

**Proposed Chaplin
Wind-Energy Project**

Terms of Reference for
Environmental Impact Statement



Prepared for:
Saskatchewan Ministry of
Environment, Environmental
Assessment Branch, Regina, SK

Prepared by:
Stantec Consulting Ltd. on behalf
of Windlectric Inc. (a subsidiary
of Algonquin Power Co.)

111440221

September 15, 2014

Sign-off Sheet

This document entitled Proposed Chaplin Wind-Energy Project was prepared by Stantec Consulting Ltd. for the account of Saskatchewan Ministry of Environment. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by



(signature)

Jacqueline Reidy, B.Sc.; Biologist/Lead Author

Reviewed by



(signature)

Mike Sweet, B.Sc.; Project Manager

Approval to transmit:



(signature)

Mike McKernan, M.Sc., M.E.S.; Project Director

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Table of Contents

EXECUTIVE SUMMARY	I
ABBREVIATIONS	I
1.0 INTRODUCTION	1.1
2.0 PROPOSED PROJECT OVERVIEW	2.1
2.1 PROJECT DESCRIPTION	2.1
2.2 PROJECT BOUNDARIES	2.1
2.2.1 Spatial Boundaries	2.2
2.2.2 Temporal Boundaries	2.2
2.2.3 Administrative and Technical Boundaries	2.3
2.3 PROJECT NEED AND ALTERNATIVES	2.3
2.3.1 Project Need	2.3
2.3.2 Project Alternatives	2.4
2.4 ANCILLARY FACILITIES	2.5
2.5 REGULATORY REQUIREMENTS	2.5
3.0 ENVIRONMENTAL ASSESSMENT PROCESS	3.1
3.1 SCOPE OF THE EIS	3.1
3.2 ENVIRONMENTAL ASSESSMENT METHODOLOGICAL FRAMEWORK	3.2
3.2.1 Overview of Approach	3.2
3.2.2 Environmental Assessment Steps	3.3
3.3 ENVIRONMENTAL MANAGEMENT FRAMEWORK	3.7
3.3.1 Impact Management and Monitoring	3.8
3.3.2 Commitments and Approvals – Conditions Management	3.8
4.0 VALUED COMPONENTS	4.1
4.1 NATIVE VEGETATION	4.6
4.1.1 Baseline Information	4.6
4.1.2 Impact Assessment	4.6
4.1.3 Residual Impacts	4.7
4.2 VULNERABLE FAUNAL SPECIES	4.7
4.2.1 Baseline Information	4.8
4.2.2 Impact Assessment	4.8
4.2.3 Residual Impacts	4.9
4.3 COMMUNITY DEVELOPMENT AND SUPPORT CAPACITY	4.9
4.3.1 Baseline Information	4.9
4.3.2 Impact Assessment	4.10
4.3.3 Residual Impacts	4.10
4.4 HISTORIC AND HERITAGE RESOURCES	4.11
4.4.1 Baseline Information	4.11
4.4.2 Impact Assessment	4.12
4.4.3 Residual Impacts	4.12

PROPOSED CHAPLIN WIND-ENERGY PROJECT

4.5	ACCIDENTS, MALFUNCTIONS AND UNPLANNED EVENTS	4.12
4.6	EFFECTS OF THE ENVIRONMENT ON THE PROJECT.....	4.13
5.0	DECOMMISSIONING, RECLAMATION AND INSTITUTIONAL CONTROL.....	5.1
5.1	CONCEPTUAL DECOMMISSIONING PLAN	5.1
5.2	RECLAMATION	5.1
5.3	INSTITUTIONAL CONTROL	5.2
6.0	CONSULTATION REPORT	6.1
6.1	OVERALL OBJECTIVES	6.1
6.2	FIRST NATION AND MÉTIS CONSULTATION	6.1
6.3	APPROACH TO ABORIGINAL ENGAGEMENT AND PUBLIC AND STAKEHOLDER CONSULTATION	6.2
6.3.1	Pre-EA Engagement Activities.....	6.2
6.3.2	Engagement Activities Specific to the EA Process	6.8
7.0	REFERENCES.....	7.1
7.1	CITED LITERATURE	7.1
7.2	PERSONAL COMMUNICATIONS.....	7.2

LIST OF TABLES

Table 4-1:	Explanation of Narrowing of EIS Analytical Focus.....	4.3
Table 4-2:	Examples of Valued Components with Potential Corresponding Key Indicators and Associated Measurable Parameters	4.5
Table 6-1:	Summary of Public, Regulatory and First Nation Involvement and Consultation for the Chaplin Wind-Energy Project	6.3

LIST OF FIGURES

Figure 2-1:	Chaplin Wind-Energy Project Study Area	2.1
Figure 3-1:	Overview of Environmental Assessment Method.....	3.3

LIST OF APPENDICES

APPENDIX A	EXAMPLE ENVIRONMENTAL EFFECTS TABLES.....	A.1
-------------------	--	------------

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Executive Summary

This document provides the Terms of Reference for the preparation of the Environmental Impact Statement for the Chaplin Wind-Energy Project, a proposed wind-energy development north of Chaplin, Saskatchewan. The Project has been deemed a 'development' pursuant to section 2(d) of *The Environmental Assessment Act* (1980) of Saskatchewan by the Minister of Environment. This document will guide the scoping and preparation of the Environmental Impact Statement (EIS) for this Project. It outlines the information that will be gathered during the environmental assessment, how that information will be presented in the subsequent EIS, and how the EIS has been prepared in consideration of Guidelines for the Preparation of the Terms of Reference (SMOE 2012a).

These Terms of Reference provide an overview of the proposed project (including all project phases and previous public consultation activities). They identify the environmental impact-assessment framework and processes that will guide determinations of the 'significance' of potential Project-related residual impacts. Windlectric's commitment to gather, interpret and present additional information in the EIS, and to provide a thorough understanding of the potential for significant residual, post-mitigation environmental impacts of the Project, is intended to provide all the information necessary for the Minister to make an informed decision regarding Windlectric's application to develop the Chaplin Wind-Energy Project.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Abbreviations

B&B	Bed and Breakfast
BATEA	Best Available Technology Economically Available
EA	Environmental Assessment
EAB	Environmental Assessment Branch
EIS	Environmental Impact Statement
CanWEA	Canadian Wind Energy Association
CEAA	<i>Canadian Environmental Assessment Act (2012)</i>
HCB	Heritage Conservation Branch
KI	Key Indicator
kV	Kilovolts
LAA	Local Assessment Area
MLWC	Maximum Likelihood Worst Case
MP	Measurable Parameters
MW	Megawatt
NGO	Non-governmental Organization
O&M	Operation and Maintenance
PDA	Project Development Area
PSA	Project Study Area
RAA	Regional Assessment Area
R & D	Research and Development
RTE	Rare, Threatened and Endangered
SARA	<i>Species at Risk Act (2002)</i>
SEAA	Saskatchewan <i>Environmental Assessment Act (1980)</i>
SKCDC	Saskatchewan Conservation Data Centre
SMOE	Saskatchewan Ministry of Environment
SOCC	Species of Conservation Concern
TOR	Terms of Reference
VC	Valued Component
WTG	Wind Turbine Generators

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Introduction

September 15, 2014

1.0 Introduction

This document is the Terms of Reference (TOR) for scoping and guiding the preparation of the Environmental Impact Statement (EIS) for the proposed Chaplin Wind-Energy Project (the Project). This wind-energy development is being proposed on largely private lands and / or leased Crown lands, near Chaplin, Saskatchewan.

The Proponent of the proposed wind-energy facility is Windlectric Inc. (a subsidiary of Algonquin Power Co.), hereinafter referred to as 'Windlectric.'

The Project has been deemed a 'development' within the meanings pursuant to Section 2(d) of *The Environmental Assessment Act* 1980 (SEAA) by the Saskatchewan Ministry of Environment (SMOE). The SMOE came to its determination, communicated to Windlectric by letter dated March 19 2014, after it had reviewed two documents prepared by Stantec Consulting Ltd. (hereinafter referred to as 'Stantec') which Windlectric filed for regulatory review:

- The **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document submitted for review July 2, 2013.
- The **Proposed Chaplin Wind-Energy Project: Supplemental Information to Project Proposal (Environmental Assessment)** document that contained business confidential information, submitted on December 20, 2013.

The December 2013 '**Supplemental Information**' report responded to a request from the SMOE for additional information after its review of the initial filing of July 2013.

These TOR set out Windlectric's plan for gathering, interpreting and presenting additional information that:

- is needed by project engineers so as to define, design or refine project elements (including operations) to achieve minimum possible environmental impacts from the Project.
- has been defined as necessary by the SMOE to assist the Minister to decide if the Project can proceed to construction and operation.

These TOR have been prepared in consideration of Saskatchewan's 'Guidelines for the Preparation of the Terms of Reference' (SMOE 2012a). This guidance document along with Saskatchewan's 'Environmental Assessment in Saskatchewan' document (SMOE 2012b) was utilized as references for the preparation of the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document.

Mindful of the Minister's decision-making responsibilities at law, Windlectric intends to provide sufficient data and analysis to facilitate the Minister's thorough understanding of the potential for *significant residual (i.e. post-mitigation) environmental impacts* of the Project. In these TOR,



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Introduction

September 15, 2014

the phrase 'environmental impact' is used in consideration of the definitions set out under the *Canadian Environmental Assessment Act* (CEAA 2012). Where the environmental effect is judged to be positive, the phrase 'environmental benefit' will be used. Where the net effect is judged to be neutral, the phrase 'environmental effect' is used. In these uses, the adjective 'environmental' can also be understood to refer to the socio-cultural and economic environment.

These TOR contemplate that the SMOE review of Windlectric's July and December 2013 filings has established that certain areas of content in a typical environmental assessment of a wind-energy facility project have been satisfactorily assessed. The scope of this TOR acknowledges that there has been appropriate prior review of a number of areas of potential residual environmental impact, and that these prior analyses need no further elaboration. These TOR thus emphasize the additional (i.e., the remaining) information requested by the SMOE to augment the completed prior analyses in a comprehensive EIS supporting Ministerial review and decision making.

Except where strictly specified by the SMOE, Windlectric has committed to select the most appropriate practical and reasonable methods to compile and present data, information and analysis in the EIS, and has undertaken to describe its proposed approach in these TOR.

Information from several sources within SMOE, Windlectric and Stantec was compiled to properly reflect the remaining concerns and issues that have been identified for the Project. Thus, once these TOR are approved, they define the scope of the EIS that is currently in development.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Proposed Project Overview
September 15, 2014

2.0 Proposed Project Overview

2.1 PROJECT DESCRIPTION

SaskPower (the Province of Saskatchewan's regulated power utility) has signed a Power Purchase Agreement with Windlectric to purchase the power generated annually from an approximately 177-megawatt (MW) wind-power facility near Chaplin, Saskatchewan. Windlectric's project was selected from 26 proposals from 15 different independent power producers who answered SaskPower's call for major wind projects through its Request for Proposals process (Inquiry CO/670).

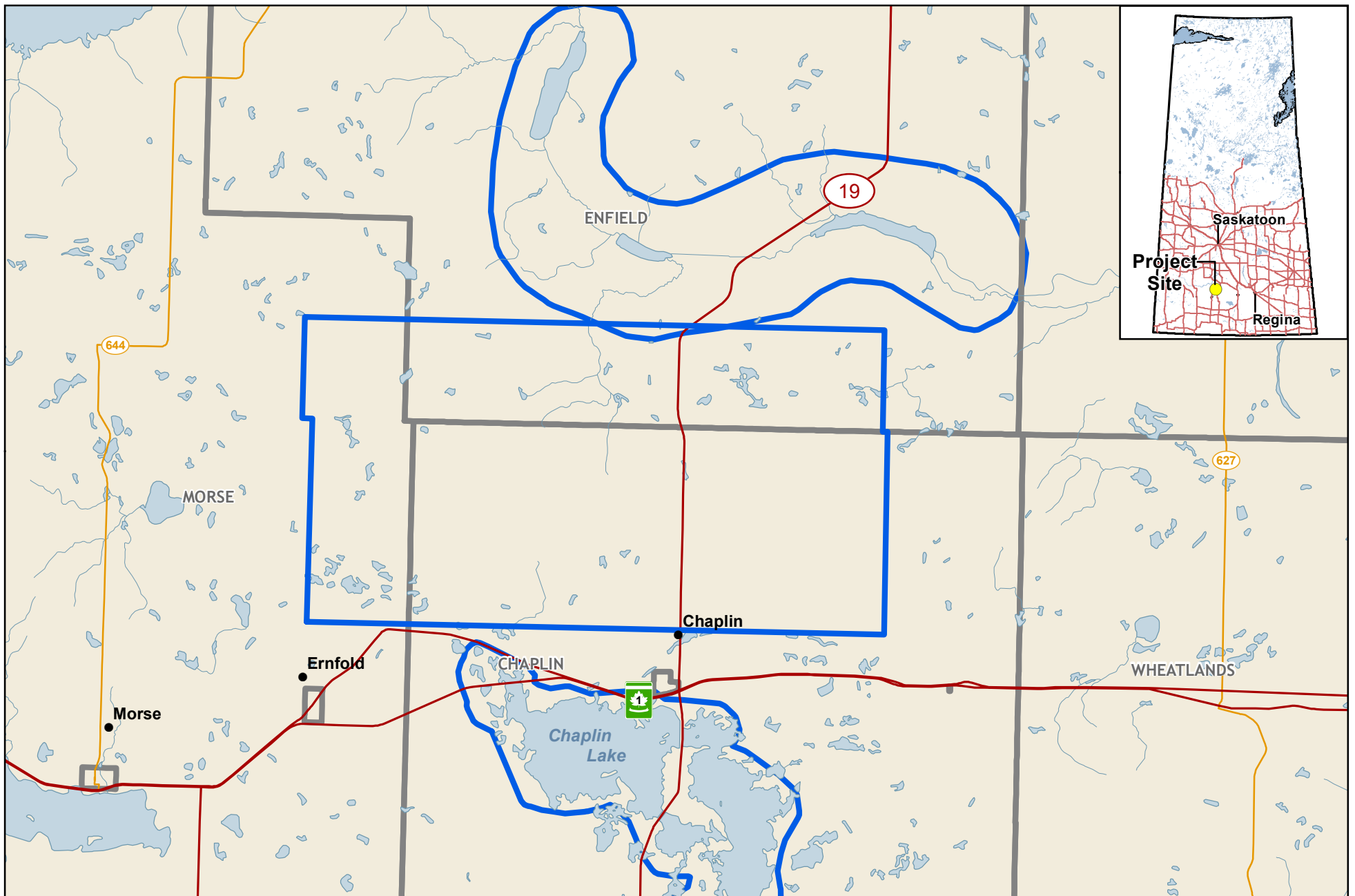
As defined in the July 2, 2013 **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** report, and elaborated somewhat in the December 2013 **Supplemental Information** document, the Project will consist of approximately 59 – 118 wind-turbine generators (WTGs). The final number continues to be the subject of ongoing consideration, and depends on the final selection of the WTG model and its manufacturer. The Project will also include supporting infrastructure such as access roads, an electrical collection system for the generated power (including overhead collector lines along RM road allowances) and a fiber-optic communications network.

Like the two antecedent documents, the EIS will outline all aspects of processes required to develop the Project throughout all phases, from construction through decommissioning. As occurred in the second of the two prior documents filed for review, the EIS will include a provisional site layout (which continues to be more indicative than definitive, and which will continue to evolve with the finalization of equipment selection and engineering design).






2.2 PROJECT BOUNDARIES

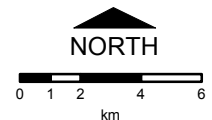
As previously described, the Project Study Area (PSA) is located within the boundaries of the Rural Municipalities (RMs) of Chaplin, Enfield and Morse, approximately 90 km east of Swift Current and 160 km west of the provincial capital, Regina, Saskatchewan (Figure 2-1).

As the first major planning decision to seek minimization of environmental impacts, the Project will be located within an existing fragmented and previously disturbed agricultural landscape. Beyond that, Windlectric has made efforts to reduce and avoid potential and incrementally harmful effects on the remaining natural features, adopting and implementing a decision-making framework (defined in Section 3 and graphically presented in Figure 3-1) intended to avoid or mitigate potentially adverse environmental effects. Along with pre-disturbance assessments, the framework uses WTG-siting and route-selection protocols that consider environmental, social, cultural and economic constraints. In this way, the project boundaries have been set to seek greatest protection of natural features and greatest overlap with areas of prior and ongoing agricultural disturbance.



Chaplin Wind-Energy Project within Southern Saskatchewan

-  EIA Study Boundary
-  Community
-  Rural Municipality
-  Provincial Highway
-  Provincial Road



Acknowledgements:
 Original Drawing by Stantec Consulting Ltd.
 Data Obtained from Government of Canada,
 Algonquin Power Co., Stantec Consulting,
 Non Authoritative Data



MAP SCALE		DATA SCALE	
1:250,000		NA	
DATE		PROJECT	FIGURE NO.
June 16, 2014		1114	2-1
DRAWN	CHECKED	APPROVED	
AC	JR	JR	
		40094	

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Proposed Project Overview
September 15, 2014

2.2.1 Spatial Boundaries

The spatial boundaries to be used in the EIS encompass the geographical areas of the environment that may be potentially affected by the Project, or are relevant to the assessment of cumulative environmental effects. Study areas encompass all relevant components of the environment including the people, the non-human biota, land, water, air and other aspects of natural and human environment. The boundaries will remain flexible during the assessment to allow the full extent of a likely environmental effect to be considered.

Project Development Area (PDA) – consists of the most basic and immediate area of the Project. The PDA will include the area of physical disturbance directly associated with the construction or operation of the Project.

Local Assessment Area (LAA) – encompasses the area in which both the Project-related environmental effects can be predicted or measured with a level of confidence that allows for assessment and there is a reasonable expectation that those effects could be of substantial chronic concern.

Regional Assessment Area (RAA) – consists of the area that establishes the context for determining the significance and the area for which the Project's contribution to cumulative effects is assessed.

The EIS will identify the PDA, LAA and RAA as appropriate for assessing the potential for impacts on each of the Valued Components examined.

2.2.2 Temporal Boundaries

The temporal boundaries will encompass the entire lifespan of the Project from Pre-construction (or Development) through to Decommissioning. The Development phase is currently underway and on-going, consisting of activities such as facility-interconnection planning with SaskPower, field work in support of environmental impact assessment studies, on-going stakeholder consultation, detailed Project design, and finalizing Project financing. The Construction phase is anticipated to commence mid-to late 2015, with commissioning of the last turbine anticipated to occur by the end of December 2016. The Operations/Maintenance phase of the Project is considered to be a minimum of 25 years (as outlined in the SaskPower Purchase Agreement). While the economic / design life of the Project is expected to be approximately 20 to 25 years, refurbishment and upgrading of the wind turbines has the potential to extend the physical production lifespan beyond the nominal 20 to 25 year life-span, with the potential for serial upgrades to allow power production in perpetuity. If such upgrading does *not* occur, then the Decommissioning phase of the Project infrastructure is anticipated to take a minimum of six to eight months.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Proposed Project Overview
September 15, 2014

2.2.3 Administrative and Technical Boundaries

Administrative and technical boundaries will be appropriately identified and justified for Valued Components (VCs) selected as the key remaining focus of impact assessment (i.e., to supplement the prior assessments accepted by the SMOE). Administrative boundaries will include specific aspects of provincial and federal regulatory requirements, standards, objectives, or guidelines along with regional planning initiatives relevant to the assessment of the Project's environmental effects. Technical boundaries will include technical limitations for the evaluation of potential environmental effects of the Project, and may include limitations in scientific and social information, data analyses, monitoring programs or interpretive methods or paradigms.

The EIS will identify VC-appropriate administrative and technical boundaries in consideration of Project-related effects.

2.3 PROJECT NEED AND ALTERNATIVES

2.3.1 Project Need

The Saskatchewan government's energy plan seeks to have 300 MW of wind energy available to its integrated grid by 2016 to thereby build on the 197 MW of wind energy currently in place (CanWEA 2014). SaskPower is pursuing 'environmentally sustainable power generation' as part of its 'Green Power Portfolio' (which includes supporting the production of wind energy). Approval and development of this Project would assist the Saskatchewan government in fulfilling its commitments towards the promotion of clean, renewable energy production in Saskatchewan.

SaskPower has adopted a strategy to meet new load growth over the next several years using its Environmentally Preferred Power ('EPP Strategy'). This strategy is intended to encourage production of low-environmental-impact power, to utilize waste streams as a fuel source, to reduce SaskPower's carbon and other emissions, to monetize the value of low-environmental-impact power and to add 'small-generation power' in step with SaskPower's local requirements. Under the Request for Proposal, SaskPower undertook a competitive process to immediately procure up to 175 W of wind power from one or more independent power producers.

In early 2012 the Chaplin Wind-Energy Project was chosen after Windlectric submitted a successful proposal pursuant to the requirements of the EPP Strategy. Some reasons for developing this Project in the proposed location include:

- Good wind-movement patterns in a proven local wind resource able to sustain economical power production.
- Close proximity to transmission facilities, thereby allowing for shorter transmission lengths and fewer related environmental impacts, with lower construction costs.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Proposed Project Overview
September 15, 2014

- Good transportation access, particularly by road and rail and proximity to transmission facilities.
- Supportive adjacent municipal council, community and landowners that have provided land options needed for Project development.
- An underutilized regional infrastructure, workforce and economic base, with an entrepreneurial culture and a community spirit able in recent years to commit new investments to pursue revenue from developments.

2.3.2 Project Alternatives

Windlectric is active in the development of renewable-power generation across North America and is exploring the potential for a wind-energy project at a number of locations in Saskatchewan and across Canada. There are several alternative methods of generating power (e.g. coal and natural gas, which are hydrocarbon-intensive in both their construction and their operation). However, both SaskPower and Windlectric have chosen to expand their portfolios of 'green' power generation by continuing to develop wind-energy facilities at locations that are suitable for the production of wind power, adjacent to underutilized transmission facilities and centres of low population density.

After a lengthy and competitive Request for Proposal ('RFP') for wind power process (Section 2.1), Windlectric determined that the best proposed project in their development pipeline for submission to SaskPower would be the PSA located in the Rural Municipality of Chaplin. Alternative areas in the province were considered where the local populations have signed landowner option agreements for the placement of WTGs on private property; however, the Chaplin Project Study Area was selected as the most suitable location based on the following factors:

- An optimum combination of favourable wind direction and velocity conditions.
- Favourable access to transmission infrastructure and capacity.
- A low adjacent population density and low absolute population counts.
- An extensive available land base largely disturbed by the local and regional agricultural history.
- Ease of integration into the existing power transformation and distribution grid.
- Elevated capacity to mitigate predicted environmental impacts to 'non-significant' levels.
- Strong local and regional support for the Project.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Proposed Project Overview
September 15, 2014

2.4 ANCILLARY FACILITIES

Ancillary facilities will include:

- An Operations and Maintenance Building.
- An underground and overhead medium voltage collection system.
- A collector substation.

2.5 REGULATORY REQUIREMENTS

An Application for an Environmental Assessment Screening consisting of the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document submitted for review July 2, 2013 and the **Proposed Chaplin Wind-Energy Project Supplemental Information to Project Proposal (Environmental Assessment)** document, submitted on December 20, 2013 resulted in a

"...determination that the Project meets the criteria of section 2(d) of The Environmental Assessment Act (the Act) and, therefore, is a "development" that is required to undergo an Environmental Impact Assessment (EIA)." (Ritchie pers. comm. 2014)

As noted in Section 1, these TOR have been prepared to reflect the guidance of provincial regulatory authorities. They have considered the Guidelines for the Preparation of an EIS under CEAA 2012 (CEA Agency 2012). They outline the scope, content and approach to impact assessment that will be embodied in the subsequent EIS submission.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

3.0 Environmental Assessment Process

3.1 SCOPE OF THE EIS

As previously described in the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document, the proposed Project will consist of between 59 – 118 wind-turbine generators (WTGs) capable of generating a nominal maximum production of 177 W of energy from an area of approximately 54,000 ha of private and/or leased crown land within the PSA (Figure 2-1).

The scope of the Project for the purposes of the EIS under SEAA (1980) includes the construction, operation and maintenance, and decommissioning of the following components:

- WTGs (each consisting of a tower, nacelle, hub, rotor blades, controller, and transformer).
- The reinforced-concrete foundations on which WTGs will be seated.
- A new collector sub-station where power from the WTGs will be stepped up to 138 kV for transmission via the existing SaskPower grid.
- An underground electrical collection system in combination with overhead collector lines (sited along pre-existing gravel road rights-of-way) to carry power from the WTGs to the new collector substation.
- A communication and data-collection fiber-optic system (placed within the same trenching configuration as the underground electrical collection system).
- Temporary access roads for access to the Project Development Area (PDA):
 - These will be either converted into permanent service roads or returned to their pre-disturbed condition.
- Permanent service roads (used for the service and maintenance of WTGs during operations).
- Temporary facilities for the relatively short construction phase (e.g., marshalling yards for equipment storage on-site).
- An Operations and Maintenance (O & M) building located in the local area comprised of offices with adjacent facilities (i.e., parking lot, storage yard).

As disclosed in the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document, the scope of the EIS will include the anticipated effects of the Project components on the environment including environmental design features, mitigation measures (including adaptive management of the facility), VCs of the ecological or socio-cultural and economic environments (by themselves or in combination with other past, present and



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

reasonably foreseeable future developments). Additionally, monitoring and follow-up programs to be established with respect to identified potential environmental effects on identified VCs are included in the scope of the environmental assessment, along with Public Liaison processes and relevant Research and Development (R & D) processes.

The methods that will be used to conduct the remaining assessments of the Project are outlined in this section. These methods will be described, presented and used in the EIS that is now in preparation. The approach is consistent with the requirements of the provincial EA process and, to some extent, other relevant jurisdictions. Further, the methods are based on a structured approach that:

- Follows an integrated approach to the assessment of Project-related and cumulative environmental effects.
- Focuses on issues of greatest concern (especially those remaining after provincial regulatory review of the previously submitted Environmental Assessment information).
- Considers applicable federal and provincial regulatory requirements for the assessment of environmental effects, with specific consideration of the requirements of the SMOE and the scope of the EA as defined by the TOR.
- Considers issues raised by the public, Aboriginal persons, and other stakeholders during consultation and engagement activities.
- Considers Windlectric's engineering design and programs for mitigation (including adaptive facilities operation) and monitoring as core elements of a comprehensive environmental planning and management process.

3.2 ENVIRONMENTAL ASSESSMENT METHODOLOGICAL FRAMEWORK

3.2.1 Overview of Approach

The EA methods to be used in preparation of the EIS will address both Project-specific and cumulative environmental effects. Project-specific effects are changes to the biophysical or human environment that will be caused by a project or activity arising solely as a result of the proposed principal works and activities associated with the Project. Cumulative effects are residual changes to the biophysical or human environment that are caused by an action associated with the Project, in combination with the effects of other past, present or reasonably foreseeable future projects or activities in the regional study area. The environmental effects of past and present projects can be positive, negative or neutral. Negative or positive effects will be assessed through the comparison with current baseline conditions that reflect those cumulative environmental effects, in consideration of the incremental effects from addition of the Project and other future projects and activities.



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

The environmental (including socio-cultural and economic) effects of the Project will be assessed in the EIS for a range of VCs that are elements of the ecological, social, cultural, and economic environments that have either a regulatory requirement, or some significant scientific, cultural, economic or aesthetic value on which the assessment should focus. VCs are selected in consideration of their susceptibility to change (especially negative change) as a consequence of the Project and as a result of cumulative environmental effects. The benefits of the Project will also be identified and considered in this process.

Project-specific environmental effects and cumulative environmental effects will be assessed in the EIS using a standardized methodological framework for each VC, with standardized tables and matrices. Such forms of tabulation will be used to facilitate and document details of the evaluation in a way intended to assist regulatory review. The residual Project-related environmental effects (i.e., after mitigation has been applied) will be characterized using specific attributes (e.g., direction, magnitude, geographic extent, duration, frequency, and reversibility) that are defined specifically for each VC. The significance of the Project-related environmental effects will then be determined based on predefined effects criteria or thresholds of effect (also called 'significance criteria').

If there is substantive spatial and/or temporal overlap between the Project environmental effects and the environmental effects of other projects or activities that have been or will be carried out, cumulative environmental effects of the Project will be assessed in the EIS. The intent will be to determine if the cumulative environmental effects could be significant, and to consider the relative contribution of the Project to these effects.

3.2.2 Environmental Assessment Steps

The environmental effects assessment approach to be used in the EIS is shown graphically in Figure 3-1. Further details on these EA methods will be provided in the EIS.

3.2.2.1 Scoping the Assessment

This step relies upon various inputs and sources of perspective, including the EA scope suggested by regulatory authorities; consideration of the input of the public, stakeholders, and Aboriginal people (as applicable); and the expertise and professional judgment of the Study Team. These TOR reflect consideration of the outcome of all of those scoping activities, including the results of prior consultation and engagement. They establish the approach that will be taken and the following information will be considered and presented in the EIS:

- Selection of VCs and provision of the rationale for their selection.
- Selection of key indicators (KIs) of project-related stress on specific VCs, and provision of the rationale for their selection.
- Consideration of the influence of consultation and engagement on the scoping of the VC.

SCOPING OF THE ASSESSMENT	STEP 1	Selection of Valued Components (VC) Rationale for Selection, Issues Identification, Regulatory Setting	
	STEP 2	Project Interactions with the VC <ul style="list-style-type: none"> • Identification of Potential Environmental Effects • Selection of Measurable Parameters • Identification of Other Projects and Activities 	
	STEP 3	Identification of Assessment Boundaries Spatial, Temporal, Administrative, and Technical	
	STEP 4	Establish Standards or thresholds for Determining Significance of Environmental Effects (also known as Significance Criteria)	
EXISTING CON-DITIONS	STEP 5	Establish Existing Conditions	
ASSESSMENT	STEP 6	Assessment of Project-Related Environmental Effects <ul style="list-style-type: none"> • Description of Potential Project Environmental Effects • Analysis of Potential Project Environmental Effects • Mitigation of Potential Project Environmental Effects • Characterization of Residual Project Environmental Effects 	Repeat for Each VC and Environmental Effect
	STEP 7	Assessment of Cumulative Environmental Effects <ul style="list-style-type: none"> • Description of Potential Project Environmental Effects • Analysis of Potential Project Environmental Effects • Mitigation of Potential Project Environmental Effects • Characterization of Residual Project Environmental Effects 	
	STEP 8	Determination of Significance <ul style="list-style-type: none"> • Residual Project-Related Environmental Effects • Residual Cumulative Environmental Effects 	
	STEP 9	Description of Effects of the Environment on the Project <ul style="list-style-type: none"> • Prepared as an individual section after the VCs 	
CONCLUSIONS	STEP 10	VC Follow Up and Monitoring	
	STEP 11	Summary	

Figure 3-1: Overview of Environmental Assessment Method

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

- Identification of the VC-specific environmental effect(s) to be assessed.
- Description of measurable parameters (MPs) selected to facilitate quantitative or qualitative measurement of potential Project environmental effects and cumulative environmental effects upon KIs (the degree of change in these measurable parameters will be used to help characterize environmental effects and evaluate their significance).
- Description of temporal, spatial, administrative, and technical boundaries.
- Description of the spatial boundaries for the assessment consist of the PDA, and for each VC, the Local Assessment Area (LAA) and the Regional Assessment Area (RAA), selected to support the assessment of Project and cumulative environmental effects, respectively. These boundaries will be selected taking into account the geographic and temporal range of the anticipated environmental effects of the Project, and ecological, technical and social considerations. The EIS will include appropriately-scaled maps and/or drawings of the assessment areas.
- Identification of the standards or effects thresholds proposed to determine the significance of environmental effects.

3.2.2.2 Defining Existing Conditions

Existing (baseline) environmental conditions will be established for each VC. In many cases, existing conditions expressly or implicitly include those environmental effects that may be (or may have) been caused by other past or present projects or activities that have been or are being carried out. In focusing on VCs, the description of existing conditions will be at a level of detail and scope that supports the assessment of environmental effects. Information already derived from existing available sources, field studies and reconnaissance or analysis conducted in support of the previously submitted **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document will be combined with additional information derived from current field studies and reconnaissance in support of this EIS. This combining of previous and additional information will provide a comprehensive understanding of the pre-existing conditions in the study area sufficient to support evaluation of effects. The existing state of the ecological and socio-cultural and economic environments will be described with detail sufficient to provide an overview of the setting for the Project, and to support an understanding of the receiving environment. The description will be as quantitative as possible and sufficient to enable an understanding of how the current environmental conditions might be affected by the Project. If possible and as appropriate, the baseline data will allow for understanding of background trends and extremes, and changing conditions in the environment. Baseline information included will be limited to that necessary to assess the environmental effects of the Project and support recommendations for mitigation and monitoring.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

3.2.2.3 Assessing Effects

An assessment of Project-related environmental effects, residual environmental effects, and any overlapping cumulative environmental effects, will be made. Determinations of 'significance' will be made in consideration of the identified significance criteria. These are further described as follows:

- **Assessment of Project-Specific Environmental Effects** – Environmental effects of the Project will be identified and assessed. Potential Project interactions with the environment will be identified and presented in tabular form (Appendix A). Each potential effect will be described based on the level of interaction that each Project activity or physical work is anticipated to have with or upon each VC. Focus will be placed on those interactions where:
 - Interactions will occur, however based on past experience and professional judgment, the interaction **would not result in a significant environmental effect**, even without mitigation, or the interaction would clearly not be significant due to application of impact-prevention or mitigation practices.
 - No residual effects are anticipated; a rationale is provided for why they are not considered further in the EIS.
 - Interaction will occur and **may result in a potentially significant environmental effect** even with impact-prevention or mitigation practices. This would also include an interaction that is important to regulators or in which there is substantive public interest.
 - Potential residual environmental effects are anticipated and these effects are considered further and in more detail in the EIS.

As previously outlined in the submitted **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document, the assessment will also include a description of Best Practices (as per industry standard and applicable regulatory guidelines), planned mitigation and environmental protection measures that will be implemented to reduce or eliminate environmental impacts. The EIS will characterize the residual environmental effects (both positive and negative) of the Project, with greatest attention on residual impacts.

- **Assessment of Residual Environmental Effects** – Residual environmental effects are considered those effects where a Project-related interaction may, even with impact-prevention or mitigation practices, will result in a potentially substantive measurable or perceived environmental effect upon a matter of regulatory and / or public interest (i.e. 'perceived impacts' can be considered 'significant'). Potential residual environmental effects will be considered further and in more detail in the EIS and will be characterized as follows:
 - **Type** – the ultimate long-term trend of the environmental effect (i.e., positive or adverse).

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

- **Magnitude** – the amount of change in a measurable parameter or variable relative to existing conditions, defined for each VC as ‘low,’ ‘medium’ or ‘high.’
- **Geographic Extent** – the area where an environmental effect of a defined magnitude occurs, defined for each VC, based on definitions of PDA, LAA and RAA, as appropriate.
- **Frequency** – the number of times during the Project or a specific Project phase or activity that an environmental effect might reasonably be expected to occur (e.g., ‘one time’ or ‘multiple times’) in a specified time period.
- **Duration** – the estimated period of time required until the VC returns to its baseline condition or the environmental effect can no longer be measured or otherwise perceived (e.g., ‘short-term,’ ‘mid-term,’ ‘long-term,’ or in some cases ‘permanent’).
- **Reversibility** – the likelihood that a measureable parameter will fully recover from an environmental effect, including through active management techniques (e.g., reclamation).

Ecological/Socio-economic Context – this is the general characteristics of the area in which the Project is located, as indicated by past and existing levels of human activity. Where possible, the magnitude, geographic extent and duration of potential effects to KIs of specific VCs will be quantified. Where these characteristics cannot be expressed quantitatively, they will be described using qualitative terms that are defined specifically for the VC or environmental effect.

The EIS will emphasize residual environmental effects assessment (i.e., the environmental effects that remain after Best Practices and planned protection and mitigation measures have been applied) for all phases of the Project as scoped in these TOR, as well as for accidents, malfunctions, and unplanned events. As explained, the assessment relies upon the characterization of residual environmental effects through a progressive narrowing of focus, examining the potential for selected MPs and KIs specific to selected VCs.

- **Assessment of Cumulative Environmental Effects** – Cumulative environmental effects, or ‘regional impacts’, of the Project will be identified in the EIS for all phases of the Project, taking into consideration other projects or activities that have been or will be carried out (as reflected in baseline conditions and for reasonably foreseeable projects or activities). An assessment of potential interactions is completed to determine if an assessment of cumulative environmental effects is required (i.e., there is potential for substantive interaction) for those specific Project-related residual environmental effects that overlap with residual environmental effects of other projects or activities that have been or will be carried out in the RAA. For each VC, tables (Appendix A) are used to identify potential interactions with other projects or activities with respect to the nature and degree to which important Project-related environmental effects overlap with those of other Projects and activities. The residual cumulative environmental effects of the Project in combination with other projects or activities that have been or will be carried out are then evaluated for ‘significance,’



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

including the contribution of the Project to those cumulative environmental effects, and with consideration for any additional mitigation that may be required for the Project or implemented by others.

3.2.2.4 Determining 'Significance'

The significance of residual Project-related environmental effects and residual cumulative environmental effects will be systematically determined, based on significance criteria defined for each VC in these TOR.

3.2.2.5 Monitoring

Monitoring measures (termed 'follow-up' under CEAA 2012) that are required to verify the environmental effects predictions, or to assess the effectiveness of the planned mitigation or to give effect to corporate commitments (e.g., ongoing R & D) will be described in the EIS, where applicable. Other monitoring (e.g., 'compliance monitoring' to fulfill conditions of formal approvals or legal permits), may also be described, as applicable and appropriate.

3.3 ENVIRONMENTAL MANAGEMENT FRAMEWORK

Windlectric is committed to incorporating life-of-Project environmental management approaches and strategies into Project planning and execution so that not only is the Project compliant with provincial and federal regulatory requirements, but benefits and positive effects are enhanced and optimized. The Environmental Management Framework will be described in the EIS and how it has considered the input of the public, stakeholders, Aboriginal people and regulatory authorities, the potential environmental effects of the Project, and the planned mitigation and follow-up proposed in the EIS. The EIS will describe how Windlectric has made efforts to reduce and avoid potential and incrementally harmful environmental effects on the remaining natural features not already affected by agriculture and other development. This will be achieved by adopting and implementing a decision-making framework to avoid or mitigate potentially adverse environmental effects using a variety of measures (e.g., siting and route-selection protocols and pre-disturbance assessments that consider environmental, social, cultural and economic constraints).

As was previously described in the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document, the EIS will reiterate how Windlectric will use a variety of tools for environmental management, including:

- Integration of impact- prevention or mitigation measures into project siting, design, operations.
- Environmental management procedures and environmental management system.
- Environmental protection planning for construction.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Environmental Assessment Process
September 15, 2014

- Environmental monitoring and follow-up.
- Emergency prevention and response planning, including contingency plans for preventing or managing accidents and malfunctions.
- Waste-management planning.
- Water-management planning.
- Decommissioning and reclamation.

3.3.1 Impact Management and Monitoring

In the EIS, Stantec will describe Windlectric's mitigation measures that it plans to implement to prevent, manage, and mitigate Project-related environmental impacts and the contribution of the Project to cumulative adverse environmental effects.

As has been previously submitted in the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** and **Proposed Chaplin Wind-Energy Project: Supplemental Information to Project Proposal** documents, Stantec will outline Windlectric's planned and recommended monitoring and follow-up, and the framework within which this will be managed for each VC.

3.3.2 Commitments and Approvals – Conditions Management

The EIS will include a detailed register of corporate environmental stewardship commitments along with a plan for reporting and response activities. Windlectric has advised that it will work with SMOE and other agencies as necessary to establish its reporting and follow-up protocols. The register will be designed so that it can be updated and used post-approval if the Project is approved to proceed. This register will include relevant conditions of permits and authorizations as well as the EA approval. It will be presented in tabular form as prescribed by SMOE (Appendix C, SMOE 2012a).

The EIS will include reflect consideration of Windlectric's commitment for to undertake adaptive action or management where monitoring demonstrates that mitigation has not been effective or where Stantec's environmental effects predictions were found to be incorrect. Such action will form part of the register and reporting requirements. Reports will indicate how effectively commitments are being met, will describe any preventative actions where a commitment is at risk of not being met; will describe corrective actions (if any) where a commitment has not or cannot be met with appropriate justifications and, if appropriate, will provide an assessment on whether the commitment is sufficiently addressing the intended environmental protection or mitigation objectives.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

4.0 Valued Components

Valued components (VCs) are aspects of the ecological and socio-cultural and economic environments that are considered to be important from corporate, public, Aboriginal, and/or scientific and technical perspectives. Valued components are identified to focus the EA process on those aspects of the environment, ecological and socio-cultural and economic:

- That are most valued.
- That are most likely to be affected by the Project and cumulative environmental effects (i.e., more 'vulnerable').
- Whose protection is most able to assure protection of a wide variety of less vulnerable components of ecological and socio-cultural and economic systems.

Stantec's selection of VCs considers components that are apparently vulnerable to the potential stress of the Project and other activities in the region. The selection is influenced by a number of factors, including:

- Consideration of regulatory queries and comments made following review of the two prior submissions (e.g., issues of potential effects on unique, rare or endangered features of the environment).
- A basis in scientific, historical, or archaeological importance.
- A basis in public or specific stakeholder expressions of concern.
- An understanding of potential Project-environment interactions and potential environmental impacts through the experience of Windlectric, as a major developer of renewable power, or , Stantec, which has an extensive history with understanding, describing, and evaluating these interactions.
- Stantec's and Windlectric's regulatory or public understandings of the sensitivity of VCs to perturbations typical of this Project.
- Windlectric's and Stantec's respective experience with the design and implementation of practical mitigation measures to prevent or minimize impacts in similar projects in similar terrain.
- The acknowledgement by SMOE through its responses to previous regulatory filings, that there has been appropriate prior review and assessment of a number of areas of potential residual environmental impact, and that these prior analyses need no further elaboration in the EIS now in preparation.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

Key indicators are used to focus the EA process on effects to or upon the most representative aspects of the VCs. Key indicators are often quantifiable and can provide information or metrics on ecological health and integrity and / or assist in gauging environmental conditions within a specified VC. Indicators may include individual plant or wildlife species or communities within ecological environments, or components of the physical or socio-cultural and economic environment, such as surface water quality or net family income. Selection of KIs is focused on those with a narrow range of ecological or socioeconomic tolerance in a given area (Canadian Environmental Assessment Agency 2009) or components that are generally representative of the health of a VC. Indicators are often components of the environment that may be included in follow-up monitoring programs to evaluate trends within the ecosystem after project operations begin.

Measurable parameters will be selected for each VC and / or KI to provide a frame of reference for assessing the degree to which a VC is impacted by the Project. Measurable parameters facilitate quantitative (or qualitative if non-quantifiable) measurement of potential project and cumulative effects. They provide a means to determine the amount of change to a VC. When compared to the defined significance criteria, MPs assist in evaluating the significance of the potential environmental effects (i.e., whether a significance threshold has been exceeded).

In consideration of the forgoing, Stantec has selected four VCs as the focus of the remaining environmental and socio-economic impact assessments. This selection reflects the anticipated potentially significant Project-environment interactions worthy of additional detailed assessment and consideration of regulatory guidance and regulatory review of the previous submissions. The scoping and description of VCs has considered parameters such as magnitude, extent, duration, reversibility, and frequency for evaluating potential environmental effects.

Windlectric's proactive mitigation planning has also been considered in the planned focus on these parameters. The ecological VCs to be considered in the EIS are:

- Native Vegetation
- Vulnerable Faunal Species (birds, bats and species at risk)

The socio-cultural and economic VCs to be considered reflect an understanding of several key environment characteristics, notably the agricultural history of land use in the area and the capabilities of the surrounding rural municipalities and small communities to adapt to the presence of a large wind-energy facility. The socio-cultural and economic VCs include:

- Community Development and Support Capacity
- Historic and Heritage Resources

Through the VC-selection process, Atmospheric Environment, Physical Environment (including geology, hydrology, and hydrogeology), Aquatic Resources, Soils and Terrain, Land and Resources Use, Aboriginal / Metis Land and Resource Use, Traditional Land Use and Public Health and Safety were not considered as candidate VCs for additional assessment. On the basis of the



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

two preceding documented analyses of potential project impacts, and consideration of the findings of the regulatory review process completed to date, it was concluded that either the potential residual environmental effects on these components would not be significant, or they can be better addressed through the consideration of particular interactions within other VCs (Table 4-1).

While the SMOE Guidelines for the Preparation of the TOR (SMOE 2012a) identify a number of potential VCs for use in EA, these guidelines are prescribed for projects not having received prior impact assessment, as this project has. These TOR identify VCs that are reflective of Project-related interactions anticipated to have enough substantive potential environmental effects on the receiving environment as to justify additional study and assessment. In order to keep the EA concise, clear and focused on those additional (i.e. the remaining) considerations requested by either Windlectric or the SMOE to augment the completed prior analyses, those aspects considered adequately explained are not considered further in these TOR. In consideration of this specific project, and over a year of prior documented monitoring, assessment and stakeholder engagement, Table 4-1 outlines Stantec's rationale for the absence of further effort on the array of theoretical candidate SMOE VCs identified in SMOE 2012a.

Table 4-1: Explanation of Narrowing of EIS Analytical Focus

Theoretical Potential VC	Site-specific or Process-specific Absence of Need for Further Attention
Atmospheric Environment	<p>The appropriate implementation of Best Practices and proven mitigation measures during the construction activities can reduce the degree to which project-atmospheric interactions are likely to occur. Therefore, this environmental aspect will not be explicitly considered as a VC in the EA, but indirectly through consideration in other VCs as appropriate.</p> <p>Following its review of Stantec's previous documented assessments, SMOE indicated in its determination letter to Windlectric (Ritchie pers. comm. 2014) that the Project will not "<u>cause the emission of any pollutants or create by-products, residual or waste products which require handling and disposal in a manner that is not regulated by any other Act or regulation</u>".</p>
Hydrogeology, Hydrology, Aquatic Ecology	<p>Surface water in the Mixed Grass Ecoregion is generally impacted by the saline character of local lakes (Chaplin and Reed) and wetlands in depressional land. The PSA lies on a drainage divide with no permanent streams nearby to connect the wetlands to each other. Streams and wetlands are intermittent and ephemeral in nature and are subject to large fluctuations in water levels depending on ambient conditions and local water demands. Many of these cannot support permanent fish populations due to severe draw-downs, low oxygen, freezing and loss of habitat. Additionally, no fisheries resources as defined by the <i>Fisheries Act</i> (1985) have been reported in the PSA and there is no significant aquatic habitat for fish. Available information has indicated that no fish-bearing water bodies are expected to be affected by the Project.</p> <p>Following its review of Stantec's previous documented assessments, SMOE made no request for further attention to this potential VC.</p>
Biodiversity	Inherently considered in relation to Vulnerable Faunal Species and Native Vegetation VCs.
Wetlands	Inherently considered in relation to Native Vegetation VC.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

Table 4-1: Explanation of Narrowing of EIS Analytical Focus

Theoretical Potential VC	Site-specific or Process-specific Absence of Need for Further Attention
Habitat	Inherently considered in relation to Vulnerable Faunal Species VC.
Soils and Terrain	<p>Impacts to soils and terrain are limited to the Construction and Decommissioning phases of the project. The use of standard Best Practices (in combination with appropriate monitoring of on-site conditions during Project construction / decommissioning and environmental site inspections) will minimize the potential for impacts to soil structure quality. The Environmental Protection Plan prepared to guide the General Contractor will outline procedures for implementing these mitigation measures. Therefore project implications for soils will not be considered further as a specific VC as it has already been satisfactorily addressed through previous submissions.</p> <p>Following its review of Stantec's previous documented assessments, SMOE made no request for further attention to this potential VC.</p>
Land and Resource Use and Management	<p>Following its review of Stantec's previous documented assessments, SMOE has determined in its determination letter to Windlectric (Ritchie pers. comm. 2014) that <u>"no provincial resource will be used in any way that pre-empts its use for other purposes."</u></p> <p>Therefore, this environmental aspect will not be explicitly considered as a VC in the EA, but indirectly in the Native Vegetation VC.</p>
Aboriginal / Metis Land and Resource Use Traditional Land Use	<p>Windlectric has attempted and continues to engage First Nation and Metis communities in proximity to the PSA (Table 6-1 identifies an exhaustive list of public consultation activities undertaken by Algonquin to date including all contact attempts with First Nations and Metis communities). The lack of issue identification by both First Nations and Metis communities contacted, in combination with the poor proximity of the First Nations communities to the PSA (i.e., Nekaneet First Nations located 185 km and Wood Mountain located 110 km away), has led to Aboriginal / Metis Land and Resource Use not being identified as a VC.</p> <p>Following its review of Stantec's previous documented assessments, SMOE has determined in its determination letter to Windlectric (Ritchie pers. comm. 2014) that the Project <u>"will not adversely impact First Nations or Metis communities' exercise of Treaty or Aboriginal rights or the pursuit of traditional uses."</u></p>
Human Health and Safety	<p>Public health and safety, while an important concern, is one that can be managed through the use of Best Practices and adherence to Occupational Health and Safety Guidelines. Workplace safety / training will be considered in relation to Community Development Support Capacity VC. Low population density; few people in proximity to WTGs therefore conclusion that effects to human health will not be significant. The design adheres to Best Practices for minimum setback distances of WTGs adjacent to dwellings (e.g., > 550 m). Windlectric has informed Stantec that it will be undertaking a noise modeling analysis of the final WTG layout in relation to any potentially sensitive receptors. This information will be included in the EIS. While, the province of Saskatchewan does not have legislation or guidelines in place with respect to management of noise, industry Best Practices from appropriate jurisdictions will be considered (e.g., Ontario Ministry of Environment and Climate Change guideline regarding decibel level). Public consultation activities conducted to date reveal that human health is not an issue for the public or stakeholders, therefore this aspect will not be considered further as a specific VC as it has already been satisfactorily addressed through previous submissions.</p>

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

Table 4-1: Explanation of Narrowing of EIS Analytical Focus

Theoretical Potential VC	Site-specific or Process-specific Absence of Need for Further Attention
	Following its review of Stantec's previous documented assessments, SMOE made no request for further attention to this potential VC.

Additionally, previous assessments, data analysis and conclusions conducted on those potential project effects considered adequately assessed through previous regulatory filings about which no additional information has been requested through the SMOE regulatory review processes conducted to date, will be summarized and included in the EIS.

Table 4-2 provides an example summary of Stantec's selected VCs along with their potential corresponding KIs and MPs that will be relied upon to help guide the EA processes.

Table 4-2: Examples of Valued Components with Potential Corresponding Key Indicators and Associated Measurable Parameters

Selected VC	Example Key Indicator	Example Measurable Parameter
Native Vegetation	Species that are most representative or best embody relict native prairie (e.g., most typical mixed-grass or short-grass prairie species that are naturally occurring in the area, as identified during field surveys) Example species – <i>Bouteloua gracilis</i> , <i>Festuca ovina</i> .	Species-specific decline in frequency in native habitats
Vulnerable Faunal Species	Species designated by legislation or by local importance (e.g., species identified through Western Hemisphere Shorebird Reserve Network designation process, etc.) Example species – yellow rail (<i>Coturnicops noveboracensis</i>); sanderling (<i>Calidris alba</i>)	Species specific habitat loss amount or mortality rates
Community Development Support Capacity	Local and regional availability of accommodation and services to support the relatively short construction period Examples – number of available hotels, restaurants, clinics, emergency services, etc.	Extent of need of overflow to other communities, need for more emergency services (e.g., fire and police capacity), change in occupancy rates

A description follows of each selected VC, including the definition of the VC, the criteria proposed for the evaluation of the significance of environmental effects, the existing conditions (baseline information) and the approach to the assessment of environmental effects.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

4.1 NATIVE VEGETATION

Native vegetation is defined as relict prairie stands in the PSA that exist in, or as close to, their natural healthy productive state. In the PSA, native vegetation exists as relict stands of mixed native and non-native grasslands (often with existing grazing by cattle) with the potential to support both native prairie (and related wetland) species. Rare, threatened or endangered (RTE) species of prairie plants are often an indicator of the presence of unusual and/or sensitive relict short-grass or mixed-grass stands, and their protection can confer, with some degree of confidence, protection on their associated (and less vulnerable) co-existing species.

4.1.1 Baseline Information

The EIS will further characterize the relict prairie vegetation using available existing information from the prior fieldwork and analysis conducted in support of the submitted **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document and the planned 2014 surveys. These results will be analyzed in combination with additional botanical surveys conducted in support of the EIS in order to further characterize the relict prairie vegetation in the PSA, especially its potential vulnerability to direct project stress.

Site-specific field survey methods, including rare plant surveys, have been developed and applied to date based on Best Practices in consideration of relevant provincial guidelines and methods, including those recommended by the Saskatchewan Conservation Data Centre (SKCDC). These site-specific surveys, conducted by highly experienced native prairie botanists and prairie preservation scientists, will characterize the spatial distribution, the species composition and diversity, the relative quality of the native prairie and the apparent vulnerability of the relict stands (utilizing the Ranking System identified in Appendix C: Botanical Field Studies Report of the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document). The surveys will include the pairwise comparisons requested by SMOE of the vegetation on proposed WTG sites and their adjacent 'control' sites. This will facilitate the requested quantitative estimation of impacts on species composition on sites to be affected by WTG placement. Stantec has been advised that the resulting data will be used by Windlectric project designers to consider the relative extent to which areas of identified native prairie may be disturbed, and how these impacts can be prevented, mitigated or compensated.

4.1.2 Impact Assessment

The EIS will focus on assessing changes in species composition, spatial extent or productivity of native prairie that will be lost or altered from clearing activities for the construction and placement of WTG foundations and the new electrical substation, permanent access road placement, and / or project activities (e.g., equipment laydown areas). The assessment will characterize this potential environmental effect using standard characterization considerations, and selected measurable parameters that can be used to evaluate the potential environmental impacts and evaluate their significance. Completion of the site-specific surveys will enable the application of a ranking system to provide a quantifiable measure of native prairie extent, use and health. If deemed necessary, through results of pre-construction site-specific surveys, and if



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

feasible from an engineering and economic perspective, potential Project infrastructure will be re-sited to lower ranking sites. This system will then be utilized to provide an accurate estimate of total amount of relict native prairie that will unavoidably be lost, an effect which could require compensation.

The evaluation of environmental effects will consider the potential environmental effects in light of planned mitigation such as Environmental Protection Plans (e.g., construction Best Practices), WTG siting (and re-siting), location (and relocation) of temporary and permanent access roads, and weed management.

4.1.3 Residual Impacts

A significant residual adverse environmental effect on Native Vegetation will be defined as:

- One that alters the environment within the LAA physically, chemically, or biologically, in quality or extent, in such a way as to cause a change in spatial distribution or decline in abundance of a viable population that is dependent upon that habitat such that the likelihood of long-term survival of dependent species within the RAA is substantially reduced as a result.
- One that results in the direct mortality of relict species assemblages such that the likelihood of the long-term survival of RTE population(s) within the RAA is substantially reduced as a result.
- One that results in a non-permitted contravention of any of the prohibitions stated in sections 32-36 of *SARA (2002)*, or in contravention of any of the prohibitions stated in section 51 of Saskatchewan's *The Wildlife Act, 1998 (2000)*.
- In the case of species of special concern listed in Schedule 1 of *SARA (2002)*, where the Project activities are not in compliance with the objectives of Species-specific Management Plans (developed as a result of section 65 of *SARA [2002]*) that are in place at the time of relevant Project activities.

4.2 VULNERABLE FAUNAL SPECIES

Vulnerable Faunal Species include all terrestrial wildlife and wildlife habitat located within the zone of influence of the Project, and includes birds. Wildlife species of conservation concern (SOCC) that are considered to be those terrestrial faunal species that have legislated protection:

- Federally (i.e., species listed under *SARA [2002]*, migratory birds under the *Migratory Birds Convention Act, 1994 [1994]*); or
- Provincially (e.g., species listed under Saskatchewan's *The Wildlife Act, 1998 [2000]*); or

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

- Species that are not protected under legislation but considered sensitive by the Province (i.e., species listed by the SKCDC as S1 or S2); or
- Identified by COSEWIC.

Both secure and/or abundant terrestrial wildlife species as well as terrestrial SOCC will be considered in the assessment of Vulnerable Faunal Species, with particular emphasis on SOCC as the most sensitive or susceptible populations that could be affected by Project-related environmental effects.

4.2.1 Baseline Information

The EIS will characterize wildlife potentially affected by Project-related activities using available existing information from the desktop analysis and results from previous wildlife surveys conducted in support of the submitted **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document. These results will be analyzed in combination with additional wildlife surveys conducted (including in 2014) in support of the EIS in order to characterize existing Vulnerable Faunal Species in the PSA.

Site-specific avian surveys, partially in response to concerns raised by SMOE (Ritchie pers. comm. 2014) will include spring and fall migration surveys, breeding-bird surveys, a molting waterbird survey (conducted in the summer), species at risk surveys (e.g., yellow rail, short-eared owl [*Asio flammeus*], etc.), bat migration surveys, and radar recorder surveys. Incidental observations of other wildlife will also be recorded during wildlife, wetland and vegetation surveys. Wildlife habitats within the PDA, LAA and RAA will be characterized based on the analysis completed for the Natural Vegetation VC. Some of these studies have been committed or authorized by Windlectric to assist Stantec to respond to some expressions of concern by the SMOE. Others cannot contribute to either better analytical precision, or improved assessment of potential impacts. These are being done as part of Windlectric's ongoing R & D program. Selected data may be shared with SMOE as a contribution to ecological science for the region.

Field survey methods have been developed based on Best Practices in consideration of relevant provincial guidelines and methods, including survey protocols outlined by the SMOE (<http://www.environment.gov.sk.ca/Default.aspx?DN=a7d1b343-5099-4578-9083-ecc975e5902e>), Alberta Environment and Sustainable Development Sensitive Species Inventory Guidelines (ESRD 2013), Strickland et al. (2011), Zimmerling (2013) and Environment Canada. Impact-prediction methods utilizing best available technologies, economically available (BATEA) will be used to build on and improve assessment foundations, confidence in assessment findings and provide improvements in impact mitigation.

4.2.2 Impact Assessment

The project has the potential to result in the environmental effects to Vulnerable Faunal Species in the PSA through habitat loss or alteration, changes to population abundance and distributions, and direct mortality. The evaluation of environmental effects to Vulnerable Faunal



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

Species will consider the potential environmental effects on populations of SOCC in light of planned mitigation such as environmental protection planning (e.g., construction Best Practices), WTG siting, and temporary / permanent access road routing.

Consistent with BATEA in the impact assessment, the EIS will focus on the potential for changes in wildlife populations. The assessment will characterize this potential environmental effect through the consideration of how the Project may change habitat quality and availability, and also through the potential for sustained and significant wildlife mortality.

4.2.3 Residual Impacts

For SOCC, a significant adverse residual environmental effect on Vulnerable Faunal Species will be defined as:

- One that alters the terrestrial habitat within the LAA physically, chemically, or biologically, in quality or extent, in such a way as to cause a change in distribution or decline in abundance of a viable population of a species that is dependent upon that habitat such that the likelihood of long-term survival of these rare, uncommon and/or non-secure population(s) within the RAA is substantially reduced as a result.
- One that results in the sustained direct mortality of individuals or communities such that the likelihood of the long-term survival of these rare, uncommon and/or non-secure population(s) within the RAA is substantially reduced as a result.
- One that results in a non-permitted contravention of any of the prohibitions stated in sections 32-36 of *SARA (2002)*, or in contravention of any of the prohibitions stated in section 51 of Saskatchewan's *The Wildlife Act, 1998 (2000)*.
- In the case of SOCC listed in Schedule 1 of *SARA (2002)*, where the Project activities are not in compliance with the objectives of Species-specific Management Plans (developed as a result of section 65 of *SARA*) that are in place at the time of relevant Project activities.

4.3 COMMUNITY DEVELOPMENT AND SUPPORT CAPACITY

This VC addresses whether the local communities and the surrounding region have the infrastructure and community capacities to accommodate the stresses of the Project during the relatively short construction phase within significant residual longer-term impacts.

4.3.1 Baseline Information

The EIS will characterize the existing conditions for Community Development and Support Capacity as determined by reviewing information from the Government of Saskatchewan, and other relevant agencies and organizations, in addition to information already reported in the submitted **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document. This compilation will be described in the EIS. Where information is not readily

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

available, interviews may be conducted with key individuals in order to develop a profile of existing local and regional community services and infrastructure. The profile will facilitate the subsequent evaluation of the potential environmental effects of the Project-related activities on Community Development and Support Capacity.

The infrastructure, major equipment, staffing and level of service currently provided by the accommodation industry (hotel / motel restaurants, service stations, stores), fire protection, police and emergency medical services (i.e., ambulance, first aid and hospital emergency services) and other local emergency response services will be described in the EIS for the LAA.

Similarly, infrastructure, major equipment, staffing and level of service provided within the LAA with respect to ongoing health and social services and education and training services will be described. Health services will include primary, secondary and tertiary care. Social services will include those provided by government agencies, as well as those provided by Non-Governmental Organizations (NGOs) locally and through community networks. Education and training services include local and regional schools and community programs.

In terms of accommodations, both temporary and long-term accommodations will be described by type (e.g., guest houses, hotels, motels, bed and breakfasts (B&Bs), apartments, and single-family homes), and accommodation vacancies or occupancy rates (including current levels and trends over time).

4.3.2 Impact Assessment

Using specific information on the design of the Project, the potential environmental effects of the Project on Community Development and Support Capacity of the Project will be assessed in the EIS. To complete the environmental effects evaluation, the projected Project demands will be compared with known baseline conditions.

The environmental effects of the Project with respect to increased demand for health services (including acute care), emergency services (fire, policing), ongoing support services, housing, food, accommodation, and recreational services will be assessed based on projections of labour requirements for the Project in comparison to existing capacity in the area. Potential environmental effects of the Project on housing and planned mitigation will also be considered.

The potential environmental effects of the Project on Community Development and Support Capacity will be assessed in consideration of existing conditions and planned mitigation and management measures.

4.3.3 Residual Impacts

A significant adverse residual environmental effect on Community Development and Support Capacity will be defined as one that results in demands on or changes to services and/or infrastructure above and beyond current capacity, locally or in the region, such that standards

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

of service are routinely and persistently reduced below current levels for an extended period of time.

4.4 HISTORIC AND HERITAGE RESOURCES

Historic and Heritage Resources are defined as Heritage and Historic Resources are defined for consideration in the EIS as the physical (tangible) remnants of past human activity that that may be visible at the ground surface or buried by soil and sediment that, once identified, are administered by the Heritage Conservation Branch (HCB) under the Saskatchewan Ministry of Parks, Culture and Sport. Heritage and Historic Resources are managed pursuant to the Saskatchewan Heritage Property Act (2010) and are defined as:

- Archaeological objects.
- Paleontological objects.
- Any property of interest for its architectural, historical, cultural, environmental, archaeological, paleontological, aesthetic, or scientific value.

These resources include artifacts, such as stone tools; features, such as stone circles or building ruins; altered landscapes, such as trails; and the remains of food, in the form of clusters of butchered animal bone or accumulations of discarded commercial packaging. Culturally significant spaces, such as ceremonial sites and medicinal plant gathering sites, as described by Aboriginal Elders, are also considered as Heritage Resources and can be administered under the Saskatchewan *Heritage Property Act* where appropriate.

4.4.1 Baseline Information

To characterize the existing conditions regarding Historic and Heritage Resources, an inventory of resources in the PSA was conducted and reported in the submitted **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document and the 2014 surveys. The EIS will describe the Historic and Heritage Resources existing conditions from the following data sources:

- A review of existing site data from the Provincial Inventory of Archaeological Resources.
- Visual reconnaissance in areas of the PDA that have been identified for development, utilizing appropriate methods.
- Prospective test pitting in areas of the PDA that have been identified for development, using a combination of judgmental criteria, random and systematic testing programs.
- Information obtained in relation to the Aboriginal Land and Resource Use VC.

To supplement the heritage-related reconnaissance completed in 2012, site-specific surveys will be conducted (a permit obtained if required) in areas of WTG siting, temporary and permanent



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

road development and other construction activities that may disturb the ground surface using survey methods and protocols. All necessary heritage screening for the project (including a formal heritage referral if required) will be completed for the final turbine and infrastructure layout. All final heritage assessment information will be submitted to the Heritage Conservation Branch for a final approval.

4.4.2 Impact Assessment

The Project will result in ground disturbance and may potentially have an adverse environmental effect on Heritage and Historic Resources. A majority of these interactions will occur during the construction phase of the Project. The development of WTG sites, the electrical collector and fiber-optic communications systems, temporary and permanent road development, laydown area, and site grading all have the potential to interact with Heritage and Historical Resources.

The evaluation of environmental effects will consider the potential environmental effects in light of planned mitigation such as environmental protection plans (e.g., construction-Best Practices), WTG siting, and temporary and permanent access road development.

4.4.3 Residual Impacts

A significant adverse residual environmental effect on Historic and Heritage Resources will be defined as one that results in a permanent Project-related disturbance to, or destruction of, all or part of a Historic or Heritage Resource (including archaeological, paleontological and architectural resources of significance) considered by the Saskatchewan Ministry of Parks, Culture and Sport, Heritage Conservation Branch to be of major importance due to factors such as rarity, undisturbed condition, spiritual importance, or research importance, and that cannot be mitigated or compensated. Such impacts are often considered fully mitigable if salvage archaeology results in donations of cleaned, preserved and mounted (i.e., created) specimens and accompanying data and metadata to the provincial archives.

4.5 ACCIDENTS, MALFUNCTIONS AND UNPLANNED EVENTS

While not identified as a VC, the environmental effects of accidents, malfunctions and unplanned events will be assessed and reported in the EIS. Potential accidents, malfunctions, and unplanned events will be identified. The focus of the evaluation will be on credible accidents, malfunctions, and unplanned events that have a reasonable likelihood of occurring during the lifetime of the Project based on the nature of the Project and the environmental effects that may occur, or for those that could result in significant environmental effects even if their likelihood of occurrence is low. The EIS will describe the reasonably foreseeable Maximum Likelihood Worst Case (MLWC) accidents, malfunctions and unplanned events considered in EA process and the basis of their selection.

For each event, a preliminary screening will be conducted to determine if the MLWC scenario is likely to affect each identified VC and whether there is an anticipation of substantial environmental impacts, particularly those not addressed through Best Practices. The planned



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Valued Components
September 15, 2014

mitigation will be described for each credible scenario. The significance of residual environmental effects will be characterized using the criteria established for each VC. The likelihood of occurrence will be discussed. Additionally, the EIS will describe the legislative requirements (e.g., reporting requirements under *The Saskatchewan Employment Act* [2014] and the *Occupational Health and Safety Regulations, 1996* [updated 2014]) to complete onsite investigations should an accident, malfunction or unplanned event occur.

In the event of an accident, malfunction or unplanned event, the EIS will describe the processes for any required changes to prevent the recurrence and reporting protocols (if required based on the event) to the Occupational Health and Safety Division. Additionally, the EIS will outline protocols for the project General Contractor (on-site construction management as well as employees) to follow with respect to worker health and safety as provided by the *Occupational Health and Safety Regulations, 1996* (updated 2014) and *The Saskatchewan Employment Act* (2014).

Cumulative environmental effects of accidents, malfunctions, or unplanned events will not be assessed, as it is not reasonably foreseeable to have overlapping Project-related accidents with those from other projects or activities that will be carried out.

4.6 EFFECTS OF THE ENVIRONMENT ON THE PROJECT

Effects of the environment on the Project, while not identified as a VC, will also be assessed in the EIS. These are considered effects that the environment may have on the Project that have the potential to, in turn, cause environmental effects. This includes the sensitivity of the Project to variations in meteorological conditions and to natural hazards (e.g., seismic events, fires, extreme rainfall events). Information, analysis and data required to support the analysis of the effects of the environment on the Project will be collected from reliable and identified sources to describe existing conditions. Based on these data, the potential effects of the environment on the Project will be assessed in consideration of existing conditions and planned design and mitigation.

The discussion of effects of the environment on the Project will include potential mitigation strategies for reducing the likelihood of a significant effect occurring including planning processes, engineering design codes, construction practices, and monitoring. The assessment of the various effects of the environment will be evaluated, as relevant, in terms of how they may result in consequential changes to various VCs. This analysis will be done qualitatively and using interaction matrices to identify which effects relate to which VC.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Decommissioning, Reclamation and Institutional Control
September 15, 2014

5.0 Decommissioning, Reclamation and Institutional Control

5.1 CONCEPTUAL DECOMMISSIONING PLAN

As was provided in the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document, the EIS will reiterate the conceptual plan for decommissioning and reclamation activities. It will outline how Windlectric intends to provide environmental management and mitigation strategies to manage potential environmental effects (e.g., use of Best Practices during decommissioning of Project components). The plan will outline reclamation objectives and principles.

Although the detailed plans for decommissioning and reclamation will be developed in consultation with regulatory agencies during later stages (e.g., licensing), and would be subject to periodic review during operation, Windlectric has committed to providing descriptions of the key elements of these plans in the EIS. The conceptual plans for decommissioning and reclamation in the EIS will include:

- Decommissioning objectives.
- Preferred procedures for decommissioning, including plans for progressive decommissioning.
- Alternative procedures for decommissioning site facilities.
- Identification of acceptable post-operational land use options for the Project site.
- Environmental impact mitigation and reclamation measures.
- Proposed contingency measures.

5.2 RECLAMATION

As previously identified in the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document, the Project is considered almost fully reversible; therefore, it is anticipated that the PSA can be returned to its pre-Project condition. The EIS will contain a general overview of proposed reclamation plans including (but not limited to) descriptions of the following decommissioning procedures:

- WTG components would be salvaged for reuse or recycling to the extent feasible.
- Electrical collection and fibre-optic communication networks would be removed as required. Typically buried components such as electrical collectors would be removed to a depth of about 1 m and the remainder abandoned in place.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Decommissioning, Reclamation and Institutional Control
September 15, 2014

- Project O&M building and associated infrastructure may remain if an agreement to utilize the facility is reached with SaskPower or some other commercial user. Otherwise the facility would be dismantled and sold or leased back to local agricultural interests.
- Roads and foundations would be removed as stipulated in land easement agreements.
- The first 1 to 1.5 m below grade depth of the WTG foundations would be removed. Excavations would be filled, and topsoil would be spread to return the site to agriculture use (or re-vegetated to a more natural state as required).

The EIS will also describe construction practices and operational procedures which may minimize reclamation, and requirements for reclamation will be identified. The finalized reclamation plans utilizing the above procedures would be developed in consultation with landowners and regulatory authorities as needed enabling the PSA to be returned to its pre-Project condition.

5.3 INSTITUTIONAL CONTROL

It is anticipated that once decommissioning and reclamation activities have been completed, no infrastructure requiring institutional control will remain. All WTGs and foundation areas will be reclaimed to their pre-Project condition (in consultation with landowners and regulatory authorities as appropriate). Any permanent structures (i.e., O&M building) will be sold or leased back to agricultural interests along with any record keeping information on the maintenance of the building.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

6.0 Consultation Report

Stantec will provide a summary of the consultation and engagement undertaken in the EIS, provide a summary of the issues raised (public concerns), and document where these issues are addressed in the document.

6.1 OVERALL OBJECTIVES

The objectives of the public and stakeholder consultation and Aboriginal engagement program planned for this Project are to:

- Provide the public, stakeholders, Aboriginal communities, and other interested parties with timely and accurate information to facilitate a clear understanding of the Project.
- Gather and document comments, feedback and concerns regarding the Project from interested parties.
- Gather input from interested parties on the scoping of issues to be included in the EIS.
- Gather information on traditional land use within the Project area by Aboriginal peoples.
- Inform the public, stakeholders, Aboriginal communities, and other interested parties on how public input informed planning, design and mitigation decisions.

Stantec will consider comments from the program in the preparation of the EIS.

The public consultation and Aboriginal engagement undertaken to date and summarized in the EIS may be able to support government efforts to satisfy Crown obligations for public and Aboriginal consultation and, where necessary, accommodation.

6.2 FIRST NATION AND MÉTIS CONSULTATION

Efforts to engage with Aboriginal peoples have been, and will continue to be, undertaken as part of the EA for the Project. The objectives of these engagement efforts are similar to the objectives for public and stakeholder consultation, and are in keeping with provincial guidance (i.e., Consultation with Métis and First Nations in Saskatchewan Environmental Impact Assessment; and federal guidelines – Aboriginal Consultation and Accommodation – Updated Guidelines for Federal Officials to Fulfill the Duty to Consult – March 2011[AANDC 2011]):

- To inform communities.
- To provide opportunities for communities to ask questions and voice concerns.
- To provide feedback on how concerns were addressed as part of the EIS.



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

- To allow the Project to benefit, during design and planning, from access to first-hand knowledge of the environment surrounding the Project.
- To help determine which aspects of the environment should be addressed as part of the EIS.

There are several additional components to Aboriginal engagement for the Project. The engagement will help Windlectric to identify the current use of land and resources by Aboriginal persons for traditional purposes that could be affected by the Project. Engagement will also be conducted with the goal of documenting any asserted or established Treaty Rights in support of the Crown's Duty to Consult (in any such scenario, this documented information would be forwarded by Windlectric or Stantec to the Province to address, because [consistent with federal case law] only the Crown can address assertions of impact on Treaty Rights or Entitlements).

If Aboriginal communities engage with the EIS process, this will assist Stantec in identifying how the Project may affect Aboriginal people and communities, enabling Stantec to assure consideration of such potential effects in the EIS.

6.3 APPROACH TO ABORIGINAL ENGAGEMENT AND PUBLIC AND STAKEHOLDER CONSULTATION

6.3.1 Pre-EA Engagement Activities

Stantec understands the importance of meaningful public-consultation conducted by an independent environmental assessment team that is separate and distinct from any corporate consultation undertaken by the Proponent. Such separation is necessary in order to provide adequate, unbiased, Project-related information to the public and receive public views regarding the Project in a direct manner. Aboriginal Engagement and Public and Stakeholder Consultation activities conducted to date have included an Windlectric-initiated 'outreach' program early in the Project-development stage, two public Open Houses hosted by Stantec, and numerous discussions with regulators and interested parties (RM councilors, NGOs, etc.). These activities are outlined in Table 6-1 and documented in the submitted **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

Table 6-1: Summary of Public, Regulatory and First Nation Involvement and Consultation for the Chaplin Wind-Energy Project

Type of Communication	Date	Information Presented
Public Information and Consultation		
Landowners	2010	<ul style="list-style-type: none"> Wind-energy project developed with landowners in the Chaplin area.
	Sep 6, 2011	<ul style="list-style-type: none"> Windlectric coordinated landowner meetings to sign additional lands.
	Sep 12, 2011	<ul style="list-style-type: none"> Windlectric hosted Landowner dinner to discuss project.
	Mar 21, 2012	<ul style="list-style-type: none"> Dinner meeting with signed up landowners and met with Council that evening.
		<ul style="list-style-type: none"> Windlectric introduced as the new owner/developer of the Project. Meetings with landowners to provide updated Project information.
	May 9, 2012	<ul style="list-style-type: none"> Letter issued to introduce Stantec as the environmental assessment team and invited landowners to attend the public Open House scheduled for June 5, 2012.
	Apr 13, 2013	<ul style="list-style-type: none"> Letter sent to inform landowners of the upcoming public Open House.
	Oct 21 – 24, 2013	<ul style="list-style-type: none"> Meetings with landowners to talk about the project status and general project update.
	Dec 14 – 17, 2014	<ul style="list-style-type: none"> Meetings with landowners to talk about the project status and general project update.
	May 8 – 15, 2014	<ul style="list-style-type: none"> Meetings with landowners to talk about the project status and general project update.
	Jun 12, 2014	<ul style="list-style-type: none"> Dinner meeting with landowners.
Local Newspaper Advertisements	May 22, 2012 May 29, 2012	<ul style="list-style-type: none"> Advertisement run in the Herbert Herald (Herbert, Saskatchewan) regarding June 5, 2012 public Open House for the Project.
	May 23, 2012 May 30, 2012	<ul style="list-style-type: none"> Advertisement run in the Moose Jaw Times-Herald (Moose Jaw, Saskatchewan) regarding June 5, 2012 public Open House for the Project.
	Apr 16/23, 2013	<ul style="list-style-type: none"> Advertisement run in the Herbert Herald announcing Final Open House event.
	Apr 17/24, 2013	<ul style="list-style-type: none"> Advertisement run in the Moose Jaw Times-Herald announcing Final Open House event.
	Apr 22, 2014	<ul style="list-style-type: none"> Advertisement in the Herald (Herbert, Saskatchewan) announcing environmental assessment for proposed project.
	Apr 29, 2014	<ul style="list-style-type: none"> Advertisement in the Regina Leader Post, Saskatoon Phoenix Star, and Moose Times Herald announcing environmental assessment for proposed project.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

Table 6-1: Summary of Public, Regulatory and First Nation Involvement and Consultation for the Chaplin Wind-Energy Project

Type of Communication	Date	Information Presented
	Aug 5, 2014	<ul style="list-style-type: none"> Advertisement in the Herald (Herbert Saskatchewan) announcing August 20, 2014 Open House event.
	Aug 6/13, 2014	<ul style="list-style-type: none"> Advertisement in the Moose Jaw Times Herald announcing August 20, 2014 Open House event
NGO Communications		
Nature Saskatchewan and Chaplin Nature Center	Mar 28, 2012	<ul style="list-style-type: none"> Conference call with Nature Saskatchewan.
	Jun 5, 2012	<ul style="list-style-type: none"> Meeting with Windlectric, Stantec, Nature Saskatchewan and Chaplin Nature Board prior to Open House event to discuss project details and solicit input from the Nature Groups representatives.
	Sep 18, 2012	<ul style="list-style-type: none"> Conference call with Nature Saskatchewan and Chaplin Nature Center.
	Nov 13, 2012	<ul style="list-style-type: none"> Update meeting with Windlectric, Stantec and Nature Saskatchewan to discuss field studies completed and progress of project development activities.
	Nov 14, 2012	<ul style="list-style-type: none"> Update meeting with Windlectric, Stantec and Chaplin Nature Board to discuss field studies completed and progress of project development activities.
	May 1, 2013	<ul style="list-style-type: none"> Meeting with Windlectric, Stantec and Chaplin Nature Center to discuss the second Open House, results of field studies, and progress of the Project.
	May 2, 2013	<ul style="list-style-type: none"> Update meeting with Windlectric, Stantec and Nature Saskatchewan to discuss field studies completed and progress of project development activities.
	Oct 21, 2013	<ul style="list-style-type: none"> Update meeting between Windlectric and Nature Saskatchewan to discuss completed field studies and progress of project development activities.
	Oct 23, 2013	<ul style="list-style-type: none"> Meeting with Windlectric and Chaplin Nature Center to discuss the outcomes of second Open House, results of field studies and progress of the Project.
	Apr 30, 2014	<ul style="list-style-type: none"> Separate conference calls with Nature Saskatchewan and Chaplin Nature Center.
	Jun 12, 2014	<ul style="list-style-type: none"> Update meeting between Windlectric and Nature Saskatchewan to discuss completed field studies and progress of project development activities.
	Aug 6, 2014	<ul style="list-style-type: none"> Email communication to invite Nature Saskatchewan and Chaplin Nature Centre's attendance at Public Open House event, August 20, 2014
Nature Conservancy of Canada	May 2, 2013	<ul style="list-style-type: none"> Meeting with Windlectric and Nature Conservancy of Canada to provide Project-related information and discuss Nature Conservancy's interests in and around the Project area.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

Table 6-1: Summary of Public, Regulatory and First Nation Involvement and Consultation for the Chaplin Wind-Energy Project

Type of Communication	Date	Information Presented
	May 20, 2014	<ul style="list-style-type: none"> Conference call with Nature Conservancy to provide progress of project development activities.
	Aug 6, 2014	<ul style="list-style-type: none"> Email communication to invite Nature Conservancy's attendance at Public Open House event, August 20, 2014
Ducks Unlimited	July 23/24, 2014	<ul style="list-style-type: none"> Conference call and email communications with Ducks Unlimited representatives to introduce the Project, provide progress of Project development activities, and discuss Ducks Unlimited's interests in and around the Project area.
	Aug 6, 2014	<ul style="list-style-type: none"> Email communication to invite Ducks Unlimited's attendance at Public Open House event, August 20, 2014
Public Liaison		
Open House	Jun 5, 2012	<ul style="list-style-type: none"> Windlectric introduced as the new owner/ developer of the Project. Stantec introduced as environmental consultant. Provided information on the Project and provided general information on wind-energy technology, the regulatory-approvals process, and solicited public views.
	Apr 30, 2013	<ul style="list-style-type: none"> Second Open House held to provide information and observations from 2012 fieldwork in the area and updated project status.
Government Liaison		
RM Council	Sep 11, 2011	<ul style="list-style-type: none"> Conference call with Council on updates to the project.
	Sep 13, 2011	<ul style="list-style-type: none"> Meeting with RM Reeve and Council to discuss project.
	Sep 15, 2011	<ul style="list-style-type: none"> Council Resolution granting provisions for the project.
	May 9, 2012	<ul style="list-style-type: none"> Letter issued to provide updated information on the Project, introduce Windlectric Power as the new owner/ developer of the project and Stantec as the environmental assessment team, and invite the RMs' attendance at the public Open House.
	Jun 5, 2012	<ul style="list-style-type: none"> Meeting between Windlectric and the RM of Chaplin Council to provide updates on the wind-energy Project.
	Sep 11, 2012	<ul style="list-style-type: none"> Conference call with Council to provide Project updates.
	Apr 11, 2013	<ul style="list-style-type: none"> Letters sent to inform Council of the April 30, 2013 Open House.
	Apr 30, 2013	<ul style="list-style-type: none"> Meeting with RM Council to discuss Project development.
	Jun 11, 2013	<ul style="list-style-type: none"> Conference call with RM Council to discuss Project development.
	Sep 10, 2013	<ul style="list-style-type: none"> Conference call with Council to provide Project updates.
	Oct 23, 2013	<ul style="list-style-type: none"> Meeting with Council to provide Project updates.
	Mar 6, 2014	<ul style="list-style-type: none"> Conference call with Council to provide Project updates.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

Table 6-1: Summary of Public, Regulatory and First Nation Involvement and Consultation for the Chaplin Wind-Energy Project

Type of Communication	Date	Information Presented
	Aug 1, 2014	<ul style="list-style-type: none"> Invitation and advertisement sent to RM Administration for August 20, 2014 Open House
Saskatchewan Ministry of Environment	Apr 18, 2012	<ul style="list-style-type: none"> Meeting with SK Environment, Windlectric and Stantec to discuss the project and implications of recent changes to the Saskatchewan regulatory process.
	Nov 13, 2012	<ul style="list-style-type: none"> Update meeting with SK Environment, Windlectric and Stantec to inform SK Environment of progress to date and discuss the path going forward.
	May 2, 2013	<ul style="list-style-type: none"> Update meeting with SK Environment, Windlectric and Stantec to present results of environmental studies and timeline for EA filing.
	Jul 19, 2013	<ul style="list-style-type: none"> Conference call with SMOE
	Oct 21, 2013	<ul style="list-style-type: none"> Brief meeting with SMOE
	Feb 24, 2014	<ul style="list-style-type: none"> Conference call with SMOE
	Mar 25, 2014	<ul style="list-style-type: none"> Conference call with SMOE
	May 6, 2014	<ul style="list-style-type: none"> Conference call with SMOE with respect to updates
	Jun 12, 2014	<ul style="list-style-type: none"> Brief meeting with SMOE
	Jul 16, 2014	<ul style="list-style-type: none"> Meeting with SMOE and EAB regarding 2014 field study progress, draft TOR submission and general comments on EIS content
	Aug 6, 2014	<ul style="list-style-type: none"> email sent regarding upcoming August 20, 2014 Open House event
Saskatchewan Ministry of Agriculture	Nov 13, 2012	<ul style="list-style-type: none"> Project-related information and initial discussions regarding the potential to utilize Agricultural Crown Leased Lands for the wind-energy project.
	Apr 30, 2013	<ul style="list-style-type: none"> Update meeting with Windlectric and SMOA and continued discussion regarding Crown Lands.
	Oct 21, 2013	<ul style="list-style-type: none"> Meeting with SMOA
	Dec 10, 2013	<ul style="list-style-type: none"> Conference call with SMOA
	Jun 11, 2014	<ul style="list-style-type: none"> Meeting with Minister of Agriculture and Assistant to introduce proposed Project and provide Project activities update status
Aug 18, 2014	<ul style="list-style-type: none"> email invitation sent to Minister of Agriculture and Assistant, Lorne Veitch and Brant Kyrchuk regarding August 20, 2014 Open House event 	
First Nations Communications		
Letters and calls to Wood Mountain and Nekaneet First Nations	May 9, 2012	<ul style="list-style-type: none"> Information on Windlectric, the Project and an invitation to attend the Open House to provide input to the assessment process.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

Table 6-1: Summary of Public, Regulatory and First Nation Involvement and Consultation for the Chaplin Wind-Energy Project

Type of Communication	Date	Information Presented
	Apr 8, 2013	<ul style="list-style-type: none"> Details regarding second Open House and inviting Chief and Council to attend.
	Apr 26, 2013	<ul style="list-style-type: none"> Follow-up calls to provide a reminder of the upcoming open house event.
	June 16, 2014	<ul style="list-style-type: none"> Letter sent providing updates on the progress and process of the regulatory approvals. Algonquin / Stantec contact information provided.
	Aug 1, 2014	<ul style="list-style-type: none"> Letter invitation sent to attend the August 20, 2014 Open House to provide input to the assessment process.
Metis Communities Communications		
Letters and calls to the Western III Region, Prairie Dog #123, Moose Jaw #160 and Swift Current #35 Metis Locals and e-mail follow-ups	May 4, 2012 May 9, 2012 May 31, 2012 Jun 8, 2012 Aug 3, 2012	<ul style="list-style-type: none"> Information on Windlectric Power, the Project and an invitation to attend the Open House to provide input to the assessment process.
	Apr 8, 2013	<ul style="list-style-type: none"> Details regarding second Open House and inviting Metis local representatives to attend.
	Apr 26, 2013	<ul style="list-style-type: none"> Follow-up calls to provide a reminder of the upcoming open house event.
	Apr 26, 2013	<ul style="list-style-type: none"> Follow-up calls to provide a reminder of the upcoming open house event.
	Jun 16, 2014 (Prairie Dog #123)	<ul style="list-style-type: none"> Letter sent providing updates on the progress and process on the regulatory approvals. Algonquin / Stantec contact information provided.
	Jul 7, 2014 (Willow Bunch #17 and Assiniboia #85)	<ul style="list-style-type: none"> Letter sent providing updates on the progress and process on the regulatory approvals. Algonquin / Stantec contact information provided.
	Jul 23, 2014 (Moose Jaw #160 and Swift Current #35)	<ul style="list-style-type: none"> Letter sent providing updates on the progress and process on the regulatory approvals. Algonquin / Stantec contact information provided.
Letters to Metis Nation, Prairie Dog #123, Moose Jaw #160, Willow Bunch #17, Assiniboia #85, and Swift Current #35 Metis Locals and e-mail follow-ups	Aug 1, 2014	<ul style="list-style-type: none"> Invitation and advertisement sent to attend the August 20, 2014 Open House to provide input to the assessment process.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Consultation Report
September 15, 2014

Two public Open Houses for the Project have been held in the town of Chaplin, Saskatchewan (June 5, 2012, and April 30, 2013). As reported in the **Proposed Chaplin Wind-Energy Project: Project Proposal (Environmental Assessment)** document, questionnaires were handed out at both events with a better than 50% return rate from both. Approximately 90% of the respondents indicated strong local support for the Project. No responses indicating opposition to the Project were received. Project-related concerns, when identified, usually pertained to potential effects to wildlife and native prairie.

6.3.2 Engagement Activities Specific to the EA Process

Windlectric has authorized Stantec to design, host and document a third Open House in Chaplin on August 20, 2014 [as a parenthetical note, Stantec observes that this level of public engagement for a wind-energy project in Saskatchewan exceeds all previous efforts, by every known proponent]. The EIS will compile results of concerns from public, stakeholder and First Nation interested parties in combination with previously reported information, in order to achieve the objectives outlined in Section 6.1.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

References
September 15, 2014

7.0 References

7.1 CITED LITERATURE

Aboriginal Affairs and Northern Development Canada (AANDC). 2011. Aboriginal Consultation and Accommodation – Up dated Guidelines for Federal Officials to Fulfill the Duty to Consult – March 2011.

Canadian Wind Energy Association (CanWEA). 2012. Wind Facts. Wind by the Numbers: Economic Benefits of Wind Energy. Current as of January 2013. Available online at <http://canwea.ca/pdf/canwea-factsheet-economic-web-final.pdf>. Accessed June 4, 2014.

Fisheries Act (R.S.C., 1985, c. F-14).

Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22).

The Occupational Health and Safety Regulations, 1996 (2014, Chapter O-1.1 Reg 1)

Saskatchewan Ministry of Environment. 2012a. Guidelines for the Preparation of the Terms of Reference. A Guide to Developing the Terms of Reference for a Proposed Project (or 'Development') Under the Environmental Assessment Act. November 2012. 22 pp.

Saskatchewan Ministry of Environment. 2012b. Environmental Assessment in Saskatchewan. A High-Level Overview of the Environmental Assessment Process for Developments within Saskatchewan Under the Environmental Assessment Act. November 2012. 12 pp.

Species at Risk Act (S.C. 2002, c. 29).

Strickland, M.D., E.B. Arnett, W.P. Erickson, D.H. Johnson, G.D. Johnson, M.L., Morrison, J.A. Shaffer, and W. Warren-Hicks. 2011. Comprehensive Guide to Studying Wind Energy/Wildlife Interactions. Prepared for the National Wind Coordinating Collaborative, Washington, D.C., USA.

The Environmental Assessment Act (1979-80, Chapter E-10.1).

The Saskatchewan Employment Act (2014, Chapter S-15.1)

The Wildlife Act, 1998 (2000, Chapter W-13.12).

Zimmerling, J. R., A. C. Pomeroy, M. V. d'Entremont, and C. M. Francis. 2013. Canadian estimate of bird mortality due to collisions and direct habitat loss associated with wind turbine developments. *Avian Conservation and Ecology* 8(2): 10. Available online at <http://dx.doi.org/10.5751/ACE-00609-080210>.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

References

September 15, 2014

7.2 PERSONAL COMMUNICATIONS

Ritchie, Erika. 2014. "Chaplin Wind-Energy Project". Letter dated March 19, 2014 from the Commissioner Acting for and on Behalf of the Minister of the Environment, SMOE to Sean Fairfield, Senior Manager, Project Planning, Windlectric Power. 2pp c/w 3pp "Reasons for Determination". SMOE EAB File #:2013-013.

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Appendix A Example Environmental Effects Tables
September 15, 2014

Appendix A Example Environmental Effects Tables

Table A-1: Example: Potential Project Interactions on VC1

Project Facilities and Physical Activities	Environmental Effect 1	Environmental Effect 2	Environmental Effect 3
Construction			
Activity 1	✓	✓	✓
Activity 2		✓	
Activity 3	✓		
Operation			
Activity 1			✓
Activity 2			
Activity 3			
Decommissioning/Reclamation			
Activity 1		✓	
Activity 2			✓

PROPOSED CHAPLIN WIND-ENERGY PROJECT

Appendix A Example Environmental Effects Tables
September 15, 2014

Table A-2: Example: Summary of Residual Project-related Environmental Effects on VC1

Project Phase	Residual Environmental Effects Characterization							Significance	Prediction Confidence	Likelihood of Significant Effect
	Direction	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Environmental Context			
Environmental Effect 1										
Construction										
Operation										
Decommissioning and Abandonment										
Environmental Effect 2										
Construction										
Operation										
Decommissioning and Abandonment										
Environmental Effect 3										
Construction										
Operation										
Decommissioning and Abandonment										
KEY										
DIRECTION: P = Positive A = Adverse N = Neutral			DURATION: FREQUENCY: REVERSIBILITY: R = Reversible I = Irreversible			ENVIRONMENTAL CONTEXT: SIGNIFICANCE: S = Significant N = Not Significant PREDICTION CONFIDENCE: L = Low level of confidence M = Moderate level of confidence H = High level of confidence			LIKELIHOOD OF SIGNIFICANT EFFECT OCCURRING : L = Low probability of occurrence M = Medium probability of occurrence H = High probability of occurrence	



PROPOSED CHAPLIN WIND-ENERGY PROJECT

Appendix A Example Environmental Effects Tables
September 15, 2014

Table A-3: Example: Potential Cumulative Environmental Effects on VC1

Other Projects and Physical Activities with Potential for Cumulative Environmental Effects	Potential Cumulative Environmental Effects on VC		
	Environmental Effect 1	Environmental Effect 2	Environmental Effect 3 Environmental Effect 4
Project/Physical Activity 1	✓	✓	✓
Project/Physical Activity 2			✓
Project/Physical Activity 3			✓
Project/Physical Activity 4	✓		
<p>NOTES:</p> <p>✓ = those 'other projects and physical activities' whose effects are likely to interact cumulatively with the Project's residual effects.</p> <p>The interaction or lack of interaction is discussed following the table and in those cases where there is no interaction, the reason for no further assessment is justified.</p>			