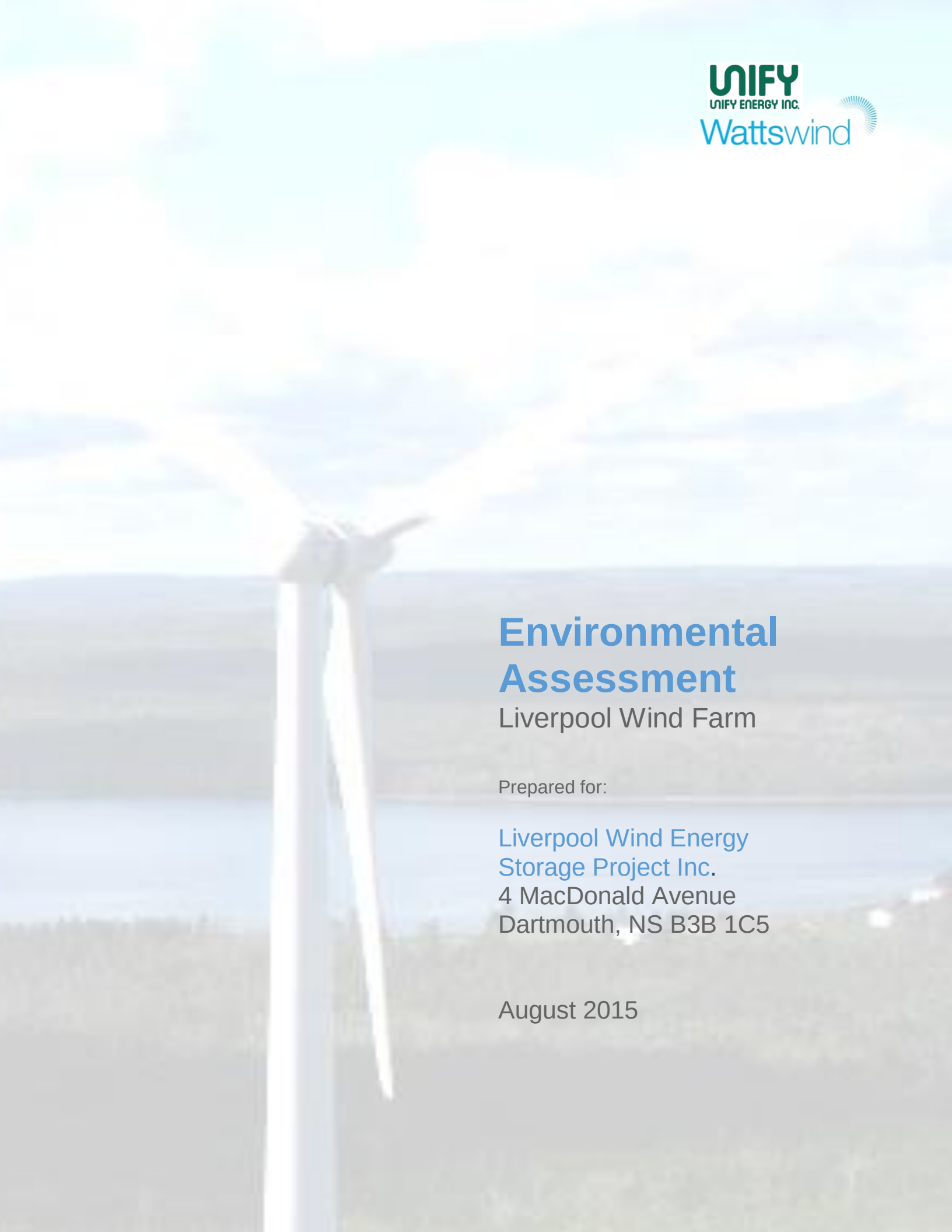

Environmental Assessment

Liverpool Wind Farm

Prepared for:

Liverpool Wind Energy Storage Project Inc.
4 MacDonald Avenue
Dartmouth, NS B3B 1C5

August 2015

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ACCDC	Atlantic Canada Conservation Data Center
ASL	above sea level
BCHI	Boreas Heritage Consulting Inc.
BOP	Balance of plant
CanWEA	Canadian Wind Energy Association
CEDC	Community Economic Development Corporation
CEDIF	Community Economic Development Investment Fund
CLC	Community Liaison Committee
cm	centimeter
COMFIT	Community Feed-In-Tariff
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CWS	Canadian Wildlife Services
dBA	A-weighted decibel
DND	Department of National Defense
EA	Environmental Assessment
EC	Environment Canada
EPP	Environmental Protection Plan
GIS	Geographic Information Systems
GJ	Gigajoule
ha	hectare
IDC	Innovacorp Demonstration Centre
km	kilometer
KMK	Kwilmu'kw Maw-klusuaqn
kV	Kilovolt
LWF	Liverpool Wind Farm
m	meter
m^2	square meter
m^3	cubic meter
MBBA	Maritime Bird Breeding Atlas

MET	Meteorological
MW	Megawatt
NSDNR	Nova Scotia Department of Natural Resources
NSDOE	Nova Scotia Department of Energy
NSE	Nova Scotia Environment
NSPI	Nova Scotia Power Inc.
NSTIR	Nova Scotia Department of Transportation and Infrastructure Renewal
OAA	Office of Aboriginal Affairs
PGI	Pellet Group Inventory
PPA	Power Purchase Agreement
RABC	Radio Advisory Board Canada
RAES	Regenerative Air Energy Storage
RRSP	Registered Retirement Savings Plan
SARA	Species at Risk Act
SPL	Sound Power Level
SPP	Special Places Program
VEC	Valued Environmental Component
WAM	Wet Area Mapping
WNS	White Nose Syndrome
WTG	Wind Turbine Generator
°C	degree Celsius

1.0 INTRODUCTION

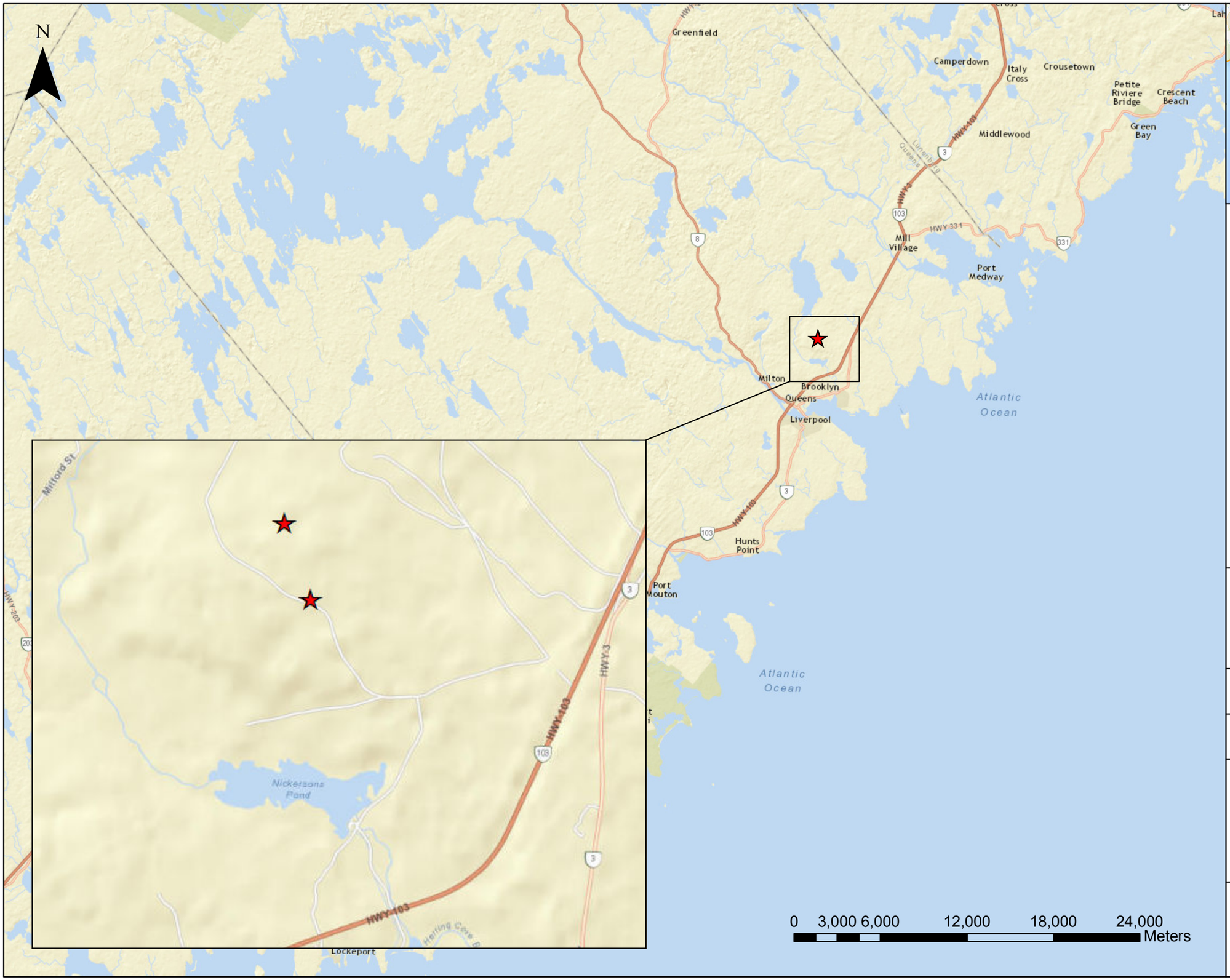
1.1. Overview

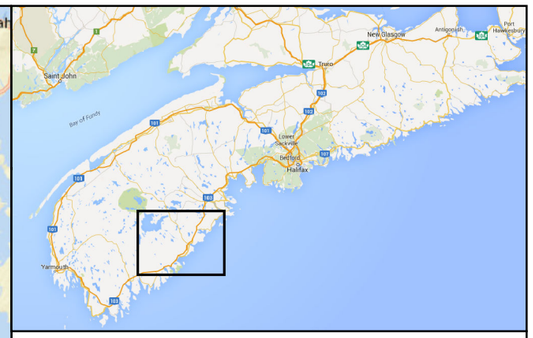
The Liverpool Wind Farm (Project; LWF) is a proposed wind energy facility approximately four kilometers (km) northwest of Brooklyn, in the Region of Queens Municipality. The proposed wind energy facility will consist of two Enercon-92 (E92) 2.35 megawatt (MW) wind turbine generators (WTGs), for a total nameplate capacity of 4.7MW. This Project is the first wind energy facility to be associated with a Regenerative Air Energy Storage (RAES) System. Additionally, the RAES System will be the first grid interconnected energy storage system in Nova Scotia.

The RAES System will connect directly to the provincial power grid, at the same point of interconnection as the LWF, near the Innovacorp Demonstration Centre (IDC), i.e., former Bowater Mersey Paper Mill. The storage system will act as a buffer to the output of the LWF; but will not be connected to the LWF directly. The energy storage facility, i.e., RAES System, is considered a separate project by Nova Scotia Environment (NSE), and is not within the scope of this Environmental Assessment. The scope of this Project includes the WTG site areas, as well as the transmission lines that will run from the WTGs to the point of interconnection near the IDC facility. The general Project site location is shown in Figure 1.1.

Approval from the Nova Scotia Department of Energy (NSDOE) was given under the COMFIT program on May 20, 2014 (amended June 6, 2014). The Proponent was awarded a COMFIT capacity of 3.6MW for the LWF (Appendix A). This approval allows the Project to be part of the COMFIT program pending other requisite approvals, such as a release under the Nova Scotia Environmental Assessment Regulations. This Environmental Assessment (EA) assesses the two WTG facility at that nameplate capacity of 4.7MW facility, not at the COMFIT capacity of 3.6MW facility.

The 3.6 MW wind energy COMFIT capacity will provide approximately 40 000 gigajoules (GJ) of renewable energy that will satisfy the energy needs of approximately 1300 Nova Scotia homes, according to Statistics Canada data on electricity consumption (Statistics Canada, 2007). As a community energy project it provides the renewable energy locally via the distribution grid, which will assist in the reduction of loss of electricity that occurs in transmission lines. In addition, community members will be given the opportunity to share ownership of the Project as investors in the CEDIF.





Legend

★ LWF Location

Figure 1.1

General Site Location

Drawn by: TAM	Date: 6/1/2015
Project #: 122	Scale 1:250 000

EON WindElectric

Coord. System: NAD83 CSRS UTM Z20N
Projection: Transverse Mercator
Units: Meters

The Project is organized as a Community Economic Development Investment Fund (CEDIF), which is Registered Retirement Savings Plan (RRSP) eligible, and provides additional tax benefits to eligible Nova Scotia investors. Nova Scotia residents, including residents of Region of Queens Municipality, will have an opportunity to invest in the Project as part of the CEDIF structure. In addition, the Project is expected to create opportunities for construction, electrical and transportation contracts in the Region of Queens Municipality, as well as in surrounding communities. The Project is funded privately; therefore, no government funding has been or will be provided.

In summary, this is a small community-based facility that will provide distributed renewable energy to the grid, and provide local economic benefit. The Project and its design have been located in consideration of technical, financial, social and ecological issues. Practical and mitigative measures have been included in the Project design to minimize environmental effects.

1.2. Proponent

The name, address, and identification of the Proponent, as well as the contact persons for the proposed undertaking, are as follows:

Name of Project:	Liverpool Wind Farm
Proponent Information:	Liverpool Wind Energy Storage Project Inc. 4 MacDonald Avenue Dartmouth, Nova Scotia B3B 1C5
Prepared by:	Eon WindElectric Inc. / Katalyst Wind Services Inc.
Project Contacts:	Hilary Steele, EIT (Primary Contact for EA) Katalyst Wind Services Inc. Tel: (902) 482-8687 hsteele@eonwind.com Stan Mason, Director Liverpool Wind Energy Storage Project Inc. Tel: (902) 482-8687 smason@wattswind.com Paul Pynn, President EON WindElectric Inc. Tel: (902) 482-8687 ppynn@eonwind.com

The Proponent is a special purpose entity formed for this Project, and the energy storage system facility. The parties involved in the organization's structure include: Unify Energy Inc. (Unify) and Watts Wind Energy Inc. (Watts).

Unify is a renewable energy storage developer that is incorporated pursuant to the laws of Nova Scotia. Watts is an owner and operator of independent wind power projects, incorporated pursuant to the laws of Nova Scotia and is organized as a Community Economic Development Corporation (CEDC).

1.3. Regulatory Framework

1.3.1. Federal

There are no environmental approvals expected to be required from Federal authorities for the Project. The Project will not result in impacts such as harmful alteration, disruption, or destruction of fish habitat or impact navigable waters. No work is proposed on Federal lands nor are Federal monies involved. Environment Canada (EC) / Canadian Wildlife Services (CWS) will be consulted with respect to migratory birds as appropriate.

Aviation approvals are required for wind energy projects. The Proponent has made appropriate applications to NAV Canada, Canadian Coast Guard, Transport Canada, and Department of National Defense (DND). All responses and approvals from Federal aviation and navigation authorities received to date are located in Appendix B. Further information on consultation with Federal authorities is located in Section 5.3.

1.3.2. Provincial

As per the Environmental Assessment Regulations, any wind energy project with a capacity exceeding 2MW requires an Environmental Assessment. The Project has a 4.7MW nameplate capacity, requiring a Class 1 EA as per the Regulations.

As previously noted, Nova Scotia Environment has advised that the RAES System is considered a separate project from the LWF; and therefore, is not included in the scope of the Environmental Assessment for the LWF. Furthermore, the energy storage project does not trigger a requirement for an Environmental Assessment under the Regulations.

The Proponent has identified wetlands on site and will implement the mitigation sequence of avoidance, minimization, and compensation as per the Nova Scotia Wetland Conservation Policy (2011). Field work by certified delineators was completed in late August 2014 to follow up on initial wetland identification in July 2014. Consultation with Nova Scotia Environment (NSE)

and Nova Scotia Department of Natural Resources (DNR) will be completed in relation to any wetland impact. However, no approval is expected to be required for the impact to wetlands due to the fact that the road construction (i.e., linear development) impacting the wetland will result in less than 10m wide disturbance of the treed swamp, and less than total 100m^2 disturbance of the wetland. The total area of disturbance, based on a conservative estimation by certified delineators, will be approximately 60m^2.

The Proponent received a Letter of Authority from Nova Scotia Department of Natural Resources (NSDNR) for the purpose of installing one meteorological (MET) tower and to commence wind testing. Upon approval of the EA document, the Proponent will apply for a Crown land lease to install two WTGs.

No other permits or approvals are expected to be required from the province. In the event that this should change, the Proponent commits to obtaining all requisite approvals prior to work. For more information on consultation with Provincial authorities, refer to Section 5.3.

1.3.3. Municipal

The Project is located within Region of Queens Municipality. As of July 20, 2009, the development of wind energy facilities in the Municipality is guided by the Municipality Planning Strategy. The Proponent previously secured a Letter of Authority for the installation of a meteorological (MET) tower at the Project site (Appendix D), and is in the process of obtaining a Development Agreement for the installation of the two WTGs.

The parcel of land proposed for the LWF is zoned as Mixed Use Rural Residential (R5) and deemed acceptable for WTG development through the Region of Queens Municipal Planning Strategy. Information such as site layouts and WTG descriptions are provided to the Municipality to aid with the Development Agreement Application, and provide definitive details for the decision process. A commitment to consult with the community is also required as part of the Development Agreement Application process, by way of published notices in two different local newspapers and a public hearing.

1.4. Structure of Document

This report documents the assessment of the environmental effects of the proposed construction, operation, and decommissioning of the LWF. The EA has been completed based on potential for interaction of the proposed Project with the environmental and socio-economic settings. This report has been prepared in accordance with the Proponent's Guide to Wind

Power Projects: Guide for Preparing an Environmental Assessment Registration Document (Nova Scotia Environment, 2012).

The document was prepared by EON WindElectric Inc. and Katalyst Wind Services Inc., The scope of the assessment was determined in association with Janis Rod of Verterra Group Environmental Strategies Ltd. As an Environmental Consultant, Rod has completed numerous Federal and Provincial EAs within the renewable energy industry, as well as other various industries. Her professional experience on scoping the EA supported the expertise of Paul Pynn, President of EON WindElectric Inc.; Mr. Trent MacDonald, Project Engineer-In-Training with EON WindElectric Inc., who compiled primary and secondary data sources; and Hilary Steele, Project Engineer-in-Training with Katalyst Wind Services Inc., who drafted the EA document. Other expertise was contracted externally as discussed throughout the report.

Section 2 of the report outlines the Project site location, wind regime, and the proposed WTGs, as well as the activities in major phases of the Project. The potential for accidents and malfunctions are also described in this section. Section 3 presents the scoping and methodology used in the EA. The environmental setting is presented in Section 4 including biophysical and socio-economic aspects. Section 5 describes the consultation program completed to date and ongoing plans within the community in Region of Queens Municipality, the Mi'kmaq, and regulators. The analysis of the interaction of the Project and the environmental setting is presented in Section 6 based on valued environmental components (VECs) and socio-economic aspects. Section 7 presents the commitments of the Proponent to follow up and monitor the Project while the closure, including signature of the Proponent, is provided in Section 8. Following the References, the appendices provide field study reports, and other supporting documentation, as references throughout the report.

2.0 PROJECT DESCRIPTION

2.1. Site Layout and Location

The Proponent plans to construct and operate a two E92 WTG, 4.7MW wind farm near Liverpool, in the Region of Queens Municipality (Figure 2.1). The nearest communities surrounding the site are Brooklyn (4km SE) and Milton (4km SW). The proposed two WTGs will be located on Crown land at the following locations:

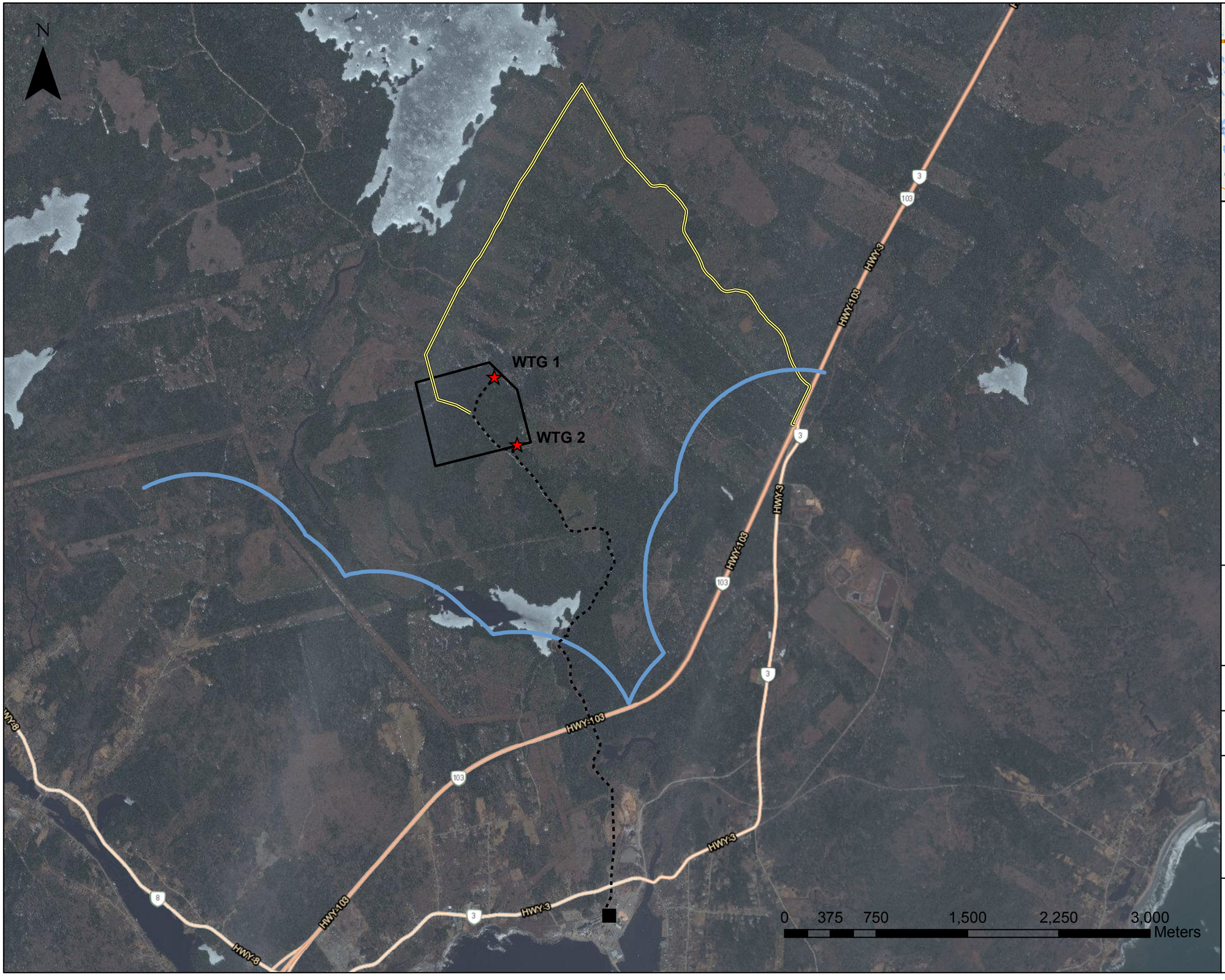
- WTG 1: 44° 05’ 31.6” N, 64° 42’ 28.6” W
- WTG 2: 44° 05’ 13.8” N, 64° 42’ 19.6” W

Initial plans for the Project involved installing three WTGs at the site. The Proponent reduced the number of turbines from three to two; allowing less clearing required and greater setback distances to be attained. The closest setback distance from the nearest receptors (i.e., residential dwellings) is 2300 meters (m). The Project site is approximately 15km from the nearest Mi’kmaq community, i.e., IR11 Medway River which is a satellite community of Acadia First Nation. Beyond this, the Project site is approximately 30km away from additional Acadia First Nation satellite communities, and over 100km away from the Bear River First Nation community.

The land under option agreement encompasses an area of 160 hectare (ha) with mixed hardwood and softwood tree growth. The property is part of the former commercial forestry operations with an extensive network of gravel roads currently existing in the Project area. It is considered a Mixed Use Rural Residential (R5) Zone, and considered suitable for WTG development through Queens Municipality Planning and Strategy.

Wetlands and watercourses have been identified in the areas of the proposed Project site; however, all work will be completed within applicable watercourse and wetland legislation. One culvert will be installed in an effort to minimize any effects to the treed swamp impacted by the construction of the WTG access road, and will be installed in a manner consistent with current applicable guidelines and standards issued by Nova Scotia Environment (NSE). As per the Nova Scotia Wetland Conservation Policy (2011), no approval is required for this alteration.

The pre-existing access road is located off of Highway 10 (Fishermen’s Memorial Highway). Upgrades to approximately six kilometers of existing road, and construction of approximately 800m of new road suitable for the delivery of WTG components, is required for the Project. Appropriate permits will be obtained from Nova Scotia Transportation and Infrastructure



Legend

- Turbine Location
- Innovacorp Demonstration Center
- Utility Routing
- 1000m Residential Buffer
- Access Road
- Developable Area

Figure 2.1

Liverpool Wind Farm Site Layout

Drawn by: TAM	Date: 6/1/2015
Project #: 122	Scale 1:50 000

EON WindElectric

Coord. System: NAD83 CSRS UTM Z20N
Projection: Transverse Mercator
Units: Meters

Renewal (NSTIR) prior to construction. The proposed WTG area of disturbance, which refers to turbine laydown areas, turbine foundations and crane pad construction, will equate to approximately 0.8ha per turbine (Figure 2.2). Total area of disturbance is expected to be approximately 3.5ha.

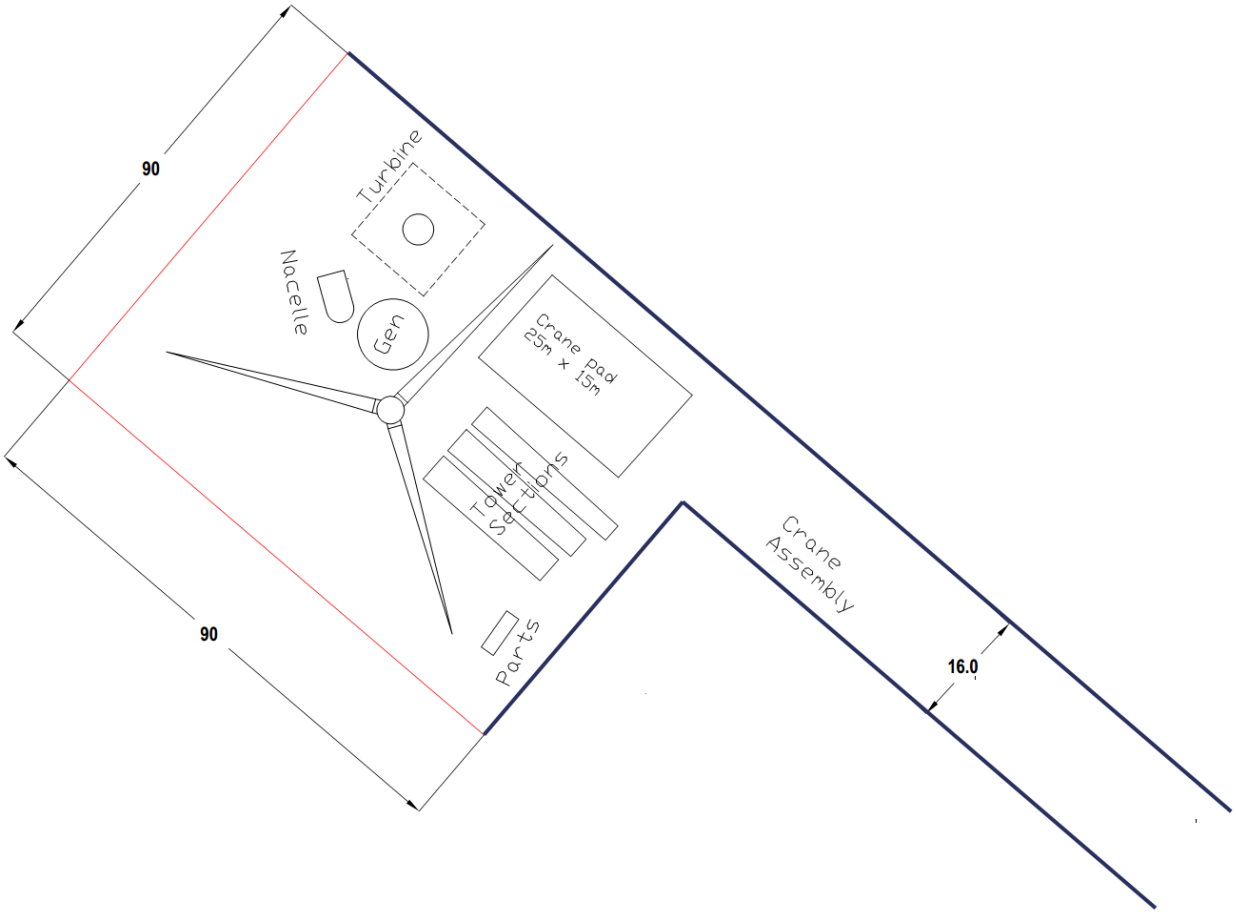


Figure 2.2. Typical Turbine Laydown Area.

The Project components include the WTGs (nacelle, blades, and tower sections), access roads, laydown areas, concrete foundations, and pad mount transformers. The LWF will not require the construction of a substation as it will connect to the pre-existing distribution substation (i.e., 50W).

The LWF will be connected to the distribution grid near the IDC, which feeds the nearby Milton substation via a 25 kilovolt (kV) distribution feeder. The transmission lines will run from the WTGs alongside the new access roads, and existing logging roads, and continue on to Nickerson's Pond Road.

The Proponent, through its associated parties, has gained extensive expertise in the prospecting and development of community-owned, distribution level wind energy projects across Nova Scotia. The COMFIT program allows community entities to connect projects with a total capacity less than the minimum load on the local distribution substation. Numerous constraints limit the areas suitable for the development of a distribution level COMFIT project; these include NSPI infrastructure in the surrounding area, wind regime, socio-economic factors (i.e., property setbacks, regional park areas, etc.) and ecological concerns. Consideration of these key factors have led the Proponent to consider the LWF site as the best alternative given the regulatory, socio-economical, ecological and technical considerations.

2.2. Wind Turbine Generator

Selection of the WTG make and model is ongoing for the Project. The Proponent will select WTGs based on, but not limited to:

- performance of the WTG with site wind regime;
- economic considerations; and
- sound power level (SPL) at turbine hub height.

Final turbine selection will be made after the completion of supplier due diligence and additional technical studies. A maximum of two WTGs will be constructed at the LWF, and tower heights will range from 80m to 100m. Total height (i.e., base to tip of turbine blade) will range from 120m to 165m. The lighting on and around the wind turbines will conform to Transport Canada Standard 621 (12.2). Correspondence on aviation approvals can be found in Appendix B. Turbine color will be industry standard white or light coloring. An effort will be made by the Proponent to source WTG components (blades, towers, generators) domestically under commercially reasonable terms.

Each turbine will produce 60Hz, 3 phase power, and will be isolated and protected via a low voltage breaker located within the turbine. The turbine will be connected to the grid by low voltage cables that are connected to the system with a transformer either located outside of the turbine, or located in the basement of the foundation. A final pole mounted re-closer switch located on NSPI owned poles will further help to isolate and protect the turbine.

The Proponent will ensure that final WTG model selection and site layout will comply with Municipal regulations, if any, and do not exceed 40dBA SPL at the nearest dwellings to the Project operation. While not regulated in Nova Scotia, 40dBA is considered an acceptable noise

level from community sources to protect sleep (e.g., Health Canada, Ontario provincial regulations, etc.) and has been adopted by NSE as a guideline. Noise studies have been conducted using the turbines with the highest sound power levels in order to ensure conservative analysis results. Refer to Section 4.2.4 for a detailed description of the noise evaluation completed for the Proponent.

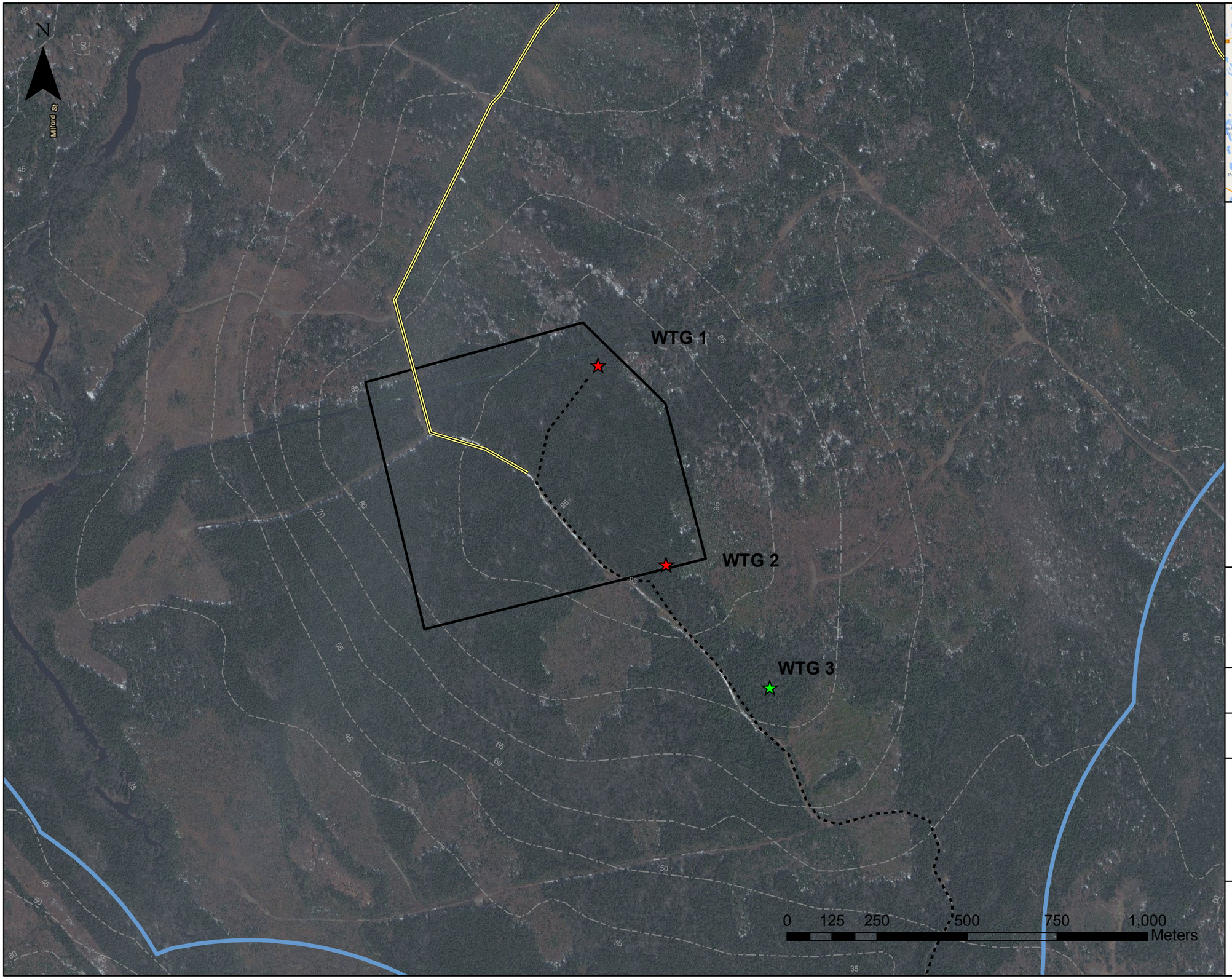
2.3. Wind Regime

A detailed wind resource assessment at the LWF site commenced in April 2015 with the installation of an 80m meteorological tower. Wind direction, wind speed, atmospheric pressure and temperature are recorded and monitored on a daily basis. The wind turbine selected for the site will be based on International Electrotechnical Commission (IEC) standard 61400-1 for wind turbines, as well as any other technical and economic constraints listed in Section 2.2. The IEC 61400-1 is a set of international standards that are based on three wind regime characteristics which guide the selection process for wind turbines. The three characteristics of the wind regime are: 50 year gusts, turbulence intensity, and annual average wind speeds. Meteorological tower data, correlated with nearby long term weather stations, will be used to determine the parameters outlined by IEC 61400-1, which will help guide the turbine selection process.

2.4. Planning and Design

Many of the impacts associated with projects of this relatively small size (i.e., altered area of approximately 3.5ha) can be avoided at the planning and design stage, rather than relying on mitigation implemented only during construction and operational phases. In terms of the LWF, the Project area itself is an excellent candidate due to its excellent wind resource, distance from residents, suitability of electrical connection, and minimal ecological sensitivities.

Initial plans for the Project involved installing three WTGs at the site. During planning, the Proponent reduced the number of turbines to two WTGs. The decrease in the number of turbines means less clearing required for the Project. Also, greater setback distances to local residential buildings can be attained. Figure 2.3 shows the current planned location of the two WTGs.



Legend

- Turbine Location
- Turbine 3 Location
- Innovacorp Demonstration Center
- Utility Routing
- 1000m Residential Buffer
- Access Road
- Contour Lines
- Developable Area

Figure 2.3

Turbine Micrositing

Drawn by: TAM	Date: 6/1/2015
Project #: 122	Scale 1:10 000

EON WindElectric

Coord. System: NAD83 CSRS UTM Z20N
Projection: Transverse Mercator
Units: Meters

An extensive network of gravel roads currently exist in the Project area from historic use of the area for commercial forestry operations. The existing roadway off of Highway 103 (Fishermen's Memorial Highway) will be upgraded to allow for access to the Project area. New construction of less than one kilometer of road will be required to allow access to each of the WTGs off of the pre-existing road. The transmission lines will run along existing logging roads, requiring minor upgrades, and will follow along pre-existing transmission lines present on Nickerson's Pond Road to the IDC facility.

East Coast Aquatics Inc. performed a field study of the complete Project area (i.e., the turbine laydown areas, the existing gravel road to be upgraded, the new access routes to the proposed turbine locations, the alignment of the proposed utility routing from the WTG locations to the IDC), etc. The field studies followed an iterative process, allowing input regarding the layout and positioning of the Project's components. The initial locations of the proposed WTGs were revised following the identification of several small wetlands present in the formerly proposed laydown areas. Wetland studies have determined that avoidance of all wetlands is not feasible; however, the Proponent has altered original site plans to minimize the extent of wetland disturbance to less than 60 meters squared. As per the Nova Scotia Wetland Conservation Policy (2011), the Proponent does not require approval for the limited disturbance that will occur to the wetlands.

The selection of locations for the WTGs also considered distance from residential dwellings to address any potential concerns with respect to any noise or visual impact. The Proponent is continuing to access ecological and technical considerations as Project proceeds. The planning process is ongoing to further refine the Project infrastructure and to minimize the effects of the construction process on the surrounding environment. Should either WTG location or access road routing change as a result of this continuous design, the Proponent will advise NSE and NSDNR, as well as other stakeholders.

2.5. Construction

The construction phases are deemed to be the most relevant to the EA process. Table 2.1 outlines the proposed work schedule for the LWF. The schedule is subject to change and proper notification will be given to the regulators and other stakeholders as appropriate. This schedule is based on EA approval and release from conditions by the fourth quarter of 2015.

Table 2.1 Construction Project Schedule

Site Activity	Start Date (mm/yyyy)	Duration
Geotechnical Investigation - Site Survey	11/2015	2 Weeks
Engineering Design and Procurement	11/2015	2 Months
Clearing and Grubbing	03/2016	2 Months
Civil/Electrical Balance of Plant (BOP) Construction	02/2016	3 to 4 Months
Installation	07/2016	1 to 3 Months
Commissioning	10/2016	1 Month
Commercial Operation Date	11/2016	N/A
Follow-Up and Monitoring	11/2016	As Required

The site development phase incorporates the activities required to complete the design and tendering aspects of the LWF, as well as additional field work and final design of the Project. The major components of this phase include:

- completion of land surveys for placement of roads and foundation pads;
- completion of geotechnical and engineering studies for foundation;
- road and electrical design;
- implementation of sediment and erosion control; and
- site clearing and grubbing.

The site development stage will require the use of light duty trucks, excavators and backhoes, forestry harvesting equipment, and drill rigs.

The construction phase incorporates the activities required to construct and / or install the wind turbine generators and associated infrastructure. The major components of the construction phase includes:

- upgrading (i.e., surface preparations) of approximately six kilometers of pre-existing access road off Fishermen’s Memorial Highway;
- new construction of approximately 800m total in access roads to turbine pads;
- clearing and construction of approximately 0.8ha area for each laydown area and crane pad construction;

- installation of culvert;
- turbine delivery and assembly related activities;
- electrical infrastructure construction;
- temporary work structure installations;
- site restoration and remediation; and
- commissioning of site and turbines.

Environmental protection is a key part of the construction process. A draft Environmental Protection Plan (EPP) has been developed to outline the protection procedures to the contractors, sub-contractors, and site personnel (Appendix C). This will be finalized based upon regulator comments, subsequent field work, and final design of the Project. Archaeological studies have indicated there is a low likelihood for the presence of Precontact or European artifacts on site. Construction crews and site managers will be on alert for the presence of old foundations or artifacts with possible archaeological significance. Erosion and sediment transport will be followed according to the current version of the Province of Nova Scotia Erosion and Sediment Control Handbook for Construction Sites (1988). Standard hazardous material protocols will also be followed during the project.

Turbine sites typically require construction of a level laydown area (typically 90m by 90m) for storage of turbine components and to create a safe and level working area. A crane pad (level, structurally sound area) typically 8m by 10m will be required at each turbine location as an operating platform for the main turbine erection crane. It is typically constructed using structural fill (surge and/or gravel).

The access roads will be upgraded and built to accommodate the size requirements of the crane and the load specifications to support the delivery of approximately 30 flatbed truck loads of turbine and crane components. The roads will be approximately six meters wide with approximately two meter wide ditches located on either side of the road. A culvert will be added as required to allow for proper drainage where the wetland impact occurs. Refer to Figure 2.4 for a typical road cross section drawing. At present, approximately 800m of new road is estimated to be required. Road routing based on a two WTG layout is previously shown in Figure 2.1.

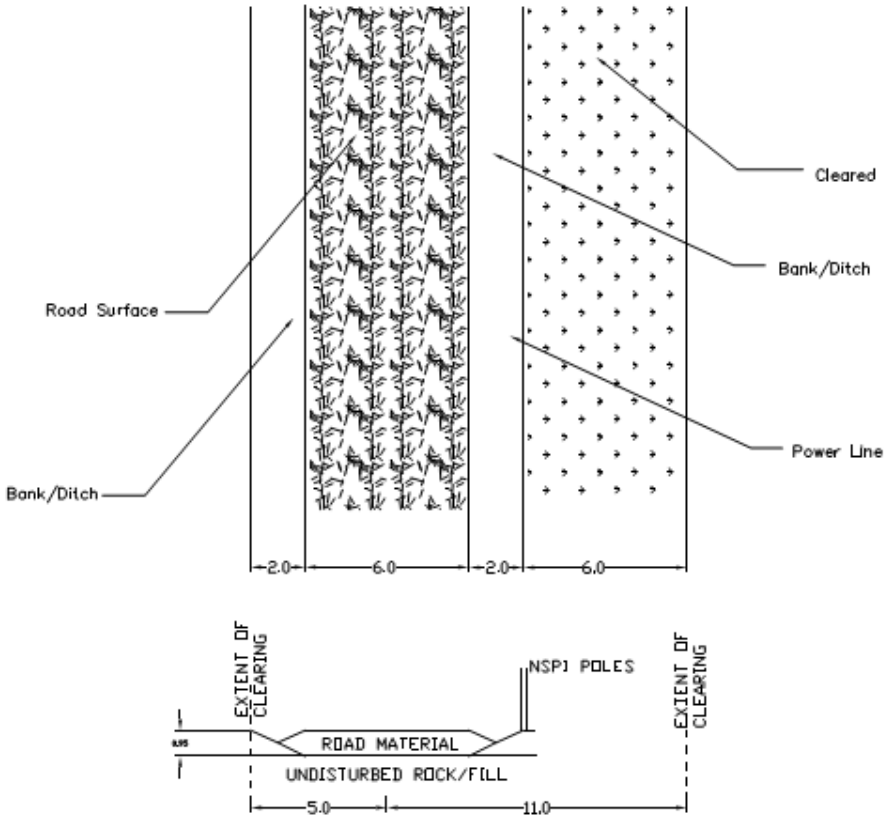


Figure 2.4. Cross section of typical road.

Following the completion of a wind resource assessment and geotechnical investigations (i.e., boreholes and core samples), turbine foundations will be designed and constructed. The activities associated with turbine foundation construction include: site clearing and grubbing, potential blasting of rock, excavation of soils, building of forms and pouring of concrete pads, placement and compacting of backfill material to grade, and trenching for electrical and communication conduit. Sediment control precautions and procedures will be implemented for the duration of foundation and crane pad construction. Turbine foundations will typically require approximately 300 cubic meters (m^3) of concrete which will be supplied from a redi-mix plant off site. Blasting Safety Regulations of Nova Scotia (2008) will be adhered to for any blasting required on site. A pre-blast survey for water wells within 800m of the point of blast is not expected to be required due to the nearest setback distance of 2300m.

Electrical BOP construction will take place in conjunction with the civil BOP construction phase. The LWF is a distribution-connected wind power project, connecting to the local distribution

infrastructure. Three phase 25kV power lines will be constructed along the access route. Substation construction will not be required for this project as it is connecting to the 25kV distribution system.

Wind turbine delivery will involve flatbed trucks and specialized trailers for delivery of the turbine towers, blades and nacelle. Access to the Project site for the construction of the WTGs will be via Highway 103 (Fishermen's Memorial Highway). NSTIR imposed spring weight restrictions will be incorporated by the Proponent when coordinating delivery of large and heavy components to the project site. The Proponent is aware of these delivery constraints and will engage NSTIR to co-ordinate requirements. Turbine components will be delivered after civil and electrical BOP has been completed.

Crane and lifting contractors will build the WTGs. Tower components will be placed sequentially on the turbine foundation with the use of a large crane (up to about 120m). Assembly of the WTG components should take between four to ten days depending on wind conditions.

Equipment used during the construction, delivery, and assembly of the WTGs include dump trucks, excavators, concrete trucks, small, medium and large cranes, graders, rollers, bulldozers, flatbed trucks and specialized trailers, crushers (if material cannot be sourced locally), and light trucks. Local residents will be made aware of Project schedule and major construction activities (e.g., blasting, if required, turbine deliveries, etc.). During high traffic periods (e.g., concrete delivery during foundation pours), the Proponent will employ dust mitigation techniques, i.e., use of a water truck, as appropriate.

Site restoration after completion of construction activities will include dispersing or removal of unused gravel and soil, grading of all areas, installation of permanent sediment and erosion controls, including stabilization, and removing construction materials from the site. Temporary shelters will be dismantled and removed from site. A gate will be installed at the entrance of the access road, and proper signage will be installed to notify wind turbine technicians and the general public of safety concerns (e.g., warning regarding ice throwing or falling ice, etc.).

2.6. Operations and Maintenance

Operation and maintenance of the Liverpool Wind Farm involves the following distinct activities:

- ensuring compliance with environmental obligations and conditions;
- ensuring compliance with utility contracts and landowner commitments;
- monitoring of wind turbine performance;

- monitoring of grid or WTG faults;
- BOP maintenance (road maintenance and clearing, pad mount transformer inspection, site security); and
- dispatching of turbine technicians for regularly scheduled and unscheduled maintenance.

The Proponent will ensure their technicians handling of hazardous waste (i.e., oils and lubricants) conform to applicable legislation and best practices throughout the maintenance life of the LWF. The Liverpool Wind Farm Environmental Protection Plan outlines how the Proponent will deal with the hazardous material handling onsite.

2.7. Decommissioning

The design life of a wind turbine is typically 20 to 30 years; but, capital improvements and replacement programs can extend the safe and efficient operations well beyond 40 years. Decommissioning of the WTGs and the site, when it is necessary or desirable, will be undertaken in accordance with the regulatory regime in place at the time.

When the WTGs are decommissioned, all equipment will be dismantled and disposed of in a manner that meets all regulatory requirements. Such activities would likely involve the preparation of the site, e.g., the establishment of access for construction equipment and the mobilization of that equipment including cranes. The sections of the towers would be taken apart and would be reused, recycled, or disposed of in accordance with regulatory requirements. After the towers are dismantled and removed from the site, the site itself would be restored to a state similar to that which currently exists through re-grading and re-vegetation. Foundation pedestals may be removed and re-filled with local soils.

2.8. Accidents and Malfunctions

Malfunctions and accidents that pose a risk to human safety, and to the environment, can occur during any activity. As such, the Proponent is committed to ensuring that protocols are in place to minimize risk during both construction and operation.

These protocols are identified in the EPP; they will ensure the application of environmental protection measures and good management practices through construction. The EPP includes an emergency response plan to address responses in the unlikely event of an accident during either construction or operation (e.g., key contact information, etc.).

The construction and operation of wind turbines employs techniques and technologies that are familiar to the construction industry. The likelihood of serious malfunctions or accidents associated with their development and operation that would pose a risk to human health and safety, or the environment, are substantially less than those associated with many other forms of power generation. Further, the Proponent is very experienced in construction and operation of wind turbines.

2.9. Future Project Phases

The LWF has been approved from the NS Department of Energy's COMFIT program for a total of 3.6MW. At this time, the Proponent does not have the ability to increase the capacity of the LWF due to the limitations on the local distribution network.

In the event of an increase in the COMFIT capacity, the LWF will have the infrastructure already in place to increase energy generation. No additional development or construction would be required to increase energy production up to the manufacturer nameplate capacity of 4.7MW.

2.10. Other Projects in Area

Other projects, currently in operation, near the proposed site include:

- Whynott's Community Wind Project is a two WTG 4MW wind farm located in Whynotts Settlement, approximately 40km away;
- Medway Community Forest Cooperative, which manages 15,000ha area of forest in the Annapolis County near Caledonia, Milford, Springfield, New Germany, and Bear River;
- Emera's Brooklyn Power, a large biomass energy generation facility, is present 400m from the Innovacorp Demonstration Centre, i.e., former Bowater Mersey Paper Mill; and
- Proposed Regenerative Air Energy Storage Facility at the Innovacorp Demonstration Centre.

These Projects are not expected to interact with the LWF; however, possible cumulative effects will be included in the EA where interactions may occur.