

Renewable Energy Referral Report - Alberta Environment and Parks- Operations Division, Wildlife Management (AEP-Wildlife Management)

A. AEP- Wildlife Management Review:

The Halkirk 2 Wind Power Project was reviewed by the Regional Wildlife Contact. Alberta Environment and Parks-Wildlife Management (AEP-WM) has reviewed the proposed location, proposed mitigation strategies, including associated infrastructure and construction plans, and post construction monitoring program, as presented by the applicant in an application dated: February 23, 2017.

Documents reviewed for the application included:

Wildlife Baseline Report for the Halkirk 2 Wind Power Project, February 2017.

Environmental Evaluation Halkirk 2 Wind Power Project, February 2017.

Post-construction Monitoring and Mitigation Plan Halkirk 2 Wind Power Project, February 2017.

Capital Power Halkirk 2 Wind Project Environmental Evaluation Report – Addendum, March 29, 2017.

Halkirk_2_v11_Turbine_Coordinates_and_ATS.xlsx, April 2017

Email Correspondence with Jeff Sansom: FW:Halkirk 2 Wind Project – Environmental Evaluation Report and Other Supporting Documents, April 6, 2017

AEP-Wildlife Management (AEP-WM) has reviewed the application for the Halkirk 2 Wind Power Project submitted by *Golder Associates (Capital Power Corporation)*. This review focused on the potential impacts and risks that the proposed project may have on wildlife and wildlife habitat, and mitigation strategies identified to reduce those risks.

The AEP review of the Halkirk 2 Wind Power Project pre-assessment wildlife work was guided by the AEP policy document *Wildlife Guidelines for Alberta Wind Energy Projects (2011)*. The review of the post-construction monitoring plan and mitigation was guided by the AEP policy document *Wildlife Directive for Alberta Wind Energy Projects (January 2017)*. This follows the AEP process outlined in the administrative procedure, *Wind Energy Review Process: Transition from old (2011) Wildlife Guidelines for Alberta Wind Energy Projects to new (2017) Wildlife Directive for Alberta Wind Energy Projects*.

This referral report summarizes the results of the review and the potential risks based on the information provided to AEP-WM as of April 2017.

In summary¹:

Alberta Environment and Parks - Wildlife Management has determined the Halkirk 2 Wind Power Project as proposed, based on the wildlife assessment data provided by the proponent, project siting and identified mitigation, poses a potential medium risk to wildlife and wildlife habitat. Turbine siting to avoid features (e.g. waterfowl staging areas, creeks, rivers, coulees) likely to result in high bird and bat mortality is likely to limit negative outcomes for these groups. However, uncertainty that siting measures will be adequate to reduce mortality, especially given the high number of bats and birds that migrate through this area maintain a medium risk level.

AEP-Wildlife Management Office: Red Deer North Saskatchewan Region-Operations, Spruce Grove

Signature:  Date: April 13 2017

Printed Name and Position: Emily Herdman, Wildlife Biologist, Red Deer North Saskatchewan Region

B. Project Details

Project Name: Halkirk 2 Wind Power Project

Company name: Capital Power Corporation

AUC Application #: N/A

Location of Project:

Sections	Township	Range	Meridian
31	39	13	W4
25, 26, 27, 28, N29, SE29, 30, 31, 32, 33, 34, 35, 36	39	14	W4
25, 26, W33, 34, 35, 36	39	15	W4
6	40	13	W4
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, NW14, 15, S16, NE16, S17, S18	40	14	W4
1, 2, 3, 4, 9, 10, 11, 12	40	15	W4

Project Details: Area: 11,173 ha **MW:** 148 MW

¹ The review undertaken by this office was restricted to reviewing the information provided in the Environmental Evaluation report completed by Halkirk Wind Power Project and applying the wildlife standards and best management practices for the construction and operation of the wind facility. This office undertook no independent onsite assessment. This referral report is not intended to relieve any party from any liability if there are detrimental effects to wildlife or wildlife habitat during construction or operation that were not identified and mitigated for in the Environmental Evaluation report submitted.

Turbines #: 74 Height: 150 m Blade Length: 55 m

Turbine Locations:

Turbine	UTM Zone 12 Easting	UTM Zone 12 Northing	LSD	Section	Township	Range	Meridian
T001B	424232	5808951	5	9	40	15	4
T002	425195	5808892	7	9	40	15	4
T003C	426080	5808699	5	10	40	15	4
T007	425069	5807825	10	4	40	15	4
T008	425540	5807771	9	4	40	15	4
T009A	426329	5807763	11	3	40	15	4
T011B	426007	5806943	4	3	40	15	4
T012C	426605	5806973	2	3	40	15	4
T014A	426071	5805530	5	34	39	15	4
T015A	426910	5805521	8	34	39	15	4
T018B	427993	5804307	11	26	39	15	4
T019A	427720	5805345	4	35	39	15	4
T020	428288	5805247	2	35	39	15	4
T021C	428574	5805467	8	35	39	15	4
T022A	428558	5806009	9	35	39	15	4
T025C	428596	5807689	9	2	40	15	4
T026	428340	5808415	2	11	40	15	4
T027B	428815	5808476	1	11	40	15	4
T028A	429535	5808488	3	12	40	15	4
T029B	429570	5809279	11	12	40	15	4
T030B	428826	5809126	9	11	40	15	4
T031B	427693	5809452	13	11	40	15	4
T033C	430448	5809232	9	12	40	15	4
T034	430859	5809253	12	7	40	14	4
T038B	430960	5808611	5	7	40	14	4
T039B	431921	5808281	1	7	40	14	4
T040A	432555	5808338	4	8	40	14	4
T041C	432923	5808693	6	8	40	14	4
T042	431261	5806965	6	6	40	14	4
T047A	431557	5804732	15	30	39	14	4
T049A	432469	5805516	5	32	39	14	4
T051	434214	5803866	5	28	39	14	4
T052B	434109	5805114	4	33	39	14	4
T053B	435198	5804714	16	28	39	14	4
T055A	434476	5805481	6	33	39	14	4
T057A	434086	5807143	5	4	40	14	4
T061A	433293	5808466	2	8	40	14	4
T062A	433707	5808723	8	8	40	14	4
T063A	434225	5808714	5	9	40	14	4
T066	435963	5810742	12	15	40	14	4
T067B	436508	5811016	15	15	40	14	4

T069A	437388	5809456	13	11	40	14	4
T073A	436805	5808380	1	10	40	14	4
T078	436694	5806227	15	34	39	14	4
T080A	435883	5804646	13	27	39	14	4
T084C	435350	5804267	9	28	39	14	4
T085A	437631	5803645	6	26	39	14	4
T086B	438224	5803805	7	26	39	14	4
T088	439139	5803459	4	25	39	14	4
T089C	439251	5803817	6	25	39	14	4
T090	438346	5804578	16	26	39	14	4
T091B	438979	5804403	12	25	39	14	4
T092A	439358	5804983	3	36	39	14	4
T094A	438473	5805407	8	35	39	14	4
T100	441848	5806632	1	6	40	13	4
T103	441454	5805006	2	31	39	13	4
T106	436125	5809189	11	10	40	14	4
T114A	438613	5804193	9	26	39	14	4
T115	438659	5803560	1	26	39	14	4
T116	439860	5803937	7	25	39	14	4
T117B	436668	5806694	2	3	40	14	4
T118	436250	5807601	11	3	40	14	4
T120	435832	5805482	5	34	39	14	4
T128B	429540	5807194	6	1	40	15	4
T130A	430908	5806648	4	6	40	14	4
T132	429731	5808034	14	1	40	15	4
T136A	426429	5808382	3	10	40	15	4
T140	426771	5806344	15	34	39	15	4
T142	425429	5808436	1	9	40	15	4
T143	424517	5807939	14	4	40	15	4
T144A	426844	5805085	2	34	39	15	4
T145	427922	5804870	14	26	39	15	4
T146	425835	5806207	13	34	39	15	4
T150	431596	5805574	7	31	39	14	4

C. Wildlife Issues Related to Wind Energy:

Habitat Loss, Disturbance and Avoidance:

Wind Energy facilities may result in the direct loss of habitat for wildlife. Negative effects may include, but are not limited to; habitat fragmentation, site abandonment, loss of movement corridors and loss of foraging/breeding/brood-rearing habitat. AEP – WM identified the potential negative effects of siting wind energy facilities in areas of native grasslands, wetlands, and forested areas on wildlife, in particular on species at risk and sensitive species. AEP – WM recommends siting the wind energy facility and associated infrastructure on cultivated or other previously disturbed lands to significantly reduce most of the negative effects on wildlife habitat.

Direct Wildlife Impacts:

AEP – WM identified concerns over the potential of negative effects on wildlife and their associated habitat caused by wind energy facilities or related infrastructure including access roads, and collection lines. This may include direct and indirect negative effects on the house, nest or den of a prescribed wildlife species. AEP-WM recommends that predevelopment wildlife surveys, as per the *Alberta Wind and Wildlife Guidelines*, be conducted prior to applying for the Halkirk 2 Wind Power Project to the Alberta Utilities Commission. If a species of management concern is identified, AEP – WM recommends that areas immediately adjacent to key wildlife habitats be avoided by appropriate setbacks as outlined in the *Recommended Land Use Guidelines for Protection of Selected Wildlife Species and Habitat within Grassland and Parkland Natural Regions of Alberta*:

<http://esrd.alberta.ca/fish-wildlife/wildlife-land-use-guidelines/documents/WildlifeLandUse-SpeciesHabitatGrasslandParkland-Apr28-2011.pdf>

and/or the Wildlife Directive for Alberta Wind Energy Projects (January 2017), as appropriate.

Wildlife Mortality Concerns

Bird and bat mortalities have been documented at a number of wind energy facilities in North America. There is an increased risk of mortality for birds and bats during migration. Wind energy projects that are built within migration routes present a large hazard and an increased mortality risk. AEP-WM recommends siting wind energy facilities away from migration routes for birds and bats and away from the nest, house, or den of specific species at risk. AEP-WM requires that 3 years of post-construction monitoring be completed at all wind energy facilities as per the *Wildlife Directive for Alberta Wind Projects (January 2017)*. This monitoring is to determine risk of the facility for wildlife and if mortality rates are determined to be high then post-construction mitigation methods will be implemented in consultation with AEP-WM.

D. Industry Submission of Wildlife Monitoring Program (submission to *Fisheries and Wildlife Management Information system-FWMIS*)

Research License #: RP 57081 & CL 57082

Pre-construction survey data submitted within 2 years of project construction:

Note: If no construction has occurred with 2 years, new data may be requested.

Winter Bird Surveys: January 21-22 and February 24-26, 2016
Avian Use Survey (Spring Bird Migration): March 22-25, April 12-14, May 8 and 10-12, 2016
Avian Use Survey (Summer): June 21 and 23-28, July 10-14, 2016
Avian Use Survey (Fall Bird Migration): August 18-20, September 10-13, October 4-7, 2016
Breeding Bird Surveys: June 7-12 and June 21-24, 26, and 28, 2016
Sharp-tailed Grouse Lek Surveys: April 11-20 and April 29-May 13, 2016
Raptor Nest Surveys: June 7-12 and June 21-24, 26, and 28, 2016
Bat Spring Migration Acoustic Surveys: April 28/29 – June 9/12, 2016
Bat Fall Migration Acoustic Surveys: July 13/14 – October 16, 2016
Richardson's Ground Squirrel Survey: April 11-20 and April 29-May 13, 2016

Surveys are considered current within 2 years of the last survey date. AEP-WM recommends that Raptor Nest surveys and Sharp-tailed Grouse surveys are maintained as current until construction is complete, to ensure data is current and adequately defines the risk of the proposed project for wildlife. Capital Power Corporation has committed to maintaining wildlife data as current through the application process, construction, and commissioning process. This is consistent with AEP-WM Policy and the *Wildlife Directive for Alberta Wind Energy Projects (2017)*.

E. AUC Application Avoidance and Mitigation of Wildlife Risks: *Review of the proposed wildlife avoidance and mitigation strategies identified with in the AUC application, in comparison with AEP's Wind and Wildlife Directives:*

Habitat Loss, Disturbance and Avoidance:

The Halkirk 2 Wind Power Project occurs on a landscape composed predominantly of cultivated crop (34%) and agricultural/pasture land (27%). However, native prairie makes up 12% of the land area, wetlands make up 8% and wooded areas comprise 1% of the land area. The Halkirk 2 Wind Power Project has been appropriately sited to avoid significant impact to most native habitats, with complete avoidance of native grasslands.

Additionally the Halkirk 2 Wind Power Project avoids areas of wildlife importance including ridge tops and valley breaks, with some impact to wetlands. The project area consists of:

- Native Prairie: 1180 ha (0 ha impacted)
- Wooded Native Vegetation: 98 ha (1 ha impacted)
- Wetlands: 694 ha (2.2 ha impacted – 0.4 ha impacted in operation)
- Agricultural/Pasture: 2972 ha (269 ha impacted)
- Developed/Farmyard/Rural Residential: 121 ha (2 ha impacted)

Access roads in some cases impinge on wetland buffers, resulting in the loss of 0.2ha of wetlands, and 23 occurrences where permanent access roads are within 20 m of wetlands, and 74 cases where permanent access roads or the collector system are within 100m of wetlands. Capital Power Corporation has indicated that they will employ mitigation to reduce the impact on wetlands and

associated amphibian populations by completing construction in dry ground conditions whenever possible, use rig matting, geotextiles, vegetated buffer zones, earthen berms and/or silt fencing as appropriate, route vehicles outside the wetlands, and reclaim all disturbed areas that will not be permanently impacted upon completion of construction. In addition, surveys will be conducted prior to construction within the 100m buffer on all Class III-V wetlands to ensure direct effects on breeding amphibians are avoided.

All Collector lines (lines transferring power from turbine to main feeder line) will be buried, and largely occur on already disturbed land, with less than 1 ha being temporarily disturbed for their installation.

Ninety-eight percent of project infrastructure during construction and operation is sited on previously disturbed or modified habitats, with the remaining 2% affecting wooded areas or wetlands. Project infrastructure includes but is not limited to turbines, access roads, collection lines, temporary work space and the substation. This effort to limit impact to native habitat is consistent with AEP-WM Policy and the *Wildlife Guidelines for Alberta Wind Energy Projects (2011)*. Turbines are located predominantly on cultivated areas and tame pasture. All setbacks for turbines from all classes of wetlands are being met and being adhered to as per *Wildlife Guidelines for Alberta Wind Energy Projects (2011)*.

Direct Wildlife Impacts:

Wildlife surveys were conducted as per the recommendations of AEP- Wildlife Management (Section D) for the Halkirk Wind Power Project. Infrastructure is planned within 100 m of raptor nests in three cases: permanent access road to T003C (red-tailed hawk nest 06), an underground collector line (red-tailed hawk nest 07), and temporary workspace for the substation (Swainson's hawk nest 03). Vegetation clearing in these areas will take place outside the raptor nesting period or a Breeding Bird Nest Management Plan will be implemented to ensure the protection of nesting raptors.

All other project infrastructure is sited to adhere to AEP- Wildlife Management recommended setbacks from wildlife or wildlife-related values (Section 3.8.4.2 of Environmental Evaluation Halkirk 2 Wind Power Project). Project infrastructure includes but is not limited to turbines, access roads, collection lines, temporary work space and the substation. This is consistent with AEP-WM Policy and the *Wildlife Guidelines for Alberta Wind Energy Projects (2011)*.

Capital Power Corporation has committed to maintain required surveys as current through project construction. If new wildlife issues are identified, the company has committed to working with AEP-Wildlife Management and/or to follow the mitigation outlined within the *Post-Construction Monitoring and Mitigation Plan Halkirk 2 Wind Power Project (February 2017)*, as appropriate. This is consistent with AEP-WM Policy and the *Wildlife Guidelines for Alberta Wind Energy Projects (2011)*.

Wildlife Mortality Concerns and Post -construction Monitoring

While a bird or bat of any species may collide with a wind turbine, concerns are primarily with the following species/species groups in Alberta:

- Migrating and resident bats
- Raptors

- Breeding grassland birds (including species at risk, sensitive species and species with aerial flight displays)
- Greater sage-grouse and sharp-tailed grouse
- Migrating songbirds
- Shorebirds
- Avian species listed under the Alberta *Wildlife Act* or Federal *Species at Risk Act*

The bat migration acoustic monitoring conducted at the Halkirk 2 Wind Power Project identified 3.66 bat passes/detector night and 3.05 migratory bat passes/detector night in the fall of 2016. The *AEP Bat Mitigation Framework for Wind Power Development* states that > 2 migratory bat passes/detector night at a proposed windfarm presents a high risk of bat mortality. Capital Power Corporation has sited turbines, with the exception of T051, away from the Battle River and Paintearth Creek and associated draws and coulees, which demonstrated higher levels of activity than much of the rest of the areas monitored for bat activity. By avoiding these areas, it is expected that bat mortality will be significantly mitigated. **However, risk is still evaluated as medium for bat mortality given that migratory bat passes per detector night at all of the detectors in other parts of the study area also showed numbers higher than the low risk threshold of 1 migratory bat pass per detector night.**

Bird activity levels and movement patterns during spring and fall migration study periods did not reveal the presence of clearly identifiable migratory pathways. However, significant migratory activity by waterfowl and passerines was concentrated around the perimeter of the project area and in the centre of the project area. Halkirk 2 Wind Power Project has sited the majority of turbines in locations outside these areas. AEP Wildlife Management has conducted a bird risk assessment, based on the summary migration and breeding bird data from the 2016 wildlife surveys. Migration surveys in the spring and fall identified 13,618 and 11,677 bird observations respectively, with the majority being waterfowl and passerines. Most studies have found low fatality rates for waterfowl in general, but relatively high avoidance rates of wind turbines (Winkelman 1995, Erickson et al. 2002). The majority of passerines observed included more common species, such as snow bunting, Lapland longspur, American crow, horned lark, and black-billed magpie (spring) and European starling, American crow, black-billed magpie and blackbirds (fall). A total of 807 individuals were observed during breeding bird counts, with common species such as the clay-coloured sparrow, savannah sparrow, and red-winged blackbird being most regularly observed. Twenty-eight sensitive species were identified across all surveys, with three listed as species of special concern in the province (Sprague's pipit, prairie falcon, loggerhead shrike). None of the listed species were found in high numbers during any season. Results from avian use surveys and breeding bird surveys indicate some use by species of high mortality risk from collisions with wind turbines, and limited numbers of species at risk. **Based on AEP-WM's assessment of risk the Halkirk 2 Wind Power Project has been identified as having a medium risk of bird mortality.**

Capital Power Corporation has committed to post-construction monitoring outlined in the *Post - Construction Monitoring and Mitigation Plan Halkirk 2 Wind Power Project* (February 2017). This commitment to post-construction monitoring includes:

Survey Type: Post-construction monitoring will include carcass searches with searcher efficiency trials and carcass persistence trials.

Duration: Surveys will be conducted for 3 years following project construction and commissioning. Additional years of surveys will be conducted if post-construction mitigation is required.

Extent: A minimum of 25 turbines (1/3 of the turbine locations) will be sampled. Turbines will be selected through a stratified random sample of all wildlife habitat types within the project area as per the process outlined in the *Post-Construction Monitoring and Mitigation Plan Halkirk 2 Wind Power Project* (February 2017).

Survey Area: Surveys will be conducted around the entire turbine in an area at least half the maximum height of the turbine or 50 m, whichever is larger.

Frequency: Surveys will be conducted weekly at each turbine throughout the monitoring period.

Seasonality: Surveys will be conducted from March 1st-October 30th annually for the three years of required monitoring.

The proposed post-construction monitoring plan is consistent with AEP-WM policy and recommendations as outlined in AEP's *Wildlife Directive for Alberta Wind Energy Projects (January 2017)*. Monitoring results will be provided to AEP-WM annually as per the requirements outlined in the *Wildlife Directive for Alberta Wind Energy Projects (January 2017)*. If high levels of mortalities are identified by AEP-WM, mitigation will be required. Capital Power Corporation has committed to mitigation if necessary and will develop appropriate mitigation based on consultation with AEP-WM. Capital Power Corporation has identified that the following mitigation strategies are technically feasible for this project and will be considered if required:

- Alter cut in speeds at turbines with high mortality rates.
- Turbine shut down at night during bat migration periods
- Any mitigation that is deemed appropriated based upon the site-specific circumstances or incidents following consultation with AEP-WM.

If post-construction mitigation is required, as determined by AEP- WM, a minimum of two additional years of monitoring will be required to determine if the mitigation is successful at reducing the mortality rates to acceptable levels, as per the *Wildlife Directive for Alberta Wind Energy Projects (January 2017)*. This additional monitoring commitment is consistent with AEP-WM Policy and the *Wildlife Directive for Alberta Wind Energy Projects (January 2017)*.

ALBERTA ENVIRONMENT AND PARKS (AEP) WIND ENERGY EXTERNAL CHECKLIST A

The Alberta Utilities Commission (AUC) Rule 007 (<http://www.auc.ab.ca/acts-regulations-and-auc-rules/rules/Pages/Rule007.aspx>) outlines the operating conditions and application requirements for wind energy developments. As part of Rule 007 there is a requirement for the company to review the application with Alberta Environment and Parks to ensure that impacts on wildlife have been considered. This would be inclusive of the proposed project siting, mitigation and construction/operation plan of wind energy projects to minimize the effects on wildlife and wildlife habitat. In order to ensure alignment with Alberta Environment and Parks requirements, *Wildlife Directives for Alberta Wind Energy Projects* (herein referred to as the Directives) have been developed for applicants to use. It is the responsibility of the applicant to ensure that all necessary wildlife information is included as part of the application in alignment with the Directives as outlined in this checklist. However, does not preclude the opportunity for the proponent to contact the responsible AEP-Wildlife Biologist.

This checklist is applicable to the following wind energy application types as described within AUC Rule 007:

- a. A standard application where no changes are anticipated after filing
- b. An application where changes in turbines or layout are anticipated after filing
- c. An application that indicates more turbine locations than are necessary for the wind power plant.

For Buildable Area applications please refer to AEP Wind Energy External Checklist B.

AEP-Wildlife will not review project documents unless all the documentation outlined in this checklist is submitted. For more information of AEP-Wildlife expectations of industry please refer to the *Wildlife Directives for Alberta Wind Energy Projects*.

DOCUMENTS REQUIRED FOR AEP REVIEW

- Results of the Avoidance of Areas of Wildlife Concerns
- Wildlife Survey Report: A comprehensive report detailing wildlife survey methods, results and interpretation of the results and mortality risk
- Documentation of avoidance and mitigation strategies for the life of the project (siting through to decommissioning)
- UTM locations of turbines and map of project infrastructure.
- Post Construction Monitoring Plan
- Post Construction Mitigation Plan

AEP WIND ENERGY PROCESS CHECKS	
Completed	Checklist Requirement and Description
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>1. The wind project has been sited to avoid:</p> <ul style="list-style-type: none"> a. native grasslands b. old growth forest stands c. named waterbodies d. valley breaks e. valleys of large permanent water courses <p>If the project is sited within one or more of these zones please confirm that all required standard mitigation procedures are adhered to, as outlined in the Directives. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the AEP–Wildlife Biologist.</p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>2. The wind project has been appropriately sited to avoid the following Wildlife Sensitivity Layers:</p> <ul style="list-style-type: none"> a. Greater Sage Grouse Range b. Trumpeter Swan Waterbodies and Watercourses c. Caribou Zones d. Mountain Sheep and Goat Zones e. Piping Plover Waterbodies <p>If the project is sited within one or more of these zones please confirm that all required standard mitigation procedures are adhered to, as outlined in the Directives. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the AEP–Wildlife Biologist.</p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>3. The wind project has been sited to avoid:</p> <ul style="list-style-type: none"> a. Key Wildlife and Biodiversity Zones b. Grizzly Bear Zone c. The Special Access Zones <p>If the project is sited within one or more of these zones please confirm that all required standard mitigation procedures are adhered to, as outlined in the Directives. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the AEP–Wildlife Biologist.</p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>4. Completed the following predevelopment wildlife surveys as per <i>Standard 100.2.2</i> of the <i>Wildlife Directive for Alberta Wind Energy Projects</i>:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A a. spring bird migration surveys <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A b. fall bird migration surveys <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A c. raptor nest surveys <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A d. breeding bird surveys <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A e. acoustic bat monitoring surveys <p>Data must be considered current as per <i>Standard 100.2.4</i>. Surveys must follow the survey protocols outlined by AEP and described within the Directives.</p>

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>5. Completed the required predevelopment site specific surveys as per <i>Standard 100.2.2</i> of the <i>Wildlife Directive for Alberta Wind Energy Projects</i>.</p> <p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A a. Burrowing Owl Range <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A b. Eastern Short-horned Lizard Range <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A c. Endangered and Threatened Plants Ranges <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A d. Ord's Kangaroo Rat Range <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A e. Sensitive Snake Species Range <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A f. Sharp-tailed Grouse Range <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A g. Swift Fox Range <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A h. Colonial Nesting Birds (within 1000 m of FWMIS point data) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A i. Grizzly Bear Core and Support Zones </p> <p>Data must be considered current as per <i>Standards 100.2.3</i> and <i>100.2.4</i>. Surveys must follow the survey protocols outlined by AEP and described within the Directives. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the AEP-Wildlife Biologist.</p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>6. Based on the results of the pre-development wildlife surveys (<i>Standard 100.2.2</i>), all mitigation identified in Stage 2 and Stage 3 have been adhered to. This includes all setbacks, and timing restrictions. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the local AEP-Wildlife Biologist.</p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>7. All wetlands and waterbody setbacks are adhered to. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the local AEP-Wildlife Biologist.</p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>8. A comprehensive report detailing methods, results and interpretation of the results and mortality risk must be included as part of the AUC application and submission for review by AEP-Wildlife as detailed in <i>Standard 100.2.12</i>.</p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>9. Construction and Operation plans have been developed and submitted as part of this referral application. The plans must adhere to all applicable wildlife construction and operating standards, outlined in the Directives. A map of the proposed project infrastructure is to be included. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the local AEP-Wildlife Biologist.</p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>10. Post Construction Monitoring Plan (PCMP) is completed. The PCMP must meet the criteria outlined in <i>Standard 100.4.4</i> of the Directives. If deviations are proposed please provide justification and proposed alternative mitigation strategies for review by the local AEP-Wildlife Biologist.</p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>11. The Post Construction Mitigation Plan is completed and outlines mitigation that will be implemented if post construction monitoring results are determined to exceed acceptable limits. If alternative mitigation strategies are proposed from the <i>Standard 100.4.11</i>, please provide justification and proposed alternative mitigation strategies for review by the local AEP-Wildlife Biologist.</p>

FINAL STATEMENT OF COMPLIANCE

Upon completion of the checklist, the applicant or applicant's representative must fill out the following and submit as part of their application.

Once all the required documents are received the submission will be reviewed by the local area AEP-Wildlife Biologist. A final referral letter will be completed by the AEP-Wildlife Biologist.

I, JEFF SANSON, as an authorized representative of, CAPITAL POWER ensure that this application meets the AEP requirements as detailed in the *Wildlife Directives for Alberta Wind Energy Projects*. Deviations from the Directives (if any) are outlined in the attached report and include proposed mitigation and any formal discussions or agreements with AEP-Wildlife.


Signature

APRIL 13/2017
Date