

Attachment 3 – Frequently Asked Questions

What is being proposed?

The Willow Ridge Wind Project (the “Project”) is an application to construct and operate a wind-powered electrical energy generation facility.

This Project is planned to include 34 wind turbines that can generate up to 210.8 Megawatts (MW) and could power approximately 80,000 households, a 25 MW battery energy storage system, substation, and associated infrastructure.

Where is the Project located?

The Project is located on private land within the Municipal District (MD) of Willow Creek, approximately 7.2 km south of Fort MacLeod on both sides of Highway 2, between the First Nation Reserves of the Blood Tribe (Kainai) and Piikani Nation.

Who is the Developer of the Project?

The developer of the Project is SPWC Development GP Inc. (SPWC). SPWC is a subsidiary of Algonquin Power & Utilities Corp., a renewable energy and utility corporation based out of Ontario that provides services throughout Canada and the USA.

You can find additional information about Algonquin Power on their website:

www.algonquinpower.com

The company contact is:

Olivia Neter, Environmental Planner
(905) 334-0839
Olivia.Neter@algonquinpower.com

Who can I contact to learn more about the Project?

Dillon Consulting Limited has been retained to support SPWC through the regulatory approval process for the Project. For more information, contact:

Camila Ramos-Strankman
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What is the history of this Project?

The Willow Ridge Wind Project has been in development since 2008. The previous developer was Shear Wind Inc., who placed the Project “on hold” to reassess the financial feasibility. The Project is now owned by SPWC.

Updated technical studies and stakeholder engagement activities were initiated in 2018, upon which the current proposed layout and design of the Project is based. Through ongoing improvement in available technology and evaluation techniques, the Project concept has evolved to include fewer turbines (i.e., a reduction from 55 to 34) with greater generation capacity (i.e., 100 MW to 210.8 MW).

What happens after the turbines pass their lifespan?

At the end of the Project, the facility will be decommissioned. The decommissioning will include the removal of the turbines and other above-ground infrastructure. Turbine foundations will also be removed to a depth of 1.2 m and the turbine site reclaimed. To avoid ground disturbance at the end of the Project, underground collection lines are anticipated to remain and will be de-energized.

Generally, the cost of decommissioning, closure and reclamation of a wind power plant is covered through the salvage value of turbine components (e.g., towers). All renewable energy facilities, including the Willow Ridge Wind Project, are subject to obtaining a reclamation certificate from Alberta Environment and Parks at the time of closure.

What is the proposed Project schedule?

Milestone	Anticipated Timing*
Open House	March 30, 2022
Application to Alberta Utilities Commission	Spring 2022
Application to MD of Willow Creek	Late 2022
Project Construction	2023-2024
Project Start Date	2024
Operation	2024-2049 25 years with the potential for extension of the Project life through the replacement or updating of key equipment, as required

**Note: This schedule is subject to change.*

What on-site equipment is proposed?

The Project is proposed to consist of 34 wind turbine generators with a maximum power generation capacity of up to 210.8 MW (enough to power approximately 80,000 households). The selected wind turbine generator model (e.g., Siemens Gamesa 6.2-170) will have a maximum hub height of 115 m and rotor blades 85 m long for a combined maximum “blade-tip-height” of 200 m. The Project is also proposed to include a 25 MW Battery Energy Storage System (BESS) capable of discharging stored electrical energy over a period of 2 hours. The BESS will be co-located with the Project substation.

Additional infrastructure required for the construction and operation of the Project includes:

- Turbine pad sites;
- Two meteorological towers;
- BESS;
- Access roads;

- Collection lines (below ground only);
- Temporary construction laydown yard (storage of equipment, vehicles, contractor staging); and
- An operations and maintenance building.

The Project may require minimal above-ground transmission lines, up to 200 metres in length, between the substation and existing transmission lines along Township Road 82, subject to confirmation by the Alberta Electrical System Operator.

What are the potential impacts of the Project?

Environment

Generally, no energy development project is free from the potential to contribute to environmental effects. The evaluation of environmental effects is conducted in accordance with the requirements of the Alberta Utilities Commission (AUC) and Alberta Environment and Parks, which includes both the review of publicly accessible resources and the completion of necessary environmental surveys. The most recent environmental surveys were conducted in 2018 and 2021, and included:

- Breeding Bird Surveys (including sensitive birds of prey or “raptors”);
- Spring and Fall Bird Migration Surveys;
- Spring and Fall Bat Activity Monitoring;
- Wildlife Habitat Mapping (including wetlands and native grassland);
- Sharp-tailed Grouse Lek Surveys; and
- Rare Plant Surveys.

The results of the desktop review and environmental surveys indicate that potential effects of the Willow Ridge Wind Project are anticipated to include:

Potential Effect	Mitigation
Mortality of birds and bats due to collision with moving turbine rotor blades	Monitoring and operational controls during seasonal periods of high risk, and are subject to annual review during the first three years of operation, and following any change in approved mitigation measures on-site.
Loss, or reduction in value of, wildlife habitat (including native grasslands and wetlands) associated with clearing and construction activities	The majority of Project components are located on previously disturbed areas, including cultivated lands and a suspended oil well site. Where overlap with areas of wildlife habitat (e.g., native grassland, wetlands) cannot be avoided, site-specific conservation and reclamation measures are provided to minimize the effects of construction on wildlife habitat.
Temporary disturbance of wildlife due to operation of construction equipment during periods of seasonal activity	Mitigation will include scheduling construction outside of seasonally restricted activity periods, or where seasonal avoidance is not feasible, environmental monitoring and implementation of additional measures depending on-site specific circumstances (e.g., exclusion fencing).

Potential Effect	Mitigation
Disturbance of sensitive or agriculturally important soils during clearing and construction activities	Site-specific conservation and reclamation measures are provided to minimize the effects of construction on soils and vegetation, including topsoil salvage measures, subsoil excavation and stockpiling measures, erosion control measures, compaction and rutting prevention measures, and revegetation measures.
Introduction of weeds, invasive and non-native species or agricultural pests (e.g., Clubroot) occurring during construction	Measures for the management of existing weeds, invasive and non-native species and agricultural pests, as well as the prevention of their respective introduction, are incorporated in the Conservation and Reclamation Plan for the Project. SPWC will also work with the MD of Willow Creek to develop a Weed Management Plan for the Project.

Traffic

About 7-10 oversize vehicle trips are anticipated during the construction of each wind turbine. When each turbine site is prepared, additional vehicles and equipment will be needed to excavate and pour the concrete foundations.

Specific haul routes, signage and traffic accommodation strategies during construction will be confirmed prior to construction, and through consultation with Alberta Transportation and the MD of Willow Creek. SPWC will notify landowners and stakeholders when construction activities are taking place in their area. When possible, turbine construction will minimize impacts during seasonal farming activities.

Following construction, vehicle traffic will be reduced to light-duty pick-up trucks, making a few vehicle trips within the Project area during any typical week.

Agriculture

Approximately 190 acres of cropland and 13.5 acres of pasture will be needed for the Project. Direct consultation with Project area landowners has been completed to integrate the Project into existing agricultural operations. The municipal development permit application does not require rezoning and the lands will remain as an agricultural use, while allowing the turbines to operate.

When the Project is complete the lands will be returned to their original state by the developer, as a part of the reclamation process.

Irrigation

Wind infrastructure can hinder the use of irrigation on cropland. SPWC is working with landowners of irrigated lands to mitigate potential impacts to existing infrastructure and water licenses.

Noise and Air Quality

Construction noise and impacts to air quality (e.g., dust, vehicle/equipment exhaust) are anticipated to be typical of any earthworks or energy development project. These impacts are typically generated through diesel-powered equipment (e.g., dozers, excavators, cranes). Timing of daily construction activities will be restricted as per the requirements of the MD of Willow Creek. Site-specific control measures for dust (e.g., vehicle speed, water spraying) will be applied when and where required.

During operation, the Project can generate noise that may vary based on the arrangement and distance between turbines and residences, time of year, and other environmental factors. The AUC has established strict limits to control cumulative noise impacts. SPWC has determined that the Project can be operated within the applicable AUC daytime and nighttime permissible sound levels. At residences, Project noise would be approximately equivalent to the ambient sound typically experienced in a quiet office.

Shadow Flicker

Shadow flicker is a phenomenon that occurs when rotating turbine blades create a moving shadow over building windows, creating a flickering effect indoors. Shadow flicker occurs at certain times of the year when the sun creates a shadow over nearby homes.

SPWC has assessed the predicted annual duration of shadow flicker that could be experienced by residences in the vicinity of the proposed Project. The results of this assessment are illustrated on **Attachment 1**.

Development

Generally, the Project is not expected to impact other forms of development; however, some site-specific constraints may exist that would depend on the type of development (e.g. oil or natural gas wells, new wind turbines, solar panels, substations, etc.) and the proximity to the Project's infrastructure.

Rezoning or subdivision of lands in proximity to Project infrastructure (e.g., turbines) may be limited until the Project is decommissioned.

Do you have questions not addressed in this FAQ? Please contact: Camila Ramos-Strankman (Dillon Consulting Limited) at cramos-strankman@dillon.ca or 403.215.8885 ext. 4322.