spread naturally and mainly when small, young larvae spin silken threads and hang from them, waiting for the wind to blow. The light larvae have long hairs that increase their surface area and allow them to be pulled from their threads and transported by the wind. As with the emerald ash borer, any type of cut wood that contains moth eggs can be a vector for transport. The entire project area for this docket is located within the spongy moth quarantine area. Standard practices to avoid the spread of the spongy moth damage include inspections and avoidance of movement of wood products (logs, posts, pulpwood, bark and bark products, firewood, slash and chipped wood from tree clearing) from quarantine areas to non-quarantine areas as per Wis. Admin. Code § ATCP 21.10.

5.4.3.1. Forest fragmentation

Forest fragmentation occurs when large blocks of forested ecosystems are divided into increasingly smaller sections of forest. Forested areas may be cleared to create corridors for infrastructure such as highways, pipelines, and power lines. Forested parcels are increasingly cut into smaller pieces and converted to agricultural, urban, and commercial uses. Forest fragmentation results in the increase of forest edge habitat relative to the area of forest interior habitat. Edge effects include changes in vegetation structure, light conditions, and moisture conditions that are common along forest edge habitat would now encroach into the interior of these forests. As fragmentation continues, a forest can suffer a permanent reduction in its vegetative and wildlife diversity and its ability to function as an ecological unit.

Fragmentation makes interior forest species more vulnerable to predators, parasites, competition from edge species, and catastrophic events. It also causes a permanent reduction in species diversity and suitable habitat for some species which require large undisturbed blocks of interior forest habitat for necessary activities such as nesting or breeding. Since large blocks of undisturbed forested ecosystems are becoming increasingly rare, many of the species that depend on these ecosystems are also becoming increasingly rare. Further loss of interior habitat and creation of increasingly smaller patches of suitable habitat can greatly affect the long-term survival of some species. For example, in Wisconsin, the pileated woodpecker (*Dryocopus pileatus*) will not breed in woodlands smaller than 250 acres and the cerulean warbler (*Setophaga cerulean*) has been shown to avoid forest blocks smaller than 340 acres.[52, 53] Species that require forest interior for long-term survival include fishers (*Martes pennanti*), pine martens (*Martes*

[52] Ambuel, B. and S. A. Temple. 1983. Area-Dependent Changes in the Bird Communities and Vegetation of Southern Wisconsin Forests. Ecology 64:1057-1068.
[53] Robbins, C. S., and B. A. Dowell. 1989. Habitat Area Requirements of Breeding Forest Birds of the Middle Atlantic States. Wildlife. Monographs No. 103. 34 pp.

americana), timber wolves (*Canis lupus*), red-shouldered hawks (*Buteo lineatus*), many passerine birds, such as warblers and flycatchers, and a number of woodland plants.

New clearings alter the vegetation and animal life both within the ROW and up to several hundred feet outside of the ROW. Studies of transmission ROW in forested habitat show a decrease in the density of interior forest species with increasing proximity to the ROW, while the density of edge species increased along the forest-edge interface.[54] Increased sunlight and wind penetrate the forest edge and create conditions that favor plant species more tolerant of light and drier conditions. Many of the plants and the animals that prefer edge habitat are very common species that can readily out-compete native plants and animals because of their opportunistic behaviors and greater tolerance to a wide range of environmental conditions. In bird populations, the increase in forest edge has been correlated with increases in nest predators such as blue jays (*Cyanocitta cristata*), raccoons (*Procyon lotor*), and skunks (*Family Mephitidae*) and an increased nest parasitism from brown-headed cowbirds (*Molothrus ater*). Examples of species which proliferate in edge habitat include raccoons, skunks, cowbirds, blue jays, crows (*Corvus* spp.), white-tail deer (*Odocoileus virginianus*), garlic mustard (*Alliaria petiolata*), buckthorn, and boxelder (*Acer negundo*).

As mentioned previously, cleared corridors may also create a barrier to movement for some species. This eventually leads to a decrease in genetic variability, leaving the remaining species and populations more susceptible to disease and less able to respond to change.

5.4.3.2. Mitigation strategies

Impacts to forests can be minimized by a variety of strategies, including:

- avoid siting a new transmission line that fragments large, or significant, forest blocks;
- adjusting pole placement and span length to minimize the need for tree removal and trimming along forest edges;
- allowing compatible tree and shrub species to grow within the ROW, particularly along the edge of a forest;
- following DNR guidelines for preventing the spread of exotic invasive plant species, diseases such as oak wilt, and insect pests.

5.4.3.3. Forest resources and impacts at the Proposed Site

Several small areas of fragmented forested lands are present within the Proposed Site, with a large stand of mature forest land in the center of the property and a large area of undeveloped forested land on private property along the southern boundary and southeastern corner of the site. Predominant canopy trees within the forested areas within the Proposed Site include saw timber to pole size bur oak, red oak, and shagbark hickory, along with common buckthorn, honeysuckle, multiflora rose int eh shrub layer, and lesser burdock and white avens in the herbaceous layer.

The Gen-Tie route alternatives were primarily sited along existing utility corridors, mostly located in agricultural lands. Several small areas of fragmented forested lands are present within the Gen-Tie Corridor, with a large area of undeveloped forested land on private property along the eastern boundary of the proposed corridor. The Proposed Site would permanently impact .98 acres of forested land, with an additional .18 acres of temporary impacts to forested land for the associated gen-tie. The temporarily impacted forested lands would be located at the shared segment of the Gen-Tie Corridor. Therefore, the

[54] Kroodsma, R.L. 1982. Edge Effect on Breeding Forest Birds along a Power-line Corridor. Journal of Applied Ecology 19:361-370.

.18 acres of temporary impact would remain the same regardless of which route is approved with the Proposed Site.

5.4.4. Geology, topography, and soils

The geology of the sites includes consolidated sedimentary rock deposited as undivided sequences dolomite. This makes up the current sedimentary rock aquifer and confining bed. Beneath the consolidated sedimentary rock is Silurian rock. The depth to bedrock at the site locations varies between 100 and 300 feet. The topography of the Sites is comprised of gently rolling hills with a topographic high of approximately 800 feet mean sea level (msl) and lows of approximately 750 feet msl. The Proposed Site slopes gradually to the southeast and is comprised mostly of Ozaukee silt loam (2 to 12 percent slopes). Montgomery silty clay and Ozaukee silt loam (2 to 6 percent slopes) comprise the majority of the soil types found within the Gen-Tie Corridor. At each site and along the Gen-Tie Corridor, the Soil Survey shows a mix of predominantly non-hydric soils with areas of predominantly hydric soil mapped throughout. Final grading would be determined during design phase of project and significant impacts to the overall site topography are not anticipated.

To avoid and minimize soil erosion and sediment transport, erosion and sediment control, the applicant states that BMPs would be used in accordance with the WDNR's Storm Water Construction and Post-Construction Technical Standards and requirements of the anticipated WDNR Construction Storm water permit. Further details would be provided in the Erosion Control and Storm Water Management Plan to be submitted to the WDNR upon Commission approval of the project. Any excess soil accumulated during construction of the facility would be used onsite to the extent practicable. Hauling soils off-site would not be anticipated to be necessary.

5.4.5. Grassland resources

Grassland resources are defined in the PSC application filing requirements as any undeveloped landscape dominated by herbaceous (non-woody) vegetation. The applicants were asked to describe the grasslands that would be impacted by the proposed project for each project site, including the type of grassland (prairie, pasture, old field, etc.), dominant species, ownership (private versus public), and use (agricultural, non-productive agricultural, recreation, natural area, etc.). The applicants were also requested to provide specific details for mitigating or minimizing construction impacts in and around grasslands.

One of the most important types of grasslands that may be impacted by construction of the proposed project are prairies. Remnant prairie habitat may exist within and adjacent to the project area. These areas can be vital habitat for local and rare pollinator and plant species. In recent years, due to the measured decline of pollinator populations worldwide local and national strategies to promote the health of honeybees and other pollinators have been created. Significant losses of these pollinators could threaten agricultural production and native plant communities. Utility ROW has been identified as a potentially key component in the successful implementation of strategies to promote pollinators. The ROW within this project corridor may contain many native prairie species that are vital to local pollinator populations. Refer to Section 5.4.10.3 for more information on pollinators. If managed and restored appropriately, early successional landscapes and linear corridors that are created and maintained through utility vegetation management activities could have a strong, positive effect on native pollinator diversity and local abundance.

Construction has the potential to affect grasslands in numerous ways. Permanent impacts may result from the placement of access roads, generation facilities, or gen-tie structures. Permanent changes could also occur to soil characteristics and plant communities resulting from construction activities. Temporary

impacts may result from disturbance around the structure or guy-wires during construction, maintenance, and vegetation management activities within the ROW.

5.4.5.1. Grassland impacts at the Proposed Site

The Proposed Site is predominantly in row crop agricultural use. One small (approximately 0.12 acre) old field grassland community was identified near the southern boundary of the Site. In a review of aerial imagery this area appears to be regularly cropped in most years. It is possible this area was missed during the 2023 planting year and grassy volunteer vegetation grew in the absence of row crops. Volunteer vegetation included common selfheal, fall panicgrass, Japanese bristlegrass, and velvetleaf. The Gen-Tie routes were primarily sited along existing utility corridors, mostly located in agricultural lands. Several small areas of fragmented grasslands are present within the route alternatives. The grassland communities within the Gen-Tie route alternatives are usually cropped in most years and development proposed for these areas is limited to aboveground electric transmission facilities. Therefore, limited impacts to grassland communities could be expected as a result of project activities. The grassland community within the Proposed Site is usually cropped in most years and development is not proposed for this area.

5.4.5.2. Mitigation strategies

Several measures can be taken by the applicants to avoid or mitigate impacts to grassland resources. If identified, disturbance in prairie areas should be minimized or avoided. Prairie areas that are disturbed should be restored with appropriate native seed mixes and monitored to ensure successful establishment.

The applicants can avoid the spread of invasive species by following the appropriate BMPs. In order to reduce impacts to areas that may host prairie communities, the applicants should avoid placing structures and spoils where sensitive plant species are present. They should also utilize low-pressure tires on construction equipment to minimize ground disturbance in prairie areas. Another method the applicants can use to avoid impacts to grassland resources involves time of year restrictions. Since ROW clearing during the growing season is extremely impactful to grassland resources, this impact could be mitigated by clearing during the winter months when vegetation is dormant.

5.4.6. Hazardous materials, solid waste, and wastewater

During construction and operation of the proposed project, there would be a range of hazardous materials used, and hazardous or solid waste produced. Wastewater management is another potential impact of the project during operation. This section of the EIS discusses the potential materials, impacts, and treatments. DNR regulates many topics relating to wastes and hazardous materials, and the project is subject to DNR and EPA reporting requirements.

5.4.6.1. Hazardous materials

There would be hazardous materials, predominately chemicals, used in the construction and operation of the proposed power plant. These would be used regardless of the site selected for the RICE units. Tables 5-6 and 5-7 list some of the anticipated hazardous materials and storage methods for both construction and operational phases of the project.

Table 5-6 Typical chemicals stored during construction

Material	Storage Method
Oxygen	Stored in separate tanks onsite
Surfactant	Stored in containers onsite
Corrosion inhibitor	Stored in containers onsite
Paint	Stored in containers onsite

Solvents and cleaners	Stored in containers onsite
Concrete curing compound	Stored in containers onsite
Fuel oil and gasoline	Stored in separate tanks onsite
Glycol	Stored in tank onsite
Chlorine	Stored in containers onsite
Lube oil	Stored in reservoir and/or tanks and drums onsite
Hydraulic oil	Stored in reservoir and/or tanks and drums onsite

Table 5-7 Typical chemicals stored for operation

Material	Use
Glycol	Anti-freeze chemical used in closed loop cooling
Lube oil	Turbine Lubrication
Aqueous ammonia	NO_x[b] control

A construction superintendent would be responsible for any spill containment or cleanup. That staff person would report spills and supervise the cleanup of chemicals such as lubricants, fuel, grease or oil for spills of significant volume, defined as 55 gallons or more. There would be eye wash stations, safety showers, first aid kits, hose stations and spill kits with absorbent material in case of spills. If a large spill occurred, it would be removed by use of a vacuum truck or pump into a suitable storage container. Any spilled material, contaminated soils, and materials used during clean-up would be removed, stored, or disposed of according to DNR or EPA regulations.

The requirements for hazardous waste spill planning through disposal are found in Wis. Admin. Code Chs. NR 700 through 754, and information is also found on the DNR website. The applicant states that equipment would be kept in good working condition and inspected regularly to reduce hazardous fluid leaks, and hazardous materials would be stored in specially designed and labelled containment areas.

5.4.6.2. Solid waste

Solid wastes would be generated during the construction of this project and would need to be removed to appropriate waste disposal or treatment facilities. Examples of the types of wastes expected to be generated include concrete, scrap steel and other metals, sanitary waste, scrap plastics and wood, and other items used by construction staff. During operation of the proposed facility, regular staff maintenance of the facility and its components would generate waste, which would need to be removed to appropriate waste disposal facilities. This would likely include defective or broken electrical materials, metal, empty containers, the typical refuse generated by workers and small office operations, and other miscellaneous solid wastes. The applicant states that wastes would be disposed of at a local landfill and materials would be recycled where possible. No substantial quantities of waste by-products such as ash would be generated through operation of the proposed facility.

5.4.6.3. Wastewater

The proposed project facilities would have a closed cooling water system attached to the generators. The engine cooling system is designed to use minimal amounts of water, typically two gallons per engine per week. The building that houses the generators would have floor drains, equipment drains, or a trench system located at each engine. These would collect any oil-contaminated wastewater that results from periodic spray washes of an engine turbocharger and condensate from the equipment.

This oil-contaminated wastewater would be directed into a specific system that would collect oily water from the facilities. This wastewater would not be put into existing wastewater treatment systems. It would be drained into a double walled, leak monitored underground oil/water separator, where solids and oil would be removed for periodic off-site disposal. The subsequent water discharge would be

considered to be a surface water discharge and would then be permitted by the applicant's Low-Impact, Non-contact Cooling Water and Petroleum Contaminated Water General Permit, which the applicant has applied for, to be released to the nearest discharge point. The sanitary wastewater from bathrooms and other employee areas would be collected and routed to the existing sewage leach field.

5.4.7. Invasive species

Non-native plants, animals and microorganisms found outside of their natural range can become invasive. Many non-native species are harmless because they do not reproduce or spread abundantly in their new surroundings. Some non-native species have been introduced intentionally, such as Norway maple for landscaping and ring-necked pheasants for hunting. However, a small percentage of non-native species are able to quickly establish, are highly tolerant of a wide range of conditions, and become widely dispersed. The diseases, predators, and parasites that kept their populations in check in their native range may not be present in their new locations. Over time, non-native invasive species can overwhelm and eliminate native species subsequently reducing biodiversity and negatively affecting ecological communities.

Human actions are the primary means of invasive species introductions. Transmission line construction causes disturbance of ROW soils and vegetation through the constant movement of people and vehicles along the ROW, access roads, and laydown areas. These activities can contribute to the spread of invasive species. Parts of plants, seeds, and roots can contaminate construction equipment and essentially "seed" invasive species wherever the vehicle travels. Infestation of invasive species can also occur during periodic transmission ROW maintenance activities, especially if these activities include mowing and clearing of vegetation. Once introduced, invasive species will likely spread and impact adjacent properties along the ROW.

Construction of a transmission line could have the potential to introduce or spread aquatic invasive species if work or access were to occur in streams or lakes below the ordinary high water mark (OHWM). Wetlands and waterways can host invasive species that can be more difficult to observe than many invasive plants. If any equipment, boats, or tools that would be used for the project contained aquatic invasive species, including eggs, the species could be spread into a waterbody that is currently free from the pest. Avoiding placing equipment into water resources or equipment inspection and disinfection can be used to control the spread of these species and can be more effective than attempting to eradicate a species once it has established.

5.4.7.1. Wis. Admin. Code ch. NR 40

In September, 2009, Wis. Admin. Code ch. NR 40[55] established a classification system for invasive species as either restricted or prohibited.

- **Restricted:** invasive species that DNR, at the time of listing, has determined is already established in the state (or in that region of the state where the species is listed) that causes or has the potential to cause economic or environmental harm or harm to human health. Statewide or regional eradication or containment may not be feasible.
- **Prohibited:** invasive species that DNR, at the time of listing, has determined is likely to survive and spread if introduced into the state, potentially causing economic or environmental harm to human health. Currently, this species is not found in the state (or in that region of the state where the species is listed), with the exception of isolated individuals, small populations, or small pioneer

[55] Retrieved at https://docs.legis.wisconsin.gov/code/admin_code/nr/001/40.pdf.

stands of terrestrial species; or in the case of aquatic species, that are isolated to a specific watershed in the state or the Great Lakes. Statewide or regional eradication or containment may be feasible.

NR 40 prohibits certain activities that result in the spread of invasive species and establishes preventive measures to assist in minimizing the spread of invasive species. In 2022, NR40 was updated to include new species and current information on what species are restricted or prohibited in the state.[56] The applicants are required to comply with the regulations in Wis. Admin. Code ch. NR40 and are encouraged to follow preventative actions to limit the spread of invasive species throughout approved ROWs.

5.4.7.2. Best Management Practices

To better address the control of invasive species an Advisory Committee for the Wisconsin Council on Forestry (Council) was formed and involved representatives from public and private organizations including highway departments, electric and gas utilities and pipelines, and state technical staff. In 2010, the Council produced the "Invasive Species Best Management Practices for Transportation and Utility Rights-of-Way."[57] This manual identifies effective and realistic voluntary practices that can be integrated into ROW construction and maintenance (i.e. post-construction) activities.

5.4.7.2.1. Construction BMPs

The BMP manual identifies many methods that can be used during construction to limit the introduction and spread of invasive species. These measures include:

- Prior to the start of construction, survey and mark locations of invasive species so they can be avoided during construction.
- Prior to the start of construction, remove or control isolated populations of invasive species.
- Schedule construction activities during periods of the year when invasive species are less likely to be encountered or spread.
- Choose construction access points and staging areas so that ground disturbances are minimized.
- Properly dispose of woody material from ROW clearing to avoid and/or minimize the spread of invasive species.
- Clean equipment that may have come in contact with invasive species so they are not spread.
- Properly dispose of soils, seeds, plant parts, or invertebrates found during inspection and cleaning.
- Use soil and aggregate material from sources free of invasive species.
- Use effective erosion control and stormwater management practices to stabilize exposed soils, as soon as possible.
- Use non-invasive or native seed cover crops for the re-vegetation of areas disturbed by construction activities.

5.4.7.2.2. Post-construction BMPs

If construction measures are not effective in controlling the introduction and spread of invasive species, post-construction (i.e. maintenance) activities might be required. Sensitive areas such as wetlands and

[56] Retrieved at https://docs.legis.wisconsin.gov/code/admin_code/nr/001/40.pdf.
[57] Retrieved at https://councilonforestry.wi.gov/Pages/InvasiveSpecies/RightsOfWay.aspx.

high-quality forests and prairies should be surveyed for invasive species following construction and site re-vegetation. If new infestations of invasive species are discovered, then measures should be taken to control the infestation. Each exotic or invasive species requires its own protocol for control or elimination. Techniques to control exotic/invasive species include the use of pesticides, biological agents, hand pulling, controlled burning, and cutting or mowing. When necessary, DNR should be consulted to determine the best methods for control or elimination of encountered invasive species.

5.4.7.3. Invasive species at the Proposed Site

Eight invasive plant species were observed and recorded within the Proposed Site; all species are listed in the WDNR NR40 Invasive Species Rule. The NR40 species observed included the following:

- Canada thistle (Cirsium arvense)
- common reed or Phragmites (Phragmites australis)
- hybrid cattail
- narrow-leaf cattail
- common buckthorn
- multiflora rose
- musk thistle (Carduus nutans)
- Tartarian honeysuckle (Lonicera tatarica)

Two invasive plant species were observed and recorded within the Gen-Tie route alternatives; both species are listed in the WDNR NR40 Invasive Species Rule. The NR40 species observed included the following:

- common reed or Phragmites
- common buckthorn

5.4.7.4. Mitigation strategies

In compliance with Wis. Admin. Code NR 40 – Invasive Species Identification, Classification and Control, the applicant would mitigate the potential to spread invasive species during project activities. The applicant would identify invasive species locations on the construction plans and flagged onsite to avoid during construction, where feasible. In areas where impacts to the invasive species are unavoidable, the applicant would require that equipment be cleaned prior to moving from an infested area to a non-infested area. Construction equipment brought onsite would be required to be free of muck and invasive species. Equipment cleaning would primarily be conducted by brush, broom, or other hand tools at the project site. The applicant may periodically require equipment to be cleaned by compressed air. Equipment used during ground-disturbing activities would be cleaned prior to leaving the project site to reduce the risk of spreading invasive species beyond the site. In accordance with Wis. Admin. Code NR 40 and the DATCP, seed mixtures that contain potentially invasive species or species that may be harmful to native communities would be avoided. Seed would be tested for purity, germination, and noxious weed seed content, and would meet the minimum requirements prescribed in the current edition of Rules for Testing Seed, published by the Association of Official Seed Analysts.

5.4.8. Upland land cover

Upland land cover discussed in this EIS includes agricultural lands, old fields, developed areas, grasslands, woodlands, and wetlands.

The Proposed Site would permanently disturb 12.92 acres of agricultural land, with the laydown area(s) and other disturbances resulting in approximately 21.5 acres of temporary impacts to agricultural land. If approved with the Proposed Site, the Proposed Gen-Tie would temporarily disturb 7.55 acres, while the Alternative Gen-Tie would temporarily disturb 20.66 acres of agricultural land. Agricultural lands would be the land cover type most impacted as a result of the Proposed Site and associated gen-tie routes, and they are discussed in more detail in Section 5.2.

Land previously developed for agriculture, described as old field was found only in the shared segment of the Gen-Tie Corridor. Approval of the Proposed Site would result in .64 acres of temporary impacts to old field, regardless of which gen-tie route is approved.

Developed areas would only be impacted in the Gen-Tie Corridor. If approved with the Proposed Site, the Proposed Gen-Tie would temporarily disturb 2.83 acres, while the Alternative Gen-Tie would temporarily disturb 3.67 acres of land developed for industrial and residential use.

Grassland areas would also only be impacted in the Gen-Tie Corridor. If approved with the Proposed Site, the Proposed Gen-Tie would temporarily disturb 1.35 acres, while the Alternative Gen-Tie would temporarily disturb 2.48 acres of grassland.

The Proposed Site would permanently impact .98 acres of forested land, with an additional .18 acres of forested land for the associated gen-tie. The impacted forested lands would be located at the shared segment of the Gen-Tie Corridor. Therefore, the .18 acres of impact would remain the same regardless of which route is approved with the Proposed Site.

The Proposed Site would permanently disturb .19 acres of wetland. If approved with the Proposed Site, the Proposed Gen-Tie would temporarily disturb 3.8 acres, while the Alternative Gen-Tie would temporarily disturb 3.27 acres of wetland as a result of placement of construction matting in the project area. Wetland impacts are discussed in more detail in section 5.4.9.

Approval of the Proposed Site with the Proposed Gen-Tie route would result in a total of 14.09 acres of permanent impacts to land, and 62.74 acres of temporary impacts in land disturbance.

Approval of the Proposed Site with the Alternative Gen-Tie route would result in a total of 14.09 acres of permanent impacts to land, and 71.25 acres of temporary impacts in land disturbance.

5.4.9. Waterways

Waterways in the form of creeks, streams, rivers, and lakes are abundant throughout Wisconsin, and provide for many recreational activities, as well as habitat for aquatic species. Wisconsin has more than 12,600 rivers and streams that meander their way through 84,000 miles of varying terrain. About 32,000 miles of these streams perennially or continuously run throughout the year, while the remainder flow intermittently during spring and other high-water times.

5.4.9.1. Waterway Identification in the proposed project area

Waterways within the Project Area were identified by the applicant using the 24K hydro layer of the DNR Surface Water Data Viewer (SWDV) and during field investigations. A total of five waterways

were either mapped in the SWDV or observed in the field by the applicant. The applicant submitted a jurisdictional determination and the WDNR determined two of the waterways to be non-jurisdictional under Chapter 30 within the Proposed Site. The WDNR previously determined the WDNR mapped waterway (S-02) within the Alternate Site 1 to be non-jurisdictional under Chapter 30 and considers that determination to apply to this project as well. Therefore, a total of two jurisdictional waterways (S01-S and S03) are within the proposed project.

5.4.9.2. Potential impacts to waterways

Construction and operation of generation facilities adjacent to waterways may have both short-term and long-term impacts. The type and significance of the impact is dependent on the characteristics of the waterway and the construction activities proposed. Physical features of the waterway are considered when assessing potential impacts to water quality, water quantity, habitat, recreational use, and the scenic quality of the waterway.

Construction activities conducted near waterways has the potential to impact water quality and aquatic species habitat. Forested and shrub areas along waterways provide a natural corridor for wildlife movement, help maintain soil moisture levels in waterway banks, provide bank stabilization, filter nutrient-laden sediments and other runoff, maintains cooler water temperatures, and encourages a diversity of vegetation and wildlife habitats. The removal of riparian vegetation can cause water temperatures to rise and negatively affect aquatic habitats, especially cold-water systems. Removing riparian wetland vegetation may decrease shoreline protection and may lead to increased sedimentation to waterways. Vegetation disturbance along the waterway can also lead to the infestation by invasive and nuisance species. The removal of vegetative buffers from riparian zones can raise the water temperature, which can be harmful to cold water systems.

5.4.9.3. Waterway impact avoidance, minimization, and mitigation

All attempts should first be made to avoid impacting waterways. Impacts to waterways can be avoided by siting the generation facility away from waterways and routing the transmission routes to avoid riparian corridors, and utilizing alternate access, including off-ROW access roads, and installation methods to avoid equipment access across waterways.

Waterway impacts should be avoided and minimized as much as possible. This project should utilize the following construction methods to minimize impacts to waterways:

- Marking the location of waterways to alert construction crews if obscured from vegetation growth or snow cover.
- Minimizing the number of potential vehicle crossings of waterways by accessing the ROW on either side of the stream or from adjacent roads.
- Installing site-specific sediment and erosion control measures and devices prior to construction activities and inspecting and maintaining them daily throughout all construction and restoration phases.
- Implementing a construction sequencing plan that minimizes the amount of land disturbed or exposed (susceptible to erosion) at one given time across the project.
- Existing vegetative buffers should be left undisturbed whenever possible, or vegetation clearing should be kept to a minimum in riparian zones.
- Revegetating disturbed areas and areas of exposed soil as soon as possible.
- Landscaping to screen the structures from the view of waterway users.

- Maintaining shaded stream cover.
- Avoiding the use of herbicides near waterways, or utilizing herbicides approved for use in aquatic environments.
- Preparing and implementing dewatering practices to prevent sedimentation into waterways.
- Avoiding the withdrawal of water from surface waters.
- Scheduling construction to avoid disrupting sensitive species.
- Limiting the amount of time necessary to complete construction.

5.4.9.4. Anticipated waterway impacts and mitigation

The project has been sited to avoid direct impacts to waterways from project infrastructure.

Site disturbance for project construction would be temporary. Site restoration, including revegetation, should be completed as soon as possible following construction. Sediment and erosion control devices would be installed before ground disturbance occurs to reduce erosion and trap sediment from entering sensitive resources and would be in place until vegetation is re-established.

The applicant states they would conduct regular inspections during active construction, including areas where construction is occurring adjacent to water resources and other sensitive resources, to monitor re-vegetation and restoration activities. The applicant would monitor each work location and access route to ensure stabilization and re-vegetation occurs.

5.4.9.5. Waterway permitting

Wisconsin Stat. § 30.025 describes DNR process for reviewing and permitting utility projects that require authorization from the Commission and DNR. DNR participates in the joint review process with the Commission, as detailed in Wis. Stat. § 30.025, with respect to wetlands, navigable waterways, and stormwater management.

DNR is responsible for regulating impacts to navigable waterways and waterbodies under Chapter 30, Wisconsin Statutes, and Wisconsin Administrative Code. As currently proposed, the project would not require any waterway permit authorization under Chapter 30, Wisconsin Statutes.

The U.S. Army Corps of Engineers (USACE) and/or U.S. Fish and Wildlife Service (USFWS) might also require additional permits and approvals. Some of the federal legal protections and permitting requirements for activities affecting waters include, but are not limited to:

- 33 USC § 403 Section 10 of the Rivers and Harbors Act of 1899 prohibits the unauthorized obstruction or alteration of any navigable waters of the U.S.
- 16 USC §§ 1271-1287 prohibit federal agencies from authorizing a water resources project that would have a direct and adverse effect on the values for which a river protected by the Wild and Scenic Rivers Act was established.

CPCNs granted by the Commission are often contingent upon an applicant's ability to secure all necessary permits from state and federal agencies. Likewise, any permit granted by DNR or USACE could be contingent on the implementation of all mitigation procedures ordered by the Commission in its CPCN authorization.

5.4.10. Wetland resources

Wetlands provide vital functions that benefit society. Wetlands detain storm water runoff, enabling the slow recharge of groundwater resources and lowering downstream peak flood levels; filter sediments and

pollutants from the air, precipitation, and upstream sources which results in higher water quality downstream; provide food, cover, and nesting habitat for many species of fish and wildlife; provide a recreational opportunity for bird watching and other wildlife viewing, hiking, and enjoying the aesthetics of the surrounding landscape. It is estimated that between one-quarter and one-third of all rare species in Wisconsin are found in wetlands.

Wetlands are a dynamic ecosystem and provide different functions depending on the type of wetland. The same wetland may even provide different functions from year to year and season to season. There are many different types of wetlands, typically characterized by the size, type of vegetation and amount of soil saturation or surface water found within them.

Wisconsin has lost almost 50 percent of its original 10 million acres of wetlands. Avoidance and minimization of impacts to wetlands followed by proper mitigation is necessary to preserve the remaining 5.3 million acres of Wisconsin wetlands.

There are many different types of wetlands, typically characterized by the type of vegetation and amount of soil saturation or surface water found within them. Some example wetland types are identified in Table 5-8 below.

Table 5-8 Types and descriptions of wetlands often found in Wisconsin. This is not a complete list of all wetland habitats found in Wisconsin.

Type of Wetland	Description
Wetland meadows	Consist primarily of grasses and sedges and are typically only saturated for only a portion of the year.
Marshes	Consist primarily of reeds and cattails and typically contain areas of permanent open water that can vary in depth.
Shrub-carr	Support a dominance of shrubs, such as willows, alders, or dogwood, and may or may not have any open water.
Coniferous swamps and bogs	Consists primarily of tree species such as tamarack, cedar, and black spruce and occur in many isolated low-lying areas in northern Wisconsin. These swamps are particularly sensitive to disturbance because conditions do not support rapid growth or recruitment.
Hardwood swamps	Consist primarily of tree species such as black ash, black willow, elm, silver maple, and red maple and tend to occur along creeks, rivers, and streams throughout southern Wisconsin. They are also highly sensitive to disturbance because they take significant time to grow and mature.
Calcareous fens	These wetlands are one of the rarest wetland plant communities in Wisconsin. They are directly fed by calcium-rich groundwater and often have a disproportionate number of rare, threatened, and endangered plant species that can tolerate alkaline soil conditions.

Certain wetlands are considered particularly sensitive if they are within the boundary of an Areas of Special Natural Resource Interest (ASNRI) waterway or have a direct hydrologic connection to an ASNRI waterway (Wis. Admin. Code § NR 103.04). Sensitive wetlands include wetlands that are part of:

- Cold water communities including all trout streams and their tributaries and trout lakes;
- Lakes Michigan and Superior and the Mississippi River;
- State- and federally-designated wild and scenic rivers, designated state riverways, and state designated scenic urban waterways;
- Environmentally sensitive areas or environmental corridors identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study;
- Calcareous fens;
- Habitats used by state- or federally-designated threatened or endangered species;
- State parks, forests, trails, and recreation areas;
- State and federal fish and wildlife refuges and fish and wildlife management areas;

- State- and federal-designated wilderness areas;
- State natural areas;
- Wild rice waters;
- ORWs and ERWs.

5.4.10.1. Potential wetland impacts

Construction and maintenance of electric generation facilities and associated transmission facilities can impact wetland functional values or can cause wetlands to be converted into another wetland type. The degree and nature of impacts to wetlands depend on factors such as the type of wetland, quality of the wetland, ground conditions at the time of construction, and the type and duration of construction activities. Short-term wetland impacts can become long-term impacts if the construction phase is not well managed, or if restoration techniques are not properly applied.

Examples of long-term impacts include the loss of wetland acres due to the placement of transmission structures in wetlands, the unintended spread of invasive species due to inadequate cleaning of construction equipment, the conversion of forested wetland complexes to herbaceous dominated wetland complexes, and the fragmentation of wetland types.

Certain wetland types are more susceptible to long-term impacts due to construction. They can have a more fragile habitat (such as a calcareous fen) that is difficult to re-create, or the requirements of the ROW prevent full mitigation efforts. Forested wetlands are an example of a type of wetland that can never fully recover from the construction process. Clearing of wetlands dominated by woody vegetation results in a conversion from shrub or forested wetland into herbaceous wetland and can impact wildlife habitat, impair wetland functional values, and increase the occurrence of invasive species. Clearing can also lead to fragmentation of wetland complexes may impact wildlife habitat. Wood chips and brush left piled or spread in wetland areas as a result of clearing can also spread invasive species, obstruct water flow, and minimize the re-growth of vegetation. Any of these activities can permanently change the vegetation and species diversity of the wetland in a ROW.

More in-kind recovery is probable for deciduous shrub-scrub wetlands (supporting willows, alders, and sedges) and wet meadows.[58] In a 10-year study of three wetland types following construction of a transmission line in Massachusetts, species diversity and richness were similar to pre-construction levels within one year in a cattail marsh but damage was still apparent after ten years in a bog dominated by leatherleaf shrubs and sphagnum moss.[59]

Heavy machinery used for construction can crush wetland vegetation and damage wetland soils, causing soil compaction, rutting, and soil mixing. Soil compaction reduces the water-holding capacity of the soil and may result in increased runoff. Wetland soils consist of primarily organic matter (decomposed plant material) which forms very slowly. If disturbed by digging, filling, and compaction, these soils do not readily recover and are not easily repaired.

Changes in hydrology (the vertical and horizontal movement of water through the soil) caused by trenching, drilling holes, de-watering soils, installing foundations, and compacting soils can alter the

[58] Grigal, D. F. 1985. Impact of Right-of-Way Construction on Vegetation in the Red Lake Peatland, Northern Minnesota. Journal of Environmental Management. 9(5): pp. 449-454.
[59] Nickerson, N. H., R.A. Dobberteen, and N.M. Jarman, 1989. Effects of Power-Line Construction on Wetland Vegetation in Massachusetts, USA. Journal of Environmental Management. 13(4): pp. 477-483.

vegetation, reduce plant diversity, and promote the growth of invasive species. Driving equipment in wetlands can stir up sediments, endangering amphibians and other aquatic life. Hydrologic function can be further affected if fill is deposited in the wetland from clearing activities or for the construction of roads, bridges, and structures. Removing riparian wetland vegetation may decrease shoreline protection and may lead to increased sedimentation to wetlands and waterways.

Large open water areas or wetlands with extensive organic matter emit methane and may not fully freeze during winter months (a result of thermal loading). Construction during winter months in these environments can be dangerous and cause significant damage to the resource and the equipment. Ice and snow that may be used to construct roads may thaw from underneath, leading to equipment getting stuck, delays in construction sequencing, and the need to relocate access roads.

Another secondary effect is the potential spread of invasive species such as reed canary grass. These invasive species provide little food and habitat for wildlife and can outcompete native vegetation. Additional information on potential impacts from the spread of invasive species as a result of utility construction has been included in Section 5.4.6.

5.4.10.2. Wetlands in the proposed project area

The applicant evaluated the proposed project area for the presence of wetland through a combination of desktop reviews and wetland field delineations. Field verification was conducted between October 2023 and June 2024. The wetland field delineation included the majority of the project area with the exception of limited areas within the Gen-Tie Corridor where access was not available. Wetland delineations were based on the criteria and methodology described in the U.S. Army Corps of Engineers (USACE) Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. Wetland delineations included offsite evaluation of U.S. Geological Survey (USGS) topographic maps, Natural Resources Conservation Service (NRCS) soil survey data, DNR Wisconsin Wetland Inventory (WWI) and Surface Water Data Viewer (SWDV) mapping, U.S. Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping, recent aerial imagery, county GIS LiDAR and contour mapping, and client data. The Gen-Tie Corridor was limited to a desktop review that followed the offsite evaluation method outlined in the wetland delineation report. A total of 44 wetlands were identified through the combination of field review and desktop review. These wetland types were identified as fresh wet meadow, seasonally flooded basin, shallow marsh, and hardwood swamp. Of the 44 total wetlands, 7 are found within the Proposed Site, 8 are within Alternative Site 1, 14 are within Alternative Site 2, and 13 are within the Gen-Tie Corridor associated with the Proposed Site. Some of the 44 identified wetlands overlap more than one project component.

Generally speaking, the wetlands within the overall project area are considered to have low functional value as they have been heavily impacted by human disturbance and are dominated by non-native species. These wetlands may support limited wildlife foraging/habitat, storm and flood storage, groundwater recharge and provide water quality protection. Wetland W03-E, W08-E and W20-E are considered moderate functional value with more habitat structure, plant diversity, and proximity to larger corridors. None of the wetlands are designated as ASNRI.

5.4.10.3. Wetlands at the Proposed Site

Based on the wetland delineations, the following is a summary of the wetland types within the Proposed Site:

- W01-E, W02-E, W03-E and W04-E – are fresh (wet) meadow communities where species in the

herb stratum are most dominant, with a majority being grasses and forbs. This community can be both temporary or persist for an extended period, and are often influenced by disturbance, artificial drainage, or seasonal inundation. Dominant plant species include American water plantain (*Alisma subcordatum,* OBL), barnyard grass (*Echinochloa crusgalli,* FACW), fowl bluegrass (*Poa palustris,* FACW), hybrid cattail (*Typha x glauca,* OBL), Japanese bristlegrass (*Setaria faberi,* FACU), narrowleaf cattail (*Typha angustifolia,* OBL), purselane speedwell (*Veronica peregrina,* FACW), reed canary grass (*Phalaris arundinacea*, FACW), white clover (*Trifolium repens,* FACU), and yellow foxtail in the herbaceous stratum; with scattered elderberry (*Sambucus nigra,* FACW) and common buckthorn (*Rhamnus cathartica,* FAC) in the sapling and shrub stratum; and riverbank grape (*Vitis riparia,* FACW) in the woody vine stratum. Wetland W03-E also contained a hardwood swamp component while W04-E also contained hardwood swamp and seasonally flooded basin components.

- W05-E, W06-E and W07-E – are seasonally flooded basin communities which are shallow, depressional wetlands with standing water in the spring or post-rainfall event for a brief period of time and are frequently cultivated. Dominant plant species include fall panicgrass (*Panicum dichotomiflorum,* FACW), red-root amaranth (*Amaranthus retroflexus*, FACU), and yellow foxtail (*Setaria pumila*, FAC). W05-E and W07-E also contained a Fresh (wet) Meadow component.

Table 5-9 Wetlands at the Proposed Site

Wetland ID	Observed Wetland Type	Acreage (on-site)
W01-E	Fresh (wet) meadow	0.03
W02-E	Fresh (wet) meadow	0.93
W03-E	Fresh (wet) meadow	3.45
W04-E	Fresh (wet) meadow	0.42
W05-E	Seasonally flooded basin, fresh (wet) meadow	0.16
W06-E	Seasonally flooded basin	0.48
W07-E	Seasonally flooded basin, fresh (wet) meadow	2.92
SUBTOTAL		**8.39**

5.4.10.4. Wetlands in the Gen-Tie Corridor

- AW01-E, AW02-E, AW04-E, AW06-E, W10-E, W11-E, W12-E, W13-E and W28-E - are seasonally flooded basin communities which are shallow, depressional wetlands with standing water in the spring or post-rainfall event for a brief period of time and are frequently cultivated. Dominant plant species include fall panicgrass (*Panicum dichotomiflorum,* FACW), red-root amaranth (*Amaranthus retroflexus*, FACU), and yellow foxtail (*Setaria pumila*, FAC). W05-E and W07-E contained a Fresh (wet) Meadow component (as described above) as well. AW04-E and AW06-E also contained fresh (wet) meadow components.
- AW03-E, AW05-E, W08-E, W09-E – are fresh (wet) meadow communities where species in the herb stratum are most dominant, with a majority being grasses and forbs. This community can be both temporary or persist for an extended period and are often influenced by disturbance, artificial drainage, or seasonal inundation. Dominant plant species include American water plantain (*Alisma subcordatum,* OBL), barnyard grass (*Echinochloa crusgalli,* FACW), fowl bluegrass (*Poa palustris,* FACW), hybrid cattail (*Typha x glauca,* OBL), Japanese bristlegrass (*Setaria faberi,* FACU), narrowleaf cattail (*Typha angustifolia,* OBL), purselane speedwell (*Veronica peregrina,* FACW), reed canary grass (*Phalaris arundinacea*, FACW), white clover (*Trifolium repens,* FACU), and yellow foxtail in the herbaceous stratum; with scattered elderberry (*Sambucus nigra,* FACW) and common buckthorn (*Rhamnus cathartica,* FAC) in the sapling and shrub stratum; and riverbank grape (*Vitis*

riparia, FACW) in the woody vine stratum.

Two wetlands (W-07E and W08E) would be crossed by transmission lines and using horizontal directional drilling (HDD). Entry points and exit points of the HDD would be positioned outside of any wetland boundaries. Temporary staging areas and equipment storage would be located in uplands. Trenching of wetlands would not occur for any transmission line crossing or to connect to exiting gas infrastructure.

Table 5-10 Wetlands in Gen-Tie Corridor

Wetland ID	Observed Wetland Type	Acreage (on-site)
AW01-E	Seasonally flooded basin	0.09
AW02-E	Seasonally flooded basin	0.18
AW03-E	Wet meadow	0.08
AW04-E	Seasonally flooded basin, wet meadow	2.73
AW05-E	Wet meadow	0.01
AW06-E	Seasonally flooded basin, wet meadow	0.05
W08-E	Wet meadow	7.30
W09-E	Wet meadow	0.04
W10-E	Seasonally flooded basin	0.48
W11-E	Seasonally flooded basin	0.21
W12-E	Seasonally flooded basin	1.45
W13-E	Seasonally flooded basin	0.19
W28-E	Seasonally flooded basin	0.17
SUBTOTAL		**12.98**

5.4.10.5. Wetland impact avoidance, minimization, and mitigation

All attempts should first be made by the applicants to avoid impacting wetlands. For example, impacts to wetlands can be avoided by:

- Siting the facilities away from wetlands or the edges of wetlands;
- Adjusting structure placements to span wetlands or limit equipment access in wetlands, wherever possible;
- Using DNR-approved erosion control methods on adjacent lands;
- Siting off-ROW access roads, laydown yards, and staging areas outside of wetlands.

Where complete wetland avoidance is not possible due to engineering constraints, existing infrastructure, or other factors, wetland impacts should be minimized as much as possible.

This project should utilize the following construction methods to minimize impacts to wetlands:

- Using adjacent roadways and existing off-ROW access roads for access;
- Siting structures and access roads outside of wetlands or on the edges of wetlands rather than in the middle of wetland to avoid fragmenting wetland complexes;
- Installing site-specific sediment and erosion control measures and devices prior to construction activities and inspecting and maintaining them daily throughout all construction and restoration

phases;

- Implementing a construction sequencing plan that minimizes the amount of land disturbed or exposed (susceptible to erosion) at one given time across the project;
- Marking the boundary of wetlands to alert construction crews;
- Minimizing the amount of vegetation clearing in wetland and conversion of wetland types;
- Removing all brush piles, wood chips, and woody debris from wetlands following clearing activities;
- Preparing and implementing an invasive species management plan that identifies known areas of invasive species populations, addresses site restoration activities, and includes specific protocols to minimize the spread of invasive species. BMPs should be used, including cleaning construction vehicles and using construction matting. To minimize the introduction of new invasive species populations, equipment and matting should be cleaned before entering this site or moved between sites;
- Preparing and implementing dewatering practices that prevent sedimentation into wetlands;
- Scheduling construction to avoid disrupting sensitive species;
- Limiting the amount of time necessary to complete construction.

Construction matting (see Figures 5-4 and 5-5) can provide a safe, stable work surface and travel lane for equipment during transmission line construction. Mats provide protection by spreading the weight of the equipment over a broader area to reduce compaction and prevent deep ruts from forming. While the mats may cause some depression of the underlying soils and crushing of the perennial vegetation, this impact is typically less than if matting is not used. Matting generally preserves native plant rootstocks so that the pre-construction vegetation can reestablish more quickly after construction is completed.

Figure 5-4 Timber construction mats in a wet meadow wetland

Figure 5-5 **Timber mats being placed in a forested wetland. Tracked vehicles and high flotation tires can be used in some instances in lieu of mats.**

Alternative construction equipment such as marsh buggies and helicopters and alternative foundations can be used to further reduce the impact of construction in wetlands. Helicopters have been successfully used for the construction of the foundations, the erection of the towers, and for wire stringing as discussed in earlier in this chapter.

Ice roads can provide some of the same benefits as matting when used in wetlands. Ice roads are intended to create a stable surface for driving heavy equipment. They are usually created by clearing the initial layer of snow. This allows for frost to accumulate deep into the soil. A track vehicle (bombardier, bulldozer, etc.) is repeatedly driven across the ROW to drive the frost deeper into the soil. Sometimes the ROW can be flooded with water to provide an additional ice layer to the surface. Snow that falls on an ice road is usually cleared. However, compressing snow on top of the road can serve as insulation to keep the frost in the soil.

For construction projects which include the replacement and or removal of existing transmission structures in wetlands, structure types, construction timing, construction methods, and the wetland types are reviewed to determine the least impact to the resource. While the holes left in wetland soils normally close as the existing transmission structure is removed, it is sometimes more appropriate to cut the pole off at, or just below the ground surface. The utility may need permission from the landowner before leaving a pole stub in the ground. If a steel structure on a concrete foundation needs to be removed from a wetland, the concrete would be removed to a depth of about two feet and wetland soils from adjacent new foundation locations would be used to backfill the old foundation.

Two wetlands (W-07E and W08E) would be crossed by transmission lines and using HDD. Entry points and exit points of the HDD would be positioned outside of any wetland boundaries. Temporary staging

areas and equipment storage would be located in uplands. Trenching of wetlands would not occur for any transmission line crossing or to connect to exiting gas infrastructure.

Site restoration consists of the activities required to return the areas impacted by the construction of an approved project back to their original condition, if not better. Restoration typically occurs in any disturbed areas within easements or ROW, temporary construction areas, staging areas or laydown yards, off-ROW access roads, and any other areas used for project related activities.

Site restoration, including re-vegetation, of the disturbed areas should be completed as soon as possible following construction. Sediment and erosion control devices would be installed before ground disturbance occurs to reduce erosion and trap sediment from entering sensitive resources and would be in place until vegetation is re-established.

5.4.10.6. Anticipated wetland impacts for the Proposed Site

The Proposed Site would include approximately 8,374 square feet (0.19acres) of permanent wetland fill (W07-E) for the siting of the new RICE facility. No temporary wetland impact or forested wetland conversion is proposed as part of the Proposed Site.

The Proposed Gen-Tie Route would include 134,227 square feet (3.08-acres) of temporary wetland fill (W08-E, W11-E, W10-E, W12-E, AW01-E, AW02-E, W14-E, W08-S) for the placement of construction matting to facilitate construction.

The Alternative Gen-Tie Route would include142,520 square feet (3.27-acres) of temporary wetland fill (W08-E, AW03-E, AW04-E, W08-S) for the placement of construction matting to facilitate construction.

5.4.10.7. Wetland permitting

Local, state, and federal laws regulate certain activities in wetlands. When fill material is proposed to be placed in a wetland, a permit may be required from the USACE under Section 404 of the Clean Water Act (CWA).

Wisconsin Stat. § 30.025 describes DNR process for reviewing and permitting utility projects that require authorization from the Commission and DNR. DNR participates in the joint review process with the Commission, as detailed in Wis. Stat. § 30.025, with respect to wetlands, navigable waterways, and stormwater management. DNR must determine if the proposed activity is in compliance with applicable state water quality standards (Wis. Admin. Code Ch. NR 103 and 299). If the proposal is found to be in compliance with state standards, DNR issues a wetland fill permit and a water quality certification to the applicant.

The general process for obtaining a permit from the USACE is:

- The applicant submits a permit application to USACE.
- USACE determines its jurisdiction and reviews the project proposal according to federal guidelines, including consideration of potential impacts on wetlands, endangered species, cultural resources, and tribal trust concerns.
- If the proposed activity is in compliance with applicable federal standards, USACE issues a permit decision contingent on DNR providing water quality certification.

The DNR and USACE permit authorizations may allow for legal challenge of the decisions. The permit authorizations may include specific conditions requiring certain practices to be followed during project construction, as well as post-construction, in order to avoid and/or minimize potential impacts from the proposed project, as well as a compensatory wetland mitigation requirement for unavoidable wetland impacts resulting from project construction. Compensatory wetland mitigation involves the restoration, enhancement, creation, or preservation of wetlands. There are three avenues for satisfying compensatory mitigation requirements: wetland mitigation banking; the in-lieu fee program; or permittee-responsible mitigation. Before wetland permit authorizations are issued, DNR and USACE would determine if compensatory wetland mitigation is required. This process requires the applicants to submit a mitigation proposal that meets both state and federal requirements, which DNR and USACE review and make the final determination regarding the type and amount of compensatory mitigation credits required.

In addition to the protections for water resources provided by law that are described above, the Commission has the authority, in its final order, to require avoidance of specific streams or wetlands, mitigation procedures for specific streams or wetlands, and independent monitoring of construction in all or specific streams and wetlands.

5.4.11. Wildlife

5.4.11.1. Habitat loss and fragmentation

Habitat fragmentation is the process by which habitat loss results in the division of large, contiguous habitats into smaller, more isolated remnants.[60] These isolated remnants are separated from each other by a matrix of dissimilar habitats. Habitat loss and fragmentation can lead to declines in population density, species richness, species interactions, and ecosystem functioning. Habitat fragmentation also increases the likelihood of species invasions, significant alterations to community composition, and land-use intensification.

Habitat fragmentation is very similar to forest fragmentation, with the distinction that habitat fragmentation describes the fragmentation of an organisms preferred habitat instead of describing the fragmentation of forested environments. Refer to Section 5.4.3.1 for more information on forest fragmentation.

5.4.11.2. Pollinators

Many pollinators (such as bees, butterflies, bats, and other animals) are in serious decline in the U.S. and worldwide. Pollinators are responsible for one in every three bites of food we take, and increase our nation's crop values each year by more than 15 billion dollars.[61] Significant losses of these pollinators threaten worldwide agricultural production and the sustainability of native plant communities. In response, the National Strategy to Promote the Health of Honey Bees and Other Pollinators[62] was established to provide policy support for reversing pollinator losses and restoring populations to healthy levels. This federal initiative has identified and described utility ROWs as a key component to the success of widespread pollinator habitat development. In addition, electric ROWs present a potentially healthier habitat for pollinators as compared to roadside ROW.

[60] Didham, R.K. 2010. Ecological consequences of habitat fragmentation. Retrieved at: http://www.els.net/WileyCDA/ElsArticle/refId-a0021904.html.
[61] National Strategy to Promote the Health of Honey Bees and Other Pollinators 2015; https://www.whitehouse.gov/sites/default/files/microsites/ostp/Pollinator%20Health%20Strategy%202015.pdf
[62] Retrieved at: https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/Pollinator%20Health%20Strategy%202015.pdf

Utility ROWs closely align with ideal pollinator habitat. If managed and restored appropriately (using native vegetation[63]), utility ROWs could have a strong positive effect on native pollinator diversity and local abundance.[64] Early successional landscapes and linear corridors, created and maintained through vegetation management practices, are increasingly being viewed as crucial areas for pollinator conservation. Although landscape conversion is a leading cause of pollinator decline, correctly managed green spaces within anthropogenic systems can provide a full range of habitat requirements and can act as refuges for pollinators.[65] Slight modifications to existing management practices within electrical utility ROWs could save financial resources as well as benefit natural systems, especially when encouraging the proliferation of native flora that bloom throughout the growing season. The existing network of managed road and utility ROWs mirrors many migratory pathways for pollinators, and could facilitate migration of these imperiled pollinator species, if managed appropriately. Successful implementation of landscape management within these systems could be invaluable, creating thousands of acres of pollinator landscape in Wisconsin alone.

In addition, much of the proposed project ROW either bisects or runs adjacent to agricultural lands. Pollinator populations present in utility ROWs could benefit adjacent agricultural landscapes. If planting hedgerows near crops increases yields and if farms that are situated within more "natural" areas produce more crops, then it is likely that nearness to appropriately managed ROWs could have a similar benefit to agricultural productivity.[66] The impact of utility ROWs on agricultural productivity[67] and pollinator habitat (especially the monarch butterfly) is an interesting area of future research, both regionally and globally.

5.5. COMMUNITY RESOURCES AND SOCIOECONOMIC IMPACTS

5.5.1. Environmental justice, nearby populations, and sensitive receptors

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Historically, communities of colorand low-income communities have been disproportionally impacted by adverse human health and environmental impacts associated with pollution and developments. The first step towards evaluating whether a project may have disproportionate impacts is by evaluating the population in a project area. For the proposed project, local census data was reviewed to determine whether any identifiable groups of minority or low-income persons are in the communities near to the project area. The information is shown in Table 5-11 (Population and Income) and Table 5-12 (Racial and Ethnic Distribution) which follow.

The entirety of the proposed project would occur within the limits of the Town of Paris, Kenosha County. In general, the areas surrounding the project area are rural with some industrial utility development and some residences.

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[63] The local floral community plays a vital role in determining pollinator community structure. Wojcik, V.A. and Buchmann, S. 2012. Pollinator conservation and management on electrical transmission and roadside rights-of-way: a review. Journal of Pollination Ecology 7(3): pp. 16-26.

[64] Wojcik, V.A. and Buchmann, S. 2012. Pollinator conservation and management on electrical transmission and roadside rights-of-way: a review. Journal of Pollination Ecology 7(3): pp. 16-26.

[65] Wojcik, V.A. and Buchmann, S. 2012. Pollinator conservation and management on electrical transmission and roadside rights-of-way: a review. Journal of Pollination Ecology 7(3): pp. 16-26.

[66] Wojcik, V.A. and Buchmann, S. 2012. Pollinator conservation and management on electrical transmission and roadside rights-of-way: a review. Journal of Pollination Ecology 7(3): pp. 16-26.

[67] FirstEnergy and Davey Resource Group are working with Ohio State agricultural campus to study the idea further and develop data-based research. Fredmonsky, M. 2015. Pollinator-friendly rights-of-way benefit utilities, communities. Utility Arborist Association Utility Arborist Newsline. 6(1), 1-3.

Table 5-11 Population and income[68]

Location	Town of Paris	Village of Yorkville	Village of Union Grove	Census Tract 28.02	Census Tract 18.02
Population	1,357	3,246	4,916	2,797	3,127
Median Household Income	$103,333	$111,394	$103,005	$74,534.00	$110,240.00
Poverty Rate	5.3%	4.6%	9.3%	4.0%	7.1%

Table 5-12 Estimated racial or ethnic distributions[69]

Race or Ethnic Group	Town of Paris	Village of Yorkville	Village of Union Grove	Census Tract 28.02	Census Tract 18.02
White	95.8%	97.5%	86.0%	95.4%	97.4%
Black or African American	1.1%	0.1%	7.5%	0.6%	0.1%
American Indian or Alaskan Native	0.4%	0.2%	0.0%	0.3%	0.2%
Asian	0.0%	0.1%	0.8%	0.1%	0.1%
Native Hawaiian and other Pacific Islander	0.0%	0.0%	0.0%	0.0%	0.0%
Some other race	0.4%	1.0%	1.8%	0.9%	1.0%
Two or more races	2.4%	1.2%	3.9%	2.7%	1.2%
Hispanic or Latino	4.4%	3.1%	4.3%	2.6%	3.3%

For the purposes of this analysis, a minority population consists of any geographic area in which minority representation is greater than the national average of 30 percent. As of 2022, the median household income[70] in Wisconsin was $72,458. The State of Wisconsin poverty rate is 10.7 percent.[71] Through a review of the population details available, there are no disproportionately high minority populations or low-income populations identified near the proposed project that would be adversely impacted by the proposed project. Therefore, the analysis in this EIS does not anticipate disproportionate impacts to minority or low-income populations.

Sensitive receptors are mainly those individuals that are very young, elderly, or infirm. Local day care facilities, schools, hospitals, and elderly care facilities could have a greater potential to be affected by construction impacts such as fugitive dust, increased noise, and increased traffic hazards. The closest school is Union Grove Elementary School, located approximately 3.6 miles west of the Proposed Site and approximately 1.8 miles from the Alternative Sites. The closest Hospital is Advocate Aurora Mount Pleasant Hospital, located approximately 4.2 miles from the Proposed Site, approximately 5.2 miles from Alternative Site 2, and approximately 5.7 miles from Alternative Site 1, respectively. The closest senior living center is located approximately 4.3 miles northwest of the Proposed Site and approximately 2.9 miles of the Alternative Sites. There are no sensitive receptors located within one half mile of the proposed project. The nearest residences are located approximately 949 feet, 448 feet, and 1,399 feet away from the to the generation facility footprint at the Proposed Site, Alternate Site 1, and Alternate Site 2, respectively. The closest residence to the common Gen-Tie route centerline is approximately 198 feet. The applicant should ensure that contractors are taking actions to mitigate noise and dust impacting adjacent communities.

[68] U.S. Census Bureau American Community Survey 5-Year Estimates, 2018-2022.
[69] *Id.*
[70] For 2022, in 2022 dollars, from U.S. Census Bureau QuickFacts. (2022). Education Survey. U.S. CensusBureau. https://www.census.gov/quickfacts (Accessed on July 29, 2024).
[71] U.S. Census Bureau QuickFacts. (2022). Education Survey. U.S. CensusBureau. https://www.census.gov/quickfacts (Accessed on July 29, 2024).

5.5.2. Local community services

The proposed project would not be connected to municipal services. Emergency medical services would be provided by the Advocate Aurora Mount Pleasant Hospital and Town of Paris Fire and Rescue. Fire protection would likely be served by the Town of Paris Fire and Rescue or the Union Grove-Yorkville Fire Department. Police protection would be provided by the Kenosha County Sheriff's Office and Wisconsin State Patrol, during both construction and operations. No necessary improvements are anticipated related to fire protection and police patrols.

Local government facility improvements would not be required for the proposed project. Currently, healthcare facilities are anticipated to be sufficient for the project during construction and operation, and no necessary improvements are anticipated. The generation facility would have fire suppression measures of its own, as well as facilities for the storage of hazardous materials. This storage would require coordination activities with the Town of Paris and the Union Grove-Yorkville Fire Departments.

5.5.3. Local infrastructure

Potential impacts to local transportation infrastructure, as well as existing utilities and communication towers, are discussed in this section of the EIS.

5.5.3.1. Roads

Construction traffic entering the project site would primarily consist of automobile traffic for craft labor, construction management staff, contractors, equipment, and vendors. Also, material and equipment deliveries may be made by large trucks as well as heavy haul vehicles. The frequency of the daily workforce automobile traffic would follow the project workforce numbers onsite at any given time. The daily automobile traffic to the site would increase from approximately 25 to 50 vehicles in the initial stages of construction to approximately 100 to 150 vehicles for peak months. The traffic would begin to decrease until it reaches approximately 25 vehicles near construction completion. Material and equipment deliveries are expected to average between 5 and 15 trucks per day. Bulk deliveries for materials such as crushed stone, hot asphalt paving, and redi-mix concrete may occasionally exceed 15 vehicles on any given day. When possible, bulk deliveries would be scheduled to avoid peak traffic on local roads.

It is anticipated that material deliveries would utilize I-94, STH 45, or STH 11 to the local roads and into the facility entrance roads. Heavy haul components such as transformers, engines, and generators could be transported via barge, rail, or heavy haul truck to the project area, then transported over local roads via heavy haul truck to the site. Heavy haul transports would likely utilize I-94, State Route 45, or State Route 11 then local roadways to access the project site, subject to the limits imposed by the governing heavy haul permits. Construction material and workforce would come to the project site via rubber-tired transport.

Certain oversized loads with height or width requirements may require alternate routes other than the roadways described above. Oversized loads and heavy loads would be planned and scheduled well in advance of shipping. Permits would be acquired before delivery. Vehicle escort services would be used for delivery as well.

Up to 10 full-time permanent employees would be hired for operation of the facilities. The addition of 10 permanent employees would have no significant effect on road traffic near the site during operation. All facility personnel and deliveries to and from the sites would enter from Morrison Avenue at the existing entrance.

The entrance for the Proposed Site would be located off 1st Street on the north end of the site. Craft employees would park on the north end of the site and proceed directly south to the project site.

For the Alternative Sites, existing entrance locations would be used. The craft parking lot would be northeast of the facility for Alternative Site 1. The craft parking lot would be southeast of the facility for Alternate Site 2 with a second entrance off 1st Street to be constructed. Vehicle access to all three sites would be controlled by a gatehouse located along the entrances.

5.5.3.2. Railroad

Railroads would not be used to directly deliver material to the site as no railroads are located within 9,000 feet of the proposed project.

5.5.3.3. Airports and airstrips

Transmission lines and exhaust stacks are a potential hazard to aircraft during takeoff and landing. To ensure safety, local ordinances and FAA guidelines limit the height of objects in the vicinity of the runways. Utilities can route transmission lines outside of the safety zone, use special low-profile structures, construct a portion of the line underground, or install lights or other attention-getting devices on the shield wire or OPGW.

Large brightly colored balls or markers may be installed on overhead transmission line shield wire or OPGW to improve their visibility to pilots and lessen the risk of collision. These markers are often employed near airports or airstrips, in or near fields where aerial applications of pesticides or fertilizers occur, and in areas where tall machinery, such as cranes, are frequently operated.

There are no public or private airports within 0.5 miles of the proposed project. The two closest public use airports located near the sites are the Kenosha Regional Airport (Airport ID ENW) to the southeast and Sylvania Airport (Airport ID GRB) to the northeast. Kenosha Regional Airport is located approximately 4.5 nautical miles southeast of the Proposed Site and approximately 5.3 nautical miles southeast of the Alternative Sites. Sylvania Airport is located approximately 2.3 nautical miles northeast of the Proposed Site and 3.7 nautical miles northeast of the Alternative Sites. The closest private airstrip is Binzel Airfield, a private use airstrip located approximately 6.1 nautical miles from the Proposed Site and 5.4 nautical miles from the Alternative Sites. There are also no private use heliports within 0.5 miles of the proposed project. Advocate Aurora Mount Pleasant Hospital Heliport is the closest, located northeast approximately 4.2 nautical miles from the Proposed Site and approximately 5.6 miles from the Alternative Sites. The second heliport is SC Johnson Heliport, located northeast approximately 5.3 nautical miles from the Proposed Site and 7.4 nautical miles from the Alternative Sites.

Kenosha Regional Airport has three asphalt paved runways, one of which is 6,600 feet long and oriented southwest-northeast, and the other two being 4,400 feet long oriented northwest-southeast and 3,300 feet and oriented southwest-northeast. Sylvania Airport has one asphalt runway, approximately 2,300 feet long and oriented southwest-northeast. Binzel Airport has one turf runway oriented north-south that is 2,054 feet long. Advocate Aurora Mount Pleasant Hospital Heliport is a 70-foot by 70-foot concrete helicopter landing pad. SC Johnson Heliport is an 80-foot by 80-foot concrete helicopter landing pad.

The proposed project would not include any structures over 200 feet in height, which are considered to be an obstruction to navigable airspace and could impact aircraft safety unless they are marked or lit in accordance with criteria set forth by the FAA. At 100 feet, it is anticipated that the stacks and poles would not impact navigable airspace. However, based on a site and gen-tie location review with the FAA Notification Tool, stacks and/or poles of 100 feet in height required submission of Form 7460-1 to the FAA, which the applicant will submit to the FAA for review.

5.5.3.4. Communication facilities

The applicant used the Federal Communications Commission (FCC) GIS data to identify several licensed radios associated with three towers within approximately 1,300 feet of the proposed project. No new communication towers are planned as part of the project.

Electric generation facilities and transmission lines do not usually interfere with normal television and radio reception. In some cases, interference is possible at a location close to generating facility or ROW due to weak broadcast signals or poor receiving equipment. Different types of communication facilities can be affected by different types of interference. Radio broadcasts can be impacted by audible noise interference and radio frequency interference. Radio frequency interference can be caused by spark gap emissions created by calcium deposits that build up on conductors over time, an unlikely impact on new lines. Audible noise interference can be caused by improperly installed facilities that generate corona discharge. Microwave radio antennas emit a narrow signal and can be obstructed if a transmission structure is within a microwave radio signal line-of-sight path.

Transmission lines within 500 feet of communication facilities can induce voltages to communication equipment. At high enough levels this induced voltage can interfere with communications equipment. AM facilities can be affected by distortion of the AM antenna radiation pattern (reradiation). Other types of communication such as FM facilities, cellular services and wireless internet services are not susceptible to impacts from transmission line structures.

As part of CPCN applications, studies are conducted by the applicants to determine the location and the potential for communication signal interference. Additional studies are often necessary after final engineering of an approved transmission line to determine if mitigation is necessary.

If interference occurs because of the transmission line, the electric utility is required to remedy problems so that reception is restored to its original quality as per Wis. Admin. Code § PSC 113.0707(3). The proposed project is not expected to interfere with communication tower signals based on the location of the facility at any of the three sites. If needed, applicant would work with the licensees near the project site to mitigate any potential interference as applicable.

5.5.4. Local jobs

The applicant projects that construction of project facilities would create up to 200 jobs, including staff in skilled trades, engineering, and construction management. It is unknown how many of the construction jobs would be sourced from the local population or local construction or engineering firms. The applicant plans to select contractors through a competitive bid process, and they may be sourced from local or nationwide companies. The proposed project would require up to ten additional full-time permanent employee positions for operation. The workforce for construction and operation of the facility may be sourced from different locations locally or nationwide.

5.5.5. Property value studies

The potential change in property values due to the proximity to a new electric generation facility has been studied since the 1950s by appraisers, utility consultants, and academic researchers. It is very difficult to predict how a specific facility would affect the value of a specific property. Utility infrastructure may change an individual's perception of a property's worth. This perception is indicative of how much one is willing to pay for the property (the fair market value) when it is put up for sale. The marketability of a property includes the final sale price and the amount of time required to sell the property. Studies have been conducted mostly on residential or undeveloped properties and not commercial properties.

Initial property value studies were primarily surveys or attitudinal studies of small numbers of homeowners. However, substantial differences could exist between people's perceptions about how they would behave and their actual behavior when confronted with the purchase of property near utility infrastructure.

Due to this uncertainty, attitudinal studies were replaced by "valuation" or "appraiser" studies involving the comparison of sales prices for properties similar in most respects, except for proximity to a power line. There are two major shortcomings in conducting this type of study:

- the subjective nature of identifying a pair of properties that were considered "identical" for the purpose of the study; and
- the restrictive nature of finding "identical" property pairs, which results in a data set too small for meaningful statistical analysis.[72]

A third type of research, statistical hedonic analyses, involves large sample sizes, a high number of variables, and multiple regression analysis. These studies, which can better account for numerous variables that affect sales, provide the best information to-date on the effects of power lines on property values. Individuals buying property are likely to consider many factors including schools, community services, scenic beauty, recreational opportunities, or distance to work. The relative importance of each of these factors varies greatly among individuals. Likewise, the importance of a nearby power line varies greatly among individuals. The presence or potential presence of a transmission line could lead potential buyers to perceive a decrease in the value of the property or have no affect at all. The statistical analyses might help illustrate which factors best predict differences in marketability; however, the objectivity of the variables measured would significantly influence the results of these analyses.

The research regarding the potential for impacts to property value is ongoing, but there are trends from studies in the literature. Surveys or attitudinal research tends to show persistent adverse perceptions of the impact of transmission lines. Most respondents believe that the presence of a transmission line would result in lower property values or respond that they would pay less for a property encumbered by or near to a transmission line.

However, the statistical research does not show a significant negative impact on property values, with a trend in the literature indicating a 10 percent or less reduction in property value. This decrease in property value diminishes as the further away the line is. More detailed analyses in some of these studies show higher levels of property value impact among more expensive residential properties, or those that are closer to pylons/towers than just the conductors. A recent literature review[73] on transmission lines and property values shows similar results to previous summaries, including one done by the Electric Power Research Institute (EPRI) in 2003.[74] The studies that cover this subject can be difficult to generalize and must be judged on the quality of the study design and analyses of the data. Again, the objectivity of the variables measured would significantly influence the results of these studies.

Two comments during the EIS scoping period expressed concerns about potential effects of the project on property values. Some of the commenters voiced concerns that constructing the Paris RICE plant would detract from the aesthetic nature of the landscape in the immediate vicinity of the project. Other

[72] Kinnard, W. Jr. and S. A. Dickey. 1995. A Primer on Proximity Impact Research: Residential Property Values Near High-Voltage Transmission Lines. Real Estate Issues 20(1):23-29.
[73] Anderson, et. al. 2017. The Effect of High-Voltage Overhead Transmission Lines on Property Values: A Review of the Literature Since 2010. The Appraisal Journal.
[74] Goodrich-Mahoney, J. 2003. Transmission Line and Property Values: State of the Science. EPRI.

concerns included noise impacts. If noise created by the plant is significantly greater than existing levels, a slight value impact could occur.

Overall, property value fluctuations are caused by a complex web of desirable and undesirable aspects, including facilities, services, distances, and impacts that vary significantly from location to location. Without conducting detailed, long-term studies, it is difficult to predict or assess potential impact on property values. To date, Commission Staff is not aware of any studies that have proven a clear correlation between power plant location and reduced property values. Many factors involve individual value systems and shifting cost and benefits considerations.

5.5.6. Recreation and tourism

Recreation areas include parks, trails, lakes, waterways, or other designated areas where public recreational activities occur. Generation facilities and transmission lines can affect recreation areas in several ways:

- Limiting the location of buildings;
- Repelling potential users of recreational areas whose activities depend on the aesthetics of natural surroundings (*e.g.,* backpackers, canoeists, hikers, birdwatchers);
- Altering the types of wildlife found in an area by creating more edge habitat or additional mortality risks to birds;
- Providing paths or better access to previously inaccessible areas for those who snowmobile, ski, bicycle, hike, or hunt;
- Posing potential safety risks by locating new poles or wires in the path of recreational vehicles such as snowmobiles and ATVs without adequate markings.

The only park or recreational area within 0.5 miles of the project is a snowmobile trail that is located along the southern edge of the existing Paris Solar Facility (Alternative Site 1). No other parks or public use recreation areas exist within 0.5 miles of the project boundary. As a result, no impacts are anticipated to occur to any public recreation areas, trails, or parks.

5.5.6.1. General mitigation strategies

Some of the impacts from high-voltage transmission lines on recreation areas can be mitigated by:

- locating transmission lines and structures along property edges,
- using structure designs that blend into the background and reduce aesthetic impacts, and/or
- designing recreation facilities to take advantage of already cleared ROWs.

5.5.7. Safety standards

Electric generation facilities and transmission lines must meet the requirements of the Wisconsin State Electrical Code.[75] The code establishes design and operating standards, and sets minimum distances

[75] Wisconsin adopts the most recent NESC with certain changes, deletions, and additions. Volume 1 of the Wisconsin State Electrical Code is found in Wis. Admin. Code ch. PSC 114, which is administered primarily by the Commission.

between wires, poles, the ground, and buildings. The Wisconsin State Electrical Code represents the minimum standards for safety.

The National Electrical Safety Code (NESC) specifies minimum horizontal clearances required between buildings and 345 kV conductors. Wisconsin Admin. Code § PSC 114.234(C)1c. prohibits the construction of transmission lines over occupied residential dwellings or residential dwellings intended to be occupied. Although they may not be prohibited by code, building other structures within a transmission line ROW is strongly discouraged.

5.5.7.1. Contact with transmission lines

The most significant risk of injury from any power line is the danger of electrical contact between an object on the ground and an energized conductor. Generally, there is less risk of contact with higher voltage transmission lines as opposed to low-voltage lines due to the height of the conductors.

When working near transmission lines, electrical contact can occur, even if direct physical contact is not made, because the electricity can arc across an air gap. The most important safety practice is to avoid placing yourself or any object you may contact too close to a high-voltage overhead line. As a general precaution, no one should be on an object or in contact with an object that is taller than 15 to 17 feet while under a high-voltage electric line. Individuals with specific concerns about whether it is safe to operate their vehicles or farm equipment near an electric transmission line should contact their electric provider.

5.5.7.2. Fallen lines

Transmission lines are designed to automatically trip out of service (become de-energized) if they fall or contact trees. This is not necessarily true of distribution lines; however, transmission lines are not likely to fall unless hit by a tornado or a vehicle.

5.5.7.3. Lightning

New transmission lines are built with a grounded shield wire placed along the top of the poles, above the conductors. Typically, the shield wire is bonded to ground at each transmission structure. This protects the transmission line from lightning. Transmission structures, like trees or other tall objects, are more likely to intercept lightning strikes, but do not attract lightning. Lightning is not more likely to strike houses or cars near a transmission line. Shorter objects under or very near a line may actually receive some protection from lightning strikes.

5.5.7.4. Stray voltage

Landowners in both rural and urban settings often express concerns about shocks from metal objects in the immediate vicinity of an overhead transmission line. An ungrounded metal object (e.g. a tractor or a fence) under or very near an energized transmission line may become charged with low level voltage caused by an electrostatic induction process. When a person or animal touches the object, a shock may be felt, similar to that felt after crossing a carpet and then touching a metal object. The voltage discharge can be a painful nuisance. Dissipation of such charges occurs when contact is made with the ground. This might happen when people, livestock, or some other conductive material makes an effective electrical contact between ground and the charged object. The magnitude and strength of the charge is directly related to the mass of the ungrounded metal object and its orientation to the line.

Concerns have most often been addressed by grounding the objects in question. For example, fences located directly under and parallel to transmission lines should be grounded to earth. This can be achieved through the use of a simple ground rod with an insulated lead and a wire clamp attached. Energized

electric fences with a properly installed fence grounding electrode system should continue to function properly even when subjected to induced voltage. Energized electric fences directly under or parallel to a transmission line may also have filters installed to discharge the induced voltage to earth.

No confined animal dairy operations are located within 0.5 mile of the Gen-Tie route alternatives. Therefore, no stray voltage issues are anticipated due to the distance of animal operations and agricultural buildings from the proposed project area.

5.5.7.5. Electric and magnetic fields

Electricity produces two types of fields, electric and magnetic, which are often combined and referred to as electromagnetic fields or EMF. Electric fields are associated with any device or wire that is connected to a source of electricity, even when current is not flowing. Magnetic fields are only created when there is an electric current and are proportional to the current flow through an electric line. Sources of magnetic fields include electrical appliances such as power tools, vacuum cleaners, microwaves, computers, electric blankets, fluorescent lights, and electric baseboard heat. Moreover, the Earth itself has a magnetic field that is constantly present as part of the environmental background, which is the reason that compasses work. Because there are so many common sources of magnetic fields, simply by living on Earth, everyone is exposed to many magnetic fields every day. Electric fields are typically reduced to a negligible level by the inclusion of "shielding cables," which are electrical conductors encasing the current-carrying conductor. Magnetic fields are generally more difficult to reduce. Concerns regarding exposure to EMF are often raised during power plant and transmission line construction cases.

Magnetic fields are measured or estimated in units of Gauss (G) or milligauss (mG) (a milligauss is equal to 1/1000th of a Gauss). Measurements of power line EMF are typically reported in mG. For reference, the average magnetic field at the surface of the Earth is approximately 0.25 to 0.65 G (250 to 650 mG), with a value of 0.5 G (500 mG) typically cited. As a comparison, the largest estimated magnetic field along all the proposed routes at a distance of 25 feet away from the gen-tie line is 64.28 mG, about 13 percent of the Earth's field in which humans live every day.

Whereas common objects such as trees, fences, and walls can easily shield and cancel out electric fields, magnetic fields pass through many materials. Therefore, most scientific studies concentrate of magnetic fields and not electric fields.

5.5.7.5.1. Results of magnetic field research

Starting in the late 1970s, researchers began to investigate the possibility that exposure to magnetic fields might have an adverse effect on human health. Since then, scientists have conducted many studies designed to determine whether or not exposure to magnetic fields affects human health. Scientists have uncovered only weak and inconsistent epidemiological associations between exposure to transmission line magnetic fields and adverse health effects. Several epidemiological studies have shown a weak statistical association with the risk of childhood leukemia. However, other epidemiological studies have found no link to leukemia. Cellular studies and studies exposing test animals to magnetic fields have shown no link between magnetic fields and disease. Taken as a whole, the biological studies conducted to date have not been able to establish a cause-and-effect relationship between exposure to magnetic fields and human disease, nor have scientists been able to identify any plausible biological mechanism by which magnetic field exposure might cause human disease. For the past decade, there is a growing consensus within the scientific community that exposure to magnetic fields are not responsible for human disease.

A common method to reduce magnetic fields is to bring electric transmission lines (conductors) closer together. The magnetic fields caused by electric current flow can oftentimes interfere with each other and

partially cancel out, producing a lower field value. The conductors can be brought closer together by using different types of structures or double-circuiting two lines on the same transmission structures. However, there are electrical safety limits to how close together conductors can be placed. Conductors must be far enough apart so that electrical arcing cannot occur and so that utility employees can safely work around them. Additionally, the closer conductors are to one another, the closer together transmission structures must be constructed. Increasing the number of transmission structures per mile increases private property land impacts and costs.

Another way to decrease magnetic fields is to increase the distance between the source (current carrying conductor) and a location of concern. A general rule of thumb for any single source of magnetism is that the magnetic field drops off by the cube of the distance. In other words, roughly speaking, doubling the distance to any single magnetic source should drop the magnetic field by approximately a factor of eight. With the fact of having multiple conductors on the same transmission structure and the complicated interactions of the fields at these structures, such large drop offs are not always realized. Regardless, it remains a general truth that moving transmission structures farther from locations of concern will reduce the magnetic fields at those locations.

5.5.7.5.2. Results of magnetic field study for the proposed project

The applicant hired a consultant, Burns & McDonnell, to complete an analysis of the estimated magnetic profile of the proposed project. The EMF study for the proposed project is provided in Volume II Appendix G of the application. Magnetic field levels have been estimated for the proposed and alternate routes for the overhead gen-tie line from the Proposed Site. These levels vary from location to location due to differences in current flows, conductor arrangement, and the cancellation effect of fields generated by other nearby electric transmission and distribution lines. Model and software results for the gen-tie line indicated the maximum magnetic field strength near or at the gen-tie centerline was 97.89 mG. No sensitive receptors were identified within any of these immediate boundaries. For more information on EMF and human health, a free publication, entitled EMF – Electric and Magnetic Fields is available on the PSC web site.[76]

5.5.7.5.3. Pacemakers and implantable medical devices

Implantable magnetic devices are becoming increasingly common. Two such devices, pacemakers and implantable cardioverter defibrillators (ICD), have been associated with problems arising from interference caused by EMF. This issue is called electromagnetic interference (EMI).

EMI can cause inappropriate triggering of a device or inhibit the device from responding appropriately. Documented sources of EMI include radio-controlled model cars, slot machines, car engines, cell phones, anti-theft security systems, radiation therapy, and high-voltage electrical systems. It has been estimated that up to 20 percent of all firings of ICDs are inappropriate, but only a small percentage are caused by external EMI.

ICD manufacturers' recommended threshold for modulated magnetic fields is 1 gauss, twice the background magnetic field of the Earth. One gauss is five to ten times greater than the magnetic field likely to be produced by a high-voltage transmission line at a sufficiently short distance to the line. Research shows a wide variety of responses for the threshold at which ICDs and pacemakers respond to

[76] https://psc.wi.gov/Pages/CommissionActions/ConstructionProjectApproval.aspx. PSC How Construction Projects Are Approved.

an external EMI source. The results for each unit depend on the make and model of the device, the patient height, build, and physical orientation with respect to the magnetic field.

Transmission lines are only one of a number of external EMI sources. Exposure to magnetic fields produced by the proposed power line generally will not affect pacemakers and implantable defibrillators. All pacemakers and ICD patients are informed of potential problems associated with exposure to EMI and must adjust their behavior accordingly. Moving away from a source is a standard response to the effects of exposure to EMI. Patients can shield themselves from EMI with a car, building, or the enclosed cab of a truck. Individuals concerned with potential issues associated with their implantable medical device should consult their physician.

The proposed project was modeled along the Gen-Tie Corridor associated with the Proposed Site in the 138 kV single pole single circuit configuration. Structure and ROW configuration assumptions are provided in the EMF Study in Volume II Appendix G.[77]

5.5.8. Views, aesthetics, noise, and lighting

5.5.8.1. Aesthetics

Construction of electric generation facilities and transmission lines can affect the aesthetics of an area in several ways. The introduction utility infrastructure may change the character of an area, for example evoking an image of development in a previously natural or rural landscape. They may also negatively affect the aesthetics within developed landscapes, for instance in residential areas, where they may seem especially large when located near homes or other buildings. Scenic features such as historic structures, scenic roads and rest areas, or scenic waterways may also be impacted or removed during construction, further affecting the aesthetics of an area.

These impacts can be difficult to measure, since aesthetics depend largely on personal perceptions and the relationship the viewer has with an environment. Different viewers may have varying levels of visual sensitivity. Aesthetic impacts may depend on:

- the physical relationship of the viewer and the facilities (distance and sight line);
- the activity of the viewer (e.g., living in the area, commuting through, sightseeing);
- the contrast between the facilities and the surrounding environment, such as whether the facilities stand out or blends in.

A generation facility or transmission line can affect aesthetics by:

- removing a resource, such as clearing fencerows or forests;
- degrading the surrounding environment (e.g., intruding on the view of a landscape);
- changing the context of the view shed (e.g., evoking an image of development in a previously rural area).

Since aesthetic impacts are so dependent on the viewer, it is important to ask for the opinion of those people who may be affected. Some people may feel a strong association to their existing environment and react negatively when new features are introduced. While other people may be less affected or may view generation facilities or transmission lines as part of the necessary infrastructure. Comments by the public

[77] PSC REF#: 496371 Volume II Appendix G - Magnetic Field Study.

during the EIS scoping period and hearings help the Commission understand local concerns about potential impacts to aesthetics. The applicants and interested members of the public should discuss and consider measures early in the planning and design process in order to identify areas of concern and propose ways to mitigate impacts.

Photo simulations of the Sites and Proposed Site Gen-Tie alternatives are provided in Volume I Appendix CC (Photo Simulations).[78] All three sites would be somewhat visible from various locations along local roadways. The proposed project is not anticipated to significantly alter the aesthetics of the surrounding area.

5.5.8.1.1. Aesthetic impacts at the Proposed Site

The Proposed Site is partially wooded to the south, west, and north which may provide some visual screening. The applicant states that due to the location of the site and the facility being situated along the southeastern portion of the Proposed Site, the middle of the property for Alternate Site 1, and the southern portion of the property for Alternate Site 2, the proposed project is not anticipated to include additional components to improve aesthetics.

5.5.8.1.2. Mitigation strategies

There are several measures available to the applicants that can reduce the aesthetic impacts of new generation facilities and gen-tie lines. The applicants and interested members of the public should discuss and consider these early in the planning and design process of projects in order to identify areas of concern and propose ways to mitigate impacts. Comments by the public during the EIS scoping process and hearings can help the Commission understand local concerns about potential impacts to the existing aesthetics. Ultimately, aesthetics are to a great extent based on individual perceptions.

Some of the measures that could reduce the aesthetic impacts of new utility infrastructure include:

- Route siting, structure design, construction materials, and ROW vegetation management can work to mitigate some adverse effects to aesthetics.
- Facilities can be sited to avoid scenic areas, and routes can pass through commercial or industrial areas instead of residential areas.
- The form, color, or texture of facilities lines can be modified to minimize aesthetic impacts.
- Structures constructed of wood or of rust brown oxidized steel may blend better with wooded landscapes, and stronger conductors can minimize line sag to provide a sleeker profile.
- Management of ROW to include planting vegetative screens can block views of the facilities.
- Leaving ROW in a natural state at road or river crossings can also reduce the amount of aesthetic altered by new construction.

5.5.8.2. Noise and sound

Noise is unwanted sound considered unpleasant, loud, or disruptive to hearing. Noise is measured in units of decibels (dB) on a logarithmic scale. Because the human ear is not equally sensitive to sounds throughout the range of hearing frequencies, a weighted scale is commonly used, with the A weighted scale (dBA) most often used for sound measurements affecting human hearing. Due to the logarithmic

[78] PSC REF#: 496325 Volume I Appendix CC - Photo Simulations - Proposed Site and GenTie.

scale of sound measurements, a change of 3 dBA is considered barely perceptible, while a change of 10 dBA is perceived as a doubling/halving of noise. For reference, the sound level of normal breathing is about 10 dBA, normal conversation at three feet is about 60 dBA, and emergency vehicle sirens are about 115 dBA. Impacts associated with noise can be subjective and vary from person to person, based on factors such as loudness, time of day, frequency, or duration, and the amount of other background noise audible to the listener.

A Sound Assessment Study was conducted by Burns & McDonnell (B&M) on behalf of the applicant, and the final results were provided in a response to a Commission staff data request. The study objectives were to identify sound level requirements that are applicable to the project, collect noise measurements of the existing ambient environments, develop a noise model to estimate sound emitted by the project, and to determine any required mitigation for the project to meet any identified noise requirements. The study was done in compliance with the Commission's Measurement Protocol for Sound and Vibration Assessment of Proposed and Existing Electric Power Plants, available on the Commission's website.[79]

5.5.8.2.1. Standards for noise levels

There are no specific state or federal noise level limits or regulations that apply to the proposed project. Kenosha County Code of Ordinance does not include any quantitative noise level threshold. As there are no specific government agency-related numeric noise limits for the project, the applicant has elected to follow the EPA noise guidelines. The EPA established noise guidelines in The Noise Control Act of 1972 (the Act). The Act provides sound level guidelines to "promote an environment for all Americans free from noise that jeopardizes their health or welfare." As such, the sound levels identified in the Act as those sufficient to protect public health and welfare were used as the design goal for the project. A target of 50 dBA L_{eq} and 68 dBC L_{90} at the nearest residential receivers was selected as the design goal for the project.

5.5.8.2.2. Pre-construction phase

The Sound Assessment Study used estimated sound power levels for the RICE generator units proposed to be used for the project. Noise modeling was done to estimate the sound levels at the facility fence line, as well as residential properties near the power plant. Existing sound level measurements were collected at identified measurement points (MP) on properties around the Proposed Site. The MPs were selected to represent the closest noise sensitive areas around the project location. Identified existing sound in the area includes vehicular traffic from nearby roads and highways (including large trucks) and wildlife noise such as birds and insects. The range of measured existing sound levels at the four MPs (1-4) at the extents of the Proposed Site footprint and other nearby locations ranged from 40 to 69 dBA L_{eq} and 56-67 dBC L_{90}.

5.5.8.2.3. Construction phase

A range of equipment, vehicles, and machinery would create noise during construction of the project facilities. Most of this would come from diesel engine powered construction equipmentsuch as dozers, excavators, dump trucks, cement trucks, and cranes. Employee and delivery traffic would increase in the area but is not anticipated to be a substantial source of increased noise. Construction noise impacts would vary with the time of day, stage of construction, and location of nearby receptors. Table 5-13 shows some of the typical noise levels at 50 feet for commonly used construction equipment.

[79] *See* https://psc.wi.gov/SiteAssets/ConventionalNoiseProtocol.pdf.

Table 5-13 Average maximum sound levels from common construction equipment[80]

Equipment	Sound level at 50 feet (dBA)
Dozer	86
Grader	79
Excavator	87
Flat Bed Truck	74
Pile Driver	105
Crane	79
Roller	82

At this time, the applicant does not anticipate construction of project facilities to regularly occur at night. Keeping construction predominantly during the day would decrease noise impacts to nearby residences. Another way to mitigate noise impacts during construction is to ensure that diesel engine mufflers on machinery or equipment are kept in good working order.

5.5.8.2.4. Post-construction operational phase

Once constructed, the project could operate at all hours of the day. The Sound Assessment Study modeled the operational noise impacts to nearby residences. The manufacturer of the RICE equipment provided B&M with sound data for the gas turbines. The sound levels for the auxiliary equipment from past projects of similar size and scope were used to estimate proposed project sound levels. The model also incorporated assumptions about the sound reduction elements that would be used for the project, including radiators, concrete acoustical walls to maintain sound level targets for the proposed facilities.

During the operational phase of the project, there are no anticipated increases in train deliveries, meaning no corresponding increase in noise to residences as a result of increased rail traffic.

There are no anticipated fuel delivery trucks or ash removal trucks. The project facilities do notproduce steam, and no noise from steam blows or cooling towers would occur. No noise would be generated from these types of facilities, as can occur at other types of fossil fuel generation facilities.

The Commission's Noise Measurement Protocol requires post-construction sound and vibration measurements as well as measurements before the project is built, so that impacts can be better determined and improved mitigation could be incorporated. Post-construction measurements are required within 12 months of the date when the project is fully operational and within two weeks of the anniversary date of the required pre-construction ambient noise measurements. Differences in as-built sound levels from those determined from the historic data provided by the manufacturer may require specific mitigation to meet noise limits. If data from post-construction measurements show that sound levels are substantially higher than predicted, or if local residents file complaints about noise with the applicant or Commission, there may be ways to further mitigate noise. Concrete noise walls, vegetation plantings between the noise source and residential areas, and improved mechanical noise control components may be some ways to further mitigate any noise impacts.

[80] Sound levels taken from Washington State DOT Biological Assessment Training Manual, updated August 2020. Accessed at: https://wsdot.wa.gov/sites/default/files/2021-10/Env-FW-BA_ManualCH07.pdf, 7/1/2024.

5.5.8.2.5. Noise impacts at the Proposed Site

The modeling provided for the operational phase of the project assumes that each piece of equipment propagates its worst-case sound levels in all directions at all times. The applicant states that empirical studies accepted within the industry have demonstrated that modeling may over-predict sound levels in certain directions, and as a result, modeling results generally are considered a conservative measure of a project's actual sound level. The proposed RICE generators and associated equipment were modeled according to manufacturer-provided sound level data. The sound modeling results demonstrate that sound level generated by the project would not exceed the target values of 50 dBA and 68 dBC L_{90} at the outside wall of any occupied residences. The nearest residential properties to the Proposed Site are located approximately 1,250 feet from the facility footprint. The sound modeling done in the study predicted a range of sound levels for the ambient sound survey locations (MPs 1-4) at the Proposed Site at 43-71dBA L_{eg} and 62-84 dBC L_{90}. The sound modeling predicted a range of sound levels at the nearest Proposed Site receiver locations (rec01-rec10) at 38-44 dBA L_{eq}. The modeled specific quantified dBC L_{90} levels at the nearest receiver locations were not provided by the applicant, but the figures in the model appendices depict that they would not exceed the target of 68 dBC L_{90} at any of the receiver locations.

5.5.8.3. Lighting

The proposed project may require night lighting for safety and security during construction. During potential extensions of working hours, temporary lighting may be used in the construction and laydown areas. If work extends into the evening, the applicant intends to utilize portable light if temporary lighting is necessary during construction. Lights would be turned to focus on work activities, so as not to shine on neighboring properties or on-coming traffic. During operation, outdoor light fixtures would be fully shielded and directed downward to minimize light visible from adjacent properties and to reduce glare in the area. Any floodlights required for the operation of the project facilities would be directed inward towards the facility and would have top and side shields. To the extent practicable, lighting for security purposes would be turned on either by a local switch, as needed, or by motion sensors that would be triggered by movement.

5.5.8.3.1. During construction

All of these operations produce noise that may impact adjacent landowners. Properties near laydown yards and staging areas may have increased light impacts. Normal work schedules and local ordinances usually restrict noise-producing activities to daytime hours.

5.5.8.3.2. During operation

Vibrations or humming noise can be noticeable and is most often associated with older transmission lines. These vibrations are usually caused by conductor mounting hardware that loosened slightly over the years. When known, this maintenance issue can be identified and repaired by the utility. The other types of sounds caused by transmission lines include sizzles, crackles, or hissing noises that occur during periods of high humidity. These sounds are usually associated with high-voltage transmission lines and are very weather dependent. They are caused by the ionization of the moist air near the wires. This noise would be audible to those close to the transmission lines, but quickly dissipates with distance and would be drowned out by typical background noises. On windy days, the wind may be heard blowing through the wires, but other ambient noise may keep this from being overly intrusive.

Ionization of transmission lines in foggy conditions can also cause a **corona.** Corona is a luminous blue discharge of light, usually where the wires connect to the insulators. A corona indicates the loss of power where it occurs, which indicates inefficiency and economic loss. Power transmission equipment is designed to minimize the formation of corona discharge to maintain efficient operation and reduce power

loss. Corona emissions can cause small amounts of radio-frequency interference (RFI), primarily to AM radio signals. However, this effect is low, even in proximity to the ROW, and meets reception guidelines of the Federal Communications Commission (FCC).

Corona could also indicate areas of wear and damage on the transmission line, again a good reason for utilities to identify, examine, and repair any damage if observed. In other situations, the attachment of bird deflectors can sometimes increase the angular edges on the transmission lines and in turn increase corona emissions. Birds might also be deterred from landing on lines that are experiencing corona emissions because of the resulting noise and ultraviolet light.

Substation noise and light may impact residential properties located in close proximity to those facilities.

5.5.9. Local economics

The Town of Paris and County of Kenosha would receive payments in lieu of taxes of approximately $256,000 annually (one-third to the town; two-thirds to the county) from the state of Wisconsin for hosting a generation facility. County sales tax revenues are likely to increase over time, especially during the intense construction phase.

According to the applicants, regional economic benefits are estimated at around one billion dollars over 20 years. The facility would employ about ten full-time, permanent positions and construction would create approximately 200 jobs at peak, which may draw investment to local businesses for the up to two-year construction phase.

CHAPTER

6

6. Environmental Review: Alternative Site 1

6.1. SITE DESCRIPTION

Alternative Site 1 is located approximately one-half mile south of the existing PGS. The site is accessible from 172nd Avenue via CTH KR from the north. The site is approximately 13.6 acres in size with an additional 18.5 acres of laydown/trailer area, construction matting, and other disturbances on a 78-acre parcel owned by WEPCO. It is currently developed to host solar panels as a portion of Paris Solar. Alternative Site 1 has only one gen-tie route, and it would run from the west side of the facility footprint roughly northeast to the Paris Solar substation. Alternative Site 1 is bordered to the north by the existing Paris Generating Station; agricultural land to the East; 172nd Avenue (County Road D), a partial development, and rural residential properties to the West; and 7th Street (County Road A), rural residential properties, and agricultural land to the South.

During the field investigation completed in October 2023, eight wet meadow wetlands were identified within Alternative Site 1. Of these eight wetlands, one is adjacent to a mapped stormwater pond within the developed portion of the site, two are roadside ditches along the western boundary, three wetlands are shallow depressions and/or swales within the developed portion of the site, one wetland is a shallow depression within the undeveloped southwestern portion of the site, and one wetland is part of a larger, natural wetland that continues offsite to the north and east.

6.1.1. Site history

Alternative Site 1 and associated gen-tie is located at the existing Paris Solar facility, on a 78-acre parcel owned by WEPCO, Madison Gas and Electric (MGE), and Wisconsin Public Service Corporation (WPSC). The property was historically used as cultivated agricultural land, and the property was cultivated agricultural land when it was purchased in 2022. To the best of the applicant's knowledge, none of the previous uses at any of the sites or gen-tie ROW resulted in site contamination.

6.1.2. Land use and zoning

Alternative Site 1 is a former agricultural parcel that has been developed for utility purposes and consists of the Paris Solar Collector Substation, Paris Solar operations and maintenance building, solar panels, gravel pads and roads, and stormwater ponds, as well as areas of old field vegetation and fresh (wet) meadow wetlands where not developed.

All three of the sites are located within the Town of Paris, and the current land use is based on the Kenosha County Comprehensive Plan 2035 that provides guidance to the towns, villages, and cities within the county. All three sites share an A-1 agricultural land zoning classification. The applicant does not anticipate a zoning change would be required for any of the sites to host the generation facility under conditional use for utility infrastructure.

6.2. AGRICULTURAL RESOURCES

General Information on agricultural resources and potential impacts from utility infrastructure can be found in Section 5.2 of this EIS.

6.2.1. Agricultural impact statement

General information on agricultural impact statements prepared by DATCP can be found in Section 5.2.1 of this EIS. DATCP did not prepare an AIS for any of the proposed power plants sites but only prepared an AIS for the generation tie-line routes proposed in association with the proposed power plant site.

6.2.2. Mitigation strategies

General information on agricultural resource impact mitigation strategies and protected lands such as CRP, CREP, FPP, and MFL can be found in Sections 5.2.2-5.2.3.4 of this EIS.

6.2.3. Agricultural impacts at Alternative Site 1

The applicant states that the agricultural practices review they conducted was based on field observations along accessible routes, aerial photograph review, database queries and review of public comments provided to the applicant in their open meeting process.

If approved, Alternative Site 1 is not anticipated to cause any impacts to agricultural land. However, the site and associated gen-tie would permanently disturb 1.73 acres of old field, and temporarily disturb 4.69 acres of other old field areas. While this site and associated gen-tie would not be anticipated to impact drainage systems, the applicant would minimize impacts to potentially present agricultural infrastructure to previously cultivated fields by working with landowners and the county drainage board to identify the location of known drain tiles. Any damage to irrigation systems or drain tiles would be repaired.

6.3. ARCHAEOLOGICAL AND HISTORIC RESOURCES

General information on archaeological and historic resources as well as statutory review processes can be found in Section 5.3 of this EIS.

6.3.1. Compliance with Wis. Admin. Code § PSC 4.30(3)(f) and Wis. Stat. § 44.40

General information on the archaeological review for the proposed project area can be found in Sections 5.3.1-5.3.5.1 of this EIS.

6.3.2. Resources at Alternative Site 1

No catalogued historic properties were identified at Alternative Site 1. However, WHPD AHI property 225108 is located across the road, west of Alternative Site 1. No impacts to the historic property are anticipated as a result of the proposed project's construction.

6.3.3. SHPO review

On September 30, PSC received a response from SHPO that they have completed review of the proposed project. SHPO found that that the project would have no adverse effect on historic properties within the APE because there are no eligible properties in the project area to the best of our knowledge at this time. SHPO stated that pending the results of the applicant's additional fieldwork (Phase I survey) for properties to be obtained, this finding may be modified. SHPO stated that if plans change or cultural materials/human remains are found during the project, please halt all work and contact SHPO. SHPO provided an email as your official SHPO concurrence for the project.

6.4. NATURAL RESOURCES

This section describes many of the common natural resource impacts related to the construction and operation of electric generation facilities as well as potential impacts associated with approval of Alternative Site 1 and associated facilities.

6.4.1. Air emissions

General information on air emissions can be found in Section 5.4.1 of this EIS.

6.4.1.1. Pollutants and controls

General information on pollutants and controls can be found in Section 5.4.1.1 of this EIS.

6.4.1.2. Criteria pollutants

General information on criteria pollutants can be found in Section 5.4.1.2 of this EIS.

6.4.1.3. Maximum potential emissions and PSD thresholds

General information on maximum potential emissions and PSD thresholds can be found in Section 5.4.1.3 of this EIS.

A PSD permit is not needed for the project at its Proposed Site. However, due to its proximity to PGS, construction at Alternative Site 1 may potentially require a PSD permit. If constructed at this location, the project could constitute a major modification of an existing PSD major source instead of the construction of a PSD minor source. A major modification requires a PSD permit. Based on the emissions information provided in the air permit application, the project as a major PSD modification would be subject to Best Available Control Technology (BACT) requirements for CO, NOx, PM, PM10, PM2.5, VOC and GHG emissions. Applying BACT for these air pollutants would not be expected to greatly impact the emission control technology used for the RICE generator units. The SCR and oxidation catalysts proposed by WEPCO in their air permit application would likely be considered BACT, but BACT emission limits would potentially be lower than the PTE emission rates specified by WEPCO in their air permit application.

6.4.1.4. Air quality impacts of the facilities

General information on air quality impacts of the facilities can be found in Section 5.4.1.4 of this EIS.

6.4.1.5. Hazardous air pollutants

General information on hazardous air pollutants can be found in Section 5.4.1.5 of this EIS.

6.4.1.6. Dust and diesel exhaust from equipment

General information on dust and diesel exhaust from equipment can be found in Section 5.4.1.6 of this EIS.

6.4.1.7. Greenhouse gases

General information on greenhouse gases can be found in Section 5.4.1.7 of this EIS.

6.4.2. Endangered resources

General information on endangered resources and potential impacts in the project area can be found in Sections 5.4.2-5.4.5.5 of this EIS.

6.4.2.1. Anticipated impacts and recommended mitigation

A Certified Endangered Resources (ER) review was completed by the DNR's ER Energy Liaison on April 4, 2024 for the project areas. The DNR provided recommended actions for each species. 'Recommended actions' are those the Department strongly encourages to help prevent future endangered resources listings and protect Wisconsin's biodiversity for future generations. Based on the results of the review, there are no rare species likely to occur at Alternative Site 1.

The NHI database contains known records for endangered resources; however, most areas of the state have not been surveyed extensively or recently, so the NHI data should not be solely relied upon, particularly in areas dominated by private lands. In areas where suitable habitat exists for protected species, but occurrences have not been recorded in the NHI database, there may be recommended activities that could mitigate or avoid potential impacts to protected species.

If approved, this project may begin construction over a year from the ER review date. DNR regularly updates the NHI database as new species records are discovered and when previous records are checked to determine if the species is still present. If the project is approved, the applicants should conduct an updated review closer to the construction start date to determine if any change to the ER review would create the need for additional actions to avoid impacts to protected species.

6.4.3. Forested resources

General information of forest resources, potential impacts, and known mitigation strategies can be found in Sections 5.4.3-5.4.3.4 of this EIS.

6.4.3.1. Forest resources and impacts at Alternative Site 1

Upland forested lands were observed off-site to the north, bordering the northern boundary of Alternate Site 1. Canopy species within the upland forest includes saw to pole size red oak and shagbark hickory, and common buckthorn in the understory, and species observed in the mesic forest adjacent to the mapped waterway included silver maple (Acer saccharinum), weeping willow (Salix babylonica), and boxelder (Acer negundo) in the canopy, and buckthorn, honeysuckle, and Virginia creeper (Parthenocissus quinquefolia) in the understory.

No forested lands occur within Alternate Site 1; therefore, no forest land impacts would occur as a result of construction at this location.

6.4.4. Geology, topography, and soils

General information on geology, topography, and soils in the proposed project area can be found in Section 5.4.4 of this EIS.

Alternative Site 1 slopes gradually to the southeast and is comprised mostly of Markham silt loam (2 to 6 percent slopes, both eroded and non-eroded). Final grading would be determined during design phase of project and significant impacts to the overall site topography are not anticipated.

To avoid and minimize soil erosion and sediment transport, erosion and sediment control, the applicant states that BMPs would be used in accordance with the WDNR's Storm Water Construction and Post-Construction Technical Standards and requirements of the anticipated WDNR Construction Storm water permit. Further details would be provided in the Erosion Control and Storm Water Management Plan to be submitted to the WDNR upon Commission approval of the project. Any excess soil accumulated during construction of the facility would be used onsite to the extent practicable. Hauling soils off-site would not be anticipated to be necessary.

6.4.5. Grassland resources

General information on grassland resources, potential impacts, and mitigation strategies can be found in Sections 5.4.4-5.4.4.1 of this EIS.

6.4.5.1. Grassland impacts at Alternative Site 1

Alternative Site 1 is predominantly developed and includes the Paris Solar substation in the northeast corner, as well as a Paris Solar facility operations and maintenance building, solar panels, and gravel pads and roads. Prior to development, Alternative Site 1 was used for row crop agriculture for several decades. Areas not developed were seeded to provide vegetative cover for erosion control purposes following active construction. As a result, where not developed, the site contains old field grassland communities consisting primarily of barnyard grass, common dandelion (Taraxacum officinale), common oat, frost aster, Japanese bristlegrass, horseweed, Kentucky bluegrass, perennial sow thistle, quackgrass, wild carrot (Daucus carota), and yellow foxtail.

6.4.6. Hazardous materials, solid waste, and wastewater

General information on hazardous materials, solid waste, and wastewater associated with the proposed project can be found in Sections 5.4.5-5.4.5.3 of this EIS.

6.4.7. Invasive species

General information on invasive species, mitigation strategies and BMPs associated with the proposed project can be found in Sections 5.4.6-5.4.6.3 of this EIS.

6.4.7.1. Invasive species at Alternative Site 1

Three invasive plant species were observed and recorded within the Alternative Site 1; all species are listed in the WDNR NR40 Invasive Species Rule. The NR40 species observed included the following:

- Canada thistle (*Cirsium arvense*)
- garlic mustard (*Allaria petiolata*)
- musk thistle (*Carduus nutans*)

6.4.7.2. Mitigation strategies

In compliance with Wis. Admin. Code NR 40 – Invasive Species Identification, Classification and Control, the applicant would mitigate the potential to spread invasive species during project activities. The applicant would identify invasive species locations on the construction plans and flagged onsite to avoid during construction, where feasible. In areas where impacts to the invasive species are unavoidable, the

applicant would require that equipment be cleaned prior to moving from an infested area to a non-infested area. Construction equipment brought onsite would be required to be free of muck and invasive species. Equipment cleaning would primarily be conducted by brush, broom, or other hand tools at the project site. The applicant may periodically require equipment to be cleaned by compressed air. Equipment used during ground-disturbing activities would be cleaned prior to leaving the project site to reduce the risk of spreading invasive species beyond the site. In accordance with Wis. Admin. Code NR 40 and the DATCP, seed mixtures that contain potentially invasive species or species that may be harmful to native communities would be avoided. Seed would be tested for purity, germination, and noxious weed seed content, and would meet the minimum requirements prescribed in the current edition of Rules for Testing Seed, published by the Association of Official Seed Analysts.

6.4.8. Upland land cover

Upland land cover discussed in this EIS includes agricultural lands, old fields, developed areas, grasslands, woodlands, and wetlands.

None of the project areas associated with Alternative Site 1 include any agricultural lands. Land previously developed for agriculture, described as old field, was found at the Alternative Site 1 project area and the associated gen-tie ROW. Approval of Alternative Site 1 would result in 1.73 acres of permanent impacts and 4.69 acres of temporary impacts to old field.

Areas developed for industrial and residential use would be the land cover type most impacted as a result of Alternative Site 1 being approved. Most of the most of this land is associated with the Paris Solar facility that is currently under construction. Approval of Alternative Site 1 would result in 11.88 acres of permanent impacts to developed land at the generation site, and a total of 20.67 acres of temporary impacts to developed land in the gen-tie ROW, laydown areas, and other disturbance areas.

No grasslands or woodlands would be impacted as a result of an approval of Alternative Site 1. However, construction matting for Alternative Site 1 would result in .24 acres of temporary impacts to wetlands. Wetland impacts are discussed in more detail in section 5.2.5.

Overall, approval of Alternative Site 1 would result in 13.61 acres of permanent impacts, and 25.6 acres of temporary impacts in land disturbance.

6.4.9. Waterways

General information on waterways and associated impacts, mitigation, and permitting can be found in Section 5.4.8 of this EIS.

6.4.10. Wetland resources

General information on wetlands and associated impacts, mitigation, and permitting can be found in Section 5.4.9 of this EIS.

6.4.10.1. Wetlands at Alternative Site 1

Based on the wetland delineations, the following is a summary of the wetland types within Alternative Site 1:

- W01-S, W02-S, W03-S, W04-S, W05-S, W06-S, W07-S and W08-S – are fresh (wet) meadow communities where species in the herb stratum are most dominant, with a majority being grasses and forbs. This community can be both temporary or persist for an extended period and are often

influenced by disturbance, artificial drainage, or seasonal inundation. Dominant plant species include barnyard grass (Echinochloa crus-galli, FACW), fall panicgrass (Panicum dichotomiflorum, FACW), Kentucky bluegrass (Poa pratensis, FAC), reed canary grass (Phalaris arundinacea, FACW), water smartweed (Persicaria amphibia, OBL), and yellow foxtail (Setaria pumila, FAC).

Table 6-1 Wetlands at Alternative Site 1

Wetland ID	Observed Wetland Type	Acreage (on-site)
W01-S	Fresh (wet) meadow	0.30
W02-S	Fresh (wet) meadow	0.26
W03-S	Fresh (wet) meadow	0.12
W04-S	Fresh (wet) meadow	0.07
W05-S	Fresh (wet) meadow	0.24
W06-S	Fresh (wet) meadow	1.44
W07-S	Fresh (wet) meadow	0.01
W08-S	Fresh (wet) meadow	0.06
SUBTOTAL		**2.5**

6.4.10.2. Anticipated wetland impacts for Alternative Site 1

The Alternate Site 1 would include approximately 3,632 square feet (0.08 acres) of temporary wetland fill (W08-S) for the placement of construction matting to facilitate the installation of transmission line to the existing substation. No permanent wetland fill or forested wetland conversion would occur as part of Alternate Site 1.

6.4.11. Wildlife

General information on wildlife and potential impacts in the proposed project area can be found in Section 5.4.10 of this EIS.

6.5. COMMUNITY RESOURCES AND SOCIOECONOMIC IMPACTS

6.5.1. Environmental justice, nearby populations, and sensitive receptors

General information on environmental justice, nearby populations, and sensitive receptors near the proposed project area can be found in Section 5.5.2 of this EIS.

6.5.2. Local community services

General information on local community services in the proposed project area can be found in Section 5.5.3 of this EIS.

6.5.3. Local infrastructure

General information on existing infrastructure and potential impacts in the proposed project area can be found in Section 5.5.4 of this EIS.

6.5.4. Local jobs

General information on workforce required for the proposed project can be found in Section 5.5.5 of this EIS.

6.5.5. Property value studies

General information on property values and potential impacts can be found in Section 5.5.6 of this EIS.

6.5.6. Recreation and tourism

General information on recreation and tourism in the proposed project area can be found in Section 5.5.7 of this EIS.

The only park or recreational area within 0.5 miles of the project is a snowmobile trail that is located along the southern edge of the existing Paris Solar Facility (Alternative Site 1). No other parks or public use recreation areas exist within 0.5 miles of the project boundary. As a result, no impacts are anticipated to occur to any public recreation areas, trails, or parks.

6.5.7. Safety standards

General information on safety standards and concerns related to transmission lines, stray voltage, EMF, and more can be found in Section 5.5.8 of this EIS.

6.5.8. Views, aesthetics, noise, and lighting

6.5.8.1. Aesthetics

General information on aesthetics and potential impacts in the project area can be found in Section 5.5.9.1 of this EIS.

6.5.8.1.1. Aesthetic impacts at Alternative Site 1

Both of the Alternative sites would be located near the existing Paris Generating Station, along with existing aboveground high voltage 345-kV transmission lines.[81] Alternative Site 1 would also be located adjacent to the Paris Solar Facility and the associated Paris Solar Collector Substation and aboveground electrical lines. The applicant states that due to the location of the site and the facility being situated along the middle of the property for Alternate site 1, the proposed project is not anticipated to include additional components to improve aesthetics.

6.5.8.2. Noise and sound

General information on noise and sound, standards for noise levels, and the Sound Assessment Study for the proposed project can be found in Section 5.5.9.4 of this EIS.

6.5.8.2.1. Pre-construction phase

General information on the existing sound level measurement process can be found in Section 5.5.9.4.2 in this EIS. The range of measured existing sound levels at the four MPs (5-8) at the extents of the Alternative Site 1 footprint and other nearby locations ranged from 44 to 59 dBA L_{eq} and 56-66 dBC L_{90}.

[81] PSC REF#: 496323 Volume I Appendix CC - Photo Simulations - Alt Sites 1 and 2.

6.5.8.2.2. Noise impacts at Alternative Site 1

The nearest residential properties to Alternative Site 1 are located approximately 450 feet from the facility footprint. The sound modeling done in the study predicted a range of sound levels for the ambient sound survey locations (MPs 5-8) at Alternative Site 1 at 44-64 dBA L_{eq} and 63-82 dBC L_{90}. The sound modeling predicted a range of sound levels at the nearest Alternative Site 1 receiver locations (rec10-rec14) at 40-44 dBA. The modeled specific quantified dBC L_{90} levels at the nearest receiver locations were not provided by the applicant, but the figures in the model appendices depict that they would not exceed the target of 68 dBC L_{90} at any of the receiver locations.

6.5.8.3. Lighting

General information on lighting for the proposed project can be found in Section 5.5.9.6 of this EIS.

6.5.9. Local economics

General information on local economics as a result of the proposed project can be found in Section 5.5.10 of this EIS.

CHAPTER

7

7. Environmental Review: Alternative Site 2

7.1. SITE DESCRIPTION

Alternative Site 2 is located adjacently east of the existing PGS. The site would be accessible via the PGS property to the west or CTH KR to the north. The site is approximately 11 acres in size with an additional 31 acres of laydown/trailer area, construction matting, and other disturbances on a 111-acre parcel that is not currently under ownership by WEPCO. It is currently developed for agricultural use. Alternative Site 2 would have only one gen-tie route, and it would run from the east side of the facility footprint south and then roughly west to the Paris Solar substation. Alternative Site 2 is bordered to the north by 1st Street (County Road KR), agricultural land and a rural residential property to the east, the existing Paris Generating Station to the west, and additional agricultural land to the south.

During the field investigation completed in December 2023, nine wetlands were identified and included wet meadow, shallow marsh, and seasonally flooded basin (farmed) communities. Following field verification completed in June 2024, four additional wetlands were identified and included seasonally flooded basins (farmed).

7.1.1. Site history

Alternative Site 2 is located at existing cultivated agricultural and residential land on three parcels that total 111-acres. Two parcels are owned by the Jaeger Family Asset Trust and the other by the Lamping family. These properties have historically been utilized for agricultural and residential purposes. To the best of the applicant's knowledge, none of the previous uses at any of the sites or gen-tie ROW resulted in site contamination.

7.1.2. Land use and zoning

Alternate Site 2 is in active agricultural parcel. During the field investigation completed in December 2023, nine wetlands were identified and included wet meadow, shallow marsh, and seasonally flooded basin (farmed) communities. Following field verification completed in June 2024, four additional wetlands were identified and included seasonally flooded basins (farmed).

All three of the sites are located within the Town of Paris, and the current land use is based on the Kenosha County Comprehensive Plan 2035 that provides guidance to the towns, villages, and cities within the county. All three sites share an A-1 agricultural land zoning classification. The applicant does not

anticipate a zoning change would be required for any of the sites to host the generation facility under conditional use for utility infrastructure.

7.2. AGRICULTURAL RESOURCES

General Information on agricultural resources and potential impacts from utility infrastructure can be found in Section 5.2 of this EIS.

7.2.1. Agricultural impact statement

General information on agricultural impact statements prepared by DATCP can be found in Section 5.2.1 of this EIS. DATCP did not prepare an AIS for any of the proposed power plants sites but only prepared an AIS for the generation tie-line routes proposed in association with the proposed power plant site.

7.2.2. Mitigation strategies

General information on agricultural resource impact mitigation strategies and protected lands such as CRP, CREP, FPP, and MFL can be found in Sections 5.2.2-5.2.3.4 of this EIS.

7.2.3. Agricultural impacts at Alternative Site 2

The applicant states that the agricultural practices review they conducted was based on field observations along accessible routes, aerial photograph review, database queries and review of public comments provided to the applicant in their open meeting process.

Alternative Site 2 would permanently impact 9.49 acres of agricultural land, with the gen-tie, laydown area(s), and other disturbances resulting in approximately 32.5 acres of temporary impacts to agricultural land. The applicant states that no irrigation systems, aerial seeding or spraying, or organic farms were observed at Alternative Site 2 or along the associated gen-tie route. While not observed, it is possible that drain tiles are present at the site and gen-tie route that may be impacted if Alternative Site 2 is approved.

The applicant anticipates minimal construction impacts in and around agricultural lands, outside of the proposed layout of the project facilities. The applicant would minimize impacts to agricultural soils by segregating topsoil from the construction area and stockpiling it separately from other excavated soils; and utilizing erosion controls such as silt fences, straw bales, and erosion matting. As needed, the applicant would restore soils via de-compaction of the subsoil, replacement and de-compaction of topsoil, and removal of any rocks in the topsoil. The applicant would minimize impacts to agricultural infrastructure by working with landowners and the county drainage board to identify the location of known drain tiles. Any damage to irrigation systems or drain tiles would be repaired.

7.3. ARCHAEOLOGICAL AND HISTORIC RESOURCES

General information on archaeological and historic resources as well as statutory review processes can be found in Section 5.3 of this EIS.

7.3.1. Compliance with Wis. Admin. Code § PSC 4.30(3)(f) and Wis. Stat. § 44.40

General information on the archaeological review for the proposed project area can be found in Sections 5.3.1-5.3.5.1 of this EIS.

7.3.2. Resources at Alternative Site 2

No catalogued historic properties were identified at Alternative Site 2.

7.3.3. SHPO review

On September 30, PSC received a response from SHPO that they have completed review of the proposed project. SHPO found that that the project would have no adverse effect on historic properties within the APE because there are no eligible properties in the project area to the best of our knowledge at this time. SHPO stated that pending the results of the applicant's additional fieldwork (Phase I survey) for properties to be obtained, this finding may be modified. SHPO stated that if plans change or cultural materials/human remains are found during the project, please halt all work and contact SHPO. SHPO provided an email as your official SHPO concurrence for the project.

7.4. NATURAL RESOURCES

This section describes many of the common natural resource impacts related to the construction and operation of electric generation facilities as well as potential impacts associated with approval of Alternative Site 2 and associated facilities.

7.4.1. Air emissions

General information on air emissions can be found in Section 5.4.1 of this EIS.

7.4.1.1. Pollutants and controls

General information on pollutants and controls can be found in Section 5.4.1.1 of this EIS.

7.4.1.2. Criteria pollutants

General information on criteria pollutants can be found in Section 5.4.1.2 of this EIS.

7.4.1.3. Maximum potential emissions and PSD thresholds

General information on maximum potential emissions and PSD thresholds can be found in Section 5.4.1.3 of this EIS.

A PSD permit is not needed for the project at its Proposed Site. However, due to its proximity to PGS, construction at Alternative Site 2 would require a PSD permit. If constructed at this location, the project would constitute a major modification of an existing PSD major source instead of the construction of a PSD minor source. A major modification requires a PSD permit. Based on the emissions information provided in the air permit application, the project as a major PSD modification would be subject to BACT requirements for CO, NOx, PM, PM10, PM2.5, VOC and GHG emissions. Applying BACT for these air pollutants would not be expected to greatly impact the emission control technology used for the RICE generator units. The SCR and oxidation catalysts proposed by WEPCO in their air permit application would likely be considered BACT, but BACT emission limits would potentially be lower than the PTE emission rates specified by WEPCO in their air permit application.

7.4.1.4. Air quality impacts of the facilities

General information on air quality impacts of the facilities can be found in Section 5.4.1.4 of this EIS.

7.4.1.5. Hazardous air pollutants

General information on hazardous air pollutants can be found in Section 5.4.1.5 of this EIS.

7.4.1.6. Dust and diesel exhaust from equipment

General information on dust and diesel exhaust from equipment can be found in Section 5.4.1.6 of this EIS.

7.4.1.7. Greenhouse gases

General information on greenhouse gases can be found in Section 5.4.1.7 of this EIS.

7.4.2. Endangered resources

General information on endangered resources and potential impacts in the project area can be found in Sections 5.4.2-5.4.5.5 of this EIS.

7.4.2.1. Anticipated impacts and recommended mitigation

A Certified Endangered Resources (ER) review was completed by the DNR's ER Energy Liaison on April 4, 2024 for the project areas. The DNR provided recommended actions for each species. 'Recommended actions' are those the Department strongly encourages to help prevent future endangered resources listings and protect Wisconsin's biodiversity for future generations. Based on the results of the review, there is potential for suitable habitat for one special concern bird species at the Alternative Site 2. Conducting a habitat assessment would be recommended and if suitable habitat is found for the species, presence/absence surveys should be conducted. If the rare bird is present, avoiding work during the nesting season is recommended.

The NHI database contains known records for endangered resources; however, most areas of the state have not been surveyed extensively or recently, so the NHI data should not be solely relied upon, particularly in areas dominated by private lands. In areas where suitable habitat exists for protected species, but occurrences have not been recorded in the NHI database, there may be recommended activities that could mitigate or avoid potential impacts to protected species.

If approved, this project may begin construction over a year from the ER review date. DNR regularly updates the NHI database as new species records are discovered and when previous records are checked to determine if the species is still present. If the project is approved, the applicants should conduct an updated review closer to the construction start date to determine if any change to the ER review would create the need for additional actions to avoid impacts to protected species.

7.4.3. Forested resources

General information of forest resources, potential impacts, and known mitigation strategies can be found in Sections 5.4.3-5.4.3.4 of this EIS.

7.4.3.1. Forest resources and impacts at Alternative Site 2

A narrow band of upland forest is present along the western boundary of Alternative Site 2 and extends offsite to the west. Predominant canopy trees within these forested areas include saw to pole size black cherry (Prunus serotina), red oak, shagbark hickory, northern pin oak (Quercus ellipsoidalis), along with common buckthorn in the understory.

Approximately 0.43 acres of forested lands would require clearing along the western boundary of Alternative Site 2 to allow for site access.

7.4.4. Geology, topography, and soils

General information on geology, topography, and soils in the proposed project area can be found in Section 5.4.4 of this EIS.

Alternative Site 2 slopes gradually to the south and is comprised mostly of Elliott silty clay loam (2 to 6 percent slopes). Final grading would be determined during design phase of project and significant impacts to the overall site topography are not anticipated.

To avoid and minimize soil erosion and sediment transport, erosion and sediment control, the applicant states that BMPs would be used in accordance with the WDNR's Storm Water Construction and Post-Construction Technical Standards and requirements of the anticipated WDNR Construction Storm water permit. Further details would be provided in the Erosion Control and Storm Water Management Plan to be submitted to the WDNR upon Commission approval of the project. Any excess soil accumulated during construction of the facility would be used onsite to the extent practicable. Hauling soils off-site would not be anticipated to be necessary.

7.4.5. Grassland resources

General information on grassland resources, potential impacts, and mitigation strategies can be found in Sections 5.4.4-5.4.4.1 of this EIS.

7.4.5.1. Grassland impacts at Alternative Site 2

The Alternative Site 2 is predominantly in row crop agricultural use. Three small (approximately 1.19 acres total) grassland areas were identified within the limits of disturbance. In a review of aerial imagery this area appears to be regularly cropped in most years. There is no mitigation proposed for the minimal permanent impacts to grasslands. Temporary disturbance to grasslands at Alternative Site 2 would be restored to preconstruction conditions as per any requirements associated with the existing stormwater management plan for this post-construction BMP.

7.4.6. Hazardous materials, solid waste, and wastewater

General information on hazardous materials, solid waste, and wastewater associated with the proposed project can be found in Sections 5.4.5-5.4.5.3 of this EIS.

7.4.7. Invasive species

General information on invasive species, mitigation strategies and BMPs associated with the proposed project can be found in Sections 5.4.6-5.4.6.3 of this EIS.

7.4.7.1. Invasive species at Alternative Site 2

Four invasive plant species were observed and recorded within Alternative Site 2; all species are listed in the WDNR NR40 Invasive Species Rule. The NR40 species observed included the following:

- hybrid cattail
- narrow-leaf cattail
- common buckthorn
- multiflora rose

7.4.7.2. Mitigation strategies

In compliance with Wis. Admin. Code NR 40 – Invasive Species Identification, Classification and Control, the applicant would mitigate the potential to spread invasive species during project activities. The

applicant would identify invasive species locations on the construction plans and flagged onsite to avoid during construction, where feasible. In areas where impacts to the invasive species are unavoidable, the applicant would require that equipment be cleaned prior to moving from an infested area to a non-infested area. Construction equipment brought onsite would be required to be free of muck and invasive species. Equipment cleaning would primarily be conducted by brush, broom, or other hand tools at the project site. The applicant may periodically require equipment to be cleaned by compressed air. Equipment used during ground-disturbing activities would be cleaned prior to leaving the project site to reduce the risk of spreading invasive species beyond the site. In accordance with Wis. Admin. Code NR 40 and the DATCP, seed mixtures that contain potentially invasive species or species that may be harmful to native communities would be avoided. Seed would be tested for purity, germination, and noxious weed seed content, and would meet the minimum requirements prescribed in the current edition of Rules for Testing Seed, published by the Association of Official Seed Analysts.

7.4.8. Upland land cover

Upland land cover discussed in this EIS includes agricultural lands, old fields, developed areas, grasslands, woodlands, and wetlands.

Alternative Site 2 would permanently disturb 9.49 acres of agricultural land, with the laydown area(s), gen-tie ROW, and other disturbances resulting in approximately 32.56 acres of temporary impacts to agricultural land. Agricultural lands would be the land cover type most impacted as a result of Alternative Site 2's approval, and they are discussed in more detail in sections 5.2, 6.2, and 7.2 of this EIS.

Land previously developed for agriculture, described as old field, was found within the Alternative Site 2 project area. Approval of the Alternative Site 2 would result in .05 acres of permanent impacts to old field.

Approval of Alternative Site 2 would result in .57 acres of permanent impacts to previously developed for residential use. A total of 2.41 acres of temporary impacts to developed lands would occur in areas associated with the gen-tie ROW and other disturbances related to Alternative Site 2.

Alternative Site 2 includes .19 acres of grasslands that would be permanently impacted. Other disturbances related to Alternative Site 2 would result in one acre of temporary impacts.

Alternative Site 2 also includes .43 acres of woodlands that would be permanently impacted.

Alternative Site 2 would permanently impact .2 acres of wetland. Construction matting for Alternative Site 2 would result in .24 acres of temporary impacts to wetlands. Wetland impacts are discussed in more detail in section 5.2.5.

Overall, approval of Alternative Site 2 would result in 10.93 acres of permanent impacts, and 37.21 acres of temporary impacts in land disturbance.

7.4.9. Waterways

General information on waterways and associated impacts, mitigation, and permitting can be found in Section 5.4.8 of this EIS.

7.4.10. Wetland resources

General information on wetlands and associated impacts, mitigation, and permitting can be found in Section 5.4.9 of this EIS.

7.4.10.1. Wetlands at Alternative Site 2

Based on the wetland delineations, the following is a summary of the wetland types within Alternative Site 2:

- W14-E, W15-E, W16-E, W17-E, W19-E, W20-E, W22-E, W23-E, W24-E, W25-E, W26-E – are seasonally flooded basin communities which are shallow, depressional wetlands with standing water in the spring or post-rainfall event for a brief period of time and are frequently cultivated. Dominant plant species include fall panicgrass (*Panicum dichotomiflorum,* FACW), red-root amaranth (*Amaranthus retroflexus*, FACU), and yellow foxtail (*Setaria pumila*, FAC). W05-E and W07-E also contained a Fresh (wet) Meadow component. While W14-E also contained a shallow marsh and fresh (wet) meadow component and W20-E also contained a fresh (wet) meadow component.
- W21-E and W08-Na – is a shallow marsh community which generally consists of emergent vegetation, or vegetation that is rooted in the marsh bottom while leaves extend above the water lines. Very few trees or shrubs are found in this community type. Dominant plant species in W21-E include hybrid cattail, narrowleaf cattail, American water-plantain (*Alisma subcordatum*, OBL), and reed canary grass. This wetland also contained a seasonally flooded basin component. Dominant plant species in W08-Na include included hybrid cattail, lake sedge (*Carex lacustris,* OBL), calico aster (*Symphyotrichum lateriflorum,* FACW), giant goldenrod, nodding beggar-ticks (*Bidens cernua,* OBL), spotted joe-pye weed (*Eutrochium maculatum*, OBL), and swamp aster (*Symphyotrichum puniceum*, OBL) in the herbaceous stratum, with scattered Bebb's willow, common buckthorn, black elderberry (*Sambucus nigra,* FAC), and sandbar willow in the sapling/shrub stratum.
- W08-Nb – hardwood swamp communities are characterized by a dominance of deciduous hardwood trees and can be seasonally inundated with as much as 12-inches of water. Topographic micro-depressions are frequently common in this community due to the presence of hummock-forming vegetation and periods of ponding. Dominant plant species include silver maple and box elder in the tree stratum; common buckthorn and nannyberry (*Viburnum lentago,* FAC) in the sapling/shrub stratum; and Virginia creeper in both vine and herbaceous strata.

Table 7-1 Wetlands at Alternative Site 2

Wetland ID	Observed Wetland Type	Acreage (on-site)
W14-E	Seasonally flooded basin, shallow marsh, fresh (wet) meadow	2.05
W15-E	Seasonally flooded basin	0.73
W16-E	Seasonally flooded basin	0.13
W17-E	Seasonally flooded basin	0.03
W19-E	Seasonally flooded basin	7.35
W20-E	Seasonally flooded basin, fresh (wet) meadow	0.12
W21-E	Shallow marsh (partially farmed)	2.51
W22-E	Seasonally flooded basin	0.67
W23-E	Seasonally flooded basin	0.07
W24-E	Seasonally flooded basin	0.07
W25-E	Seasonally flooded basin	0.13
W-26E	Seasonally flooded basin	0.18
W08-Na	Shallow marsh	2.50
W08-Nb	Hardwood swamp	0.39
SUBTOTAL		**16.93**

7.4.10.2. Anticipated wetland impacts at Alternative Site 2

The Alternate Site 2 would include approximately 8,918 square feet (0.20 acres) of permanent wetland fill (W19-E, W08-Na, W08-Nb) for the construction of permanent roads to access the proposed facility. Temporary wetland fill includes approximately 26,280 square feet (0.60 acres) of impact (W14-E and W08-S) associated with the placement of construction matting to facility the construction of the transmission line connection. Approximately 252 square feet of forested wetland conversion would occur as part of Alternate Site 2.

7.4.11. Wildlife

General information on wildlife and potential impacts in the proposed project area can be found in Section 5.4.10 of this EIS.

7.5. COMMUNITY RESOURCES AND SOCIOECONOMIC IMPACTS

7.5.1. Environmental justice, nearby populations, and sensitive receptors

General information on environmental justice, nearby populations, and sensitive receptors near the proposed project area can be found in Section 5.5.2 of this EIS.

7.5.2. Local community services

General information on local community services in the proposed project area can be found in Section 5.5.3 of this EIS.

7.5.3. Local infrastructure

General information on existing infrastructure and potential impacts in the proposed project area can be found in Section 5.5.4 of this EIS.

7.5.4. Local jobs

General information on workforce required for the proposed project can be found in Section 5.5.5 of this EIS.

7.5.5. Property value studies

General information on property values and potential impacts can be found in Section 5.5.6 of this EIS.

7.5.6. Recreation and tourism

General information on recreation and tourism in the proposed project area can be found in Section 5.5.7 of this EIS.

7.5.7. Safety standards

General information on safety standards and concerns related to transmission lines, stray voltage, EMF, and more can be found in Section 5.5.8 of this EIS.

7.5.8. Views, aesthetics, noise and lighting

7.5.8.1. Aesthetics

General information on aesthetics and potential impacts in the project area can be found in Section 5.5.9.1 and 5.5.9.2 of this EIS.

7.5.8.1.1. Aesthetic impacts at Alternative Site 2

Both of the Alternative sites would be located near the existing Paris Generating Station, along with existing aboveground high voltage 345-kV transmission lines.[82] The applicant states that due to the location of the site and the facility being situated along the southern portion of the property for Alternate Site 2, the proposed project is not anticipated to include additional components to improve aesthetics.

7.5.8.2. Noise and sound

General information on noise and sound, standards for noise levels, and the Sound Assessment Study for the proposed project can be found in Section 5.5.9.4 of this EIS.

7.5.8.2.1. Pre-construction phase

General information on the existing sound level measurement process can be found in Section 5.5.9.4.2 in this EIS. The range of measured existing sound levels at the three nearest MPs (9-11) at the extents of the Alternative Site 1 footprint and other nearby locations ranged from 44 to 59 dBA.

7.5.8.2.2. Noise impacts at Alternative Site 2

The nearest residential properties to Alternative Site 2 are located approximately 1,300 feet from the facility footprint. The sound modeling done in the Sound Assessment Study predicted a range of sound levels for the three nearest ambient sound survey locations (MPs 9-11) at Alternative Site 2 at 40-64 dBA L_{eq} and 60-79 dBC L_{90}. The sound modeling predicted a range of sound levels at the nearest Alternative Site 2 receiver locations (rec15-rec18) at 39-44 dBA. The modeled specific quantified dBC L_{90} levels at the nearest receiver locations were not provided by the applicant, but the figures in the model appendices depict that they would not exceed the target of 68 dBC L_{90} at any of the receiver locations.

7.5.8.3. Lighting

General information on lighting for the proposed project can be found in Section 5.5.9.6 of this EIS.

7.5.9. Local economics

General information on local economics as a result of the proposed project can be found in Section 5.5.10 of this EIS.

[82] PSC REF#: 496323 Volume I Appendix CC - Photo Simulations - Alt Sites 1 and 2.

CHAPTER
8

8. Summary of Project and Impacts

8.1. ANTICIPATED IMPACTS AND ANY MITIGATION ACTIONS

8.1.1. Air quality

Construction impacts would include releasing diesel fumes from equipment and dust from ground disturbance activities. Some effects may be reduced or minimized but could not be entirely eliminated as a result of project mitigation activities. Impacts to air quality resulting from operation of the generating facility would be marginally less if constructed and permitted at Alternative Site 2 as opposed to the Proposed Site or Alternative Site 1 due to more stringent permitting thresholds and pollution controls at the adjacent existing PGS property.

Combustion of fossil fuels would cause direct effects to air quality through the emission of pollutants, including greenhouse gases, and therefore an indirect contribution to global climate change. Emissions of pollutants into the air would also cause indirect adverse health effects to the humans, animals, and other living organisms that breath the affected air. Specific estimated quantities of emitted pollutants and permitting thresholds are discussed in detail in section 5.4.1.

Cumulative effects of the project would include the air emissions resulting from extracting materials to make natural gas, manufacturing processes of natural gas, and transport and storage of natural gas as the ongoing fuel source for the proposed power plant.

Neither Commission nor DNR staff have any specific recommendations to avoid, minimize, or mitigate impacts to air quality as a result of the proposed project outside of what the applicant would already be required to implement.

8.1.2. Agricultural lands

The Proposed Site would permanently disturb 12.92 acres of agricultural land, with the laydown area(s) and other disturbances resulting in approximately 21.5 acres of temporary impacts to agricultural land. If approved with the Proposed Site, the Proposed Gen-Tie would temporarily disturb 7.55 acres, while the Alternative Gen-Tie would temporarily disturb 20.66 acres of agricultural land.

If the Proposed Site is approved, clearing of windbreaks along the western boundary of the Proposed Site, as well as the western and eastern terminus of the associated Gen-Tie Corridor, would be anticipated.

If approved, Alternative Site 1 is not anticipated to cause any impacts to agricultural land. However, the site and associated gen-tie would permanently disturb 1.73 acres of old field, and temporarily disturb 4.69 acres of other old field areas.

Alternative Site 2 would permanently impact 9.49 acres of agricultural land, with the gen-tie, laydown area(s), and other disturbances resulting in approximately 32.5 acres of temporary impacts to agricultural land.

The applicant anticipates minimal construction impacts in and around agricultural lands, outside of the proposed layout of the project facilities. The applicant would minimize impacts to agricultural soils by segregating topsoil from the construction area and stockpiling it separately from other excavated soils; and utilizing erosion controls such as silt fences, straw bales, and erosion matting. As needed, the applicant would restore soils via de-compaction of the subsoil, replacement and de-compaction of topsoil, and removal of any rocks in the topsoil. The applicant would minimize impacts to agricultural infrastructure by working with landowners and the county drainage board to identify the location of known drain tiles. Any damage to irrigation systems or drain tiles would be repaired.

While not observed, it is possible that drain tiles are present at the Proposed Site and Gen-Tie Corridor, and Alternative Site 2 that may be impacted by construction of the proposed project. While Alternative Site 1 would not be anticipated to impact drainage systems, the applicant would minimize impacts to potentially present agricultural infrastructure to previously cultivated fields by working with landowners and the county drainage board to identify the location of known drain tiles. Any damage to irrigation systems or drain tiles at any site or route would be repaired.

Neither Commission nor DATCP staff have any further specific recommendations to avoid, minimize, or mitigate impacts to agricultural lands as a result of the proposed project outside of what the applicant has already agreed to implement.

8.1.3. Archaeological and historic resources

Catalogued resources are present near and within the Proposed Site and Gen-Tie Corridor, as well as Alternative Site 1. Specifically, WHPD ASI properties KN-0024, KN-0025, and KN-0070 intersect portions of the Proposed Site and Gen-Tie Corridor, and WHPD AHI property 225108 is located near Alternative Site 1.

In 2019, a survey revealed that the house on the WHPD AHI property 225108 had been demolished, and no structures remain. As a result, the project has no potential to cause effects to any significant architecture/history resources currently listed in the WHPD.

The results of the field investigations determined that property KN-0025 lacks the materials and integrity to qualify as a historic property under the criteria listed in Wis. Stat. § 44.36(2).

WHPD ASI properties KN-0024 and KN-0070 were not subjected to additional field investigations due to access to those properties not being granted. A Phase I field survey is recommended once access to the property is obtained to assess whether significant resources are present in the project area that may be affected by the project.

The applicant stated that if the Commission approves the Proposed Site, the route of the associated gen-tie is coincident with and would result in ground disturbance of WHPD ASI properties KN-0024 and KN-0070, and the applicant would conduct an archaeological field survey prior to construction.

The surveys would occur once access is granted, or the properties are acquired. Following archaeological field surveys, the applicant would work with the PSC HPO and SHPO to complete or modify the Wis. Stat. § 44.40 review and implement any recommended mitigation measures, as needed.

Neither PSC HPO nor SHPO have any further specific recommendations to avoid, minimize, or mitigate impacts to archaeological and historic resources as a result of the proposed project outside of what the applicant has already agreed to implement.

8.1.4. Endangered resources

The Proposed and Alternative Sites are nearly identical to each other in terms of potential rare species impacts. Ultimately, an Incidental Take Authorization would not be required for construction on any of the sites or routes of the proposed project, because impacts to state-listed species are not expected. While there are subtle differences between the three, from a known rare species standpoint, no one site or route would be significantly more impacted over the other. However, though suitable habitat presence is not likely, the Proposed Site does appear to have the most potential for rare species impacts, followed by Alternative Site 2, with no rare species impacts at Alternative Site 1.

8.1.5. Forested resources

The Proposed Site would permanently impact .98 acres of forested land, with an additional .18 acres of temporary impacts to forested land for the associated gen-tie. The temporarily impacted forested lands would be located at the shared segment of the Gen-Tie Corridor. Therefore, the .18 acres of temporary impact would remain the same regardless of which route is approved with the Proposed Site.

No forested lands occur within Alternate Site 1; therefore, no forest land impacts would occur as a result of construction at this location.

Approximately 0.43 acres of forested lands would require clearing along the western boundary of Alternative Site 2 to allow for site access.

8.1.6. Invasive species

Wisc Admin Code NR 40 prohibits certain activities that result in the spread of invasive species and establishes preventive measures to assist in minimizing the spread of invasive species. In 2022, NR40 was updated to include new species and current information on what species are restricted or prohibited in the state.[83] The applicants are required to comply with the regulations in Wis. Admin. Code ch. NR40 and are encouraged to follow preventative actions to limit the spread of invasive species throughout approved ROWs. However, simply because of the additional 20-35 acres of general disturbance in the Gen-Tie Corridor exclusively associated with the Proposed Site, there would be a larger risk for spread of invasive species as an indirect result of the Proposed Site's approval compared to Alternative Site 1 and Alternative Site 2, which have much shorter gen-ties that would connect to the Paris Solar substation.

Commission staff have no further specific recommendations to avoid, minimize, or mitigate the spread of invasive species as a result of the proposed project outside of what the applicant is already required to implement.

[83] Retrieved at https://docs.legis.wisconsin.gov/code/admin_code/nr/001/40.pdf.

8.1.7. Uplands

Impacts to specific land cover types are quantified in Table 8-1 below. However, generally:

- Approval of the Proposed Site with the Proposed Gen-Tie route would result in a total of 14.09 acres of permanent impacts to land, and 62.74 acres of temporary impacts in land disturbance.

- Approval of the Proposed Site with the Alternative Gen-Tie route would result in a total of 14.09 acres of permanent impacts to land, and 71.25 acres of temporary impacts in land disturbance.

- Approval of Alternative Site 1 would result in 13.61 acres of permanent impacts, and 25.6 acres of temporary impacts in land disturbance.

- Approval of Alternative Site 2 would result in 10.93 acres of permanent impacts, and 37.21 acres of temporary impacts in land disturbance.

8.1.8. Waterways

The project has been sited to avoid direct impacts to waterways from project infrastructure. Site disturbance for project construction would be temporary. Site restoration, including revegetation, should be completed as soon as possible following construction. Sediment and erosion control devices would be installed before ground disturbance occurs to reduce erosion and trap sediment from entering sensitive resources and would be in place until vegetation is re-established.

The applicant states they would conduct regular inspections during active construction, including areas where construction is occurring adjacent to water resources and other sensitive resources, to monitor re-vegetation and restoration activities. The applicant would monitor each work location and access route to ensure stabilization and re-vegetation occurs.

Neither Commission nor DNR staff have any specific recommendations to avoid, minimize, or mitigate the spread of invasive species as a result of the proposed project outside of what the applicant is already agreed to implement.

8.1.9. Wetland resources

The Proposed Site would include approximately 8,374 square feet (0.19acres) of permanent wetland fill (W07-E) for the siting of the new RICE facility. No temporary wetland impact or forested wetland conversion is proposed as part of the Proposed Site.

The Proposed Gen-Tie Route would include 134,227 square feet (3.08-acres) of temporary wetland fill (W08-E, W11-E, W10-E, W12-E, AW01-E, AW02-E, W14-E, W08-S) for the placement of construction matting to facilitate construction.

The Alternative Gen-Tie Route would include142,520 square feet (3.27-acres) of temporary wetland fill (W08-E, AW03-E, AW04-E, W08-S) for the placement of construction matting to facilitate construction.

The Alternate Site 1 would include approximately 3,632 square feet (0.08 acres) of temporary wetland fill (W08-S) for the placement of construction matting to facilitate the installation of transmission line to the

existing substation. No permanent wetland fill or forested wetland conversion would occur as part of Alternate Site 1.

The Alternate Site 2 would include approximately 8,918 square feet (0.20 acres) of permanent wetland fill (W19-E, W08-Na, W08-Nb) for the construction of permanent roads to access the proposed facility. Temporary wetland fill includes approximately 26,280 square feet (0.60 acres) of impact (W14-E and W08-S) associated with the placement of construction matting to facility the construction of the transmission line connection. Approximately 252 square feet of forested wetland conversion would occur as part of Alternate Site 2.

Where complete wetland avoidance is not possible due to engineering constraints, existing infrastructure, or other factors, wetland impacts should be minimized as much as possible.

DNR recommends following construction methods to minimize impacts to wetlands as applicable:

- Using adjacent roadways and existing off-ROW access roads for access;
- Siting structures and access roads outside of wetlands or on the edges of wetlands rather than in the middle of wetland to avoid fragmenting wetland complexes;
- Installing site-specific sediment and erosion control measures and devices prior to construction activities and inspecting and maintaining them daily throughout all construction and restoration phases;
- Implementing a construction sequencing plan that minimizes the amount of land disturbed or exposed (susceptible to erosion) at one given time across the project;
- Marking the boundary of wetlands to alert construction crews;
- Minimizing the amount of vegetation clearing in wetland and conversion of wetland types;
- Removing all brush piles, wood chips, and woody debris from wetlands following clearing activities;
- Preparing and implementing an invasive species management plan that identifies known areas of invasive species populations, addresses site restoration activities, and includes specific protocols to minimize the spread of invasive species. BMPs should be used, including cleaning construction vehicles and using construction matting. To minimize the introduction of new invasive species populations, equipment and matting should be cleaned before entering this site or moved between sites;
- Preparing and implementing dewatering practices that prevent sedimentation into wetlands;
- Scheduling construction to avoid disrupting sensitive species;
- Limiting the amount of time necessary to complete construction;

8.1.10. Aesthetics

The Proposed Site is partially wooded to the south, west, and north which may provide some visual screening. The applicant states that due to the locations of the sites and the facility being situated along the southeastern portion of the Proposed Site, the middle of the property for Alternate Site 1, and the southern portion of the property for Alternate Site 2, the proposed project is not anticipated to include additional components such as screening vegetation or other visual barriers to improve aesthetics.

Since Alternative Sites 1 and 2 are already in close proximity to existing utility infrastructure, construction of the facility at the Proposed Site would likely cause the greatest impact and change to existing aesthetics. Local residents as well as the Town of Paris expressed concerns relating to the disturbance and nuisance that the eventual plant would create, including drainage issues, property devaluation, noise impacts, and visual impacts. Comments from these sources also expressed preference toward the alternative sites in the event of a project approval. The Town of Paris specifically prefers Alternative Site 1.

8.1.11. Noise

A range of equipment, vehicles, and machinery would create noise during construction of the project facilities. Most of this would come from diesel engine powered construction equipmentsuch as dozers, excavators, dump trucks, cement trucks, and cranes. Employee and delivery traffic would increase in the area but is not anticipated to be a substantial source of increased noise. Construction noise impacts would vary with the time of day, stage of construction, and location of nearby receptors.

The nearest residences are located approximately 949 feet, 448 feet, and 1,399 feet away from the to the generation facility footprint at the Proposed Site, Alternate Site 1, and Alternate Site 2, respectively. The closest residence to the common Gen-Tie route centerline is approximately 198 feet. The highest modeled operational sound levels of the constructed facilities at receiver locations were 45 dBA for the Proposed Site, 44 dBA for Alternative Site 1, and 44 dBA for Alternative Site 2. Impacts to nearby residences as a result of operational noise from the facility would be negligibly greater if the Proposed Site is used. However, the noise modeling results demonstrate that sound levels at the nearest residences generated by the proposed project for any site location, as designed, would remain subjectively quiet and below the applicant's target of 50 dBA.

The Commission requires post-construction measurements within 12 months of the date when the project is fully operational and within two weeks of the anniversary date of the required pre-construction ambient noise measurements. Differences in as-built sound levels from those determined from the historic data provided by the manufacturer may require specific mitigation to meet noise limits. If data from post-construction measurements show that sound levels are substantially higher than predicted, or if local residents file complaints about noise with the applicant or Commission, there may be ways to further mitigate noise. Concrete noise walls, vegetation plantings between the noise source and residential areas, and improved mechanical noise control components may be some ways to further mitigate any noise impacts.

Local residents as well as the Town of Paris expressed concerns relating to the disturbance and nuisance that the eventual plant would create, including drainage issues, property devaluation, noise impacts, and visual impacts. Comments from these sources also expressed preference toward the alternative sites in the event of a project approval. The Town of Paris specifically prefers Alternative Site 1.

8.2. COMPARISON OF IMPACTS

The sections above describe the potential and anticipated impacts as a result of the proposed project as a whole as well as the quantitative and qualitative differences and similarities in impacts between the Proposed Site with Proposed Gen-Tie, Proposed Site with Alternative Gen-Tie, Alternative Site 1, and Alternative Site 2. Below is a visualization of the comparative analysis of environmental impacts associated with each siting option.

Table 8-1 Highlights of siting and routing options

	Proposed Site	Proposed Gen-Tie	Alternative Gen-Tie	Alternative Site 1	Alternative Site 2
Air Quality Impact	Same impacts as Alternative Site 1	Marginally more construction impacts due to longer gen-tie than Alternative Sites 1 & 2	Marginally more construction impacts due to longer gen-tie than Alternative Sites 1 & 2	Same impacts as Proposed Site	Marginally less operational impacts due to additional PSD permitting
Permanent Agricultural Land Impact (acres)	12.92	0	0	1.73 (old field)	9.49
Temporary Agricultural Land Impact (acres)	21.5	7.55	20.66	4.69 (old field)	32.5
Endangered Resources Impact	BITP/A but more overall disturbance of potential habitat associated with Gen-Tie	BITP/A	BITP/A	BITP/A	BITP/A
Permanent Forested Resources Impact (acres)	0.98	0	0	0	0.43
Temporary Forested Resources Impact (acres)	0	0.18	0.18	0	0
Permanent Grassland Impact (acres)	0	0	0	0	0.19
Temporary Grassland Impact (acres)	0	1.35	2.48	0	1
Permanent Developed Land Impact (acres)	0	0	0	11.88	0.57
Temporary Developed Land Impact (acres)	0	2.83	3.67	20.67	2.41
Permanent Wetland Impact (acres)	0.19	0	0	0	0.2
Temporary Wetland Impact (acres)	0	3.08	3.27	0.08	0.6
Nearest Residences (feet)	949	198	198	448	1,399

8.3. SUMMARY OF COSTS

The construction of the proposed 128 MW Paris RICE project would cost approximately $279.6 million, with an additional AFUDC estimate of $23.7 million.[84] The applicant presents an

[84] PSC REF#: 517491 6630-CE-316 PARIS RICE CPCN Application_CONFIDENTIAL-r (REDACTED COPY), p. 94.

analysis of additional total annual costs, which include fuel costs, depreciation, taxes, and return on rate base.

8.4. COMMISSION DECISIONS

The Commission, in reviewing WEPCO's application for a CPCN, will decide, among other items, whether to build the plant, and where to build the plant. If it approves the plant, the Commission will also decide whether to impose any conditions on the construction of these facilities. In addition, the Commission would decide the location and configuration of the gen-tie associated with the Proposed Site, if it is approved.

Acronyms

Abbreviation or Acronym	Definition
§	Section
AFUDC	Allowance for Funds Used During Construction
AHI	Architecture History Inventory
AIS	Agricultural Impact Statement
APE	Area of Potential Effects
ASI	Archaeological Site Inventory
ASNRI	Areas of Special Natural Resource Interest
BACT	Best Available Control Technology
BESS	Battery Energy Storage System
BMP	Best management practices
Btu	British thermal unit
CAA	Clean Air Act
CFR	Code of Federal Regulations
CH_4	Methane
ch.	Chapter
CO	Carbon monoxide
CO^2	Carbon dioxide
$CO2_e$	CO2 equivalents
Commission	Public Service Commission of Wisconsin
CPCN	Certificate of Public Convenience and Necessity
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CT	Combustion turbine
CTH	County Trunk Highway
CUB	Citizens Utility Board
CWA	Clean Water Act
DATCP	Department of Agriculture, Trade, and Consumer Protection
dB	Decibel
dBA	A-Weighted Decibel
dbh	Diameter at breast height
DNR	Department of Natural Resources
EAB	Emerald Ash Borer
EIA	Energy Information Administration
EIS	Environmental Impact Statement
EMI	Electromagnetic Interference
EPA	U.S. Environmental Protection Agency
ER	Endangered resources
EPRI	Electric Power Research Institute
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FHWA	Federal Highway Administration

FPP	Farmland Preservation Program
FSA	Farm Service Agency
G	Gauss
GADS	Generating Availability Data System
GHG	Greenhouse gases
GIS	Geographic Information System
GWP	Global warming potentials
HAC	Hazardous Air Contaminants
HAP	Hazardous Air Pollutants
HDD	Horizontal directional drilling
hp	Horsepower
HPO	Historic Preservation Officer
H_2SO_4	Sulfuric acid
ICD	Implantable Cardioverter Defibrillators
kV	Kilovolt
kW	Kilowatt
LCIP	Lakeshore Capacity Improvement Project
Lead	Pb
LLP	Lakeshore Lateral Project
MACT	Maximum Achievable Control Technology
MBTA	Migratory Bird Treaty Act
MFL	Managed Forest Law
mG	Milligauss
MGE	Madison Gas and Electric
MISO	Midcontinent Independent System Operator, Inc.
MMBtu	Metric Million British Thermal Unit
MP	Measurement point
msl	Mean sea level
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NEC	National Electric Code
NESC	National Electrical Safety Code
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHI	Natural Heritage Inventory
NHPA	National Historic Preservation Act
NO_X	Nitrogen oxides
NPV	Net present value
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NSR	New source review
N_2O	Nitrous oxide
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
O&M	Operations and maintenance
O_3	Ozone
PGS	Paris Generating Station

PM	Particulate Matter
PM_{10}	Particulate matter less than 10 microns
$PM_{2.5}$	Particulate matter less than 2.5 microns
PRM	Planning Reserve Margin
PSC	Public Service Commission
PSD	Prevention of Significant Deterioration
PTD	Permit to Disturb
PV	Photovoltaic
RFI	Radio-frequency Interference
RICE	Reciprocating Internal Combustion Engine
ROW	Right-of-way
RPC	Regional Planning Commission
SCR	Selective Catalytic Reduction
SEWRPC	Southeastern Wisconsin Regional Planning Commission
SF_6	Sulfur hexafluoride
SHPO	Wisconsin State Historic Preservation Office
SO_2	Sulfur dioxide
SPCC	Spill Prevention, Control and Countermeasures
STH	State Highway
SWDV	Surface Water Data Viewer
TCSB	Temporary Clear Span Bridge
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
US EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile organic compounds
WDNR	Wisconsin Department of Natural Resources
WEC	WEC Energy Group
WEPA	Wisconsin Environmental Policy Act
WEPCO	Wisconsin Electric Power Company
WHPD	Wisconsin Historic Preservation Database
WHS	Wisconsin Historical Society
WICCI	Wisconsin Initiative on Climate Change Impacts
Wis. Admin. Code	Wisconsin Administrative Code
Wis. Stat.	Wisconsin Statutes
WisDOT	Wisconsin Department of Transportation
WLGCC	Wisconsin Local Government Climate Coalition
WPDES	Wisconsin Pollutant Discharge Elimination System
WPSC	Wisconsin Public Service Corporation
WSPS	Wisconsin Department of Safety and Professional Services
WWI	Wisconsin Wetland Inventory

Appendix A – Historic Resources Review

Public Service Commission of Wisconsin

Summer Strand, Chairperson
Kristy Nieto, Commissioner
Marcus Hawkins, Commissioner

4822 Madison Yards Way
P.O. Box 7854
Madison, WI 53707-7854

September 16, 2024

Re: Application of Wisconsin Electric Power Company for a Certificate of Public Convenience and Necessity to Construct and Operate the Paris Reciprocating Internal Combustion Engines Project, Consisting of Seven Natural Gas-Fired Reciprocating Internal Combustion Engines Generating up to 128 MW Total at the Lakeshore Capacity Improvement Project Regulator Station in the Town of Paris, Kenosha County, Wisconsin

6630-CE-316

Dear Wisconsin State Historic Preservation Office,

The Public Service Commission of Wisconsin (PSC or Commission) received an application to construct and operate the Paris Reciprocating Internal Combustion Engines (RICE) Project, consisting of seven natural gas-fired reciprocating internal combustion engines generating up to 128 MW total at the Lakeshore Capacity Improvement Project Regulator Station in the Town of Paris, Kenosha County, Wisconsin. The project requires a Certificate of Public Convenience and Necessity (CPCN) from the Commission before construction is authorized.

Compliance with Wis. Admin. Code § PSC 4.30(3)(f) and Wis. Stat. § 44.40
The Commission is sending this letter to the Wisconsin State Historic Preservation Office (SHPO) requesting review and comment in accordance with Wis. Admin. Code § PSC 4.30(3)(f) and the PSC-SHPO Interagency Programmatic Agreement (PSC-SHPO Agreement).

Wisconsin Admin. Code § PSC 4.30(3)(f) states that the content of an EIS prepared by the Commission shall include an evaluation of the archaeological, architectural, and historic significance of any affected resources. This evaluation shall include a consultation with the state historical society of Wisconsin. Therefore, this letter and request for SHPO consultation is meant to serve as the Commission's compliance with Wis. Admin. Code § PSC 4.30(3)(f).

Additionally, in the PSC-SHPO Agreement, Appendix of PSC Authorization Actions Subject to Wis. Stat. § 44.40, this project is listed as Type I(a) Electric power plant siting and construction or expansion. Therefore, Commission authorization of the project must comply with Wis. Stat. § 44.40 by requesting a SHPO review when projects would affect historic properties.

Although no historic properties are currently expected to be affected by this project, which under Wis. Stat. § 44.40 usually means the Commission would not request SHPO review, this letter is still being sent to request SHPO review in accordance with Wis. Admin. Code § PSC 4.30(3)(f).

Commission Review of WHPD Properties

The Commission's Historic Preservation Officer (HPO) reviewed and evaluated the project application materials related to historic properties, which were provided by the applicant as part of the PSC Application Filing Requirements. These include a literature review and field survey report. The Commission HPO also reviewed and evaluated property records using the Wisconsin Historic Preservation Database (WHPD or database) online portal and its associated GIS data. As stated in the PSC-SHPO Agreement (3), the WHPD contains all listed property, the Wisconsin inventory of historic places, and the list of locally designated historic places. These recorded properties comprise all relevant "historic properties" for the purpose of this review. The University of Wisconsin-Milwaukee Cultural Resource Management (UWM-CRM) conducted historic property investigations for the project and submitted related documents for Commission review.

Area of Potential Effect (APE)
The APE is the area where WHPD properties may be affected by the proposed activity. The PSC-SHPO Agreement (7g), requires the Commission HPO to determine the APE.

The APE is the area where WHPD properties may be affected by the proposed activity. The PSC-SHPO Agreement (7g), requires the Commission HPO to determine the APE. The Agreement classifies the APE as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The scale and nature of the undertaking influence shape and extent of the APE, resulting in delineated areas of effects that may be different depending on the kinds of effects caused by the undertaking.

The direct APE is determined as the area where physical ground-disturbance occurs. Examples of ground disturbing activity include but are not limited to excavation, soil grading, and the compression of soils through heavy machinery movement and material staging. The indirect APE is determined as the distance from the project where visual disturbance reasonably occurs (e.g. line of sight).

WHPD Archaeological Site Inventory (ASI) Properties in the APE
There would be three WHPD ASI properties coincident with the direct APE: KN-0024, KN-0025, and KN-0070. All three of the properties are recorded as archaeological sites comprising of campsite/villages of indeterminate precontact Native American affiliation. None of the WHPD ASI properties are codified as burial sites, therefore there is no requirement for the applicant to obtain a Permit to Disturb (PTD) from SHPO as stipulated under Wis. Stat. § 157.70.

1. **KN-0024 (Buckley)**
   According to WHPD, this archaeological site is defined as an indeterminate precontact Native American affiliation campsite/village, located in upland fields south of CTH KR

and east of a town road. The report describes that the location of the site was determined by a symbol depicted on the Town of Paris CEB Atlas. The site's boundary appears on GIS to be poorly defined and may represent the local landowner boundary where artifacts were originally reported, rather than the exact location of the find.

In 2020, UWM-CRM conducted Phase I archaeological field investigations within portions of the site boundaries (Sterner 2020). The report describes that their investigations consisted of pedestrian survey and limited subsurface testing. No cultural materials were found, and shovel testing indicated a disturbed Ap horizon over an intact B horizon. Based on these findings, the archaeologist recommended the site within the investigated portion lacks the criteria and integrity for listing in the National Register of Historic Places (NRHP) and therefore it would also not meet the historic properties criteria under Wis. Stat. § 44.36(2).

2. **KN-0025 (Holmes)**
This archaeological site is recorded in WHPD as an indeterminate precontact Native American affiliation campsite/village, located in upland fields south of CTH KR. The consultant's report references a letter to C.E. Brown included a record of a collection owned by Roy Holmes, "The campsite is located just across the county line in Racine, but many of the specimens were found in both counties, as part of the Holmes estate is in both counties" (Merrill B. Henn to Charles E. Brown, letter, 26 August 1936, CEB Manuscripts, Wisconsin Historical Society, Madison). Brown mapped a campsite within the NW 1/4 of Section 1 in Township 1 North of Range 21 East. The applicant's report states that given the provided description used for reporting the site, it is unclear the location where the artifacts were collected, and the delineation of the site is generalized at best. The site's boundary appears on GIS to be poorly defined and may represent the local landowner boundary where artifacts were originally reported, rather than the exact location of the find.

UWM-CRM conducted Phase I archaeological field investigations within portions of the site boundaries in 2018 (Haas et al 2019). The investigations consisted of pedestrian survey and shovel probe testing. A small scatter of artifacts was found on the surface within the southern portion of the site, consisting of a chipped stone tool and two pieces of lithic debitage. The area containing the lithic scatter was subject to shovel probe testing. Only one shovel test recovered any cultural materials, and this consisted of one small piece of lithic debitage. It was concluded that the materials were derived from a disturbed Ap horizon. The plowzone in this portion of the site appeared deflated and likely caused from habitual plowing which extended into B horizon soils. The applicant's report states that given the limited results; it was determined the site within the investigated portion was not eligible for listing on the NRHP (Haas et al 2019).

Much of the site remains unevaluated for NRHP significance.

3. **KN-0070 (Horn Farm)**
   This archaeological site is described in WHPD as an indeterminate precontact Native American affiliation Campsite/village, located north of CTH A and east of a town road on the Horn farm with uplands on the west end overlooking marshland to the east. A side notched point was recovered from the "Horn Farm" in 1937. Little else is documented about the site, including the specific location or detailed description of the artifact. In the absence of specific locational information, KN-0070 is mapped as encompassing the entire southeast quarter of Section 2. The site's boundary appears on GIS to be poorly defined and may represent the local landowner boundary where artifacts were originally reported, rather than the exact location of the find.

   UWM-CRM conducted Phase I archaeological field investigations within portions of the site boundaries in 2020 (Sterner 2020). The investigations consisted of pedestrian survey and shovel probe testing. No cultural materials were found, and shovel testing indicated a disturbed Ap horizon over an intact B horizon. No further work was recommended.

Wis. Stat. § 44.36(2) Criteria for WHPD ASI Properties in the APE
The results of the field investigations determined that WHPD ASI property KN-0025 lacks the materials and integrity to qualify as a historic property under the criteria listed in Wis. Stat. § 44.36(2).

WHPD ASI properties KN-0024 and KN-0070 were not subjected to additional field investigations due to access to those properties not being granted. A Phase I field survey is recommended once access to the property is obtained to assess whether significant resources are present in the project area that may be affected by the project.

The applicant stated that if the Commission approves the proposed site, the route of the associated generation tie line is coincident with and will result in ground disturbance of WHPD ASI properties KN-24 and KN-70 and the applicant will conduct an archaeological field survey prior to construction. This will occur once access is granted, or the properties are acquired. Following archaeological field surveys, the applicant will work with the PSC HPO and SHPO to complete or modify the Wis. Stat. § 44.40 review and implement any recommended mitigation measures, as needed.

WHPD Architecture History Inventory (AHI) Properties in the APE
There would be one WHPD AHI property potentially within the indirect APE:

1. **Meyers-Thomas House (AHI# 225108)**

The Myers-Thomas House is located at 606 172nd Ave in the Town of Paris, Kenosha County, Wisconsin. According to the WHPD, the house was identified in 2014. In 2019, a survey revealed that the house on the property had been demolished, and no structures remain. As a result, the project has no potential to cause effects to any significant architecture/history resources currently listed in the WHPD.

Historic Properties Affected by the Project and Applicant's Recommended Mitigation
None of the WHPD properties in the APE would currently meet the criteria to qualify as a historic property under Wis. Stat. § 44.36(2). The applicant plans to conduct additional fieldwork on WHPD ASI properties that were inaccessible. If that work leads to a determination that the WHPD ASI properties would qualify as historic properties and would be within the APE, this PSC-SHPO review will be updated.

Sincerely,

Andrew Craft
PSC Historic Preservation Officer
Division of Digital Access, Consumer, and Environmental Affairs

Attachments:
Request for SHPO Review and Comment on a State Undertaking
Report and Report Update
Map
Data Request 1 and 2

ALC:DL:02027157

(09/6/2019) For SHPO Use Only. Case # _____

REQUEST FOR SHPO REVIEW AND COMMENT ON A STATE UNDERTAKING

Submit one copy with each undertaking for which our comment is requested. Please print or type. We do not accept Electronic Submittals.

Return to:

Wisconsin Historical Society, State Historic Preservation Office, 816 State Street, Madison, WI 53706

Please Check All Boxes and Include All of the Following Information, as Applicable:

I. GENERAL INFORMATION

☐ **This is a new submittal.**
☐ **This is supplemental information relating to Case #:_____, and title:_____**
■ **This project is being undertaking pursuant to the terms and conditions of a programmatic or other interagency agreement.**

The title of the agreement is Admin. Code PSC 4.30(3)(f) & PSC-SHPO Programmatic Agreement for Wis. Stat. 44.40

a. State Agency Jurisdiction (Agency providing funds, assistance, license, permit): _____

b. State Agency Contact: Andrew Craft

c. Phone: 608-266-3375 FAX: _____

d. Return Address: 4822 Madison Yards Way City: Madison Zip Code: 53705

e. Email Address: andrew.craft@wisconsin.gov

f. Project Name: Paris RICE Generation Project PSC# 6630-CE-316

g. Project Street Address: Please see attached documents for (g) thru (k).

h. County: _____ City: _____ Zip Code: _____

i. Project Location: Township _____, Range _____, East ☐ or West ☐, Section _____, Quarter Sections _____

j. Project Narrative Description—Attach Information as Necessary, including brief project overview and current photos of project property(ies).

k. Area of Potential Effect (APE). Attach Copy of U.S.G.S. 7.5 Minute Topographic Quadrangle Showing APE.

II. IDENTIFICATION OF HISTORIC PROPERTIES

■ The following historic property(ies) is (are) recorded in the Wisconsin Inventory of Historic Places and is (are) located within the project APE.

Please see attached documents.

Attach supporting materials (including copy of Wisconsin inventory database record, current photo(s) of property).

III. FINDINGS

■ No historic property (enumerated in II above) may be affected by the proposed project. Attach supporting material.
☐ The proposed undertaking may affect an historic property (identified in II above) located within the project APE. Attach supporting material.

Authorized Signature: _____ Date: _____

Type or print name: _____

IV. STATE HISTORIC PRESERVATION OFFICE COMMENTS

☐ Agree with the finding in section III above.
☐ Do not agree with the finding in section III above.
☐ The proposed undertaking will not adversely affect one or more historic properties.
☐ The proposed undertaking will adversely affect one or more historic properties.
☐ WHS requires negotiation with the state agency to address the adverse effect.
☐ WHS does not require negotiation with the state agency to address the adverse effect.
☐ WHS objects to the finding for reasons indicated in attached letter.
☐ WHS cannot review until information is sent as follows: _____

Authorized Signature: _____ Date: _____

Outlook

SHPO Review: 24-1951/KN - PSC- Paris RICE Generation Project PSC# 6630-CE-316

From felipe.avila@wisconsinhistory.org <felipe.avila@wisconsinhistory.org>
Date Fri 9/20/2024 9:34 AM
To Craft, Andrew - PSC <Andrew.Craft@wisconsin.gov>

Dear Mr. Andrew Craft,

We have completed review of WHS #24-1951, PSC- Paris RICE Generation Project PSC# 6630-CE-316. We find that the project will have no adverse effect on historic properties within the APE providing the following conditions are met:

• There are no eligible properties in the project area to the best of our knowledge at this time.

Pending the results of the Phase I survey for properties to be obtained this finding may be modified.

If your plans change or cultural materials/human remains are found during the project, please halt all work and contact our office.

Please use this email as your official SHPO concurrence for the project. If you require a hard copy signed form, please contact me and I will provide you a signed copy as soon as possible.

Sincerely,
Felipe Avila
State Historic Preservation Office

Wisconsin Historical Society
816 State Street, Madison, WI 53706
608 264-6013
felipe.avila@wisconsinhistory.org

Wisconsin Historical Society
Collecting, Preserving, and Sharing Stories Since 1846