Environmental Review Tribunal
Tribunal de l'environnement

ISSUE DATE: February 19, 2015

CASE NOS.: 13-140
13-141
13-142

Cham Shan Temple v. Director, Ministry of the Environment

In the matter of appeals by Cham Shan Temple, Cransley Home Farm Limited and Manvers Wind Concerns filed December 23, 2013 for a hearing before the Environmental Review Tribunal pursuant to section 142.1 of the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended, with respect to Renewable Energy Approval No. 8037-9AYKBK issued by the Director, Ministry of the Environment, on December 11, 2013 to wpd Sumac Ridge Wind Incorporated, under section 47.5 of the *Environmental Protection Act*, regarding the construction, installation, operation, use and retiring of a Class 4 wind facility with a total name plate capacity of 10.25 megawatts at a site located at 801 Ballyduff Road, Pontypool, City of Kawartha Lakes, Ontario.

Heard : November 17 – 20 and 24, December 3 – 5, 9 – 12 and 19, 2014, and January 5 and 23, 2015 in Pontypool, Curve Lake First Nation, and Toronto, Ontario.

APPEARANCES:

Parties	**Counsel/Representative**[+]
Cham Shan Temple, Cransley Home Farm Limited and Manvers Wind Concerns	Eric Gillespie and Priya Vittal
Director, Ministry of the Environment	Andrew WereteInyk, Matthew Horner, Michael Burke and Alexa Mingo
wpd Sumac Ridge Wind Incorporated	John Richardson and Nedko Petkov

Participants

Hiawatha First Nation	Diane Sheridan[+]
Curve Lake First Nation	Ryerson Whetung[+] and Melissa Dokis[+]
Brent Whetung Heather Stauble	Self-represented
City of Kawartha Lakes	Ron Taylor[+]
Save The Oak Ridges Moraine Coalition	Cindy Sutch[+]

Presenters

David Frank, David Marsh, Steven DeNure, Sara Miller, William Bateman, Kathleen Morton and Darryl Irwin	Self-represented

Table of Contents

DECISION DELIVERED BY HEATHER GIBBS AND MARCIA VALIANTE

REASONS

Background

[1] The Director, Ministry of the Environment ("MOE"), issued Renewable Energy Approval No. 8037-9AYKBK (the "REA") to wpd Sumac Ridge Wind Incorporated (the "Approval Holder") on December 11, 2013, under s. 47.5 of the *Environmental Protection Act* ("*EPA*"), regarding the construction, installation, operation, use and retiring of a Class 4 wind facility with a total name plate capacity of 10.25 megawatts at a site located at 801 Ballyduff Road, Pontypool, City of Kawartha Lakes, Ontario (the "Project"). The Project comprises five wind turbines to be located across a diverse site in the former Township of Manvers, to the south and east of the intersection of Provincial Highways 7A and 35, with two of the turbines to be located on lands within the boundaries of the Oak Ridges Moraine Conservation Plan Area (the "Site"). The Project also includes on-site access roads, above and below grade cabling and transmission lines, and a switching station to be located on the west side of Highway 35.

[2] On December 23, 2013, Cham Shan Temple, Cransley Home Farm Limited and Manvers Wind Concerns (the "Appellants") filed a notice of appeal for a hearing before the Environmental Review Tribunal ("Tribunal") pursuant to s. 142.1 of the *EPA*. The Appellants claim that engaging in the renewable energy project in accordance with the REA will cause serious harm to human health, and serious and irreversible harm to plants, animals, and the natural environment. On January 17, 2014, the Appellant Cham Shan Temple ("CST") filed a notice of constitutional question ("NCQ") asking the Tribunal to declare that s. 47.5 and s. 142.1 of the *EPA* violate its rights under s. 2(a) of the *Canadian Charter of Rights and Freedoms* (the "*Charter"*) and to order a further, unspecified, remedy for such violation.

[3] The hearing was scheduled to commence on February 24, 2014 and, in accordance with the six-month timeline for REA appeals, the Tribunal's decision was to be delivered on or before June 27, 2014.

[4] A preliminary hearing was held on January 24, 2014 at which the Tribunal, among other things, granted participant and presenter status to a number of individuals and organizations.

[5] On February 4, 2014, the participants Curve Lake First Nation, Hiawatha First Nation and Brent Whetung filed a NCQ claiming the REA violates their treaty rights, which are recognized and affirmed by s. 35 of the *Constitution Act, 1982* ("*Constitution"*).

[6] Numerous motions were brought by the parties, including motions to strike issues from the notice of appeal, to strike the NCQs, to disqualify certain witnesses, to adjourn the proceedings, and for interim costs.

[7] On February 25, 2014, the Tribunal adjourned the appeal on its own initiative, pursuant to s. 59(2)1(ii) of the Renewable Energy Approvals Regulation, Ontario Regulation ("O. Reg.") 359/09.

[8] This adjournment "stopped the clock" on the proceeding, suspending the six-month timeline.

[9] On October 3, 2014, the Tribunal lifted the stop-the-clock adjournment. The new statutory date by which the decision must be issued is therefore February 19, 2015.

[10] The hearing commenced on November 17, 2014. The Tribunal attended a site visit on November 18, 2014. Evidence was heard over 14 days in November and December 2014 and January 2015, mostly in Pontypool. The Tribunal heard the evidence of the participants Hiawatha First Nation, Curve Lake First Nation and Mr. B.

Whetung at Curve Lake First Nation on December 9, 2014. Written submissions were filed by the parties, supplemented by brief oral submissions heard on January 23, 2015.

[11] On January 29, 2015, the Appellants brought a motion to hear new evidence. This motion was heard in writing and was dismissed on February 10, 2015. Reasons for that determination are found below in Appendix A.

Relevant Legislation

[12] The relevant legislation is:

Environmental Protection Act

> 1. (1) "natural environment" means the air, land and water, or any combination or part thereof, of the Province of Ontario;
>
> 145.2.1 (2) The Tribunal shall review the decision of the Director and shall consider only whether engaging in the renewable energy project in accordance with the renewable energy approval will cause,
>
> (a) serious harm to human health; or
>
> (b) serious and irreversible harm to plant life, animal life or the natural environment.
>
> (3) The person who required the hearing has the onus of proving that engaging in the renewable energy project in accordance with the renewable energy approval will cause harm referred to in clause (2) (a) or (b).
>
> (4) If the Tribunal determines that engaging in the renewable energy project in accordance with the renewable energy approval will cause harm referred to in clause (2) (a) or (b), the Tribunal may,
>
> (a) revoke the decision of the Director;
>
> (b) by order direct the Director to take such action as the Tribunal considers the Director should take in accordance with this Act and the regulations; or
>
> (c) alter the decision of the Director, and, for that purpose, the Tribunal may substitute its opinion for that of the Director.

Canadian Charter of Rights and Freedoms

> 2. Everyone has the following fundamental freedoms:
>
> (a) freedom of conscience and religion…

Constitution Act, 1982

> 35. The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed.

Issues

[13] The proceeding raises the following issues and sub-issues:

1. Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to plant life, animal life or the natural environment, in particular, harm to:
   - Water features and water resources;
   - Species at risk;
   - Wildlife and bird habitats; and
   - The environment, together with plant life and animal life, in the vicinity of Turbine 5;
2. Whether engaging in the Project in accordance with the REA will cause serious harm to human health;
3. Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to the natural environment of the Appellant Cham Shan Temple or interfere with its right to freedom of religion, contrary to s. 2(a) of the *Charter*; and
4. Whether engaging in the Project in accordance with the REA will interfere with the treaty rights of the participant First Nations, contrary to s. 35 of the *Constitution Act, 1982*.

For the reasons that follow, the Tribunal dismisses the appeals. Reasons for the Tribunal's rulings on a number of procedural issues, which arose during the hearing, are found in Appendix A.

Summary of the Evidence

The Appellants' Evidence

[14] The Appellants called 17 witnesses, some addressing the issues in the appeal by Cransley Home Farm Limited and Manvers Wind Concerns, and some addressing the issues in the appeal by the CST.

Victor Doyle

[15] Mr. Doyle holds the position of Manager, Provincial Planning Policy Branch with the Ministry of Municipal Affairs and Housing ("MMAH"), and testified pursuant to a summons. The Tribunal qualified him to give opinion evidence as an expert planner with expertise in environmental policy, and in particular in Oak Ridges Moraine ("ORM") conservation. He gave his personal opinions and did not appear as a representative of MMAH. Mr. Doyle described the historical development of the *Oak Ridges Moraine Conservation Act*, S.O. 2001, c. 31 ("*ORMCA"*) and the Oak Ridges Moraine Conservation Plan, O. Reg. 140/02 ("ORMCP"). He described the purposes and objectives of those documents.

[16] Mr. Doyle noted that the ORMCP did not foresee the development of wind farms on the ORM. He pointed out that under the *Green Energy and Green Economy Act, 2009*, S.O. 2009, c. 12 ("*GEGEA*"), construction of industrial wind turbines on the other significant ecological feature in southern Ontario, the Niagara Escarpment, was excluded but the ORM was not.

[17] Mr. Doyle's opinion is that wind farms are "not consistent with the government's vision, intent and policy for the protection of the environment of the moraine." He further opined that, while O. Reg. 359/09 incorporates specific provisions of the ORMCP in relation to hydrologic features and key natural heritage features, these policies were

never developed with any "consideration of future wind farms and thus relying on them to adequately consider impacts is not sufficient." He believes that "the potential for cumulative effects of multiple applications/wind farms on the moraine to create serious, permanent and irreversible effects on the ecological integrity of the ORM is very significant and contrary to the broader public interest, an issue that has never been directly contemplated by the government or the ORMCP itself."

[18] In Mr. Doyle's opinion, the full intent of the Plan cannot be met in relation to wind farms, "given the ecological significance of the Oak Ridges Moraine and the overarching environmental protection objectives of the ORM Act and Conservation Plan, particularly in relation to ecological integrity and a continuous, connected landform and environment." He believes that opening the ORM area to wind farms and their related infrastructure (access roads and transmission lines) "will have a negative effect on the overall ecological integrity of the moraine – particularly with respect to the long term movement of fauna."

[19] Mr. Doyle testified that Premier Wynne, in her 2014 mandate letter to the Minister of MMAH, has directed a review of the ORMCP, Niagara Escarpment Plan and the Greenbelt Plan. Mr. Doyle believes this is the appropriate place for the government to turn its mind expressly to whether wind turbines should be built on the ORM.

David Kerr

[20] Mr. Kerr is the manager of environmental services for the City of Kawartha Lakes. The Tribunal qualified him to give opinion evidence as an expert hydrogeologist and geoscientist. Mr. Kerr spoke about issues relating to spills and contamination, including the movement or flow of contaminants through geological structures.

[21] With respect to the ORM, Mr. Kerr testified that the groundwater flow patterns are enormously complex due to the variation in geological media. He stated that the ORM consists of a variety of glacially-derived sediments including sand, gravel, silts and clay

and that the sediments vary in depth, in some places exceeding 300 metres ("m"). He testified that "we have little understanding of site specific flow patterns in areas where groundwater monitoring is not undertaken in detail."

[22] In paragraph 7 of his witness statement, Mr. Kerr sums up the hydrogeological conditions in the ORM as follows:

> On the crest of the Moraine and many surrounding areas, water is absorbed rapidly into the porous upper layers flowing downward until it reaches the water table where it will flow laterally and vertically sometimes discharging out of side slopes of the moraine as surface water springs. Much is not known at present about all the flow patterns and links between water entering the Moraine and water emerging from it. Much is not known or fully understood about the particular permeable pathways that allow water flows within the moraine. In sum, my assessment would be that we cannot have an in depth understanding of particular areas of the Moraine without conducting proper in-depth hydrogeological studies involving monitoring wells and chemical testing. We cannot predict the actual impact of interference with the water entering or leaving the Moraine when we do not know all the details of how the water percolates through the Moraine itself.

[23] The potential effects of building large structures on top of the moraine include: increased impervious surfaces which prevent infiltration and reduce the natural recharge to aquifers; the possibility of contaminants entering the aquifers; footprints of seeps and streams may be affected if structures impinge on discharge areas; change to water flow patterns will impact wetlands and headwaters of streams and rivers.

[24] Mr. Kerr testified that condition H1 in the REA, which limits water takings to 50,000 litres of water on any day, is sensible but questions who will monitor it, and has concerns that taking this level of water for several days "could have an impact on water supplies at some locations at higher levels of the Moraine". In addition he is concerned that excavations in seeps or springs such as along Gray Road could interfere with higher level wells or outflows.

[25] Mr. Kerr is concerned about the impact of high level water takings on local shallow wells, which he testified may only be 8 or 10 feet deep. Mr. Kerr's concerns are described in para. 14 of his witness statement:

> 14. If water takings at lower levels were increased say by excavating into seeps or streams flowing out of the Moraine, or continued for more than a day or two, there would potentially be an unforeseen impact on certain higher level wells or outflows. Without the proper hydrogeological studies which have not been undertaken by the proponents, exact impacts are impossible to predict. More work is needed on the impact of interfering with low level outlets from the Moraine by this project in terms of effects elsewhere on the Moraine.

[26] In oral testimony, Mr. Kerr testified that the excavation and pouring of concrete into the moraine environment for the turbine bases could also create erosion as well as contamination. He is concerned particularly with Turbine 5, which is proposed close to the edge of a slope and which he testified would require a large amount of concrete.

[27] Mr. Kerr testified that the two turbines located within areas of high aquifer vulnerability on the ORM are very sensitive to construction and to contamination. He testified that, according to the manual for the turbine model to be used in this Project, turbine oil changes are required at least annually. Mr. Kerr testified that the City's preferred solution with respect to refuelling trucks or other equipment is that it should occur off the ORM.

[28] Mr. Kerr testified that the porosity of the moraine sediment means that spills would be absorbed "promptly and directly". Mr. Kerr testified as to the vulnerability of the sites where the turbines are proposed. Turbine 1 is located next to a wetland area, and a stream flows beside the site; an artesian well on the property indicates an underground spring or seep. He stated that Turbines 4 and 5 are in vulnerable aquifer recharge areas, and Turbine 5 is located "between two headwaters of the Fleetwood Creek complex". In addition, Mr. Kerr testified that the water table at Gray Road is at surface level, making "the entire area is susceptible to local spills and contamination because water is near the surface".

[29] In oral testimony, Mr. Kerr concluded that construction of the Project will cause serious and irreversible harm to the environment, and that there is a "huge risk" in years to come. He acknowledged that this conclusion was not in his written witness statement. He concluded further that condition G3 in the REA "is not at all clear about what transfers of hazardous materials will or will not be permitted in relation to five turbines near to or on the Moraine." In his opinion, the REA is premature as "hydrogeological studies should have been carried out to assess whether the proposed locations are in fact suitable for oil carrying industrial structures and associated transformers as well as other infrastructure."

[30] In Mr. Kerr's opinion the Approval Holder's consultants should have included boreholes along the access roads, including Gray Road. He acknowledged that there are some monitoring wells that were used to prepare the Approval Holder's Water Report, but stated they are spread out and not indicative of the situation between the wells. Mr. Kerr testified that, from his review of the borehole logs, sediments were wet indicating the water table was perforated in the shallow zone. He therefore believes that, if these areas are excavated, the whole area will be under the water table and require water taking.

[31] Mr. Kerr disagreed with Ronald Donaldson's reference to just one aquifer. In his view, there are a number of different aquifers, permeable and non-permeable layers are mixed, and the conditions cannot be simplified. Mr. Kerr also disagreed with Mr. Donaldson's reference to the northern portion of the Project site as "not vulnerable", as there is "moderate infiltration" in the northern portion, meaning that a spill would still go down through the sand quickly. He also believes Mr. Donaldson's evidence was not based on adequate technical hydrogeological background information and supporting field data.

[32] Mr. Kerr testified that "in all likelihood, *if* there was a spill, contaminant virtually *would* be in the headwaters." When challenged as to whether he could make that

statement, given his conclusion that “insufficient studies have been done” in order to assess the potential impact, Mr. Kerr responded that he could not say with 100% certainty that serious and irreversible harm will occur, but that based on his professional experience and knowledge, if a spill occurred, in all likelihood it could not be fully cleaned up and there would, therefore, be permanent damage to the environment. Mr. Kerr agreed on cross-examination that it is not possible, with the current state of science, to create a sufficient database to predict where a spill would go, given the complexity of the sediment layers.

[33] Mr. Kerr had the following criticisms relating to Mr. Donaldson’s reliance on the well records:

- Drilled well records contained no information on the zone between surface and depth of well; “shallow permeable pathways” and “groundwater surface water interactions”.
- Shallow ground water regimes “which would be most impacted by the establishment of turbine foundations or spills” were excluded from Mr. Donaldson’s analysis.
- It is impossible to evaluate the vertical hydraulic connectivity of deep aquifers to shallow groundwater and surface water springs at the site (thus Donaldson’s conclusion of a great separation, up to 100m, between ground and aquifer systems is not correct).

Herman Wimmelbacher

[34] Mr. Wimmelbacher is an Ontario Land Surveyor. He was retained by the Appellants to do a topographical survey of the site of Turbine 5 and to research the question of the location of Wild Turkey Road. He was qualified by the Tribunal as an expert to give opinion evidence as an Ontario Land Surveyor with experience in topographical surveys and ground measurement practices.

[35] Mr. Wimmelbacher testified that he attended the section of the Site near Turbine 5 and calculated the distances between the piezometer marking the location of Turbine 5 and certain features, including the “top of the creek bank” and the “edge of the dripline,” that were identified by flags in the ground. He noted that the flags were placed by others and were in place when he attended the Site.

[36] Mr. Wimmelbacher stated that he plotted the laydown area onto the survey and calculated that a line measuring 30 m from the flags denoting the top of the creek bank would overlap with a radius of 46.25 m from the piezometer at two points, the northeast and southeast corners of the laydown area. He also stated that, by his calculation, the minimum distance from Turbine 5 to the dripline is 30.65 m.

[37] Mr. Wimmelbacher testified that he measured Wild Turkey Road as having a road allowance of 15 m wide, based on available information. He stated that following his survey he did more research and discovered a record held by the Ministry of Natural Resources and Forestry (“MNRF”) indicating that Wild Turkey Road may have been established as a public road in 1839 by the Court of Quarter Sessions with a road allowance width of 20 m. He believes the issue of the exact boundaries of Wild Turkey Road requires further research and surveys of all adjoining properties. He stated that this information may be significant for the location of the laydown area and crane pad area for Turbine 5. He testified that, if one measured from the centre of a 20 m road allowance instead of from the centre of a 15 m road allowance, the setback distance between the road and the location of Turbine 5 would have to be reduced by 2.5 m. If so, he stated, this could mean that the setback might not meet the regulated minimum distance.

Robert Sisson

[38] Mr. Sisson is a Professional Engineer with a degree in Water Resources Engineering, and over 25 years of related work experience. He is the Director, Engineering and Field Operations, at the Central Lake Ontario Conservation Authority.

The Tribunal qualified him to give expert opinion evidence as a water resources engineer.

[39] Mr. Sisson visited the area near Turbine 5 on May 29, 2014 and identified and marked topographical and water features with flags. Mr. Sisson noted that he was particularly interested in two “drainage features”, which he referred to as “streambeds”, and forming part of the headwaters of the Fleetwood Creek, which flows into the Pigeon River system.

[40] In Mr. Sisson’s opinion, the two features, known as Fleetwood Creek Headwaters (A) and (B) (“FCH(A)” and “FCH(B)”), are “intermittent streams” as defined in O. Reg. 359/09. He testified that the drainage features “are not recent developments”, and that one of them is marked on “Tremaine’s 1861 map of Ontario”.

[41] Mr. Sisson also testified that the treatment of the drainage features by various consultants throughout the Project development supports his conclusion. In this regard he pointed to a reference by SLR Consultants that “these drainage features carry water intermittently during the spring freshet, and possibly during intense rain events, thus serving a storm water conveyance function.”

[42] In Mr. Sisson’s view, the description of the Site in a September 24, 2014 memo from Stantec to the Approval Holder supports the presence of a defined channel. As well, he stated that a letter from NRSI to the Approval Holder dated August 22, 2014 also “provides evidence of channel features”. The letter notes a “0.5-2 m wide depression for at least 200 m east of Wild Turkey Road”; “2 knick-points” … “as well as a short section of erosion where water from snowmelt is directed. Approximately 50 m east of this location… FCH(A) returns to a depressional feature”; and that there are “some large cobbles”. Mr. Sisson testified that NRSI’s inclusion of a width measurement (“0.5-2 m wide”) is an indication of a defined stream channel, since “depressions are not described with a consistent width. Consistent width is a

characteristic of a stream channel, and is defined by water flowing over the ground and eroding a feature that has capacity to convey the regular flowrate."

[43] Mr. Sisson testified that on May 29, 2014, he attended at the site of Turbine 5 and "placed flags to demark the creek top of bank, the bottom of the valley slope, and the top of valley slope, to enable the determination of the natural hazard limit." He noted that there is a culvert under Wild Turkey Road for FCH(B).

[44] Mr. Sisson stated at p. 4 of his witness statement that he observed the following:

- The two stream beds were dry;
- The southern tributary (FCH(B)) had well defined and consistent stream bed and bank geometry;
- The northern tributary (FCH(A)) became well defined with defined stream bed and banks, about 30 metres east of the Wild Turkey Road allowance;
- The stream beds were devoid of vegetation, and consisted of eroded soil and occasional exposed rock;
- Stream bank erosion was evident along the streams, and valley erosion was also evident at locations where the stream had come in contact with the valley wall; and
- Vertical drops in the stream bed (knick points) were evident in both tributaries.

[45] He concluded that, based on the observed characteristics of the creek, local knowledge, and observations of others, "the streams flow intermittently, and with sufficient energy to maintain a well defined stream channel, prevent vegetation growth on the stream bed, and cause soil erosion within the stream channel and valley wall" and therefore meet the definition in O. Reg. 359/09.

[46] Mr. Sisson testified that, from the plotting of his flags on the land survey completed on May 30, 2014, "it becomes apparent that the turbine foundation and laydown area extend beyond the top of bank into the valley system." Mr. Sisson stated that, according to the Province's technical guide for natural hazards, which supports the Provincial Policy Statement, and also provides the technical guidance for administration of the *Conservation Authorities Act*,

> …Generally development should not occur on or on top of valley walls because the long-term stability of the slope, and therefore public health and safety, cannot be guaranteed. Development should be set back from the top of valley walls far enough to avoid increases in loading forces on the top of slope, changes in drainage patterns that would compromise slope stability or exacerbate erosion of the slope face, and loss of stabilizing vegetation on the slope face." (Natural Hazard Technical Guide, Section 7.2, Erosion Hazards (Ontario Ministry of Natural Resources, 2001))

[47] In Mr. Sisson's opinion, "Turbine 5 is proposed to be within the natural hazard associated with the Fleetwood Creek valley and does not meet provincial requirements…Based on the information provided, Turbine 5 should not be approved due to proximity to the natural hazard and disturbance of slope features." He also concluded that "the turbine would also be within the regulated area of the [Kawartha Region Conservation Authority], would require permission from the KRCA, and would be required to provide natural hazards analysis to determine the full extent of the hazard, and relation to remove disturbance from the hazard."

[48] Finally, Mr. Sisson disagreed with Ortech Environmental's memo of November 30, 2012, which concludes that all Project components for Turbine 5 are "outside of the steep slopes". Rather, he stated that the Oak Rides Moraine Slope Analysis figure provided in the Ortech report "appears to show Turbine 5 within the steep slope, although the low quality of the mapping makes it difficult to view accurately." In Mr. Sisson's view, the Site has the characteristics of a Category 1 Landform Conservation Area (complex landform), and should have been included with the Category 1 mapping.

[49] In his reply witness statement, Mr. Sisson responded to statements of Nyssa Clubine. He stated that "ephemeral flow and intermittent flow are indecisive terms that poorly define a continuum of flow regimes that occur in nature." He stated that, although Ms. Clubine referred to "ephemeral streams", the *GEGEA* does not define "ephemeral streams" (only intermittent) and does not list ephemeral streams as an exclusion to the list of "water bodies". He stated that ephemeral and intermittent streams perform the same watershed functions in supporting downstream habitats.

[50] Mr. Sisson noted that Ms. Clubine's suggestion that the features could be temporary features after a snow melt event is "inconsistent with the various reports that suggest the features appear to be historical."

Diane Chen

[51] Ms. Chen testified as a representative of the CST. She is the volunteer Property Development and Special Projects Manager, responsible for coordination of development of the CST's complex located in the Manvers area. The Tribunal qualified her as an expert to give opinion evidence regarding the requirements of the CST for this complex.

[52] Ms. Chen provided an overview of the CST and its various facilities, including its headquarters and main temple located on Bayview Avenue in Thornhill. She then described the proposed Manvers complex. She stated that the complex is designed to replicate, on a much reduced scale, a complex in China known as the "Four Sacred Buddhist Mountains", comprising four temples, which are meditation retreats, and a pilgrimage route that links them. In China, she admitted, the temples are located thousands of miles apart, requiring pilgrims to take different forms of transportation to follow the pilgrimage route.

[53] Ms. Chen explained that land assembly for the complex in Manvers began in 1990 and that the CST now owns a total of 1,700 acres in the area for the four temple sites. Ms. Chen stated that the first and largest site, Wutai Shan Buddhist Garden ("Wutai Shan"), which will include a temple, restaurant, shops and garden, is currently under construction on Ski Hill Road, north of Bethany, about 11.8 km from the Site. The Project will be located in the middle of the four temples once they are completed.

[54] Ms. Chen explained that the four sites were chosen because of their tranquility and natural features. She described the purpose of the sites as religious contemplation

and meditation, requiring a peaceful environment and no distractions. In addition, the CST designated a route for pilgrims to walk and pray between the four sites, with the route along public roads and coming within 1 km of one of the turbines in the Project.

[55] According to Ms. Chen, the CST has concerns regarding the Project (and two other wind energy projects proposed in the area) that relate to the potential effects of noise, vibration, infrasound and visual distraction along the proposed pilgrimage route. She stated that CST members fear that these features of the Project will disrupt the concentration that is necessary for meditation and prayer during pilgrimage. She expressed the concern that this will, in turn, reduce the number of visitors and pilgrims to the complex, which will adversely affect its financial viability and cause the CST not to complete the four temples. Ms. Chen based her concerns in this regard on a report she retrieved from the internet that studied the impacts of wind energy projects in Scotland on meditators residing at a Buddhist retreat and residential centre, known as the Tharpaland International Retreat Centre, and that concluded that wind turbines disrupted the ability of the meditators to develop concentration necessary for meditation (the “Tharpaland report”).

[56] On cross-examination, Ms. Chen agreed that there are many sources of noise in the vicinity of the four temples and the pilgrimage route and that the Temple did not conduct any noise studies at the temple sites or make inquiries about future developments in the Manvers area prior to purchasing the lands. She also agreed that people become accustomed to certain sounds and sights, so that they become less distracting over time. She was not able to recall the criteria for the designation of the pilgrimage route, beyond stating that she and others drove around the area looking for a “safe” route without a lot of traffic.

Brent Mitton

[57] Mr. Mitton has been a practitioner of Zen Buddhist meditation for 40 years and works in “transpersonal psychotherapy” – or “psychotherapy in line with the Buddhist

conception of the human condition" – in Toronto. He also leads meditation retreats on property he owns near Bancroft. The Tribunal qualified him as an expert to give opinion evidence regarding Buddhist practice and meditation.

[58] Mr. Mitton described meditation as a key element in Buddhist practice. He testified that meditation involves the cultivation of a heightened form of awareness that brings increasing consciousness of one's inner and outer environment. He noted that this practice involves sitting still and cultivating a mindful form of concentration. Through this, he stated, one is able to perceive reality on subtler levels and achieve a deep form of consciousness. He testified that the purpose of attending a retreat is to have an opportunity to remove oneself from the disturbances of modern life in order to pursue the instructions of the Buddha in an ideal setting.

[59] Mr. Mitton stated that developing concentration requires the removal of distractions, even attractive ones such as a beautiful view. His concern with the location of the Project near the four temples is that the noise, visual impact and "subliminal" effects of the Project will be disturbances that interfere with this ability to concentrate. He agreed that the turbines will not be visible or heard at Wutai Shan itself but believes they will be visible on the pilgrimage route.

Michael Skaljin

[60] Mr. Skaljin practices Tibetan Buddhism. He works for the City of Toronto and operates a consulting business through which he advises on spiritual and religious care and accommodation in public institutions. He has a M.Div. and has worked as a Buddhist spiritual and religious care provider and as Director of Programs and Operations with the Ontario Multi-faith Council. The Tribunal qualified him as an expert to give opinion evidence regarding Buddhism and religious accommodation.

[61] Mr. Skaljin testified that meditation is an integral part of religious practice in all Buddhist traditions and that pilgrimage, or the journey to a sacred place, is a core part

of Buddhist practice, despite different sub-practices such as prostration or chanting of prayers. He considers these sub-practices to fall within the general meaning of meditation. He stated that Buddhism encourages meditation in locations that are peaceful, clean and beautiful, because these contribute to stillness. He noted that he and other practitioners meditate in many different locations, even in noisy cities, but the purpose of going to a retreat is to be able to achieve “calm abiding” in a more idealized location. He cited a Buddhist text indicating that this location should have four qualities: nourishment should be easily attainable; the area should be free of wild animals; the place should be one that causes no harm; and a person should be accompanied by friends who do not have different views. Mr. Skaljin’s interpretation of this text is that a retreat centre should be located in “nature”, where there is solitude and quiet, and should be free of distractions. He also noted that the design of the grounds at a retreat centre is meant to be balanced and harmonious with nature, in keeping with traditional principles of Feng Shui.

[62] Mr. Skaljin’s concern with the Project is that the associated “noise, infrasound and unsightliness … will adversely affect the silence, calm, cleanliness and beautiful unobstructed natural landscape” and will thus interfere with meditation in its different forms. He was not aware of the sound levels to be expected from the Project. He stated, however, that when meditating one has a heightened sensitivity, so that it is not whether a sound is loud or quiet, only that it is noticeable, that determines whether it will be a distraction. He testified that he has grown accustomed to certain sounds, such as traffic and sirens, while living in Toronto, that do not distract him while meditating, but stated that turbine noise would be a new sound for most visitors to the temples, so would likely be distracting. Similarly, he stated that being able to see turbines, even from a great distance on the horizon, would likely be distracting, but more common installations such as hydro poles would likely not be.

[63] Mr. Skaljin stated that Buddhists going to a retreat centre or on a pilgrimage would be only an occasional event that they might do once in a lifetime, once every few years, or more often, depending on their circumstances and the accessibility of a retreat

centre. He noted that there are no set dates for pilgrimages, but that many people choose to go to a retreat centre or on a pilgrimage on the anniversary of the Buddha's birth.

Dr. Judith Girard

[64] Dr. Girard recently received her Ph.D. in Biology and has since worked as a post-doctoral fellow and researcher. The Tribunal qualified her as an expert to give opinion evidence as an avian ecologist, with expertise on the diversity of farmland and hedgerows.

[65] Dr. Girard testified about the general importance of hedgerows in providing breeding and foraging habitat for certain species of birds and in contributing to the abundance and diversity of bird species in farmed areas. She noted that, despite their importance to biodiversity, hedgerows continue to be removed for expansion of cropland in southern Canada. She described her doctoral research on song sparrows in eastern Ontario farmland and her conclusion that removal of hedgerows will reduce farmland bird populations. She also stated that hedgerows containing a mix of mature plant species often provide habitat for insects and movement corridors for small mammals.

[66] With respect to the Project, Dr. Girard testified that she based her opinions on information given to her that the Approval Holder had declared "up to 8 hedgerows" would have to be removed but had not identified which hedgerows. She stated her understanding that hedgerows would be removed along both sides of Wild Turkey Road for 1.2 km for access to turbine sites, and along Gray Road for installation of the transmission line to the switching station. She stated that, based on aerial photographs, she estimated this would result in 4 km of hedgerow being removed. Dr. Girard stated that, although she had not surveyed birds on the Site, she extrapolated from her previous research and estimated that the abundance of song sparrows in the area of the Project would be reduced by approximately 57 pairs, out of a local population of

several hundred breeding pairs. She stated further that other songbirds "likely to be less abundant" following hedgerow removal would include Eastern Kingbird, American Robin, Gray Catbird, Brown Thrasher, Cedar Waxwing, Warbling Vireo, Yellow Warbler, Common Yellowthroat, Savannah Sparrow, Vesper Sparrow, Red-winged Blackbird, Common Grackle, Baltimore Oriole and American Goldfinch. She agreed that grassland species, including Bobolink and Eastern Meadowlark, would not be adversely affected by hedgerow removal.

[67] It was Dr. Girard's opinion that even if the hedgerows were replanted, it would take many years for the plants to mature, during which period invasive and non-native species of plants would be introduced, leading to a loss of biodiversity. She gave her opinion that the removal of hedgerows for the Project will cause serious and irreversible harm to the biodiversity of the area.

Paul Richardson

[68] Mr. Richardson lives and operates a tree farming and sales business on Highway 35 in Pontypool. The Tribunal qualified him as an expert to give opinion evidence as a nursery and landscape horticulturalist.

[69] Mr. Richardson testified that he conducted a survey of trees and shrubs in the hedgerows along both sides of Wild Turkey Road and along the south side of Gray Road. He estimated that the length of the hedgerows that will be removed for construction of the Project will be 3 km. He did acknowledge that the actual length and location of hedgerow removal will depend on the machinery used for construction of the access roads.

[70] Mr. Richardson noted that the hedgerows along Wild Turkey Road have likely remained undisturbed for about 50 years. He described them as "unusually large and wide", estimating their maximum width at about 3 m. Mr. Richardson identified Hawthorn as the most abundant species in the hedgerows, but also identified Oak and

Sugar Maple, as well as the presence of Black Cherry, Ironwood, Basswood and Ash, all in healthy condition. It was his opinion that the hedgerows provide habitat for birds and small mammals and act as windbreaks. Mr. Richardson also identified White Pine, Scots Pine, Poplar, Wild Raspberry, Buckthorn, Highbush Cranberry and Common Apple near the hedgerows.

[71] Mr. Richardson submitted that hedgerows were not mentioned in the Natural Heritage Assessment ("NHA") report conducted for the Project and were only identified in one plan submitted with that report, resulting in MNRF not being informed of their presence. It was his view that removal of the hedgerows will result in a loss of habitat for insects, birds and mammals and that the hedgerows could not be successfully replaced, given the length of time needed to return to their existing condition, which he estimated at perhaps 30 years. He is concerned that there is no mitigation plan regarding the loss of the hedgerows.

[72] Mr. Richardson also testified with respect to a Butternut sapling, a species at risk, found near the site of Turbine 5. In his view, there are likely to be other specimens nearby. He expressed concern that the Approval Holder's consultants had not yet carried out a test to determine whether the sapling is genetically a hybrid or not, but he acknowledged that the Approval Holder and the MNRF were treating it as genetically pure. He also expressed his concern that construction near the sapling will cause it harm, although he agreed that the conditions imposed by the MNRF in its confirmation letter, if followed, would protect it.

[73] Mr. Richardson testified that when he was on the site of Turbine 5, he plotted the drip line of the adjacent woodland, which NRSI identified as a "significant woodland". He stated that the closest point of this woodland to Turbine 5 is 30.56 m, substantially less than the required setback.

[74] Mr. Richardson stated further that he was told that the opportunity to plant between 500 and 1,500 trees is lost for every turbine installed, but he could not recall by

whom. He estimated that 1,500 trees could be planted on one acre of land. He testified that the loss of trees for the Project is inconsistent with the Ontario government's commitment to plant 50 million trees by 2025.

Jane Zednik

[75] Ms. Zednik was initially granted status in this proceeding as a participant, but was instead called as a witness by the Appellants. The Appellants asked the Tribunal to qualify her as an expert horticulturalist in order to give opinion evidence. The other parties objected to this qualification.

[76] Following a review of her credentials and work experience and after considering the parties' submissions, the Tribunal refused to qualify Ms. Zednik as an expert. The Tribunal recognized that she has completed several courses in horticulture and has experience in seed collection and propagation and the growing of native plants. However, the scope of her proposed evidence did not relate to these subjects, but to a plant inventory she carried out on the site of Turbine 5 on May 30, 2014. The Tribunal notes the Practice Direction for Technical and Opinion Evidence provides that to give opinion evidence, a witness must have specialized education, training, or experience that qualify him or her to "reliably interpret scientific or technical information or to express opinions about matters for which untrained or inexperienced persons cannot provide reliable opinions." This was not the purpose of Ms. Zednik's evidence here. The Tribunal found that, instead, she falls within the meaning of what is referred to in the Practice Direction as a "technical witness", that is, a witness who collects, compiles, and to some extent interprets information that is essential to the Tribunal's understanding of the issues and that forms the basis for expert opinion evidence. A technical witness can speak to observations made, samples taken, analyses made and results recorded, but may not give an opinion about the significance of the results for environmental quality or human health.

[77] Ms. Zednik testified about her concern that the Approval Holder had not conducted a complete plant inventory for the Site prior to obtaining the REA. She noted that the Approval Holder's consultant, NRSI, classified the area around Turbine 5 as Dry Fresh Mixed Savannah eco-site surrounded by Mixed Deciduous Forest, pursuant to the province's Ecological Land Classification ("ELC"). Ms. Zednik stated her view that NRSI did not conduct adequate surveys to make a proper classification of the Site, and NRSI wrongly concluded that there were no rare plant communities there. Based on her plant inventory, which found six indicator species, she concluded that the Turbine 5 site should be re-classified as Tallgrass Prairie. She noted that construction of Turbine 5 in a savannah or tallgrass prairie is prohibited by O. Reg. 359/09.

[78] Ms. Zednik also expressed concern that the mitigation strategy to replant the site following construction will not be adequate to foster the re-introduction of native species and will lead to the dominance of invasive species such as dog strangling vine and garlic mustard.

Alison DeNure

[79] Ms. DeNure testified as a fact witness. She and her husband own property southeast of the intersection of Wild Turkey Road and Ballyduff Road. They purchased their property in part because of its location in a protected greenbelt area, and have managed it "using the guidelines of land stewardship as set out by the ORM foundation", including planting 12,000 trees. She stated she is acutely aware of the flora and fauna on the farm, and is active in its protection. She testified that she frequently makes use of the "Ballyduff Trails" in the valley east of Wild Turkey Road, and in the adjacent Fleetwood Creek Conservation Area.

[80] Ms. DeNure provided video and still photographic evidence, as well as sworn testimony, regarding the flow of water in Fleetwood Creek Headwaters tributaries FCH(A) and FCH(B). She also testified that she has seen water pooling at the junction of Gray Road and Highway 35. Ms. DeNure used her drone to obtain video and still

photographic evidence of the landscape near Turbines 1 and 3, including a wetland. Ms. DeNure also testified to having observed numerous species at risk (“SAR”) in the area, such as Bobolinks, Monarch butterflies, a Snapping Turtle and Milk Snakes.

Juan Rojas

[81] Mr. Rojas is the Manager of Engineering Service for the City of Kawartha Lakes. The Tribunal qualified him to give opinion evidence as a Professional Engineer, with expertise in road construction and transportation networks.

[82] Mr. Rojas provided evidence regarding the roads in the vicinity of the Site and the access routes the Approval Holder proposes to use to each of the turbines. He discussed three sections of the Site.

[83] First, Mr. Rojas stated, the Approval Holder has indicated that it proposes to use an entrance off of Highway 7A to access the locations of Turbines 1 and 3. He noted that this would require the approval of the provincial Ministry of Transportation. He stated his belief that this approval has not been issued.

[84] Second, according to Mr. Rojas, the Approval Holder has indicated its intention to construct overhead transmission lines from the collector lines converging near Turbine 5 to the west along Gray Road to the proposed substation to be built at the southwest corner of Highway 35 and Gray Road. He testified that this section of Gray Road is an unopened municipal road allowance that the City has no plans to open for transportation needs.

[85] Third, Mr. Rojas stated, the Approval Holder has indicated its intention to access the sites of Turbines 2, 4, and 5 by a route that runs east from Highway 35 along Ballyduff Road, then north along Wild Turkey Road. He testified that the northern section of Wild Turkey Road is an open municipal road that provides access to the Manvers Pit, a municipal gravel pit north of Turbine 5; however, a 1 km section of Wild

Turkey Road south from the pit to the intersection with Ballyduff Road, is an unopened municipal road allowance that is located within the ORM boundary. He indicated that in order for this route to be used, the surface of Ballyduff Road would have to be upgraded, a "turn corner" would have to be constructed from Ballyduff Road to Wild Turkey Road through what is now a field, and Wild Turkey Road would have to be upgraded and opened by the City, which it would then be obligated to maintain.

[86] Mr. Rojas indicated that the City has no plans to open this section of Wild Turkey Road and Council has passed a resolution to that effect. He also testified that the City generally only assumes an unopened road allowance upon request if the road meets minimum City standards, if opening it enhances the City's overall road network, and if the City's budget for long-term maintenance allows. He also stated that under the ORMCP, the City cannot open roads unless need is demonstrated and there is no reasonable alternative. According to Mr. Rojas, the current width of the surface of the unopened section of Wild Turkey Road is 4.5 m, while the width of the open section is 8.0 m. He noted that 4.5 m is listed as the manufacturer's specified width of "access paths" for the turbines, but he believes this refers only to driveways to the turbine sites not to access roads, and that 4.5 m is substantially less than the City standard of 8.9 m for rural roads. It was his position that upgrading the unopened section of Wild Turkey Road to City standards would require removal of the hedgerows in the road allowance on both sides. The reason for this, Mr. Rojas, stated, is that it is common practice to centre the road surface on the centre of the road allowance.

[87] Mr. Rojas testified that the Approval Holder asked the City to initiate an environmental assessment ("EA") for the upgrades to Wild Turkey Road, pursuant to the Municipal Class Environmental Assessment ("MCEA"), but the City refused. According to Mr. Rojas, the Approval Holder then initiated the MCEA process and submitted an EA to the MOE (which he testified has since been rejected by the MOE as the Approval Holder is not a municipality), setting out several alternatives for access. In Mr. Rojas' opinion, there is no justification for an EA under the MCEA when the access options relate to private driveways and there is existing access to the Site using opened public

roads. He stated that to use a private driveway as an entrance would require the City to approve an entrance permit.

Mark Pankhurst

[88] Mr. Pankhurst is the Fire Chief for the City of Kawartha Lakes. The Tribunal qualified him to give opinion evidence as an expert in firefighting, firefighting risk assessment and prevention, hazardous material spills, mitigation, containment and response, and as a first responder, knowledgeable in rescue and first aid and municipal fire services management. The responding parties consented to this qualification but raised objections to a number of documents in Mr. Pankhurst's witness statement as being outside the scope of his expertise.

[89] The Tribunal ruled that Mr. Pankhurst has sufficient expertise to provide evidence regarding fire suppression systems. However, the Tribunal excluded documents that provided commentary and the opinion of the former Fire Chief regarding a grass fire that occurred in the area in 2007 on the grounds that Mr. Pankhurst had no personal knowledge of the fire and could not verify the reliability of the commentary provided. The Tribunal also excluded press clippings and information collected by an anti-wind energy group in the United Kingdom about accidents at wind farms on the grounds that Mr. Pankhurst's expertise did not extend to determining the likelihood of accidents or fires at wind turbines, that he had no personal knowledge of the events depicted, that he had made no effort to verify the accidents or the damage caused, and that the materials were selective and not reliably indicative of the risks associated with wind turbines. The Tribunal noted that Mr. Pankhurst could comment on the capacity of the City's fire and rescue service to respond to an accident or fire.

[90] Mr. Pankhurst testified regarding Fire Fighters Guidance Note #6-35, issued by the Ontario Fire Service Section 21 Advisory Committee under the Ministry of Labour. He stated that this Guidance Note identifies the potential health and safety hazards to firefighters due to fires and collapses of wind turbines. The Guidance Note indicates

that turbine fires and collapses are rare, that most fires will be “caused by mechanical failure of the equipment within the nacelle or electrical issues and are fuelled by up to 750 litres of hydraulic oil in the nacelle.” It goes on to state: “typically, a turbine fire does not last long enough to warrant aerial attempts to extinguish the fire.” The Committee recommended that fire departments inform turbine owners of the level of assistance the department is able to provide and cooperate with them to develop response safety plans.

[91] Mr. Pankhurst testified that wind turbines present a completely new fire risk to the City, which raises some serious issues. It was his opinion that the City does not have the capability to respond to a turbine fire or a major spill, nor funds available for purchase of specialized equipment. He stated that if a fire started at a turbine site, it would likely spread to the east due to strong prevailing westerly winds, which would make any fire difficult to contain in the grassy and wooded areas to the east. However, he did admit that he had not conducted any site-specific modeling.

[92] Mr. Pankhurst provided a copy of By-law 2014/273, “A By-law to Establish Fire Department Regulations and System Requirements for Industrial Wind Turbines,” enacted by City Council on October 14, 2014. This by-law requires that, prior to operation, proponents of industrial wind turbines submit a fire safety and emergency plan and plans for fire detection and suppression systems to the Fire Chief for approval, provide site familiarization and training for emergency service personnel, contract with a third party for specialized high angle rescue emergency response, and provide road access for emergency response vehicles. The by-law also provides that all costs related to emergency response at turbines “shall be borne by the proponent on a full cost recovery basis.”

[93] Mr. Pankhurst also raised concerns about the City’s ability to respond to anything other than a minor spill and about the serious impact of a spill on the ORM. He noted that he is responsible for emergency response and any remediation plan in the event that contaminated water, fuels or chemicals got into the ground. He agreed with the

inclusion of Condition G3 in the REA, which prevents the storage of hazardous materials or the conduct of refueling activities in sensitive areas.

[94] On cross-examination, Mr. Pankhurst admitted that he is not familiar with the structure of wind turbines and, in particular, the precise location and amount of gearbox and hydraulic oils. It was his opinion that oil stored at the base of a turbine would pose the greatest risk from both a fire generated in the turbine and a fire within the surrounding area. He stated that, despite his lack of familiarity with turbines and turbine-specific suppression systems, there are similarities to other types of confined generators and to other suppression systems. He agreed that access to the Site would be difficult because of the unopened roads, whether a turbine was located there or not.

Warren Preston

[95] Mr. Preston owns a farm on Pit Road. He comes from a family that settled in the Manvers area in the 19th century and has lived and worked on several area farms. He gave evidence regarding his concerns with the Project.

[96] Mr. Preston testified with respect to an artesian well on his property. He stated that this well is very shallow and is located at the top of a hill and that even though it is not pumped he uses it as a source of water for his cattle and the house because the water never dries up. He commented that there are a number of similar springs and discharges in the surrounding area, including one near the site of Turbine 1. He expressed his concern that the Project might have an adverse effect on water pressure and on the quality of water. He discussed a spill that occurred 40 years ago, when diesel fuel leaked into the ground and contaminated a well nearby within a matter of a few days.

[97] Mr. Preston also discussed snakes that were disturbed in a gravel pile on the farm in 2000. He stated that he had never seen them before but that his father trapped the snakes and he identified them, using a reptile book, as Eastern Hog-nosed Snakes.

He testified that he did not see any again on his property until the summer of 2013, when he saw one. It was his position that studies should be done to assess whether these snakes or other species of wildlife are found in the area.

[98] Mr. Preston testified regarding the farm that was previously owned by Pat Steger, near the location of Turbines 1 and 3. He stated that he farmed the land at that time, and when hay ran out, he sought to expand the area planted in crops. He stated that he attempted to work the land but found that it was so wet, even in a dry summer, that his tractor got stuck several times in the soft ground.

Geoffrey Carpentier

[99] Mr. Carpentier gave evidence for the Appellants respecting a bird survey he conducted on the Site in the summer of 2014 and respecting issues related to the potential impacts of the Project on bird habitat. The Tribunal qualified him as an expert to give opinion evidence as an ornithologist, with experience in the field recognition of Canadian species of birds, including species at risk, and in identifying suitable bird habitats.

[100] Mr. Carpentier provided a reply witness statement and testified in reply to the Approval Holder's evidence. Much of his reply evidence was challenged by the Director and the Approval Holder as improper. The Tribunal's ruling on reply evidence is found in Appendix A.

[101] Mr. Carpentier testified with respect to a survey he conducted of the Site, carried out over four dates from the end of May to early July, 2014. His purpose, he stated, was to survey the site for breeding birds and SAR. His survey excluded the area around Turbine 1 because he was not aware of its precise location, but included Wild Turkey Road, extending beyond the area of the Site, south of the intersection with Ballyduff Road.

[102] Mr. Carpentier stated that, during his visits, he observed 65 species of birds, 61 of which he believes use the Site and the adjacent areas. Of these 61, he identified 41 species he believes breed in the area. Among these he identified seven species designated under the *Endangered Species Act, 2007*, S.O. 2007, c. 6 ("*ESA*") as either "special concern" – Common Nighthawk and Golden-winged Warbler – or "threatened" species – Eastern Whip-poor-will, Barn Swallow, Bank Swallow, Eastern Meadowlark and Bobolink. Of these, he believes that Eastern Meadowlark, Bobolink and Barn Swallow actively breed on the Site, and that there is suitable breeding habitat for the others near the Site.

[103] Mr. Carpentier criticized the breeding survey carried out by NRSI, the consultant to the Approval Holder. He noted that the persons conducting that survey were not on the Site for a sufficient period of time and, as a result, they did not observe some of the species he did and they underrepresented the abundance of some species. In addition, in his view they did a poor job of assessing bird habitat and of studying grassland and migratory species, particularly raptors. He relied on a survey of raptors done by Tim Dyson in the vicinity of the Site in the fall of 2013 that found eight species of raptors breeding off the Site, but nearby, which is greater than the number found by NRSI. Mr. Carpentier's view is that these species of raptors use the Site itself for foraging.

[104] It was Mr. Carpentier's opinion that the Project will have a significant adverse effect on bird habitat. Specifically, he stated that the widening of the existing roads and the cutting down of trees for access to the turbines would permanently remove those areas for habitat. He did not attempt to calculate the total area that would be permanently removed. In his reply witness statement, however, he attempted to calculate the percentage of breeding and foraging habitat within the Project Area that will be "impacted" by the Project. He asserted that 100% of the habitat for Bank Swallow, Barn Swallow, Golden-winged Warbler, Bobolink, Eastern Meadowlark and Eastern Whip-poor-will will be impacted.

[105] In addition, Mr. Carpentier opined that Bobolinks will be displaced from fields in which a wind turbine is located or from a field where the crop is changed from hay to corn. He is concerned about the displacement of birds due to different kinds of developments that cumulatively fragment habitat and isolate local bird populations from each other to the point where they no longer interbreed, which is necessary for healthy "meta"- populations.

[106] Mr. Carpentier did not disagree with the mitigation measures required in the REA regarding the timing and conduct of construction activities on the Site, but noted that other measures were needed beyond the construction period to ensure permanent protection of the habitat of the bird SAR.

Yvonne Storm

[107] Ms. Storm is a resident of the area and holds the position of Education Interpreter with the Central Lake Ontario Conservation Authority. Counsel for the Appellants sought to have her qualified as an expert in "geophysics data processing and environmental interpretation". He clarified that the opinion she wished to give to the Tribunal regarding environmental interpretation related to the size of a wetland in the vicinity of Turbine 1. The Approval Holder and Director consented to her qualification as a geophysics data processor, but objected to "environmental interpretation". They submitted that she is not qualified to give an opinion regarding the size and classification of the wetland.

[108] The Tribunal qualified Ms. Storm as an expert allowed to given opinion evidence as a geophysics data processor only. The Tribunal found that Ms. Storm's college studies leading to her Environmental Geoscience Technologist Diploma did not pertain to wetland identification. While she took a five-day course offered by MNRF in ELC, the Tribunal did not find this sufficient on its own to qualify her to give reliable opinions on the science of wetland evaluation and boundary identification. She does not have the Ontario Wetland Evaluation System ("OWES") certification. The Tribunal found that

Ms. Storm's workplace experience identifying wetlands consists of general identification of landscape characteristics from an airplane or aerial photographs. She does not have experience doing a fine-grained analysis to determine the boundaries of a wetland. Although Ms. Storm uses the information she learned in the ELC course in identifying wetland plants and soils to school groups, this does not reach the level of sophisticated analysis required to give reliable opinions on wetland boundaries. The Tribunal was not satisfied that Ms. Storm's training and experience were sufficient to qualify her to give opinions on the identification and evaluation of a wetland for the purposes of this hearing.

[109] Ms. Storm described how she created maps to determine the setback of Turbine 1 from PRT 3, "a headwater Pigeon River tributary watercourse". Ms. Storm found the distance between the proposed Turbine 1 and PRT 3 to be 69.55 m, which is less than the 120 m setback for water bodies under O. Reg. 359/09. She acknowledged in cross-examination that she did not have access to the Site to take any GPS coordinates, and did not ask for them from the Approval Holder. Ms. Storm noted that the Approval Holder undertook to treat the whole Project as if it were within the ORM. However, she testified that if Turbine 1 were on the ORM, then the minimum setback from a watercourse would be 30 m in addition to the blade length, which is over 75 m. Turbine 1 is set back only 61.55 m from PRT3, according to her calculations.

[110] Ms. Storm testified that this "headwater wetland feeds into a cold-water stream trout habitat", and noted that the wetland is clearly depicted and identified as a Red-osier Dogwood Mineral Deciduous Thicket Swamp Type on the map "*Vegetation Communities with Project Locations*" in the *Evaluation of Significance Report*, and labelled WET-001 on the "*Natural Features with Project Locations*" map in the same report at Figure 3.

[111] Ms. Storm also testified that a former owner of the property, Ms. Steger, received funds from MNRF to fence off a portion of the area from livestock because it was deemed environmentally sensitive, and pointed to a map from the City of Kawartha

Lakes Official Plan which depicts the drainage areas referenced by Ms. Steger as "Environmental Protection". Ms. Storm testified that the area around Turbine 1 is always wet, and noted the "high aquifer condition" which is documented in the Approval Holder's borehole records found in the *Geotechnical Investigation Proposed Wind Turbines Sumac Ridge Wind Project* report. Borehole 25 is located at the Turbine 1 location, and is reported as "a typically damp to moist (locally wet) condition."

[112] Ms. Storm is concerned that the NRSI Evaluation of Significance ("EOS") Report is missing data, has inconsistencies, improperly taken soil samples, and an incomplete plant inventory. Ms. Storm confirmed that her concern is that the wetland is larger than depicted, and that soil samples and vegetation studies need to be done to confirm this. She also expressed concern that there was no mention of a nearby seep, and the fact that the wetland source at the Turbine 1 site is a perched aquifer, which is locally and regionally important.

[113] Ms. Storm testified that she used the footage from Ms. DeNure's drone flight over the Turbine 1 site to locate an artesian well on the property, which she marked on the map. Ms. Storm testified that the proposed access road to Turbine 1, according to the Approval Holder's maps, goes directly over the well.

[114] Ms. Storm described her involvement in preparing two photographs included in Ms. Chen's witness statement, which purport to give a visual representation of the Sumac Ridge turbines on the landscape. She testified that she took the photograph and superimposed onto it five images of the turbines to be used in the Project, which she found on the internet. The photograph does not indicate the elevation at which it was taken, nor the elevation of the turbines as placed. Ms. Storm stated that she scaled down the turbine image to what they would look like on the correct scale. She testified that the placement of the turbines was along the "sight line" using Google Earth.

[115] Ms. Storm provided reply relating to the assistance she gave to Mr. Carpentier in preparing a map that he attached to his reply witness statement, identifying habitat of bird SAR.

Richard James

[116] Mr. James had initially been identified on the Appellants' witness list, but was removed prior to the hearing. The Appellants' counsel told the Tribunal that he did so because he intended to rely on his cross-examination of the noise witnesses of the Director and the Approval Holder. However, when the Appellants withdrew their noise witnesses in response to the removal of Mr. James from the witness list, they asked the Tribunal to issue a summons to the Approval Holder's noise witness. The Tribunal refused to issue the summons, but provided the Appellants with the opportunity to call Mr. James, which they did. The reasons for the Tribunal's ruling on this issue are found in Appendix A.

[117] Mr. James is the owner and principal consultant of E-Coustic Solutions, based in Michigan. He has a bachelor's degree in Mechanical Engineering and worked as an acoustical engineer for 40 years. The Tribunal qualified Mr. James as an expert to give opinion evidence in matters of acoustics and noise control engineering and wind turbines. The Tribunal stated that this includes both audible and inaudible sound, including infrasound, but stated further that Mr. James' expertise does not extend to giving an opinion on health effects, epidemiology or the impact of sound on meditative practices.

[118] Mr. James testified with respect to the impacts of audible and inaudible sound on the pilgrimage route selected by the Appellant CST. He noted that his opinions were based on his acceptance of the methodology and sound propagation model results presented by the Approval Holder's consultant, HGC, in its Noise Assessment Report.

[119] With respect to audible sound, Mr. James estimated sound levels at four points along the section of the pilgrimage route closest to the Project, that is, along Pit Road between Highway 7A and Gray Road, taking the modeled levels at the nearest stationary noise receptors, and averaging them. He testified that the background level is as low as 26 dBA, as there is very low traffic volume on this section of road, with an Average Annual Daytime Traffic ("AADT") volume of fewer than 100 vehicles. He estimated the sound levels at the four points with the turbines operating would be 30, 34, 35 and 37 dBA, respectively, which he stated would be a doubling of sound levels over the current background.

[120] Mr. James provided information about the relative perception of sound at different decibel levels. He stated that sound at 37 dBA would be comparable to sounds one would hear in an average home without a radio or sound system. Similarly, he stated that one would have to whisper loudly to be heard over this level of sound. Mr. James also noted that audible sound from wind turbines has been linked to annoyance in a certain number of people.

[121] With respect to infrasound, Mr. James described his work at the Shirley Wind Farm in Wisconsin, where he measured sound levels down to 1 Hz and found that wind turbines within two miles of homes caused adverse health effects. He also referred to the Tharpaland Study, included in Ms. Chen's evidence, which found that proximity to wind turbines had an adverse effect on the ability of meditators to concentrate. In his opinion, the area of the Project is similar to the area near Tharpaland. He stated that, based on this research, it is his opinion that infrasound will be produced by the model of wind turbines used in the Project and that infrasound produced will be perceptible to persons within two miles of the Project, including those walking along the pilgrimage route.

[122] In cross-examination, Mr. James agreed that the pilgrims would have to cross a provincial highway in order to reach Pit Road and that the highway has annual average traffic volumes of more than 4,000 vehicles per day. He agreed that traffic noise would

be louder than the turbines for the first section of the route along Pit Road south of Highway 7A.

[123] Mr. James conceded that his selection of 26 dBA as the background level is the "L90", that is, the level that will be exceeded 90% of the time, and that the average background sound level is 36 dBA. He suggested that this average means that transient events, such as a large vehicle passing for 30 to 60 seconds, would be loud and the rest of the time there would be only natural sounds associated with a rural area. He also opined that, even if the levels along the proposed pilgrimage route are close to average background levels, the characteristics of wind turbine noise are different from natural sounds, making them more noticeable.

[124] Mr. James was also asked about his disagreement with other experts studying infrasound and was asked why he had not raised any other scientific viewpoint in this debate, as is required by the Tribunal's Practice Direction for Expert and Opinion Evidence. Mr. James noted that his evidence in this proceeding was focused narrowly so he did not feel obligated to do so. He was questioned about the data collection methods in the Shirley Wind Study, where he relied on residents involved in litigation to take the measurements and used equipment not used in most other studies.

[125] In reply evidence, Mr. James critiqued the studies relied on by respondents' witnesses, Brian Howe and Enoch Tse, particularly the study by T. Evans, J. Cooper and V. Lenchine, "Infrasound levels near windfarms in other environments," (South Australia Environment Protection Authority, 2013) ("Evans, Cooper and Lenchine"). Mr. James stated that infrasound at low decibel levels is not heard, but is perceived by the body. In his opinion, studies that measure only auditory perception do not fully assess the impacts of infrasound. He also stated that averaging infrasound levels does not provide a complete characterization of wind turbine emissions. He concluded that the Evans, Cooper and Lenchine study and other studies cannot be used to rule out adverse effects from infrasound. Mr. James re-emphasized that the sound from the

Project will be perceptible to the pilgrims and will lead to a certain level of annoyance, interfering with the pilgrims' concentration.

The Approval Holder's Evidence

Katie Easterling, Nancy Harttrup, Trevor Chandler, Brian Miller, and Heather Amirault

[126] The Approval Holder proposed to call these five witnesses as a panel, as they all collaborated in preparing one document: a peer review of the letter dated August 22, 2014 from NRSI to the Approval Holder with respect to whether FCH(A) and FCH(B) fall within the definition of "intermittent streams" in O. Reg. 359/09. All five witnesses are employees of Stantec Consulting Ltd. ("Stantec").

[127] The Appellants objected to the calling of the witnesses as a panel, on the basis that they would be unable to effectively cross-examine any one of the five when each can hear one another's answers to questions, and possibly supplement a colleague's answer. Further, the Appellants asked for an exclusion order such that these witnesses remain outside the hearing room until it is their turn to testify.

[128] Rule 190 of the Tribunal's *Rules of Practice* provides that the Tribunal may receive evidence from panels of witnesses composed of two or more persons if all Parties have had an opportunity to make submissions in that regard. The Tribunal found that there was no clear efficiency to be gained by calling the five witnesses as a panel, since each had a separate part to play in the report, and had different expert qualifications. This is unlike a situation where efficiency or a better understanding of complicated scientific data may be gained through a panel of experts testifying together on the same subject. Further, the Appellants objected to the panel on the reasonable ground of a fear that their right to test the evidence of each witness through cross-examination might be diluted in a panel situation. Thus, the Tribunal ruled that the witnesses be called consecutively, and that they be excluded from the hearing room prior to testifying.

[129] The witnesses provided a joint witness statement, which described their involvement in the Project. On September 10, 2014 Stantec was retained by the Approval Holder to conduct a field survey to help determine whether or not FCH(A) and FCH(B) in the vicinity of Turbine 5 are "intermittent streams" and thus "water bodies" under O. Reg. 359/09. The joint statement concludes that "Stantec agrees with NRSI's letter (to wpd Canada dated August 22, 2014) that FCH(A) and FCH(B) are not water bodies and agrees with the rationale supporting the conclusions." Attached to the joint witness statement is a Memo dated September 24, 2014 entitled "Sumac Ridge – Water Body Assessment" ("Stantec Memo").

[130] Ms. Harttrup was qualified by the Tribunal on consent to give opinion evidence as an aquatic biologist. She testified that she prepared the Stantec Memo based on field work done by Stantec field staff and their individual technical memos.

[131] Ms. Harttrup testified that the team went to the location where drainage features were mapped by background data on September 10, 2014. She stated that Mr. Chandler, Ms. Easterling, and Mr. Miller went on site to conduct the assessment and that they each prepared a memorandum discussing the findings. Ms. Harttrup did not attend the site visit, but relied on Mr. Chandler's work in coming to her conclusion that "FCH(A) and FCH(B) are not water bodies, as they are not permanent streams and do not meet the definition of an intermittent stream."

[132] Mr. Chandler was qualified by the Tribunal on consent to give opinion evidence as a fluvial geomorphologist. He testified that on September 10, 2014 he walked the features and prepared the report entitled *Sumac Ridge Geomorphic Assessment of FCH(A) and FCH(B)*, also attached to the Stantec Memo. Mr. Chandler testified that there had been a "substantial rainfall event" on September 2, 2014, and that he looked for evidence of flows on site such as recent deposition of leaf litter. He identified "headcuts", which is a geomorphological feature indicating where there has been vertical erosion. Mr. Chandler testified that there was leaf litter on the ground, which he

believed to be from the fall of 2013. He testified that he did not see any evidence of leaf litter disturbance, even in the steep sections.

[133] Mr. Chandler testified that the presence of headcuts shows that there have been flows in the system in the past, and that he was interested to see whether they were still active. He testified that if there was flow, one would expect to find a fairly well-defined channel, fresh bank erosion, fresh deposition such as leaf litter caught on obstacles. He concluded the watercourse has not been active for at least the past year or two. Mr. Chandler pointed to an aerial photograph from 1954-55, showing little forest cover, as indicative that there was likely more surface flow in the watercourses in the past than occurs today.

[134] Mr. Miller was qualified by the Tribunal on consent to give opinion evidence as a botanist and terrestrial ecologist. Mr. Miller completed the Vegetation Survey Memo attached to the Stantec Memo. He testified that he relied on the Ontario Wetland Plant List set out in the Ontario Wetland Evaluation Manual. In addition, he reviewed the vegetation community ELC that was done by NRSI. Mr. Miller testified that he saw no conditions suggesting a wetland in FCH(A) or (B). He testified that he found two wetland tolerant species, that is, those that occur in both wetlands and uplands, but they were not abundant and were found in areas where upland species dominated. He testified that he found no wetland indicator species in the vicinity of either of the features. Mr. Miller also located two mature Butternut trees in the surveyed area, and observed two small Butternut saplings along the east side of Wild Turkey Road at the west end of FCH(B).

[135] Ms. Easterling was qualified by the Tribunal on consent to give opinion evidence as an aquatic ecologist. Ms. Easterling attended on the Turbine 5 site on September 10, 2014. Her role was to be a technical assistant to Mr. Miller and Mr. Chandler. She took photographs and documented the entire reach of the two water features. Ms. Easterling confirmed that the conclusion in the Stantec Memo reflects her observations and conclusions.

[136] Ms. Amirault was qualified by the Tribunal on consent to give opinion evidence as a water resources engineer. Ms. Amirault testified that her role was to review Mr. Chandler's findings set out in his fluvial geomorphology report and then to incorporate them into the overall memo. She testified that, based on her review of Mr. Chandler's findings and the photographs of the Site, she concurred with his geomorphology report and the overall conclusions in the Stantec Memo. She did not attend the Site and did not sign the Stantec Memo.

David Stephenson

[137] Mr. Stephenson holds a B.Sc. in Wildlife Biology and a M.Sc. in Plant and Wildlife Ecology, holds certifications in the ELC for Southern Ontario and the OWES from MNRF, and is a Certified Arborist. Mr. Stephenson was qualified by the Tribunal on consent to give opinion evidence as a biologist with expertise in plant and wildlife and wetland ecology, and with special expertise in ELC and as an arborist.

[138] Mr. Stephenson is a principal of, and senior biologist with, NRSI, which was hired by Ortech Environmental, the Approval Holder's lead consultant, to prepare the NHA and Water Report for the Project. NRSI also prepared the Environmental Effects Monitoring ("EEM") and SAR Reports.

[139] Mr. Stephenson described the NHA process for a REA application in para. 12 of his witness statement:

> The Natural Heritage Assessment (NHA) process, which is defined by the Ministry, assesses potential risk to, and protection of, the natural environment through consideration of significant natural habitats (woodlands, wetlands and valleylands) and significant wildlife habitats as defined by the Natural Heritage Assessment Guide and Significant Wildlife Habitat (SWH) Technical Guide. The habitat-based focus of this process ensures protection of significant natural features and wildlife habitats, and in so doing protects the wildlife and vegetation species that rely on these features and habitats.

[140] Mr. Stephenson described the steps involved in preparing a NHA (records review; site investigation report; EOS; preparation of Environmental Impact Study ("EIS") where required; EEM; SAR Report; Water Report). Mr. Stephenson confirmed that the NHA was prepared in accordance with the REA Regulation and various related government guidelines and directives that apply to the process.

[141] Mr. Stephenson testified that the overall conclusion resulting from the NHA was that the Project "is unlikely to cause any significant impact to natural heritage features, including woodlands, wetlands or significant wildlife habitat".

[142] Mr. Stephenson indicated that NRSI's view and recommendation in the SAR Report was that the potential for impact to SAR will be minimal and temporary in nature. Accordingly, in NRSI's view, no permits under s. 17 of the *ESA* are required for the development of this project provided that the recommended mitigation measures are implemented. The MNRF confirmed that no permit is required under the *ESA*.

[143] Mr. Stephenson testified that wildlife habitat is considered in the NHA through consideration of potential significant wildlife habitat ("SWH") types within 120 m of the project location. NRSI then conducted an EOS for all candidate significant natural features. While he acknowledged that some of the species identified in Ms. Zednik's report may be present within the Project area, he testified that "candidate significant wildlife habitat, and therefore significant wildlife habitat, for these species are not present according to the SWH Technical Guide." EOS surveys are only required for habitats that have been identified as candidate significant wildlife habitat.

[144] In response to Ms. Zednik's evidence regarding "tallgrass prairie" surrounding Turbine 5, Mr. Stephenson stated that NRSI used the ELC system, as well as the ORMCP Technical Paper Series No. 1, to identify and delineate any sand barrens, savannahs, and tallgrass prairies within the Project area. Appendix N-2 from the MNRF's Significant Wildlife Habitat Technical Guide was used to identify vascular plant

species indicative of tallgrass prairie and savannah habitats. Mr. Stephenson testified that no candidate tallgrass prairies or savannahs under these guidelines were identified.

[145] Mr. Stephenson responded to Mr. Carpentier's evidence on bird studies that, although Mr. Carpentier lists species identified in the area, he does not discuss the potential for impacts or mitigation and therefore his evidence does not undermine the report's conclusion on potential impacts. Mr. Stephenson testified that one candidate woodland raptor nesting habitat was identified as generalized significant wildlife habitat in the Project area. As a result, NRSI recommended mitigation measures, which are included in the Natural Heritage Environmental Impact Study for the construction and decommissioning phases of the Project.

[146] Mr. Stephenson confirmed that he oversaw preparation of the Water Report. The wetland in the vicinity of Turbine 1 was evaluated using OWES, and found not to be significant. NRSI concluded there would be no impact on the artesian well ("seepage area") identified as S2. Following preparation of the Water Report, NRSI was informed that there was a disagreement with the classification of features in the vicinity of Turbine 5. Mr. Stephenson prepared the letter dated August 22, 2014 along with Ms. Clubine, with respect to Turbine 5 features. Mr. Stephenson attended at the Turbine 5 site with Ms. Clubine and representatives of the Appellants on May 29, 2014. He stated that his work was to determine whether vegetation in the vicinity of Turbine 5 showed affiliations with continuous soil moisture. Mr. Stephenson testified that he concluded that there were no vegetation characteristics to suggest the presence of a water body. He testified that the wetland indicator species identified by Mr. Miller are not ones that are restricted to moist areas. Those species are found throughout the Turbine 5 site, on the slopes and in the open area where the turbine base is proposed, and not associated with the depression in question.

[147] On cross-examination, Mr. Stephenson acknowledged that Ms. Clubine's letter did not discuss wetland indicator plants found at the Site. He also acknowledged that the field notes from some surveys show some wetland indicator species having been

found. For example, Jewelweed was found on August 19, 2010. Mr. Stephenson agreed that Jewelweed is a wetland indicator species under OWES, and that it can be found in wetlands. He also testified that it has broad tolerances. Similarly, Red osier Dogwood was found on April 5, 2011 and Bulblet Fern was found in 2014. He stated that they are also wetland indicator species under OWES, but are not wetland "obligate" species as they can grow in a broad range of habitats.

Nyssa Clubine

[148] Ms. Clubine works at NRSI as a Stream Corridor and Environmental Analyst specializing in fluvial systems and corridor management. She holds a B.E.S. in Physical Geography and Biophysical Systems and a M.Sc. in Physical Geography, and has received training in the Ontario Stream Assessment Protocol Headwater Drainage Feature Module and the Toronto and Region Conservation Authority and Credit Valley Conservation Authority Headwater Drainage Feature Guideline. She was qualified by the Tribunal on consent as an expert stream corridor and environmental analyst.

[149] Ms. Clubine conducted a review of FCH(A) and FCH(B), starting in May 2014. She completed a site survey at the proposed Turbine 5 location on May 29, 2014 and August 20, 2014. Ms. Clubine co-authored the August 22, 2014 letter with Mr. Stephenson to the Approval Holder. Ms. Clubine's opinion is that FCH(A) and FCH(B) do not constitute water bodies under O. Reg. 359/09 because they are not "intermittent streams". It is her view that "this definition relies on evidence of a natural channel, intermittent flow, and the presence or absence of vegetation. Given that a defined channel is not present, FCH(A) and FCH(B) are dry, and established non-hydrophytic vegetation is present within FCH(A) and FCH(B), these features are not intermittent and are therefore, not water bodies under the regulation."

[150] The Appellants objected to Ms. Clubine's intention, during oral testimony, to respond to Mr. Sisson's oral testimony. The Appellants argued that Ms. Clubine should

be restricted in her testimony to only the information she provided in her witness statement.

[151] The Tribunal ruled that Ms. Clubine could give oral evidence in response to Mr. Sisson's testimony. In her written witness statement, Ms. Clubine concluded at paragraph 18 that she "will speak to Mr. Sisson's affidavit and Witness Statement regarding headwater features FCH(A) and FCH(B)." The Tribunal noted that oral testimony is not restricted to a reading out of pre-written materials. Parties often have their experts present to hear the expert testimony of the other parties, so their experts are apprised of the content of the oral testimony and responses to questions (including cross-examination). Further, Ms. Clubine was testifying to the features FCH(A) and FCH(B), as noted.

[152] Ms. Clubine acknowledged that her expertise does not extend to plant identification, and that the species of vegetation mentioned in the report were identified by Mr. Stephenson.

[153] Ms. Clubine described the water flow in FCH(A) and (B) as "ephemeral", which in her opinion is different from an "intermittent stream" as defined in the Regulation. "Ephemeral" flow, she stated, means that the flow creates temporary features, usually during snow melt when the ground is frozen and cannot infiltrate into the soil or during heavy rain events. She noted that this characterization of the Site is consistent with the photographs in Ms. DeNure's witness statement.

Balwinder Singh

[154] Mr. Singh is a principal of Terraprobe Limited ("Terraprobe") and a licensed Professional Engineer. The Tribunal qualified him to give opinion evidence as an expert in "geotechnical engineering and construction materials testing and inspection".

[155] Terraprobe was retained in 2011 by the Approval Holder to conduct a geotechnical investigation for the Project and "to provide geotechnical engineering recommendations for the project design." Mr. Singh's witness statement attaches the resulting report, dated March 5, 2012, entitled "Geotechnical Investigation Proposed Wind Turbines Sumac Ridge Wind Project (South of Highway 7A to Ballyduff Road and Highway 35 to Porter Road), City of Kawartha Lakes, Ontario" ("Geotechnical Report").

[156] Mr. Singh concluded that "the site subsurface conditions are conducive for the proposed wind turbine installation (including Turbine R1 and R5) under consideration with respect to the geotechnical considerations."

[157] In carrying out the geotechnical investigation, Terraprobe advanced 34 exploratory boreholes spread throughout the Site, five of which were deep boreholes. The deep boreholes (at the turbine locations) were drilled to 25 m, and the others (along access routes and in crane pad and assembly areas) were drilled 2 – 3.5 m deep. Samples were analyzed in the geotechnical laboratory to determine water content and soil determination.

[158] Deep boreholes were advanced at the location of Turbine 1 (referred to as "R1" in the Geotechnical Report) and Turbine 5 ("R5" in the Geotechnical Report). The results are succinctly stated as follows:

> As noted in our report, the very dense sand and silt to silty sand glacial till deposit encountered at a depth of about 2.3 m (Elev. +-351.1m) below grade at R1 location and dense to very dense gravelly sand to sand and gravel deposit encountered at a depth of about 4.6m (Elev. +-345.1 m) below grade at R5 location are considered adequate to support the proposed wind turbine foundations.

[159] Mr. Singh testified that piezometers were inserted into the deep boreholes. Since the deep boreholes and piezometers were all dry when first drilled, Mr. Singh testified that there were no locations with a significant influx of water into the boreholes immediately after drilling. After five weeks, once the water levels had stabilized, the only borehole where Terraprobe found water was at Turbine 1 (Borehole 25). The

borehole was drilled to 26.4 mBG, and Terraprobe found water present at 7.8 m BG. Mr. Singh testified that the depth of the turbine foundation will be approximately 2.3 m BG, to "bear on the underlying very dense sand and silt to silty sand glacial till deposit", which is approximately 6m above the water level measured. The Report notes that "it is understood that excavations for turbine foundations would likely extend to depths varying from about 3 to 5 below existing grade."

[160] Mr. Singh also testified that there are building code requirements that apply during turbine construction, and that a foundation inspection is one of those requirements. Once the foundation is in, it must be approved by a geotechnical engineer, and it must be inspected and tested during construction.

[161] On cross-examination, Mr. Singh agreed he had not been to the Site. When the report refers to the "site" as flat or gently rolling, he stated it refers to the actual site for the footing of the turbine. He agreed that if a turbine were placed on a hill it would be relevant to the geotechnical considerations. Mr. Singh acknowledged that section 6 of the Report entitled "Limitations and Use of Report", states that "Terraprobe has assumed for the purposes of providing advice, that the conditions that exist between sampling points are similar to those found at the sample locations. The conditions that Terraprobe has interpreted to exist between sampling points can differ from those that actually exist." Mr. Singh testified that geotechnical engineering was originally designed for homogeneous materials, such as steel and concrete. The same principles are being used in this case to predict the behaviour of soil, he commented, but it is a natural material that one cannot guarantee will behave the same way at every point. He stated that this is the reason why inspections take place as construction proceeds. Mr. Singh acknowledged that there is a possibility of perched groundwater at the Turbine 1 site, as stated in the Terraprobe Report, because the soil is heterogeneous, although he does not agree this might be a perched aquifer.

[162] With respect to the Report's recommendation to reinstate the turbine locations "to their original conditions as much as possible", Mr. Singh acknowledged that any

structure requiring excavation will result in some geotechnical dissimilarity, although he stated there are ways to mitigate the impact.

Dr. Dale Strickland

[163] Dr. Strickland testified on behalf of the Approval Holder respecting the potential impact of the Project on wildlife, particularly birds. He is President and Senior Ecologist with Western EcoSystems Technology Inc., an environmental and statistical consulting firm based in Cheyenne, Wyoming, with a Ph.D. in Zoology and 35 years of experience in ecological research and wildlife management. The Tribunal qualified him to give opinion evidence as a zoologist with expertise in ecological research and wildlife management.

[164] Dr. Strickland reviewed the background documents prepared for the Approval Holder for the Project, as well as Mr. Carpentier's witness statement. He testified that the Site is not classified as a significant wildlife or bird habitat, that no specialized wildlife habitat or animal movement corridors have been identified in the larger project area, except that there is a significant woodland located within 120 m of the Site. It was his view that most of the Site is pastureland and highly disturbed agricultural areas, with small and isolated areas of native habitat. He clarified this to say that some areas, such as near Turbine 5, appear to have been used in the past for agriculture, having characteristics of an abandoned field with relatively sparse tree cover.

[165] He stated that NRSI identified eight wildlife species of conservation concern in the general area of the Site, including six bird species, but that further evaluation was done in the field, which concluded that candidate habitat did not exist on the Site for any of these species. He noted, however, that Mr. Carpentier reported observing Golden-winged Warbler and Common Nighthawk during his survey.

[166] Dr. Strickland discussed the six avian SAR that were identified in the area. He stated his opinion that Eastern Whip-poor-will habitat does not exist on or within 120 m

of the Site, but does exist nearby, to the south and east of the Site. He also opined that there is not suitable habitat on the Site for Chimney Swift, Bank Swallow or Least Bittern, but there is suitable habitat on the Site for Bobolink, Barn Swallow and Eastern Meadowlark.

[167] In Dr. Strickland's opinion, there should be no biologically significant impacts to birds or other wildlife from the Project, even if individual birds will be potentially affected. He testified that research done on the displacement of grassland birds at wind energy facilities generally shows that displacement impacts are minor and small-scale, with displacement occurring 50 to 150 m from turbines for some species, and no avoidance for others. He also noted that research on nesting raptors generally shows no adverse impacts over time. It was his view that the Project may result in some local displacement of birds, but due to its small size, the restrictions on construction during the breeding season and the presence of similar habitats in the surrounding area, there will not be significant impact on breeding populations. Dr. Strickland also stated that the amount of direct loss of open pasture habitat due to the Project will be approximately 2.78 ha, which is only 1.4% of that type of habitat within the Site, and that there is no evidence of habitat fragmentation. He also testified that direct impacts from collisions will not be significant.

[168] Under cross-examination, Dr. Strickland stated that, when assessing the impact on bird populations, he considers a "population" to be a demographically and genetically self-sustaining group within a species. He referred to studies that show that a minimum population of 50 effective breeders is necessary to avoid genetic problems and that a median viable population size is several thousand individuals, but that individual species' needs will vary. He stated that there is no independent population of birds at the Site, because of its small size.

[169] Dr. Strickland also disagreed that hedgerows are generally used for the movement of birds or that they promote interbreeding between different localized bird populations. He stated that hedgerows can be part of the habitat of certain bird species,

but can have a negative impact on grassland species such as Bobolink and Eastern Meadowlark.

[170] Dr. Strickland also testified that the pond on the south side of Gray Road is potential habitat for Snapping Turtle and that this species will use a variety of locations, including along road allowances, to lay their eggs. He also stated that Milk Snake and Eastern Hog-nosed Snake occupy a wide range of habitats and landscape types, and might hibernate in rock piles.

Dr. Paul Kerlinger

[171] Dr. Kerlinger gave evidence regarding impacts of the Project on birds and bird populations. He has a Ph.D. in Biology and is Environmental Consultant and Principal of Curry & Kerlinger, L.L.C., based in Cape May Point, New Jersey. He was qualified by the Tribunal as an expert to give opinion evidence with respect to birds and wind turbines.

[172] In his evidence, Dr. Kerlinger described the two types of impacts to birds that may occur at wind energy facilities: death due to collision, and displacement of birds from the site for nesting, migrating, foraging or resting. With respect to direct impacts, he noted that there are now more than 100 studies of collision fatalities in North America, including 50 in Canada, 33 of which are studies done in Ontario. It is his view that wind turbines have killed less than 0.001% to 0.043% of any songbird population, far less than other human-induced fatalities.

[173] Dr. Kerlinger explained that the population level impacts to bird species can be conducted using two types of models: Population Viability Analysis (“PVA”) and Potential Biological Removal (“PBR”). According to models using these approaches, Dr. Kerlinger stated, many bird species can easily withstand annual fatality rates of 1%, beyond which the impact would be biologically significant. He stated that this is about 10 to 100 times greater than existing fatality rates due to wind turbines. To date, he

indicated, these models have not been needed to focus mitigation efforts for individual wind energy projects, due to the relatively low fatality rates.

[174] Dr. Kerlinger testified that the 50 studies of wind energy projects in Canada represent studies of 1,376 turbines over one to three years. Of the 1,744 bird fatalities reported, there were no fatalities for Common Nighthawk, Golden-winged Warbler or Whip-poor-will, one for Eastern Meadowlark, 20 for Barn Swallow, 18 for Bank Swallow and 33 for Bobolink.

[175] With respect to indirect impacts on birds, Dr. Kerlinger noted that different species of birds react differently to the presence of wind turbines, with forest species less susceptible than grassland nesting species. In his opinion, most displacement will occur within 75 to 100 m of a turbine and, because of the small footprint of the Project, there will not be a large area of bird habitat affected. He noted that the area occupied by the Project infrastructure is much smaller than most farm fields or even homes with lawns, both of which eliminate most breeding birds.

[176] Of the six SAR reported by NRSI from their records review as nesting in the general vicinity of the Project, Dr. Kerlinger indicated that Least Bittern, Eastern Whip-poor-will and Chimney Swift are unlikely to nest within several hundred metres of the turbines. He disagreed with Mr. Carpentier that the habitat near Turbine 5 is suitable for Whip-poor-will, stating that Mr. Carpentier heard two individuals in a forested area to the southeast of the Site, well away from the turbine.

[177] Dr. Kerlinger agreed that the size and nature of the habitat indicate that Bobolink and Eastern Meadowlark nest within the Site. However, he suggested, the removal of 1.4% of 199 ha of suitable habitat, to be removed to construct Project infrastructure, will not have a significant impact on those species. He agreed that there may be some displacement for breeding birds due to the turbines. He stated that there are relatively few studies on displacement, but pointed to a study he conducted in 2011 that found that Bobolink nests as close as 50 m to wind turbines in hay fields in upstate New York

and to a recent study of Eastern Meadowlark reporting no evidence of nesting displacement within 500 – 750 m of wind turbines. He testified that farming practices are responsible for the declines in these and other grassland species.

[178] Dr. Kerlinger stated that it is improbable, based on all of the evidence, that Loggerhead Shrike nest at the Site. With respect to Golden-winged Warbler, he testified that, despite Mr. Carpentier's sighting of two males on one date, the weight of evidence indicates that the species does not nest on the Site. He noted that nesting was not confirmed in accordance with the Ontario Breeding Bird Atlas ("OBBA") criteria, and at most Golden-winged Warbler nesting in the area should be considered "possible". With respect to Common Nighthawk, Dr. Kerlinger testified that the evidence of two males displaying at more than 120 m from the Site at most suggests "possible" breeding in the area but may more likely suggest migrating birds. With respect to Barn Swallow, Dr. Kerlinger agreed that sighting of two pairs on two dates is consistent with nesting in the area, but disagreed that their presence proves that they are nesting close to any of the turbines; rather, it is his belief that they were likely moving through the Site while foraging.

[179] Dr. Kerlinger also commented on the raptor survey carried out by Mr. Dyson and referred to in Mr. Carpentier's evidence. He reviewed the way in which the survey was conducted and concluded that Mr. Dyson's estimates are a gross overestimate of the number and type of raptors that nest in the area he searched. Dr. Kerlinger also commented on Dr. Girard's witness statement regarding the effects of hedgerow removal on nesting birds. He stated that her study refers to very common bird species and opined that this habitat does not usually support rare, threatened or endangered species. Further, it was his view that hedgerows are detrimental to some SAR, such as Bobolink and Eastern Meadowlark, who will not nest close to thick brush that harbours nest predators. It was his view that removal of a small area of hedgerow for the Project may benefit those species. Dr. Kerlinger also disagreed with the witness statement of Ms. Zednik regarding the effect of turbine lights on night migrating birds, indicating that he carried out several studies of the issue that concluded otherwise.

[180] To protect the SAR and other bird species at the Site, Dr. Kerlinger supported the mitigation measures and monitoring protocol set out in the REA.

Ronald Donaldson

[181] Mr. Donaldson is a licensed Professional Geoscientist, with a M.Sc. in Earth Science (Hydrogeology). He is Senior Hydrogeologist with WESA, a division of BluMetric Environmental, Inc., with 29 years of work experience. The Tribunal qualified him on consent to give opinion evidence as a professional geologist and hydrogeologist.

[182] Mr. Donaldson was retained by the Approval Holder after the appeal of the REA was filed, in January 2014, to review the Project and give his opinion on its potential interference with the local groundwater (hydrogeologic) and hydrologic system. Mr. Donaldson prepared a geologic cross-section of the Site from MOE well records to 2008.

[183] Mr. Donaldson described the south-eastern one third of the Site (near Turbines 4 and 5), which is within the ORM, as: “the overburden, surficial soils on the Oak Ridges Moraine are characterized by thick, relatively permeable, stratified, ice contact sands and sand and gravel deposits”. He testified that the north-western two thirds of the Site (near Turbines 1, 2 and 3) is within the “Peterborough Drumlin Field”, and that the overburden and surficial soils here “are characterized by lower permeability, stone poor, silty to sandy silt till, overlying deeper sand and gravel aquifers. Locally, sandy surficial soil may be present overlying the silty soil.”

[184] Mr. Donaldson reviewed the available MOE water well records and the borehole records from the Terraprobe report, and concluded that groundwater is found at considerable depth beneath the ground surface. He noted that Borehole 25, close to Turbine 1, showed the static groundwater at approximately 7.8 metres below ground surface (“m bgs”) and the MOE well records show static water levels in the Project area

at depths ranging from 30 to 47 m bgs. Mr. Donaldson testified that “wells further south on the Oak Ridges Moraine, were much deeper, sometimes >100 m.”

[185] Based on twelve years of monitoring of groundwater levels at one well, which is approximately 1.7 km west-north-west of Turbine 1, he stated that “the groundwater levels within the local, deep water supply aquifer are not expected to vary significantly with time, and would not be expected to approach the ground surface.” Further, Mr. Donaldson testified that the local overburden supply aquifers are “confined or partially confined by overlying lower permeability soils; the water levels rise to above the top of the aquifer.”

[186] Mr. Donaldson testified that shallow, perched groundwater may be present “on a local scale, in particular in the northern two thirds of the project area where the lower permeability soils are present.” He testified that zones of groundwater seepage in the wetland areas near Turbine 1, as well as areas identified by Mr. Kerr in this two thirds of the Site, “are not connected to the deeper groundwater aquifers.”

[187] Mr. Donaldson testified that the “risk of cleaning chemicals contaminating the aquifer system is considered to be very low.” On cross-examination he clarified that by “cleaning chemicals” he was referring to detergents. He acknowledged that he was not given a list of cleaning chemicals by the Approval Holder, and testified that he found the detergents likely to be used through his own research on the internet. Mr. Donaldson’s conclusion of a “very low” risk of contamination was fortified by the “relatively low permeability soils and the apparent confined nature of the water supply aquifers” in the vicinity of Turbines 1, 2 and 3, and for the southern one third of the Site, the greater separation of up to or greater than 100 m, between the ground surface and the aquifer systems. He opines that, “in order to infiltrate to the deep aquifers, several thousand litres of wash water would have to be released.”

[188] Similarly, Mr. Donaldson concluded that the risk of potential groundwater contamination in the event of a spill “is considered to be low”. He pointed to best

industry practices during construction, as well as the fact that the Approval Holder indicated there will be no storage of hazardous materials, fuels or lubricants within the high aquifer vulnerability areas. He stated that, for a spill of oil to reach the groundwater system, a pathway to the aquifer would be required. He stated that the "thick, low permeability nature of the overburden soils" in the northern two thirds of the Project area "would further prevent the vertical migration of any oils to the deep confined aquifers that could reach the native soil." As for the portion of the Project area within the high vulnerability zone, Mr. Donaldson stated "the thick, though more permeable, unsaturated zone" in this area "would also provide protection to the aquifers in the event of a release of oil." In Mr. Donaldson's opinion, several thousand litres of oil would have to be released in order to "infiltrate to the deep aquifers".

[189] Mr. Donaldson testified that the risk to the groundwater system/hydrologic cycle as a result of the Project "is considered low." He testified that the turbine bases, as well as any buried infrastructure, will be located far above the water supply aquifer system. In coming to his conclusion, Mr. Donaldson considered the fact that the foundations of the turbines (approximately 250 m^2) "will be small relative to the available recharge area for the Oak Ridges Moraine (1900 km^2)", and that the foundations will not eliminate run-off but re-direct rainfall laterally.

[190] In the vicinity of Turbines 4 and 5, he opined that "the water table is deep, well below the drainage courses" of FCH(A) and FCH(B). He stated that, "as the construction will not affect the deep water table and recharge will not be eliminated, construction will not pose a risk to the water features in the southern area."

[191] Mr. Donaldson considered that there is cold water creek habitat south and east of Turbine 5, which is "expected to be supported by groundwater discharge to water courses." He opined that, given the stable groundwater elevations over time, the physical separation between the construction activities and the deep aquifers, and the maintenance of local recharge, "groundwater discharge to the creek, including the cold water creek habitat, is not expected to be affected" by the Project.

[192] With respect to the northern area, Mr. Donaldson acknowledged there may be shallow, perched groundwater. In his view it is not connected to the deep aquifer, however, “but rather contained within local sandier soil deposits on top of the underlying silty soils.” Mr. Donaldson expressed his belief that groundwater seepage “does not support continuous surface water flow” in the springs noted by NRSI and SLR in the water courses and wetlands near Turbine 1, but that “the water courses are likely supported more by run-off which will not be affected by the proposed project.”

[193] Should any shallow perched groundwater be encountered during construction, he testified, any groundwater interference “is expected to be temporary with perched water levels returning to normal following construction.” Similarly, he noted, there could be temporary interference with perched groundwater when infrastructure is buried. However, he testified, the trenches up to 1.5 m deep described in the Construction Plan will be backfilled with compacted, excavated, native soils which “will maintain soil permeability and prevent the deflection of shallow groundwater flow.”

[194] Mr. Donaldson testified that the Project is expected to have no impact on an on-line pond south of the unassumed portion of Gray Road, in the western portion of the Project area. He believes water in the pond “is likely attributable primarily to surface water run-off”.

[195] Mr. Donaldson concluded that “the risk of serious and irreversible harm to the geology of the Oak Ridges Moraine as a result of the trucked-in fill for the project is considered low.”

[196] On cross-examination, Mr. Donaldson agreed that no hydrogeological study had been done on the Site. He also agreed that there are limitations to one’s ability to predict the conditions below ground between sampling points, including between MOE well records. Mr. Donaldson acknowledged that his estimation of “one third” of the Project site as high aquifer vulnerability, and two-thirds as not high-vulnerability, is his

own estimation from “eyeballing” figures of the Project, and does not consider vulnerability on a more granular level than simply “high” and “low” vulnerability.

[197] With respect to surface water wells, Mr. Donaldson acknowledged there are likely surface water wells in the Project area, but could not confirm whether they would be used as a potable water supply.

[198] Mr. Donaldson testified that his reference to “cleaning chemicals” in his report does not refer to solvents, which he did not address. Mr. Donaldson stated that, in order to understand possible impacts, he had to research chemicals that might be used at the Project. He testified that the Approval Holder did not have specific information, and as a result he looked at publicly available data. Mr. Donaldson was not aware of the amount of water that would be required to clean a turbine, and stated his understanding that there were many cleaning options. Mr. Donaldson agreed that he had no information as to the chemical composition of lubricants used on site.

Brian Howe

[199] Mr. Howe holds a M.Eng. and a M.B.A., is a registered Professional Engineer and is the President of Howe Gastmeier Chapnik Limited (“HGC”), the consultant that prepared the Noise Assessment Report in support of the Approval Holder’s application for the REA. The Tribunal qualified Mr. Howe as an expert to give opinion evidence as an acoustical engineer.

[200] Mr. Howe first discussed HGC’s involvement with the Project. He then addressed Mr. James’ testimony. Mr. Howe agreed that sound due to the aerodynamic effects at the turbine blades will be audible at certain times at the part of the pilgrimage route closest to the turbines; however, he stated that the degree of audibility will depend on wind levels at both the ground and at blade level. He explained that the turbines will not be audible if there are high wind levels at both ground and blade level, but may be audible at the closest point on the proposed pilgrimage route when wind levels are high

at blade level but low at ground level. He stated that audibility will also depend on the presence of masking noise from traffic and the distance from the turbines. He noted that pilgrims would only be on the route for a short period and that the route is not a defined receptor under the MOE's guidelines.

[201] Mr. Howe gave his view that Mr. James overstated how quiet the route is due to traffic. He stated that Mr. James only referenced minor roads with low traffic volumes and ignored the impact of Highway 7A, with an AADT of 4,600, and a daily average of 5,750 vehicles in summer when the pilgrimages would take place. He testified that the sound levels when crossing the highway will be higher than they will be when passing close to the turbines.

[202] Mr. Howe commented on Mr. James' statement that some pilgrims will be annoyed by the acoustical impact of the turbines. He referred to a study HGC did for the MOE in 2010, entitled "Low Frequency Noise and Infrasound Associated with Wind Turbine Generation Systems, A Literature Review." In that study, HGC concluded that, at the receptor distances applicable to the Project, a percentage of persons can be expected to be "very annoyed". The research reviewed in the study indicated that at sound levels between 35 and 40 dBA, 6% of receptors will be very annoyed, while at sound levels between 40 and 45 dBA, 20% of receptors will be so. He noted that these findings are similar to those in the recent Health Canada Study and that annoyance is also commonly associated with other sources of sound. Further, he noted that "annoyance" in these studies is defined as long-term (i.e., more than 12 months) experience of "being very or extremely annoyed as determined by surveys." It is his opinion that it would be "invalid to extrapolate this conclusion to the short duration of a pilgrimage."

[203] Mr. Howe discussed the levels of infrasound generated by wind turbines and commented that recent studies done by HGC and others, including Evans, Cooper and Lenchine, suggest that there is no appreciable difference in infrasound levels in the vicinity of wind turbines with or without them in operation. He stated that infrasound

levels will not be audible and opined that it is extremely unlikely that infrasound will be perceptible in any way to pilgrims. He disagreed with Mr. James' conclusion that inaudible infrasound could cause adverse health effects to the pilgrims. He noted that there is a debate about the body's perception of and reaction to infrasound, but that, other than "a few dissenting voices", most scientific studies do not support Mr. James' position.

The Director's Evidence

Enoch Tse

[204] Mr. Tse, a registered Professional Engineer and Senior Noise Engineer with the MOE, conducted the Noise Engineering Assessment of the Project. The Tribunal qualified him as an expert to give opinion evidence as an acoustical engineer, with specialized expertise in the application of the MOE Noise Guidelines.

[205] Mr. Tse stated that he carried out a technical evaluation of the HGC Noise Assessment Report for the Project and concluded that it complied with MOE guidelines.

[206] Mr. Tse testified that he calculated the noise levels that could be expected at Wutai Shan as a result of the Project. He stated that the temple site is 11.8 km away from the nearest turbine, so that the noise levels there would be 6.4 dBA, which would be inaudible and significantly lower than background.

[207] Mr. Tse also discussed expected noise levels on the proposed pilgrimage route. He disagreed with Mr. James' use of 26 dBA as the background sound level, noting that the L90 is the lowest level and that it will be exceeded 90% of the time. In Mr. Tse's opinion, because sound pressure levels vary in amplitude over time, the more appropriate level to use is the "Leq", the Equivalent Continuous Sound Level, or the calculated average sound level over an hour. The Leq for this location was reported as 36 dBA, according to Mr. Tse.

[208] Mr. Tse described infrasound as sound pressure levels below a frequency of 20 Hz, noting that it is quantified on a G-weighted scale, which gives the greatest weight to sound at 20 Hz, the frequency at which infrasound is most perceptible audibly. He stated that as the frequency decreases, the ability to perceive infrasound through the ears decreases unless the sound pressure levels are extremely high. Mr. Tse criticized Mr. James' use of a Z-weighted scale in the Shirley Wind Study because it is not weighted and correlated with perceptibility. He also criticized the reliability of data collection in that study.

[209] Mr. Tse testified that the predominant sources of infrasound outdoors in rural areas are from nature, dominated by local wind conditions. Mr. Tse cited Evans, Cooper and Lenchine to support his opinion that infrasound at houses near wind turbines is no greater than that experienced in other rural environments. He noted that Mr. James' studies were not able to isolate infrasound from wind turbines from other sources of infrasound. According to Mr. Tse, the closest point on the proposed pilgrimage route to a turbine will be approximately 980 m. It was his opinion that infrasound at this distance would not be perceptible.

[210] On cross-examination, Mr. Tse stated that he had not assessed the cumulative impacts of the Project together with those from two other wind energy projects planned within 5 km. He stated that, at the time of his review, he was aware of another project proposed within 5 km, but he did not assess cumulative impacts because this Project was the first to undergo technical review and he was not able to obtain detailed information about the other project. He pointed out that the Noise Engineering Assessment states that cumulative noise impacts will be assessed in the other projects. Mr. Tse agreed that cumulative noise impacts might mean higher sound pressure levels along the proposed pilgrimage route, but noted that he was not aware of the route during his review and that a road is not treated as a point of reception in the MOE guidelines.

Evidence of the Participants

First Nations Participants

[211] The Tribunal attended at Curve Lake First Nation ("CLFN") to hear the evidence of representatives of CLFN and the Hiawatha First Nation ("HFN") and Brent Whetung, who were granted participant status.

HFN

[212] Diane Sheridan testified on behalf of the HFN. She emphasized the unique and compassionate connection her people have with the earth and water. She stated that water has a sacred character because it is necessary for life, and expressed her concern about the impact of the Project on the aquifer under the Site.

[213] Ms. Sheridan stated that the traditional ways of the HFN are linked to the land. She noted that the Project is located on their traditional territory, that their harvesting rights, including hunting, trapping, fishing and gathering rights, were protected on this territory by Treaty 20, signed in 1818 (Rice Lake Treaty of 1818 or "Treaty 20"), and that there will be adverse effects on those rights if the Project is constructed.

[214] It was Ms. Sheridan's view that the Crown failed in its duty to consult with the HFN and to accommodate its interests before approving the Project.

Brent Whetung

[215] Mr. B. Whetung is a member of CLFN. He expressed his deep concern about the lack of meaningful consultation and accommodation by the Crown with respect to the Project and its potential impacts. He stated his belief that the Project will cause serious and irreversible harm to the natural environment and will interfere with his hunting and fishing rights in the traditional territory of the CLFN. Mr. Whetung described

the background to Treaty 20 and stated that the signatories, including CLFN, did not cede their historic harvesting rights under that Treaty. It was his interpretation that the Treaty contains promises to protect the natural environment so that plant and animal life will flourish to support hunting and gathering.

[216] Mr. B. Whetung described the creation of the earth and the origins of Anishinaabe spiritual beliefs respecting the connections within nature and the rhythm and continuity of life. He stated that the Anishinaabe concept of the natural environment should be considered in the interpretation of the *EPA*. However, it was his view that the Approval Holder had not considered the impacts on the balance of the life cycle as viewed by Anishinaabe people. He testified that vibration and noise from the Project will drive away game animals, interfering with his ability to hunt, especially with raptors, will interfere with migratory birds, and will adversely affect the purity of water and the fish in Fleetwood Creek.

CLFN

[217] Ryerson Whetung is a member of CLFN. He described himself as a hunter and spear fisherman. He is opposed to wind turbines in CLFN's traditional hunting areas because of the long lasting effects on deer, wild turkey, grouse, waterfowl and bats. He also expressed his concern that the turbines will kill the most sacred bird, the eagle, which has been making a comeback in the area. Mr. R. Whetung described his responsibility as a hunter to use all of an animal and to share the harvest with the community. He also noted his responsibility to protect the animals and the land so that the community will be able to continue to follow their traditional practices into the future.

[218] Melissa Dokis is also a member of CLFN. She testified regarding the background to Treaty 20 and the 1923 Williams Treaties, and the continuation of harvesting rights for all the First Nations' signatories. She described how the majority of the members of CLFN continue to practice their rights to hunt, fish, trap, and harvest plants, including wild rice, birch bark, berries, and medicinal and spiritual plants, despite

encroachment on their traditional territory. She explained the spiritual importance of the land, water and resources to their traditional way of life.

[219] Ms. Dokis stated her view that the turbines will directly and severely impact the serenity and spiritual practice for members of CLFN and will deplete the natural environment on which they depend, in violation of Treaty 20. She stated that, at a minimum, a Traditional Land Use Study should have been carried out to determine the expected impacts the Project will have on their constitutionally-protected rights and, because no study or meaningful consultation was done, the honour of the Crown has not been upheld.

City of Kawartha Lakes

[220] Ron Taylor is the Director of Development Services with the City and spoke on its behalf at the hearing.

[221] Mr. Taylor testified that, in his position with the City, he is involved in the review of wind turbine projects to ensure there is no negative impact to infrastructure. He noted that the City has endorsed a number of renewable energy projects other than wind projects, but is not a willing host for this Project. He testified that the City's view is that local interests will not be met and that the Project scope is not clear. The City requests that the Tribunal revoke the REA.

[222] Mr. Taylor testified that the City's view is that there has been inadequate study to determine the question before the Tribunal, specifically whether the Project will cause serious harm to human health or serious and irreversible harm to the environment. His testimony related to three areas: the ORMCP, impact to municipal infrastructure, and fire safety.

[223] Mr. Taylor testified that Turbines 4 and 5 are proposed in the "Countryside" area of the ORMCP, and within a "high aquifer vulnerability" zone. He also noted that

Turbine 5 is located within “the minimum area of influence for a natural heritage feature – significant woodland.” Mr. Taylor testified that the City took a strong protective position on the ORM and incorporated the provincial plan policies for protecting the ORM into its official plan and implementing zoning by-law.

[224] Mr. Taylor noted that under the ORMCP, both hydrology and hydrogeology reports are routinely required where development is proposed. Mr. Taylor commented that this is particularly crucial where development is proposed in a high aquifer vulnerability area. The City asked for both reports from the Approval Holder, but no hydrogeological report was provided. Mr. Taylor stated that, under ORMCP development is only permitted if it will not adversely affect the features of the ORM. In the City’s view, the Approval Holder’s reports do not adequately address site-specific features.

[225] Mr. Taylor stated it is his interpretation that industrial wind turbines are not a “permitted use” under s. 41 of ORMCP or the zoning by-law. He testified that the ORMCP provides that transportation, infrastructure and utilities may be permitted to cross a natural heritage feature or a hydrologically sensitive feature if the need for the project has been demonstrated and there is no reasonable alternative, in addition to other considerations.

[226] Mr. Taylor testified that, in the City’s view, the absence of site-specific studies including a hydrogeological report means that it is unclear whether the Project will cause serious harm to human health, or cause serious and irreversible harm to plant life, animal life or the natural environment.

[227] With respect to the impact to municipal infrastructure, Mr. Taylor testified that the Project involves impacts on four roads: Ballyduff Road, Wild Turkey Road, Gray Road, and Highway 7A. He stated that Ballyduff Road is an opened and maintained rural municipal road, which the Approval Holder proposes to travel along to Wild Turkey Road, for construction and maintenance access. Mr. Taylor stated that the portion of

Wild Turkey Road within the Project area is unopened and not maintained by the City, but the Approval Holder proposes to use this portion of the road for construction, future maintenance, access to three property entrances, and a transmission wire crossing. Mr. Taylor stated that the portion of Gray Road within the Project area is unopened and not maintained by the City, but the Approval Holder proposes to install an above ground transmission wire corridor within this road allowance.

[228] Mr. Taylor testified that the City has not granted permission to the Approval Holder for road upgrades or access to Wild Turkey Road, Ballyduff Road and Gray Road. He noted that the City believes that upgrades to Wild Turkey Road are not in keeping with the ORMCP or with the current use of the road as a recreational trail. Mr. Taylor noted that s. 41.4 of the ORMCP prohibits opening of roads. He stated his view that under the *Municipal Act*, roads can only be opened and assumed by municipal council via by-law, and noted that City Council has refused the Approval Holder's request to do so. He also stated that under the *Electricity Act*, the City is obligated to accommodate transmission lines; a process that is being worked through at the Ontario Energy Board. Mr. Taylor further testified that the City has not initiated a MCEA, as discussed by Mr. Rojas.

[229] Mr. Taylor testified that the City recently became aware that the Approval Holder was exploring access to a portion of the Site from Ballyduff Road through private property. He stated that such a route would still require vehicular crossing across Wild Turkey Road for access to Turbine 5, and the City will not consent to open even part of that road. According to Mr. Taylor, it remains unclear to the City whether there are proposed changes to the Project plan for access.

[230] Mr. Taylor's third point related to health and public safety, specifically fire and rescue. He stated that the City does not have suitable equipment, resources or training to deal with emergencies that may arise from wind projects, and therefore passed By-law 2014-273 in October 2014. He stated the Approval Holder has not addressed issues of fire safety and access to date, and referred to a letter sent to the City following

adoption of the by-law which cites what the Approval Holder considers to be “onerous and unprecedented fire safety requirements”. Mr. Taylor also testified that the City is unclear as to the Approval Holder’s position on fire mitigation and expressed his belief that the City’s concerns in this regard were not incorporated into the REA conditions. According to Mr. Taylor, the City therefore believes that the Project will cause serious harm to human health in the event of an emergency.

[231] Mr. Taylor concluded with the statement that the City is an “unwilling host” for the Project, “particularly as there are reasonable alternatives and no demonstrated need to site them within the Oak Ridges Moraine.”

[232] On cross-examination Mr. Taylor acknowledged that Section M of the REA conditions, with respect to emergency procedures, also applies to fires. He agreed that the City’s fire department would be involved in developing procedures.

[233] Mr. Taylor stated that he disagreed with Mr. Wimmelbacher’s interpretation of the status of Wild Turkey Road as a Quarter Sessions road and confirmed his understanding that it is an unopened road allowance under the City’s jurisdiction.

Heather Stauble

[234] Ms. Stauble is a member of City of Kawartha Lakes council, representing the Manvers area, and has been following the Project application from its inception. She attended the Site visit.

[235] Ms. Stauble testified that in August 2009, one project was proposed by Energy Farming Ontario “that encompassed the project area now covered by the three projects.” After the passage of the *GEGEA*, she stated, the large project was broken down into three smaller renewable energy projects, each with five turbines: Sumac Ridge, Snowy Ridge, and Settlers Landing. Ms. Stauble provided her view that

"setbacks for a 15 turbine project are between 650 and 1500 m depending on the sound level", while "the setback for a five turbine project is 550 m."

[236] Ms. Stauble made extensive comments about the Approval Holder's conduct throughout the application and appeal processes, which she considers to have resulted in a serious loss of trust with the community. She also stated that reliance by the MOE and the Tribunal on "flawed information" will cause serious and irreversible harm to the environment. She listed some of the contributing factors:

- the Approval Holder assured the public and the City of Kawartha Lakes 47 times that it would treat the entire Project as if it were all within the ORMP area. One such example is a letter from wpd dated January 20, 2011; However, it has not done so, and specifically not demonstrated "need";
- the source water protection plan used by the Approval Holder to calculate impact is intended to protect drinking water, not for environmental protection;
- the "municipal consultation" undertaken by the Approval Holder consisted of one single meeting with one person; i.e. Ms. Stauble;
- no hydrogeological report was provided to the City despite assurances by the Approval Holder at various times that it had been. The City does not know whether any hydrogeological report has ever been prepared;
- the Approval Holder attempted to conduct a MCEA "on behalf of" the City, when the City had not requested it and did not support one. It has since been rejected;
- an application to the Ontario Energy Board contains information that conflicts with information filed for the REA and before the Tribunal;
- wpd hired Tulloch to begin clearing hedgerows along Wild Turkey Road in June 2011 prior to any permits or approvals having been issued;
- inaccurate representation in the "Consultation Report", which states three consultations took place when there were only two; misstates the true numbers of people in attendance and people locked out; does not mention the record number of submissions received; and

- the Approval Holder did not respond to numerous requests for information and disclosures.

[237] Ms. Stauble's submissions and supporting materials supported the Appellants' concerns regarding environmental impacts, specifically on wetlands and SAR, through proposed access along unopened Wild Turkey Road and Gray Road. She supported the concerns of Appellants relating to shadow flicker, public safety, and setbacks.

[238] Ms. Stauble testified that she was copied on 1,500 emails, letters and petitions following the second public meeting, in June 2012; 2847 comments were posted on the Environmental Registry during the comment period.

Save the Oak Ridges Moraine Coalition ("STORM")

[239] Cindy Sutch is the volunteer chair of STORM. She gave a presentation on behalf of STORM and emphasized that STORM's presentation is based on local knowledge. Ms. Sutch testified that STORM was involved in the development of the *ORMCA* and ORMCP, and as such, is best placed to comment on the spirit and intent of those documents.

[240] Ms. Sutch testified that the ORMCP is an "environment first" plan. The first part of her presentation dealt with the "spirit and intent" of the *ORMCA* and ORMCP. Ms. Sutch testified that, when the *ORMCA* and the ORMCP were passed, large-scale industrial energy infrastructure was not a consideration. She states that the *ORMCA* and ORMCP "were never intended to facilitate or encourage this unique landform to become a large-scale energy infrastructure corridor; quite the opposite." She notes the purpose of the ORMCP is protection of ecological and hydrological features and functions.

[241] Ms. Sutch also highlighted the objectives of the *ORMCA* and ORMCP, of "protecting the ecological and hydrological integrity of the Oak Ridges Moraine Area"

and “ensuring that only land and resource uses that maintain, improve or restore the ecological and hydrological functions of the Oak Ridges Moraine Area are permitted.” With respect to objective (e), relating to “development that is compatible” with the ORM, Mr. Sutch emphasized that the scale of industrial wind turbines makes them incompatible.

[242] Ms. Sutch testified that, in her view, the intent of s. 41 of the ORMCP, dealing with transportation, infrastructure and utilities, was “to ensure that future infrastructure that is linear in nature (regional transportation corridors, water and waste-water pipes and utilities) could **pass through** the Oak Ridges Moraine while causing the least amount of ecological damage.” She testified that the ORMCP “did not contemplate encouraging new industrial-scale energy development, green or otherwise.”

[243] The second theme of STORM’s submissions dealt with the “lack of justification and scale”. STORM’s position is that the Approval Holder has the obligation to justify the Project as follows: justifying its selection of the Sumac Ridge site; the need for the scale of the technology selected; and the potential for cumulative effects along with other wind projects proposed in the ORMCP area.

[244] Ms. Sutch noted that no watershed plan has been prepared by the local Conservation Authority, due to the City’s decision not to pursue development in the area. There is consequently no strategic guidance for specific proposals such as this Project.

[245] Ms. Sutch reviewed the legislative requirements for renewable energy projects in the ORM area, and in particular the Technical Guide for Renewal Energy Approvals (Ministry of the Environment, 2013) (“Technical Guide”), which states: “Applicants are expected to consider the full intent of the ORMCP when evaluating for negative environmental effects as a result of the proposed project.” She also quoted the Technical Guide that “most importantly it may be necessary to demonstrate the need for

the renewable energy project location and explain that there are no reasonable alternatives to the project location."

[246] Ms. Sutch testified that "STORM's opinion is that industrial scale wind development and supporting road and transmission infrastructure will negatively impact the overall ecological integrity of the moraine particularly with respect to the long term movement of fauna." Ms. Sutch testified that STORM supports small-scale renewable energy production in all designations of the ORMCP.

[247] Ms. Sutch also discussed the precedent-setting nature of the Project, being the first wind turbine project on the ORMCP. She testified that a review of the Oak Ridges Moraine Conservation, Greenbelt and Niagara Escarpment Plans is scheduled to take place in 2015, and believes that industrial scale wind turbines will be considered for the first time in relation to those plans at that time. STORM requests that the Tribunal revoke the REA until such time as those policy considerations can take place.

[248] Another theme of STORM's presentation was the inadequate assessment of environmental features and functions for the Project. Ms. Sutch testified to STORM's concern that no hydrogeological study was conducted for the Project area, despite the fact Turbines 4 and 5 are proposed in a high aquifer vulnerability area. She stated that accurate baseline information is critical to siting decisions, as well as to understand impacts of the Project. Ms. Sutch referred to documents that show the MOE surface water reviewer recommended that the Project submission be reviewed by a MOE Regional Hydrogeologist. STORM questions why the Project was approved without a hydrogeological study by the Approval Holder.

[249] STORM is also concerned that the closure plan is inadequate "with respect to mitigation, including contingencies for compensating local landowners in the event of contamination of water supplies." STORM believes that an individual project can threaten the ORM by affecting Ontario's drinking water, and the "cumulative effect of numerous projects will have significant irreversible impacts on the Oak Ridges Moraine.

There are countless other projects awaiting Renewable Energy Approvals. This is clearly a precedent setting case for the future of the Oak Ridges Moraine."

[250] Ms. Sutch testified that STORM supports full First Nations participation in all renewable energy projects including accommodation, and remains concerned that the duty to consult was not met in this case.

Evidence of the Presenters

David Frank

[251] Mr. Frank and his wife live in Cavan and are practicing Buddhists. He stated that they previously suffered from poor health, but he believes that their symptoms subsided following meditation and attending retreats with the Buddhist community. He noted that both meditation and pilgrimage are central to the practice of Buddhism and that a quiet, serene and natural environment is important to both. According to Mr. Frank, people visit Buddhist temples and retreat centres for a quiet place to deepen their practice and they engage in pilgrimage to practice meditation in movement and to be inspired by a beautiful natural environment. It is his view that the Project is a threat to the CST's Manvers complex as originally planned, with four temples, because of the visual and sonic disturbance it will create.

[252] Mr. Frank agreed that there is no evidence that the turbines will be audible at Wutai Shan itself, but stated his belief that they would be audible on the pilgrimage route, which would disturb the peace and concentration of pilgrims. He also testified that pilgrims will be disturbed by the motion of the turbine blades and by the awareness that turbines can kill birds and bats. He believes that the Project will irreversibly damage the natural environment, which will irreversibly damage the health of those participating in pilgrimage.

David Marsh

[253] Mr. Marsh lives near Bethany and was the local councilor for 24 years, as well as Reeve of the previous Township of Manvers. He testified that he had been involved with the CST as a councilor and also professionally, as the real estate agent who was retained by the CST to assist them in locating suitable properties. He recalled that the CST had strict criteria for the temple sites and that the Abbot at the time had to be satisfied about the Feng Shui of each site. He believes that putting up the Project in this location is unjust to the CST, which has invested millions of dollars, because they would not have purchased the properties they did if they had known about the turbines. He expressed his belief that the Project will cause serious and irreversible harm to a peaceful area and will have an adverse impact on property values and the enjoyment of property.

Steven DeNure

[254] Mr. DeNure made a presentation on behalf of himself and his wife, who also testified as a witness for the Appellants. They own a farm southeast of the intersection of Ballyduff and Wild Turkey Roads, within 600 m of two of the turbines in the Project. Mr. DeNure expressed his concern regarding the health and environmental effects of the Project. He stated his belief that people in the community are angry – and thus anxious and stressed – by a decision-making process that is "stacked against them." He believes that construction of the Project will create a permanent angry rift in the community, which is not good for its long term health.

[255] Mr. DeNure also expressed his belief that there has been insufficient study of the potential impacts of the Project on SAR and on significant wildlife habitat. He stated that he considers the site of Turbine 5 to be a significant wildlife habitat. He noted observations he has made regarding wildlife corridors along Wild Turkey and Gray Roads, bird nesting sites in fields and hedgerows in the area, and the presence of migrating Monarch butterflies and snakes, including Milk Snakes. He also discussed his

observations of birds considered SAR, including Eastern Meadowlark, Bobolink and Whip-poor-will, and evidence of the possible presence of Loggerhead Shrike on his property.

Sara Miller

[256] Ms. Miller and her family live on Gray Road to the east of the Project. She expressed her concern about how the Project will affect her son. She described how her son has a serious medical condition that is now under control. She has no evidence that the Project will exacerbate his condition, but out of concern she consulted his doctor, who told her that if her son is affected, he might need medication or an operation. She believes that the studies carried out on the health effects of living near industrial wind turbines have not been adequate or independent of proponents. Ms. Miller expressed her view that the setbacks for residents living near wind projects are likely inadequate to protect their health. She believes that extra caution is required, especially when children are exposed.

William Bateman

[257] Mr. Bateman and his wife live on a farm that runs between Highway 7A and Gray Road, directly to the east of the property on which Turbines 1 and 3 would be located. Mr. Bateman expressed his concern regarding the proximity of the Project to his home and to two elementary schools and the potential for serious harm to health. He noted that there is no definitive method to measure low frequency sound and infrasound, so he believes that these emissions have not been addressed by the Approval Holder.

[258] Mr. Bateman also stated his concerns regarding the potential irreversible harm to the environment due to the Project. He noted the diversity and abundance of plant life and wildlife and the presence of water on the ORM, which he believes will be threatened by the Project.

Kathleen Morton

[259] Ms. Morton lives in Bethany and has a background in anthropology. She testified respecting the historical development of the area of the Fleetwood Creek watershed in Manvers. She first discussed the historical use of the area by First Nations. She then described how the removal of trees led to significant problems with erosion of sandy soils and water shortages by the 1940s. She noted that since then, there have been reforestation efforts, subsidized by the province, that have helped reverse the harm. Ms. Morton holds the view that any disturbance of vegetation for the Project will cause serious and irreversible environmental harm and that the Approval Holder's replanting efforts will not be adequate to prevent harm.

[260] Ms. Morton also expressed concern about impacts from the Project on the aquifer and local drinking water wells resulting from removal of vegetation and from spills. She stated that any spill of oil onto the soil would find its way into the aquifer.

Darryl Irwin

[261] Mr. Irwin and his family live on a farm at the intersection of Highway 7A and Pit Road. He discussed his concerns about the impact of the Project on water resources in the area. He noted the presence of a continually flowing artesian well and numerous springs on his property. He stated his view that activities for the Project, such as excavations, de-watering and spills, have the potential to adversely affect the quantity and quality of local waters. He is concerned because the Approval Holder did not conduct a hydrogeological study and has proposed no mitigation measures.

[262] Mr. Irwin read an account of the contamination of his neighbour's well in the early 1970s due to a leaking fuel tank. Relying on this experience, he expressed the view that, because of the nature of the soils in the area, contamination can travel through the aquifer quickly.

Analysis and Findings

Issue 1: Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to plant life, animal life or the natural environment

General comments on the "Environmental Test"

[263] The heart of the Appellants' case is that the Project will cause serious and irreversible harm to plant life, animal life and the natural environment. This is known as the "Environmental Test" under s. 145.2.1(2)(b) of the *EPA*. The following section discusses the general approach the Tribunal takes in reaching a determination under the Environmental Test.

[264] In *Lewis v. Director (Ministry of the Environment)* (2014), 82 C.E.L.R. (3d) 28 ("*Lewis*"), the Tribunal noted that the statutory language used in the *EPA* foresees that in some places, renewable energy projects will cause harm to the environment, so the Tribunal will not employ an approach to the Environmental Test that will automatically sacrifice local habitats and species populations simply because a project involves renewable energy and supports the province's green energy policy. It is clear from the *EPA* that the onus is on the Appellants to prove that there will be harm. The statute requires that they demonstrate that engaging in the Project in accordance with the REA "will cause" the alleged harm. The Tribunal has repeatedly held that a possibility of harm, or a concern about what might occur, is not sufficient to meet the Environmental Test, but that the harm may be caused either directly or indirectly.

[265] The measure of proof of whether the Project "will cause" harm is on the balance of probabilities, that is, that the evidence is sufficient to demonstrate that the harm is more likely than not to occur. The Tribunal has also held that it considers the allegations of serious and irreversible harm on a case-by-case basis. That is, the specific elements of each project, set within its particular ecosystem, are relevant to the Tribunal's determination.

[266] The Tribunal has also held that conclusions reached by the MOE or the MNRF about the impacts of a project and the effectiveness of the proposed mitigation measures are relevant, but are not determinative, as the Tribunal must reach its own independent conclusion (see *Lewis, supra*). Nevertheless, the Divisional Court in *Ostrander Point GP Inc. v. Prince Edward County Field Naturalists* (2014), 82 C.E.L.R. (3d) 86 ("*Ostrander*") held that the Tribunal must give careful consideration to findings made under other legislation, in that case by the MNRF under the *ESA*, that relate directly to the issues the Tribunal must decide. In order to meet the Environmental Test, the Appellants must demonstrate that the Project will cause harm, and that the harm will be of such a kind or extent to be both "serious" and "irreversible".

[267] What constitutes "serious and irreversible" harm will vary across cases and will vary across different features and functions of the natural environment. For animal life, including birds, the Tribunal has not accepted that the death of a single individual is the appropriate measure across all cases; however, in *Fata v. Director, Ministry of the Environment,* [2014] O.E.R.T.D. No. 42 ("*Fata*"), the Tribunal noted that there is general agreement that mortality is one measure of serious harm and that mortality of a significant number of individuals in a small population of a single species may be both serious and irreversible. Different factors may be relevant and weighed appropriately when determining whether impacts on general habitat types or a specific location important to a particular species are serious and irreversible. For example, the Tribunal in *APPEC v. Director, Ministry of the Environment* (2013), 76 C.E.L.R. (3d) 171, ("*APPEC*") stated, at paras. 208-9, that

> … when dealing with plant life, animal life or a feature of the natural environment that has been identified as being at risk, a decline in the population or habitat of the species, or the alteration or destruction of the feature, will generally be factors with considerable weight…
>
> For plant life, animal life or a feature of the environment that has not been identified as being at risk, then the analysis would require greater preliminary consideration of such factors as the degree to which a species' population is threatened, the vulnerability of a species, the dispersal of a species' population, and the quantity and quality of habitat.

[268] In *Lewis*, the Tribunal identified the current state of the land – such as whether the area is undisturbed and dominated by native vegetation or dominated by cultivated fields – as an important factor in its analysis of harm. At para. 98, the Tribunal stated: "Alterations to a smaller amount of land in an important habitat … may be of greater significance than changes to a larger amount of land that has already been substantially converted to human use."

[269] In *Fata* and several other cases, the Tribunal has had to consider the question of what is the appropriate scale by which to measure harm to animal life and determine whether such harm is irreversible. In *Lewis*, the Tribunal held that the most appropriate scale depends on the specifics of each case. There, it was argued that impacts on a species of birds should be measured against the effect on the provincial or regional population, and not that of the local area in the vicinity of the project. The Tribunal rejected this as necessarily the most appropriate scale to be applied in all cases, noting that to do so could make the test impossible to meet even when there will be extensive loss of animals on a localized scale. The Tribunal expressed the concern that this approach ignores the potential for effects that will accumulate to a level of provincial significance. In *Fata*, the Tribunal stated that the project site and the local area should be the "starting point" for analyzing the scale of impacts, and that other scales, narrower or broader, will be applied as appropriate in the circumstances of each case. The Tribunal adopts that approach for this proceeding.

[270] Whatever the scale of impact being analyzed, the *Ostrander* decision (at paras. 44 and 47) makes clear that the Tribunal must have some evidence of population levels at that scale in order to reach a reasonably justifiable conclusion about the irreversibility of the impact.

Sub-issue 1a: Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to water features and water resources

[271] The Project consists of five turbines, located across a very diverse Site. Two of the turbines are proposed to be located on the ORM. Because there are particular legislative provisions that apply to the ORMCP area, the following analysis with respect to impacts of the Project on water is divided into two parts, the first addressing the impacts on waters within the ORM, and the second addressing impacts on waters outside the ORM. A section later in the decision deals with the impacts of Turbine 5 on the ORM features and functions in an integrated manner.

1. Waters within the ORM

Submissions

The Appellants

[272] The Appellants submit that there will be serious and irreversible harm to watercourses and groundwater in the ORM because of spills of hazardous materials, construction of impervious surfaces, and excavations and site alterations. The Appellants submit that the REA does not respect specific provisions in O. Reg. 359/09 relating to the ORM, and does not respect the intent of the ORMCP.

[273] The portion of the Site within the ORM includes Turbines 4 and 5 as well as a "Contractor Parking and Trailer Area" to be located on a hillside northwest of the junction of Wild Turkey Road and Ballyduff Road. The Appellants submit that, in addition, most of the unopened section of Wild Turkey Road and almost half of Ballyduff Road lie on the ORM and will be used "to access Turbines 2, 4, and 5 for construction purposes and for subsequent maintenance."

[274] The Appellants submit that, since Mr. Doyle was the only witness called by any party regarding the ORM policies and planning requirements, his evidence should be accepted as unchallenged. They emphasize that the objectives of the *ORMCA*, as well as the ORMCP, are "protecting the ecological and hydrological integrity of the Oak Ridges Moraine Area." They submit that these statutory provisions were intended to ensure that "only land and resource uses that maintain, improve or restore the ecological and hydrological functions of the Oak Ridges Moraine Area are permitted."

[275] The Appellants argue that Turbines 4 and 5 are within the designated Countryside Area, which is protected from development under the *ORMCA*. Further, they argue that s. 41 of the ORMCP, which allows for the construction of infrastructure on the ORM, was intended only to permit needed infrastructure to cross the ORM and/or to service the communities located within the Plan area. They submit that, according to Mr. Doyle's evidence, under the ORMCP, "the Moraine was not intended to form a reserve for any sort of infrastructure serving the major urban agglomerations beyond its boundary, and that wind farms were never contemplated in the deliberations on infrastructure policies."

[276] The Appellants submit that, in addition to complying with the specific requirements in O. Reg. 359/09 relating to projects proposed on the ORM (s. 42 - s. 47), project proponents must also consider the "full intent" of the ORMCP. In support of this submission they point to the MOE's Technical Guide (referred to by Ms. Sutch), which provides the following in s. 9.3 relating to projects on the ORM:

> While O. Reg. 359/09 describes the minimum legal requirements that pertain to projects in the Oak Ridges Moraine, applicants are expected to consider the full intent of the Oak Ridges Moraine Conservation Plan when evaluating the potential for negative environmental effects as a result of the proposed project.
>
> The Ontario Government has worked to protect sensitive and important natural features and water bodies through four geographically unique Provincial Policy Plans. These policies have been adopted into the provisions of the Reg. 359/09. Special considerations apply to the Design and Operations Report for projects that are proposed to be located entirely or in part on lands subject to these Provincial Policy

> Plans. Most importantly it may be necessary to demonstrate the need for the renewable energy project location and explain that there are no reasonable alternatives to the project location.

[277] The Appellants submit that, while the Technical Guide does not carry the weight of policy or legislation, it provides official guidance and should be used by the reviewer or decision-maker, as a resource.

[278] The Appellants note Mr. Doyle's testimony, that the ORM-specific provisions of O. Reg. 359/09 protect water features and natural features but that the protections in the ORMCP were "never developed with wind farms in view", nor do they take into account the cumulative effect of numerous wind projects.

[279] The Appellants also submit that the ORM-related provisions in O. Reg. 359/09 have a site-specific emphasis, and miss the broader issue of "ecological integrity" which underlies the protection of the ORM, and will result in "death by a thousand cuts". The Appellants submit that the Project will cause serious and irreversible harm to the ecological integrity and connectivity of the ORM, which are not evaluated under the O. Reg. 359/09 requirements.

[280] Submissions were also made by the Appellants on behalf of the participant STORM. The Appellants rely on Ms. Sutch's evidence to state that "*The Oak Ridges Moraine Conservation Act* and the Plan were never intended to facilitate or encourage this unique landform to become a large-scale energy infrastructure corridor; quite the opposite as expressed by the provincial government in the purpose, objectives and vision sections of the Oak Ridges Moraine Conservation Plan." Rather, the *ORMCA* and the ORMCP include as objectives "improving" and "maintaining" the functions of the ORM.

[281] The Appellants submit that the Tribunal should also have regard to the accompanying document to the Reference Map for High Aquifer Vulnerability Areas of the Moraine, which states that "an understanding of regional groundwater conditions

and their inherent vulnerability to contamination is critical to maintaining ecological and sustainable use functions."

[282] The Appellants submit that the protective provisions in O. Reg. 359/09 are significantly less than the protection afforded under the ORMCP. They submit that O. Reg. 359/09 "ignores hydrogeological sensitivity as a general feature"; that it requires setbacks from fewer "key heritage features and hydrologically sensitive features", and the Regulation permits encroachment within the setbacks where a report is prepared. They submit that the focus on evaluating individual wind turbine sites "ignores the interrelatedness of Moraine features" and the need for "a landscape approach", which involves consideration of cumulative effects.

[283] The Appellants highlight the fact that the Approval Holder did not prepare a hydrogeological study, despite the fact that the City of Kawartha Lakes specifically asked for a hydrogeological study, and the Approval Holder stated on numerous occasions that one would be prepared.

[284] The Appellants submit that the evidence of Mr. Kerr and Mr. Pankhurst relating to the risks to contamination of groundwater due to spills should be preferred to that of the hydrogeologist called by the Approval Holder, Mr. Donaldson. The Appellants submit that Mr. Donaldson relied only on "sparse local well records" to buttress his opinion, and that it was overly simplified and did not take into account the complicated nature of the ORM. The Appellants submit that Mr. Donaldson was not aware of "local shallow wells or the springs relied by numerous residents for their water supply," and could therefore not speak to the local water or hydrogeology situation with any authority." The Appellants point to lay testimony by several local residents regarding past contamination of wells, as well as the use of shallow wells.

[285] The Appellants submit that streambeds lie on each side of the location for Turbine 5, but O. Reg. 359/09's required setbacks within the ORM are not respected. They rely on Mr. Sisson's expert opinion evidence that two drainage features (FCH(A)

and FCH(B)) qualify as “intermittent streams”, requiring a 30 m setback from Project components under s. 44(1).2 of the Regulation. The Appellants submit that the setback is calculated using the blade length, and note the Approval Holder’s calculation that, in this case, the setback from the high water mark of intermittent streams would have to be 75.2 m to the base of the turbine. They argue that Turbine 5 does not meet this minimum setback, even as the Project is currently designed. The Appellants rely on Mr. Wimmelbacher’s evidence that the setbacks from Turbine 5 are 58.30 m for FCH(A) and 65.12 m for FCH(B). The Appellants submit that, should Wild Turkey Road be wider than currently estimated, Turbine 5 will have to be moved farther east to respect the required road setback, encroaching even more into the setback from the top of a nearby steep slope, and from FCH(A) and FCH(B).

[286] The Appellants submit that, as a result of this encroachment into the regulated setback distance, the Project and its construction activities will “damage or destroy two nearby intermittent streambeds.” They assert that damage will be caused by excavating the site to construct the Project and using imported fill and by increasing the amount of impervious cover. Their view is that these activities will alter surface water flow patterns and affect infiltration rates.

[287] The Appellants also submit that the Project will cause serious and irreversible harm due to the lack of any plan for stormwater management. The Appellants acknowledge that the Approval Holder is required under Conditions G1 and G2 of the REA to produce a Stormwater Management Plan. They submit that culverts will be built if either Wild Turkey Road or Ballyduff Road is widened, and that “disposal plans for stormwater flow from the culverts is not known and stormwater ponds are prohibited. This leads to a prospect of serious run-off issues, as experienced with other REA projects.”

Ms. Stauble

[288] Ms. Stauble reiterates, in her closing statement, that there has been "strong public opposition to this project from the beginning due to its location in an environmentally protected area on the Oak Ridges Moraine and concerns of the adverse health impact."

[289] Ms. Stauble submits that, despite the Approval Holder's public statements that they would treat the entire Project area as if it were on the ORM, they did not meet the minimum setback requirements for hydrologically sensitive features, landforms and natural heritage features, nor did they consider the full intent of the ORMCP, as directed in the Technical Guide.

[290] Ms. Stauble submits that the Approval Holder was asked for a hydrogeology report in June 2011 by the City, and although it agreed to prepare one, never did so. Ms. Stauble also submits that the MOE was aware of the City's concerns regarding hydrogeological information, and confirmed that the MOE Technical Review team would determine if any additional hydrogeological studies were required. Ms. Stauble submits that the MOE subsequently recommended a full hydrogeological report.

[291] Ms. Stauble submits that the REA conditions imposed due to the location of the Project on the ORM are not sufficient to protect the vulnerable moraine features. She notes that apart from Turbines 4 and 5, there is also a "contractor parking and trailer area" on a high aquifer vulnerability area. She referred to the evidence of Chief Pankhurst and Mr. Kerr in submitting that "mechanical breakdowns and burst hoses are a frequent cause of spills of hazardous materials." She submits that it is not a question of "if" a spill will occur on a high aquifer vulnerability area, but "when".

[292] Ms. Stauble submits that the Approval Holder "ignored the ponds, seeps and wetlands along Gray Road, and the permanent and intermittent watercourses at T5 and T1." She submits it has not respected the setback requirements at Turbines 1 or 5.

[293] Ms. Stauble submits that the Project will set a dangerous precedent and will "open the door" to other industrial wind projects across the ORM. She submits that O. Reg. 359/09 incorporates some specific provisions of the ORMCP in relation to hydrologic features and key natural heritage features, "but it is important to remember that there were no wind projects at the time the ORMCP was developed. Relying upon them alone to consider impacts is not sufficient."

The Director

[294] The Director submits that the Project will not result in serious harm, much less serious and irreversible harm, to water. The Director submits in the alternative that, if serious harm is found, the mitigation measures in the REA will ensure that the harm is not irreversible.

[295] The Director submits that the Tribunal should not rely on Mr. Doyle's evidence because his concern at a landscape level was with the cumulative impact of multiple wind farm projects on the ORM and he had no specific knowledge relating to the location of this Project or with the conditions of the REA. The Director submits that Mr. Doyle "conceded that wind farms are not inconsistent with today's government's vision as it relates to the Oak Ridges Moraine."

[296] The Director submits that FCH(A) and FCH(B) do not meet the definition of "intermittent streams" because there is no wetland-specific vegetation growing in the beds of the channels. While Mr. Sisson testified there was no vegetation in the beds of the channels, he provided no photographs to substantiate this claim. The Director submits that the evidence of the Approval Holder's four experts should be preferred in this regard, as one of them is qualified as a plant expert, and they provided photographs of FCH(A) and (B) which showed vegetation within the channel beds. The Director submits that since FCH(A) and FCH(B) are not intermittent streams, they are not

considered “water bodies” within O. Reg. 350/09, and there is no applicable setback requirement.

[297] The Director submits that the Tribunal should rely on Mr. Donaldson’s evidence respecting any potential interference of the Project with local groundwater (hydrogeologic) and hydrologic systems. Mr. Donaldson concluded that the majority of users get their water from a deep aquifer approximately 40 m below the surface, “covered by a very thick and very dense hard clay unit, keeping the aquifer under pressure and protecting it.” The Director relies on Mr. Donaldson’s evidence in submitting that the risk of potential groundwater contamination in the event of a spill is considered to be low, as is the risk to groundwater systems/hydrological cycle. The Director submits that no interference from the project is expected for the deep aquifer systems that are utilized for local and regional water supplies. He notes that “the foundations for the wind turbines will be separated from the aquifer systems by approximately 30 m or more of soil.”

[298] The Director also relies on Mr. Donaldson’s testimony that shallow perched groundwater is not connected to the deep aquifer systems. Mr. Donaldson stated that, based on the reported observations by SLR (2010), “the groundwater seepage does not support continuous surface water flow in the water courses.” While shallow perched water could be encountered during construction, “any groundwater interference during construction would be temporary and perched water levels would return to normal following construction.”

[299] The Director submits there was no evidence of the “irreversible” nature of any alleged harm to water resources. The Director submits that the conditions in the REA, including the requirement of a stormwater management plan prior to construction, and the prohibition on the storage of hazardous materials or conducting refuelling activities in any sensitive area, will prevent any irreversible harm.

The Approval Holder

[300] The Approval Holder submits that any consideration of cumulative effects of the three wind projects proposed in the Manvers area falls outside the mandate of the Tribunal in its review of this Project. It also submits that compliance with the ORMCP is not within the Tribunal's jurisdiction, nor is compliance with O. Reg. 359/09.

[301] The Approval Holder submits that the Appellants did not raise the issue of a stormwater management plan during the hearing, until it was referenced in the final submissions.

[302] The Approval Holder submits that NRSI completed the NHA in support of the REA application, and concluded that the Project is unlikely to cause any significant impact to natural heritage features, including woodlands, wetlands or significant wildlife habitat and, as a result, that there is unlikely to be any significant impact to the natural environment. The Approval Holder submits that the Tribunal should prefer the water evidence of Mr. Donaldson, and relies on his testimony in submitting that shallow, perched groundwater may be present on a local scale, in particular in the northern two-thirds of the Site, and that zones of groundwater seepage are not connected to the deeper groundwater aquifers. The Approval Holder submits the Tribunal should rely on Mr. Donaldson's opinion that the following risks are low: risk of cleaning chemicals contaminating the aquifer system; risk of potential groundwater contamination in the event of a spill; and any risk to the groundwater system (hydrological) cycle as a result of the Project. Mr. Donaldson also testified that the on-line pond south of the unassumed portion of Gray Road in the western portion of the Project Area is not expected to be affected by the Project.

[303] The Approval Holder submits, contrary to the Appellants' closing submissions, that Mr. Donaldson did consider the environmental impact of construction of the Project on the groundwater or the hydrologic function within the broader context of the ORM.

[304] The Approval Holder submits that Mr. Kerr's witness statement dealt with matters that *could* cause damage or harm, rather than matters that *will* cause harm, and Mr. Kerr acknowledged under cross-examination that he had no studies or reports that went beyond "potential" or "possible" harm.

[305] With respect to FCH(A) and FCH(B), the Approval Holder relies on the analysis conducted by its consultants, and points in particular to the testimony of Ms. Clubine, that since a defined channel was not present in respect of FCH(A) and FCH(B), FCH(A) and FCH(B) were dry, and established non-hydrophytic vegetation was present within FCH(A) and FCH(B), those features are not intermittent and, consequently, are not water bodies under Regulation 359/09. The Approval Holder also submits the Tribunal should not rely on the testimony of Mr. Sisson, as he "acknowledged being a landowner in the area, a circumstance giving Mr. Sisson an interest in conflict with his status as an expert."

[306] The Approval Holder submits the area of impervious cover on the ORM is approximately 2ha, which it considers to be "a small fraction of the adjacent drainage area of Fleetwood Creek, which covers over 300 ha." The Approval Holder submits that this is below the threshold response of degradation within a drainage area, which occurs at approximately 10% impervious cover.

Discussion, Analysis and Findings – Water inside the ORMCP area

ORM General Comments

[307] Turbines 4 and 5 in the Project are proposed to be located within the boundaries of the ORM. Some of the evidence led by the Appellants was directed at showing that these turbines, as well as the Project as a whole, do not comply with the terms of the ORMCP as that Plan has been implemented by the City of Kawartha Lakes in its Official Plan. In addition, the Appellants called Mr. Doyle as a witness. As a planner and manager with the MMAH, Mr. Doyle was instrumental in developing and implementing

the province's policy to protect the ORM. He expressed the view that, because renewable energy was not contemplated when the ORMCP was adopted, no renewable energy projects should be built on the ORM. He stated his opinion that no wind energy project located on the ORM could meet the intent of the ORMCP. He therefore recommended that the Tribunal not follow current government policy as expressed in the *GEGEA* or O. Reg. 359/09. Ms. Sutch, on behalf of the Participant STORM, expressed similar views.

[308] In an Order released on September 29, 2014, the Tribunal ruled that compliance with the ORMCP is not a matter within its jurisdiction in this proceeding. The Tribunal went on to rule that the Appellants could pursue issues raised in the notice of appeal regarding the ORM but only insofar as they relate to the *EPA* tests of serious harm to human health or serious and irreversible harm to plant life, animal life or the natural environment.

[309] The Director and the Approval Holder submit that protection of the features and functions of the ORM have been contemplated and assured through inclusion of specific provisions in O. Reg. 359/09, which apply to renewable energy applications. The Appellants submit that the ORMCP does not address renewable energy projects, which were not yet considered at the time the Plan was developed. They submit that the Project should not proceed until the Province has an opportunity to review the interaction of the ORMCP and the *GEGEA* during the ORMCP review that is to take place in 2015.

[310] The ORMCP includes four land use designations: Natural Core Areas, Natural Linkage Areas, Countryside Areas, and Settlement Areas. The regulation outlines permitted uses in each of the designations. Renewable energy generation facilities are not specifically mentioned, although "transportation, infrastructure, and utilities" is Permitted Use no. 4. Those uses are not permitted in Natural Linkage Areas or Natural Core Areas unless the need for the project has been demonstrated and there is "no

reasonable alternative" (among other requirements). There is no similar restriction for the Countryside Area.

[311] Overlaying the land use designations in the Plan are "key natural heritage features" and "hydrologically sensitive features", which also require special consideration and include development setback distances. In addition, there are restrictions for development in areas of "high aquifer vulnerability".

[312] Turbines 4 and 5 are situated in the "Countryside Area" land use designation, not the more protective "Natural Core" or "Natural Linkage" designations under the ORMCP. However, the turbines are located in an area of high aquifer vulnerability, and some significant natural features are located nearby. While it is not self-evident that both turbines would not comply with the ORMCP or the City's Official Plan, compliance with those plans is off the table due to the *GEGEA,* which added s. 62.0.2 to the *Planning Act*. This section provides that "provincial plans" as defined in s. 1 of the Act (other than the Niagara Escarpment Plan), provincial policy statements and official plans do not apply to renewable energy undertakings. Moreover, O. Reg. 359/09 expressly contemplates construction of renewable energy generation projects on the ORM, in any land use designation, provided that certain steps are followed. These steps include the completion of specified studies and compliance with restrictions on the location of project infrastructure within, or within specified distances of, important water features, landscapes and habitats, unless effective mitigation measures are identified and negative impacts are addressed. Confirmation of the MNRF is also required in some cases.

[313] Mr. Doyle and Ms. Storm also referred to the MOE's Technical Guide, which provides, at p. 141:

> Renewable energy projects at project locations that are located entirely or partly on land subject to the Oak Ridges Moraine Conservation Plan have special provisions that must be considered in an application for an REA. These provisions are located in sections 42-46 of O. Reg. 359/09. The provisions were incorporated in the regulation to maintain protection

> of the Oak Ridges Moraine in respect of renewable energy projects since these are now exempt from the Planning Act. While O. Reg. 359/09 describes the minimum legal requirements that pertain to projects in the Oak Ridges Moraine, applicants are expected to consider the full intent of the Oak Ridges Moraine Conservation Plan when evaluating negative environmental effects that will or are likely to occur as a result of the proposed project. Depending on the case-specific details of the project, this could be achieved by expanding the Design and Operations Report as follows:
>
> - For projects in landform conservation areas of the plan, providing greater detail on the topography of landforms and a description of how the project may impact landforms including mitigation measures.
>
> Such projects should also describe the percentage of developed area and the dimensions of any land rendered impervious as a result of the project.
> - Including a Storm Water Management Plan.
> - Describing how the project design adheres to a watershed plan developed by a municipality or conservation authority where one exists / is in effect for the area under consideration.
> - Providing an account of how planning, design and construction practices ensure that no buildings or other site alterations impede the movement of plants and animals among key natural features, hydrologically sensitive features and adjacent land within Natural Core Areas and Natural Linkage Areas defined in the Oak Ridges Moraine Conservation Plan.
>
> Applicants for an REA are encouraged to refer to the O. Reg. 140/02 made under the Oak Ridges Moraine Conservation Act, 2001 and to consult with local municipalities and conservation authorities who have additional experience interpreting the plan as it relates to the project location.

[314] It was Mr. Doyle's view that, even though this Technical Guide is directed at applicants, the direction to "consider the full intent of the [ORMCP] when evaluating negative environmental effects" should apply equally to the Tribunal when rendering its decision.

[315] The first renewable energy project approved under Part V.0.1 of the *EPA* on the ORM was a solar facility in the Region of Durham, in 2013. This approval was initially appealed to the Tribunal, but the Tribunal dismissed the proceeding following a settlement agreement among the parties. In its decision in that case, *Visconti v. Director, Ministry of the Environment* (2013), 83 C.E.L.R. (3d) 218, the Tribunal stated at para. 66:

> On an appeal of the approval of a renewable energy project, or when considering whether to accept a settlement agreement in the context of the *EPA* appeal test, the Tribunal finds that it may consider whether the area in question has a special designation (e.g., the Oak Ridges Moraine) when considering "serious and irreversible" harm in relation to the appeal test.

[316] It is not the proper role of the Tribunal to comment on whether provincial government policy with respect to the interplay between renewable energy and protection of the ORM is wise, nor is it appropriate to make a blanket policy decision to reject all renewable energy projects on the ORM. In a REA appeal, the role given to the Tribunal in the *EPA* is to carefully consider the site-specific evidence to determine whether a particular Project will cause serious and irreversible harm to plant life, animal life or the natural environment. The Tribunal has consistently stated that it interprets the Environmental Test on a case-by-case basis. To that end, the Tribunal considers all evidence presented to it that is relevant to the local environmental context and determines whether there is proof that the project will cause the requisite harm. The presence of a special designation or of particularly vulnerable water features, land forms and habitats, as identified under other legislation or regulations, including the ORMCP, and the impacts of the project on those special features, to the extent relevant to the Tribunal's role under the *EPA*, may be considered by the Tribunal in making its determination in an individual proceeding.

[317] Moreover, In *Ostrander*, the Divisional Court stated, at para. 59, that to the "degree that there is overlap between the role of the Tribunal under the *EPA* and that of" another provincial regulatory regime (in that case the *ESA*), the Tribunal was

> obliged to consider any possibility for conflict between the two statutory regimes in terms of the manner in which they addressed the same subject matter. The Tribunal was obliged to apply its statutory mandate in a manner that would avoid any such conflict, if possible. This need arises, not only from the application of a common sense approach to decision making, but also from the general rule of statutory interpretation that statutes should be interpreted in a fashion that results in their harmonious operation.

[318] The general intent of the ORMCP is to identify and protect certain features and their functions and to limit development to land uses that are compatible with, or do not undermine, those features and functions. To that extent, the intent of the ORMCP is not at odds with the task of the Tribunal under the *EPA*.

i. Fleetwood Creek head waters

[319] Section 44 of O. Reg. 359/09 applies to projects within the ORMCP area. It reads:

> 44. (1) No person shall construct, install or expand a renewable energy generation facility as part of a renewable energy project at a project location that is in any of the following locations:
>
> 2. A permanent or intermittent stream or within 30 metres of the average annual high water mark of a permanent or intermittent stream.

[320] The Regulation goes on to provide, at s. 45, that project components are only permitted within 120 m of a permanent or intermittent stream where the applicant submits a report which identifies the negative environmental effects, identifies mitigation measures, and includes the mitigation measures in an Environmental Effects Monitoring Plan and the Construction Plan report.

[321] The Appellants presented evidence to establish that Turbine 5 will not comply with the setback requirement of 30 m from two intermittent streams, FCH(A) and (B). The Tribunal acknowledges that its role is not to enforce compliance with O. Reg. 359/09; however, the Appellants contend that the failure to respect the setback will cause serious and irreversible harm to the features and functions of FCH(A) and (B).

[322] Intermittent stream is defined in the Regulation as follows:

> "intermittent stream" means a natural or artificial channel, other than a dam, that carries water intermittently and does not have established vegetation within the bed of the channel, except vegetation dominated by

> plant communities that require or prefer the continuous presence of water or continuously saturated soil for their survival.

[323] NRSI was retained by the Approval Holder to prepare the "Sumac Ridge Wind Project Water Report and Environmental Impact Study", dated March 2012 ("Water Report"). The Water Report does not mention FCH(A) and FCH(B) as intermittent streams. It concludes: "There are no surface water features present within the High Aquifer Vulnerability area, but the entire area should be considered indirect fish habitat because of its importance in maintaining coldwater fisheries."

[324] The Water Report was reviewed by the MOE. In evidence is a memo dated September 24, 2013 from B. W. Metcalfe, Senior Environmental Officer, Water Resources Unit, Surface Water Group of the MOE Eastern Region, to K. Rudzki, Senior Project Evaluator at the Environmental Approvals Branch of the MOE in Toronto ("MOE Surface Water Review Memo"). That memo emphasizes the importance of the headwaters function of the surface water in the vicinity of turbines 4 and 5, at p. 7:

> Both the Pigeon River and Fleetwood Creek support "cold-water" habitat fisheries via relatively constant supplies of groundwater fed by the coarse-textured deposits within the Oak Ridges Moraine complex. The presence of brook trout at relatively high densities just down slope in Fleetwood Creek, indicates prevalent groundwater discharge nearby, which may be fed through infiltration in this area of the Oak Ridges Moraine. The project site is within an area identified by MNR as "High Aquifer Vulnerability". Therefore, these areas are important to maintaining groundwater quality and quantity, which is essential to brook trout survival in the recipient surface watercourses.

[325] Ms. DeNure testified that she has observed FCH(A) and (B) flowing with water, at least in April and September 2014. She provided still photographs and video footage that she testified she took from Wild Turkey Road. The Tribunal has no reason to doubt Ms. DeNure's evidence and finds water flowed in the drainage features as she has stated.

[326] Mr. Sisson testified that, in his opinion, the two features are intermittent streams, and Mr. Wimmelbacher testified that, in his opinion, the extent of the blade width for

Turbine 5 is less than 30 m from the “high water mark” of FCH(A) and (B). The Appellants raised the issue of FCH(A) and (B) with the Director in August 2014. In an attempt to resolve the issue, the Approval Holder asked NRSI to revisit the site of Turbine 5 and provide an opinion on whether the features are intermittent streams. Mr. Stephenson and Ms. Clubine of NRSI visited the site in August 2014 and concluded that FCH(A) and (B) are not intermittent streams. Subsequently, the Approval Holder retained Stantec to visit the site to review whether NRSI’s conclusion was justified. This site visit was conducted in September 2014 by Mr. Chandler, Ms. Easterling and Mr. Miller of Stantec, which confirmed the findings of NRSI.

[327] Ms. Clubine testified that the term “intermittent” is imprecise as it does not include any indication of flow frequency. She contrasted “intermittent” streams with “ephemeral” streams, which in her view are those that carry water only during the spring freshet or after a very heavy rainfall event. The evidence of both Ms. Clubine and Mr. Chandler was that there were no signs of recent flow within the depressions that form FCH(A) and (B) and no defined channel for either, although there were knick points indicating prior directed flow.

[328] It is not necessary for the Tribunal to determine how often a stream must flow to be considered “intermittent” as opposed to “ephemeral” because the issue can be resolved by reference to the remainder of the definition of “intermittent stream,” which includes a second element relating to vegetation within the bed of the channel. There is contradictory expert evidence as to whether the second half of the definition has been met, i.e., whether there is established hydrophytic vegetation within the bed of the channel.

[329] Ms. Clubine testified that she observed vegetation in the channel beds, and provided photographs of the FCH(A) and FCH(B) drainage features. Mr. Miller, qualified as a botanist and terrestrial ecologist, conducted the vegetation survey for Stantec. He testified that he walked the length of both features FCH(A) and (B), and found two wetland tolerant species and no wetland indicator species. Mr. Stephenson,

the NRSI biologist with expertise in wetland ecology, testified that there were no vegetation characteristics which suggest a water body present at these two drainage features, and that the wetland indicator species identified by Mr. Miller are found throughout the slopes in the area of Turbine 5, and not associated with the depressions in question.

[330] Mr. Sisson testified there was no vegetation in the bed of the channel. He did not produce photographs of the channel beds, however. In commenting on NRSI's photographs, he testified that the channel beds are very narrow at the height of Wild Turkey Road and therefore difficult to photograph.

[331] The Tribunal prefers the opinions of Mr. Stephenson and Mr. Miller with respect to the presence of vegetation in the channel beds, and the species present. Unlike Mr. Sisson, Mr. Stephenson and Mr. Miller are biologists and qualified to provide opinion evidence on the plant species observed. While Mr. Miller conceded on cross-examination that not all OWES wetland indicator species present in the area were listed in the NRSI 2012 memo, he clarified that wetland-obligate species were listed. Wetland indicator plants can be found both in wetlands, and outside of them. He testified that numerous non-wetland dependent species were present in the channel beds, such as dog-strangling vine.

[332] The Tribunal finds that for both FCH(A) and FCH(B), vegetation is present in the stream beds, and that the vegetation is not dominated by wetland-obligate species. The Tribunal therefore finds that neither FCH(A) nor FCH(B) meets the definition of "intermittent stream" in O. Reg. 359/09. As a result, the setback requirement in s. 44 of the regulation does not apply.

[333] As noted elsewhere in this decision, the Tribunal is not tasked with assessing compliance with the regulation. However, the Appellants' evidence relating to FCH(A) and (B) is relevant to the Tribunal's consideration of harm to the natural environment

under a more integrated approach, discussed further under Issue 1d, regarding Turbine 5.

ii. Groundwater

[334] One of the Appellants' main points is the contention that wind projects should not be allowed in the ORMCP area without a hydrogeological study. They rely on Mr. Kerr's opinion, as stated at para. 7 of his witness statement, that:

> We cannot have an in depth understanding of particular areas of the Moraine without conducting proper in-depth hydrogeological studies involving monitoring wells and chemical testing. We cannot predict the actual impact of interference with the water entering or leaving the Moraine when we do not know all the details of how the water percolates through the Moraine itself.

[335] The Approval Holder submits that, even though it did not provide a hydrogeological report, it fulfilled all the regulatory requirements for a REA application. The Approval Holder retained its hydrogeological witness, Mr. Donaldson, only for the purpose of the hearing.

[336] O. Reg. 359/09 does not require that a hydrogeological study be prepared, but does require that a water report be prepared, and that the qualifications of staff participating in the site investigation be outlined in that report. Of the six staff members listed who prepared the NRSI Water Report in this case, five are biologists and one is experienced as a geographic information systems analyst, related to "terrestrial and aquatic habitat mapping". None of the six is listed as having any hydrogeology expertise. This is consistent with the site-specific field investigations undertaken to prepare the Water Report, which, according to p.15, "focused on fish habitat, substrate, aquatic and riparian vegetation."

[337] In 2010, SLR Consulting was retained to conduct a water bodies investigation. One of the authors of SLR's letter report, dated December 13, 2010, was a hydrogeologist. The NRSI Water Report relies on SLR's findings:

> SLR Consulting Ltd. completed a Water Bodies Site Investigation in November 2010 in which they described the soils and corresponding general hydrogeology. Their investigation concluded that the southern third of the project area intersects the Oak Ridges Moraine where the soils are relatively coarse and well-drained. The remaining upper two thirds of the project area is dominated by dense sandy-silt till, which is much less conducive to infiltration or groundwater discharge areas. Areas of sand, however, were identified within this zone, resulting in localized infiltration and discharge.

[338] The Water Report makes some reference to groundwater, in relation to seepages and groundwater recharge areas. It notes the following with respect to seepage areas (s. 5.5.1):

> Groundwater seepages and upwellings are fundamental parts of the water cycle, returning sub-surface water above ground to contribute to the water quantity and quality of local water features. Groundwater seepages are especially important to temperature- and turbidity sensitive species by providing cool, clear water habitat.
>
> A comprehensive records review of available resources provided no information relating to specific seepage areas within the project area; however, seepage and/or springs are expected in any area where the coarse-textured surficial deposits meet less permeable deposits (Chapman and Putnam 1984) as noted earlier. Extensive seepage areas are located outside of the project area to the east and southeast through the Fleetwood Kames system.

[339] The Water Report also notes the importance of groundwater recharge areas at Turbines 4 and 5 locations, in section 7.5 “Groundwater Recharge Area (High Aquifer Vulnerability)”:

> The groundwater recharge area (City of Kawartha Lakes Official Plan 2010) is shown on Figure 1. Infiltration areas such as this are highly important to maintaining the quality and quantity of groundwater discharge to coldwater fish communities. There are no surface water features present within the High Aquifer Vulnerability area, but the entire area should be considered indirect fish habitat because of its importance in maintaining coldwater fisheries.

[340] The Water Report acknowledges the importance of FCH (A) through (D) as infiltration areas. At p. 19:

> ….(I)t should be noted that these areas are highly important infiltration areas. Evidence to support this point is via the lack of any overland flow within the topographic lows between hills, which would otherwise conduct runoff over finer-grained deposits. … In addition, the presence of brook trout at relatively high densities just downslope in Fleetwood Creek, indicates prevalent groundwater discharge nearby, which may be fed through infiltration in this area of the Oak Ridges Moraine. The above sites are within an area identified by the MNR as "High Aquifer Vulnerability". Therefore, these areas are important to maintaining groundwater quality and quantity, which is essential to brook trout survival. In addition, there are active cattle pastures within this area of high aquifer vulnerability, which may be a potential pathway for contaminants to the aquifer.

[341] Despite the lack of expertise by the Report staff, and despite the lack of investigations relating to hydrogeology, the Water Report makes the following finding in the "Potential Impacts" section, relating to "Aquifer" (s. 8.1.4, p. 29):

> Potential impacts to the aquifer may occur through accidental spills within the vulnerable area shown on Figure 1. More specifically, the SLR Consultants' assessment (November 2010) noted the location of coarse permeable soils in and around Turbines 4 and 5. This area should therefore be considered the most vulnerable to aquifer contamination via accidental spills, and steps to mitigate any potential impacts will be undertaken.

[342] The Water Report makes specific findings regarding "Potential Operational Phase and Long-term Impacts" relating to the aquifer at section 8.2.4. Such impacts are stated to arise from an increase in impervious cover in the vicinity of Turbines 4 and 5. The Water Report states that "the amount of impervious cover past a threshold of approximately 10% (range of 8-15%) in a given drainage area, results in the degradation of fish communities, and tends to eliminate the potential for habitat to sustain salmonids (Stanfield and Kilgour 2006)." The Water Report notes the high aquifer vulnerability in the area, and states that "potential impacts may be a reduction in infiltration and an increase in runoff to the receiving water body downstream (outside the project area), and an associated decrease in water quality and negative change to water quantity." While the Water Report states that mitigation may be achieved by use of porous materials for access roads "and other components", it states "(d)eeper infiltration may however be impacted by the compacted sand layer used for the access

roads." The Water Report also identified accidental spills due to vehicle and machinery movement as a potential impact.

[343] The Water Report goes on to recommend mitigation measures for potential impacts to groundwater resources, summarized at Table 5. The portion of Table 5 with recommended mitigation measures for contamination from spills is reproduced below:

Table 5. Summary of Recommended Mitigation Measures through the Respective Project Phases.		
Construction Phase *		
Potential Impact	**Recommended Mitigation Measure(s)**	**Resulting Level of Concern**
Contamination from Spills	15. Maintenance areas and any hazardous materials (fuel storage) and/or waste storage should be located in a central project area, off-site and in a secure (fenced/locked) and impermeable area capable of containing at least 110% of the storage capacity of the area. 16. Special restrictions are to be developed for works within the high aquifer vulnerability zone (Figure 1; and Section 8.1.4). Generally, no re-fueling or fuel storage is to take place within this restricted zone. 17. Refueling activities should occur only in designated (central) areas and should be located more than 30m from any waterbody. 18. All hydraulic systems on equipment will be inspected prior to mobilization to all sites, daily prior to use, and prior to remobilization to the next site. 19. Equipment shall not be placed within the water body or dry stream channel and is to be conducted from land from a sufficient distance to prevent bank failure. 20. Contractor to have Emergency Response Plan (ERP) in place in accordance with EMP, which includes the special restrictions within the vulnerable zone (Item #16). 21. All construction staff shall be properly trained on Spill Response and the use of Spill Kits. 22. Adhere to project operational control procedure for storage and handling of hazardous materials. All construction staff to be	Low

	trained on proper handling of hazardous materials.	

**The same mitigation measures are adopted for the Operational Phase and the Decommissioning Phase.*

[344] It is notable that, of the 23 recommended mitigation measures for the entire Project, nine relate specifically to the danger of contamination of the groundwater aquifer from spills, despite this being an area that appears to be outside the expertise of the authors.

[345] Following the Water Report, the MOE asked for further information from the Approval Holder, specifically with respect to how the Project will impact features of the ORM. Ortech Environmental prepared a memo dated November 30, 2012 to answer the MOE's questions. The memo provides information on the topography of landforms, how the Project may impact them, and "a description of the percentage of developed area and the dimensions of any land rendered impervious as a result of the project." Attached to that memo is a map of the "Oak Ridges Moraine Landform Conservation Areas with Project Locations", which overlays the ORMCP area over the Project site. In response to MOE concerns relating to whether the Project adheres to a "watershed plan", the memo refers back to the NRSI Water Report to confirm the "goals and objectives" of abundant groundwater, high quality groundwater, and health aquatic resources (along with surface water issues) "have been met."

[346] On the final page of the November 2012 memo, Ortech Environmental again relies on the Water Report to respond to MOE's concerns regarding the ORM. It states "Field analysis of this area presented in the (Water Report) found that potential for impacts related to construction of turbine foundations and other components was minimal and that impacts resulting from potential contamination due to accidental spills can be mitigated and impacts to the aquifer are not predicted." No MOE response to the information in this memo was filed into evidence.

[347] In September 2013, the MOE reviewed and accepted the mitigation measures proposed in the Water Report and EIS, through the MOE Surface Water Review Memo, referred to earlier. The MOE reviewer offered comments "relative to surface water impact concerns", and concluded that he was satisfied with the mitigation measures proposed regarding surface water impacts of the Project. However, the memo clearly states at p. 6 (repeated on p. 8), that the reviewer did not have the expertise to review potential groundwater impacts:

> The project is identified to be located within the **Oakridges Moraine** and this project area has been identified as having **"High Aquifer Vulnerability"**, indicating the presence of highly porous surficial deposits in this part of the moraine.
>
> - The surface water reviewer does not have the expertise to provide relevant comment on the hydrogeological component presented in this section of the Report. It is the reviewer's recommendation that the project submission should be reviewed by an MOE Regional Hydrogeologist to address any potential groundwater impact concerns associated with the project construction activities. (emphasis in the original)

[348] No evidence was provided to the Tribunal that the MOE ever reviewed and approved the hydrogeological component of the proposal. This is particularly surprising and disconcerting, given that two turbines are proposed in a high aquifer vulnerability area of the ORM. If such a document existed, it should have been disclosed to all parties, especially after it was specifically requested by the Appellants in a motion for production of documents, and disclosure was ordered. The Tribunal assumes, therefore, that no document confirming MOE's satisfaction with the background studies relating to groundwater was ever issued.

Whether a hydrogeological report should be required for the ORMCP area

[349] The reports and studies required for a REA application are contained in O. Reg. 359/09. A hydrogeological report is not a study that is required in all cases. There is no specific requirement for a hydrogeological report for projects that are proposed in the

ORMCP area. The Technical Guide explains where a hydrogeological report is required:

> The Hydrogeological Assessment Report is required for Class 3 anaerobic digestion facilities and Class 3 thermal treatment facilities. A Hydrogeological Assessment Report is also required for Class 2 anaerobic digestion facilities located at a farm operation and Class 2 thermal treatment facilities if they are not already regulated under sections 10 or 13 of O. Reg. 267/03 (General) made under the Nutrient Management Act, 2002.

[350] For wind energy facilities, a proponent is required to prepare supplementary water reports only where the project is within 120 m of protected water bodies (lakes, permanent or intermittent streams, or seepage areas). In those circumstances, a proponent must assess whether any negative effects are predicted, and propose mitigation measures (see O. Reg. s. 44(1)). The Technical Guide describes the kinds of reports that may be required to evaluate impact, including on groundwater (p. 168-169):

> Depending on the proposed activities and characteristics of the site, applicants may need to further describe the hydrologic function and sensitivity of ecosystem features for an effective assessment of negative environmental effects that will or are likely to occur. This could require:
>
> - Assessing the relationship of the feature to the hydrologic system and ecological linkages (in consideration of any potential effects to natural heritage features in the area).
> - Conducting fieldwork with a focus on the nature of the interaction between the ground water system and the surface water system and the associated sensitivity of the ecosystem within the spatial extent of the area of investigation.
> - Conducting sampling on the underlying aquifer(s), surface water bodies, and any ecological linkages to significant natural heritage features.
> - Conducting sampling (scale of the study) in the catchment area providing both base-flow and surface water input to the natural heritage features within and beyond the 120 metres setback in some cases.
> - Extrapolating the data to assess stress resulting from the proposed development.

[351] Again, these additional evaluations are only required where the proposed Project is within a certain distance of a listed “water body”.

[352] These are precisely the types of studies the Appellants argue that the Approval Holder should have conducted in the high aquifer vulnerability area within which Turbines 4 and 5 are proposed. As noted above, no water bodies were identified within 30 m of the Project components in this case, so the studies were not required by the regulation.

[353] The ORMCP itself makes no reference to a hydrogeological report, but refers simply to hydrological reports. *ORMCA* defines "hydrological features" as "(a) permanent and intermittent streams, (b) wetlands, (c) kettle lakes and their surface catchment areas, (d) seepage areas and springs, and (e) **aquifers and recharge areas**." (emphasis added)

[354] For developments that must meet the ORMCP policies, the Kawartha Region Conservation Authority ("KRCA") undertakes a review and applies its policies and regulations relating to water protection. The Kawartha Conservation Plan Review and Regulation Policies (August 1, 2013) with respect to "sensitive groundwater features", is as follows:

> 3.4.9(1) KRCA will recommend that an Environmental Impact Study scoped to address potential hydrological/hydrogeological impacts be completed for all development and/or site alteration proposals in or adjacent to sensitive groundwater features, including recharge/discharge area and aquifers that have been identified in a Municipal Official Plan, Watershed Plan, Subwatershed Plan and/or other Studies (such as the Trent Assessment Report developed under the Clean Water Act). In accordance with the provisions of the Provincial Policy Statement, the study shall demonstrate that these features and their related hydrological functions will be protected, improved or restored.

[355] Given that the Project is "in or adjacent to" a "recharge/discharge area", KRCA would have required a study to address potential hydrological/hydrogeological impacts, if the development were other than a renewable energy project under the *GEGEA*. Indeed, the KRCA requested that the Approval Holder prepare a hydrogeological report in this case.

[356] While it appears that the Approval Holder met the minimum terms of O. Reg. 359/09, it did not fully address the extent of the sensitive nature of the area designated as high aquifer vulnerability. In the Tribunal's view, a precautionary approach to protecting the natural environment in this circumstance, where there are sensitive water features present, should have involved a hydrogeological assessment. As the legislation currently stands, however, there is no requirement for a hydrogeological report and, even if the *ORMCA* applied, there would be no specific requirement for one. The absence of a hydrogeological report means that predictions made about impacts on water resources will be more uncertain. It is not, however, evidence that there *will be* serious and irreversible harm to the natural environment.

[357] The evidence before the Tribunal about the risk of harm to the ORM comes primarily in the form of Mr. Kerr's opinion. He has particular knowledge and experience with the ORM and local conditions, and raised several important concerns. However, Mr. Kerr did not opine that the Project will cause serious and irreversible harm to the ORM groundwater. His opinion was that the Director had insufficient information on which to conclude an absence of harm, and that *if* there is a spill, it will enter the groundwater and cause harm. In such a case, mitigation measures and REA conditions become essential.

[358] The Director argues that, should the Tribunal find serious harm to the natural environment, nonetheless the harm will not be irreversible due to the mitigation measures incorporated into the REA.

[359] The mitigation measures listed in Table 5 of the Water Report, reproduced above, form part of the REA. Generally, no re-fueling or fuel storage is to take place within the high aquifer vulnerability zone, and refueling activities should occur only in designated (central) areas and should be located more than 30 m from any waterbody.

[360] In addition, REA conditions G and H are relevant:

> G1. The Company shall employ best management practices for stormwater management and sediment and erosion control during construction, installation, use, operation, maintenance and retiring of the Facility, as described in the Application.
> G2. The Company shall not commence construction of the Facility until a stormwater management plan has been submitted to, and approved in writing, by the Director.
> G3. The Company shall not store hazardous materials or conduct refuelling activities in any sensitive areas as identified in the Sumac Ridge Wind Farm Water Report and Environmental Impact Study, prepared by Natural Resource Solutions Inc., dated April 2012.
>
> **H - WATER TAKING ACTIVITIES**
> H1. The Company shall not take more than 50,000 litres of water on any day by any means during the construction, installation, use, operation, maintenance and retiring of the Facility.

[361] In evaluating the sufficiency of these mitigation measures, it is instructive to note that they mirror the restrictions found in ORMCP, which also prohibits certain uses in areas of high aquifer vulnerability, as follows:

> **Areas of high aquifer vulnerability**
>
> 29. (1) Despite anything else in this Plan except subsection 6 (1), the uses listed in subsection (5) are prohibited with respect to land in areas of high aquifer vulnerability, as shown on the map entitled “Reference Map for Ontario Regulation 140/02 (Oak Ridges Moraine Conservation Plan) made under the Oak Ridges Moraine Conservation Act, 2001” dated March, 2002, on file in the offices of the Ministry of Environment and Energy at Toronto.
>
> (5) Subsection (1) applies to the following uses:
> 1. Generation and storage of hazardous waste or liquid industrial waste.
> 2. Waste disposal sites and facilities, organic soil conditioning sites, and snow storage and disposal facilities.
> 3. Underground and above-ground storage tanks that are not equipped with an approved secondary containment device.
> 4. Storage of a contaminant listed in Schedule 3 (Severely Toxic Contaminants) to Regulation 347 of the Revised Regulations of Ontario, 1990.

[362] It appears that the mitigation measures outlined in ORMCP regulation match those in the REA. However, the most effective mitigation measure is the proper siting of a development. Proper siting choices cannot be made without good information about the site.

Conclusion on Issue of Waters within the ORM

[363] The Tribunal finds that the evidence does not demonstrate that the Project will cause serious and irreversible harm to the waters of the ORM. Nevertheless, this case has highlighted some inconsistencies between the protections offered by the ORMCP, and the protection of the ORMCP area under O. Reg. 359/09. There may be an opportunity to address any inconsistencies during the 2015 Plan review. For the purposes of this appeal, however, the Tribunal makes the following recommendations for consideration by the MOE:

- A qualified MOE groundwater reviewer should sign off on all REA applications in the ORMCP area; and
- A hydrogeological report should be prepared which investigates the interactions of surface water and groundwater, where any REA project is proposed on high vulnerability aquifer locations.

2. Waters outside the ORM

[364] The Appellants allege there are two locations in particular outside the ORMCP area where serious and irreversible harm to waters will be caused through "contamination, impervious cover, and changes to infiltration rates and flow patterns": at the site of Turbine 1 and on Gray Road. The Appellants allege that the impacts to the water features at these locations cannot be mitigated as alleged in the Water Report, and that water features were missed or minimized in the report.

i. <u>Turbine 1</u>

Submissions

[365] The Appellants submit that Project components will cause serious and irreversible harm because they will be within, or too close to, a wetland in the vicinity of

Turbine 1 referred to in the Water Report as “WET-001”. The Appellants disagree with NRSI’s conclusion that the wetland is “not significant”. They submit it is large enough to be a standalone wetland, with a seepage area greater than 2 ha in size. They also point to the wetland’s connections to the seeps, referred to as PRT(1) and PRT(2). The Appellants argue that “regulatory setbacks that provide protection for this sensitive waterbody have not been applied.”

[366] The Appellants submit that the NRSI estimation of the size of WET-001 should not be relied upon, as there is no indication in the Water Report of the length of the wetland, how the dimensions were measured, or the actual size. The Appellants submit that the Approval Holder’s maps show the wetland “extending a length of approximately 350m and at its widest point, at the southern end measuring approximately 125 m across”, which is greater than the 30 m width reported by NRSI.

[367] The Appellants rely on estimates provided by Ms. Storm and Mr. Preston. Ms. Storm, who was qualified as an expert geophysics data processor, reviewed aerial photographs of WET-001 provided by Ms. DeNure. Ms. Storm concluded the wetland is “at least 2 ha”. Mr. Preston is a farmer and testified as to the past use of the fields, and described getting a tractor stuck in the wet areas. He estimated that “the wetland extends four to five acres (1.61 to 2.02 ha) outside the wetland area of 0.5 ha indicated by NRSI”. The Appellants submit that the Tribunal should rely on his estimate, given his familiarity with land measurements as an experienced farmer.

[368] The Appellants submit that Turbine 1 and its related infrastructure does not comply with the 30 m setback requirement of s. 44 of O. Reg. 359/09, with respect to an “intermittent stream”, Pigeon River Tributary 3 (PRT3), and associated “ephemeral stream” Pigeon River Tributary 4 (PRT4), which feed into WET-001. The Appellants also allege that the construction of the access road to Turbine 1 will interfere with the run-off flow into the wetland; that removal of vegetation will increase the amount of sediment; and that sun exposure will result in increased evaporation as well as

decreased nutrient uptake. In this regard they rely on the predicted “pre-mitigation” impacts in the EOS report.

[369] The Appellants also submit that any spill of hazardous materials will contaminate the groundwater, since the water table is close to the surface in this area. This concern applies equally to Turbine 1 and Gray Road, as it does to the ORMCP area.

[370] The Appellants believe that the entire Project should be subject to the stricter ORMCP requirements of O. Reg. 359/09, s. 44(1). This is because: (i) the Approval Holder publicly undertook to treat the entire Project as if it were within the ORMCP boundaries; and (ii) in reality the natural features do not follow strict boundaries found on a map, but characteristics of the moraine features are found throughout the Site.

[371] The Appellants refer to two documents as examples of the Approval Holder’s undertaking. The Design and Operations Report dated June 2012, at p. 20 under the section entitled “Oak Ridges Moraine”, states:

> As all five Project turbines are in relatively close proximity, and the ORM boundary is simply an administrative boundary on a map, the area for all five turbines was conservatively assessed as being part of the Oak Ridges Moraine. All reports and studies therefore considered that the entire project may be located within features of the moraine.

[372] As well, in correspondence with Rick McGee, Mayor of City of Kawartha Lakes dated January 20, 2011, the Approval Holder stated (emphasis in the original):

> **We should note, however, that we have always planned on using the Renewable Energy Approval (REA) criteria for the Oak Ridges Moraine in all of our assessments, regardless if the particular part of the project is in or out of the Moraine, and we will continue to do so.**

[373] The Appellants contend the construction will permanently impact the flow of seeps and springs in the area, and will contaminate the aquifer. They submit that construction of Turbine 1 will require significant water taking (i.e., pumping water out of

the excavation). The Appellants submit that the Approval Holder's witnesses did not consider shallow wells and a shallow aquifer in their reports. The Appellants also argue that the increase in impervious ground cover will harm the recharge function of the area.

[374] The participants Ms. Stauble, the City of Kawartha Lakes, and STORM support the Appellants' position that the Project will cause serious and irreversible harm to the water resources in the area of Turbine 1.

[375] The Approval Holder submits that, as concluded in the reports prepared by NRSI, there will be no serious harm to water resources, and that any temporary construction-related impacts can be mitigated. The Approval Holder submits the Tribunal should prefer the evidence of Mr. Donaldson and Mr. Singh to that of Mr. Kerr. It alleges that Mr. Kerr assumed the role of advocate rather than that of an independent expert, and in particular that the tenor of his reply submissions impairs the objectivity of his witness statement and testimony.

[376] The Approval Holder notes Mr. Donaldson's conclusion that the local, deep water supply aquifer in this area will not be impacted by the Project as it is considerably below ground surface and is "not expected to vary significantly with time, and would not be expected to approach the ground surface."

[377] The Approval Holder also points to the geotechnical testimony of Mr. Singh, that the turbine bases will be well above the aquifer, and that native soils from excavation of foundations would be used as fill to retain permeability.

[378] The Approval Holder submits that Condition G2 in the REA, which requires that a stormwater management plan be prepared and approved by the Director prior to commencing construction, responds to the Appellants' concerns relating to run-off.

[379] The Director submits generally on the allegations of harm to water that "the Appellants have speculated about *possible* effects with the *potential* for harm. The

Appellants have not proven *causation* in showing that serious and irreversible harm to the water *will* be caused by the Project operating in accordance with the Sumac Ridge REA." (emphasis in original submission)

Analysis and Findings: Turbine 1 location

Wetland WET-001 – size and setback

[380] NRSI identified the presence of one candidate significant wetland, near the location of Turbine 1, but after evaluating it concluded that the wetland is small, about 0.5 ha in size, and "based on the OWES, wetlands less than 2 ha in size are not large enough to be standalone wetlands, and wetlands smaller than 0.5 ha are not included as part of a wetland complex unless they provide an important ecological benefit (OMNR 2002)." As WET-001 was deemed "not significant", no EIS was required under the Regulation.

[381] The EOS Report confirmed a "single unevaluated wetland community" (WET-001) within the Project area, but outside the ORMCP area. The result of the wetland evaluation is found on p.39 as follows:

> WET-001
> This small (0.5ha) wetland has been identified as a Red-osier Dogwood Mineral Deciduous Thicket Swamp Type (SWTM2-1), dominated by red-osier dogwood and willow species. Tributary 4 of Pigeon River appears to originate in this wetland. This feature is located at a high elevation in the moraine but within a topographic low, resulting in the presence of a wetland area…. This wetland is not located within the Oak Ridges Moraine Conservation Plan Area (City of Kawartha Lakes 2007).
>
> Based on the Ontario Wetland Evaluation System, wetlands less than 2ha in size are not large enough to be stand alone wetlands, and wetlands smaller than 0.5ha are not included as part of a wetland complex unless they provide an important ecological benefit (OMNR 2002). The wetland was observed to be a characterized by a small, riparian, red-osier dogwood thicket swamp, which did not contain any significant vascular plant species or habitat for significant wildlife species. This feature is also located considerable distances from other wetland habitats, as no other wetlands are found within the project area.

> As such, it was concluded that the wetland was not suitable for evaluation or inclusion into existing evaluated wetlands.
>
> Based on the site-specific characteristics of this wetland community, including its small size, considerable distance to other wetland habitats, and species associations, NRSI recommends that this small wetland habitat be considered not significant.

[382] It is clear from the evidence provided that there is a wet area, and a wetland feature, in the vicinity of Turbine 1; however, the parties disagreed on its size and boundaries. Delineating the boundaries of a wetland is a task that requires specialized expertise. Ms. Storm was not qualified as an expert in delineating wetlands, and does not hold an OWES certificate.

[383] The Appellants question the methods used by NRSI in its evaluation of WET-001. However, Mr. Stephenson, the Project manager and lead author of the EOS report, is certified in ELC System for Southern Ontario and OWES. Mr. Stephenson was qualified by the Tribunal to give opinion evidence as a biologist with expertise in plant and wildlife and wetland ecology, and with special expertise in ELC. The Tribunal accepts NRSI's evaluation of the wetland and finds that the wetland is smaller than 2 ha in size and is not part of a wetland complex.

[384] The NRSI EOS report states that "the wetland is located 7 m from the closest project location, identified as an access road, and is located 23 m from Turbine 1". The setback in s. 38 of O. Reg. 359/09 does not apply because the wetland is not "significant". Given that Turbine 1 and WET-001 are outside of the ORMCP area, the setback requirements in s. 44(1) of O. Reg. 359/09 do not apply. The impact of public commitments made by the Approval Holder to comply with the more stringent setbacks required for the ORM is not a question that the Tribunal must address. This is because whether or not the Project components encroach into a regulated setback from a wetland, the Environmental Test before the Tribunal remains the same: will the Project operating in accordance with the REA cause serious and irreversible harm to the natural environment?

[385] The type of harm the Appellants submit will occur to the wetland with construction at the location of Turbine 1 is removal of vegetation, siltation and construction of impervious surfaces. This was expressed as a generalized concern and little specific evidence of the alleged harm was presented. The mitigation measures proposed by NRSI were determined to be acceptable to Mr. Metcalfe, the MOE's surface water reviewer. These include numerous measures to control erosion and sedimentation during the construction phase. Mr. Metcalfe's review indicated that the area of impervious cover within the watershed for the Pigeon River tributaries would be approximately 4 ha, or 0.8% of the drainage area. He stated that the "potential long-term impact from the impervious cover in the west drainage area is expected to be somewhat mitigated by the natural topography in the vicinity of Turbines 1 and 3." In addition, potential loss of infiltration will be mitigated through "strategic grading" and the use of porous surface materials. The Tribunal finds that the Appellants have not shown that serious and irreversible harm will be caused to the natural environment due to the location of Turbine 1 close to WET-001.

Impacts to seepage areas S1 and S2/groundwater contamination

[386] The NRSI Water Report recognizes the high water table in the area of Turbine 1. Appendix III, Site Investigation Field Notes, describes the water table in the area of Turbine 1 as follows:

> (T)opographically the feature is at a very high point on the moraine. Because of this, and the relatively shallow depths, flow may be intermittent but the water table is near the surface (hence the presence of the wetland).

[387] The Water Report examined potential impacts to seepage areas S1 and S2, which are identified as "wells that were fed by artesian pressure". NRSI concluded that they "will not be affected directly or indirectly by the proposed works."

[388] The Appellants contend that the seepage areas will be harmed by contamination of shallow wells, water taking during construction, and by compaction of the soil causing run off.

[389] Mr. Singh testified that at borehole 25 (at the Turbine 1 location), water was found at 7.8 m BG. The MOE well records show static water levels in the Project area at depths ranging from 30 to 47 m BG. The depth of the turbine foundation will be approximately 2.3 m BG; thus approximately 6 m above the measured groundwater level. While Mr. Singh conceded on cross-examination that he has not been to the Site, and was under the impression it was flat and there were no seeps or springs in the vicinity, his opinion is based on the data collected at the boreholes.

[390] The Tribunal accepts the evidence of Mr. Singh respecting the measured groundwater levels in the deep borehole at Turbine 1.

[391] Mr. Singh agreed that water taking sometimes occurs during the construction process, although it is by no means certain in this case, given that borehole 25 was dry when first drilled. Also, he testified that moisture in soil is not necessarily indicative that there is water in sufficient quantity to flow. He testified, however, that if water taking occurred during construction, consistent with condition H1 in the REA, it would be for a short time and would stabilize once construction is complete.

[392] Mr. Singh was candid that one must be careful about extrapolating water level measurements at boreholes to the area between the samples. This limitation is at the heart of Mr. Kerr's concerns regarding the possible need to pump out water from an excavation, if groundwater seeps into it. Mr. Kerr believes there is insufficient data to conclude, as Mr. Donaldson does, that the deep aquifer is separated from surface water by an impermeable layer.

[393] However, the REA contains conditions that account for these uncertainties. Condition H1 prohibits taking more than 50,000 litres of water a day. Mr. Singh also

testified to the ongoing inspections and safety precautions to be taken during construction of the components.

[394] The Tribunal must consider whether the Project will cause harm when operating in accordance with the REA conditions, and finds that there is no evidence that the Project, operating within the water taking limit, will cause serious and irreversible harm to water in seeps near Turbine 1.

[395] The allegation that the aquifer will be contaminated due to the high water table in this area is dealt with below under the “Gray Road” analysis.

ii. Gray Road

[396] The Project involves constructing an overhead transmission line, consisting of 22 hydro poles, along a portion of Gray Road. The Appellants raise the following concerns relating to water resources in the area of Gray Road: there is no set-back relating to seep S3; a second seep was not evaluated; and the water table is close to ground surface level and vulnerable to contamination.

Submissions

[397] Many of the submissions made by the Parties in relation to waters within the ORMCP area apply equally to the potential impacts of the Project on waters outside that area. The Appellants submit that there has been minimal consideration of water features along Gray Road in the Approval Holder’s reports, and that there are insufficient data to make the findings that have been made by the Approval Holder’s consultants.

[398] The Approval Holder originally planned to access Turbines 1 and 3 from Gray Road. The approved REA, however, shows the access road to these Turbines coming directly off Highway 7A, along a private driveway. The Appellants submit that the

Approval Holder's change in proposed access, from Gray Road to Highway 7A access, amounts to an admission by the Approval Holder that Gray Road runs through significant habitat of endangered species and wetlands. The Appellants point to the following exchange between the Approval Holder and the Ministry of Transportation ("MTO"), as evidence of the environmental features along Gray Road:

> During our telephone discussion last week, you explained that there is a wetland and species at risk issue should Gray Road be extended to provide access to the site. Prior to approving a Highway 7A mutual entrance, MTO will require the environmental documentation supporting the need to avoid the Gray Road access alternative. (Correspondence Ortech with MTO)

[399] S3 is a seepage area located directly on Gray Road, and located along the path of the above ground electrical line. The Appellants submit that, in addition to S3, there is a second seep in the middle of the road allowance along Gray Road which was not considered in the Water Report. They state it is approximately 100 m east of Highway 35, and supports a population of frogs. In this regard the Appellants cite observations by Ms. Zednik and Ms. DeNure. The Appellants further submit that the Water Report fails to note that the water table is at the ground surface level for a stretch of Gray Road.

[400] The Appellants submit that the proposed mitigation measure for S3 in the Water Report, to "complete work as quickly as possible", is insufficient. They submit it is vague, and there is no indication of how the seep could be restored as habitat. The Appellants note there is no mitigation proposed for the seep they allege was missed, or the groundwater found at surface level.

[401] The Appellants submit that both S3, and the Pigeon River tributaries, are located within "the prohibited 30 m setback zone" under s. 44(1) of O. Reg. 359/09. While s. 44(1) applies only to renewable energy projects on the Oak Ridges Moraine, as discussed above, the Appellants argue that the Approval Holder has confirmed on numerous occasions that it will conduct itself as if the entire Project were within that designation.

[402] The Approval Holder submits, with respect to Gray Road, that the Water Report concludes under the section on “Seepage areas” (s. 9.1.3) that there will be no long-term impact to S3 “as it is located within Gray Road, which will not be altered.” The Approval Holder submits that there is no evidence that the Project will cause serious and irreversible harm through contamination of groundwater.

Analysis and Findings – Gray Road

[403] As noted in Table 4 of the Water Report, NRSI recognized one natural seep, S3 within Gray Road. O. Reg. 359/ 09 defines a seepage area as “a site of emergence of ground water where the water table is present at the ground surface, including a spring.”

[404] The summary of expected impacts to S3 is found on p.29 of the Water Report, as follows:

> S3 is located directly on the existing Gray Road. Installing the above ground electrical line along Gray Road may increase the amount of sediment movement downslope assuming there is some vegetation removal and exposure of soils. There are no aquatic habitats that could be affected by this sediment and therefore the potential impact is negligible.

[405] The Water Report recommends the following mitigation measure for S3:

> It will not be feasible to mitigate sediment entrainment into the seep at S3 using standard methods because it is located directly within Gray Road. As such, impacts may be mitigated by completing work in this location as quickly as possible to minimize the duration of impact.

[406] Gray Road is not within the ORMCP area or a high aquifer vulnerability zone, so the setback requirements for a seep, under s. 44 of O. Reg. 359/09, do not apply.

[407] Although the Appellants are concerned that the mitigation measures proposed in the Water Report are insufficient, there was no specific evidence presented to the

Tribunal that the construction impacts from placing the poles will cause serious and irreversible harm to S3 within Gray Road, or any other water features in the area.

[408] As discussed earlier with respect to Turbine 1, Mr. Kerr testified to his concern that continuous water taking, if required during construction, may negatively impact the water resource. However, Mr. Donaldson testified that buried infrastructure may cause temporary interference with perched groundwater, if present, but that proposed backfilling of excavations with compacted, excavated, native soils would maintain soil permeability and prevent deflection of shallow groundwater flow. The REA also includes conditions relating to maximum water taking.

[409] Mr. Kerr's main concern related to susceptibility of the area to spills, where the presence of the water table is at the ground surface. Mr. Kerr confirmed that the water table at Gray Road is at surface level from Highway 35 along the first few hundred metres of the road allowance, and stated this situation "also means any contaminants emerging from the upper reaches of the Moraine would spread rapidly in this area."

[410] Mr. Donaldson testified that shallow, perched groundwater may be present on a local scale, as well as areas of groundwater seepage, but that zones of groundwater seepage are not connected to the deeper groundwater aquifers. He also testified that the risk of cleaning chemicals contaminating the aquifer is very low.

[411] Mr. Kerr was critical of Mr. Donaldson's conclusions that the deep aquifer is protected by its depth, of "up to 100m", below the surface. In addition, he was critical that Mr. Donaldson did not consider the threat of spills to groundwater or shallow water zones around Gray Road "because he only focused on very deep aquifers". In Mr. Kerr's view, it is impossible to evaluate the vertical hydraulic connectivity of deep aquifers to shallow groundwater and surface water springs at the site without a hydrogeological report.

[412] Nonetheless, Mr. Kerr testified that seeps provide a shallow permeable pathway for contaminants into groundwater, and he testified that *if* there is a spill, he is certain it would enter into the groundwater. He based his opinion on knowledge of the ORM environment, and experience working in the area.

[413] The Tribunal has considered the evidence relating to contamination of groundwater in the section relating to the ORMCP area. That evidence, and analysis, applies both to areas within and outside the ORMCP.

[414] Neither Mr. Kerr's nor Mr. Donaldson's opinion evidence is supported by detailed hydrogeological data. Given the lack of scientific data on the hydraulic connectivity between the surface water features and deeper aquifers, the Tribunal finds it is not possible to make conclusions with any certainty regarding hydraulic connections or permeable pathways between the shallow surface water, and deeper groundwater. As is often the case when considering future harm to the natural environment, the Tribunal is left assessing the likely effectiveness of the mitigation measures proposed in the REA. While the likelihood of spills and degree of harm to the natural environment, should a spill occur, are key elements, they are difficult to quantify.

[415] The REA contains conditions to minimize the risk of contamination from spills. Condition G3 is designed to minimize the risk of spills in Project areas that are within a "sensitive area" such as the high aquifer vulnerability zone. Gray Road is not within this zone, and as noted by the Tribunal above, the provisions of O. Reg. 359/09 specific to the ORM do not apply in this area.

[416] REA Conditions G1 and G2 relate to stormwater management, and deal with erosion and sediment control. In addition, the mitigation measures outlined in the Water Report are part of the REA, incorporated through Condition A1 and the definition of "Application". Table 5, set out above, summarizes the mitigation measures directly related to the Appellants' concerns of contamination from spills.

[417] In making his decision, the Director relied on the Water Report, which was prepared in accordance with O. Reg. 359/09. A hydrogeological report would have provided him with better evidence of a hydraulic connection, or lack thereof, between the deep aquifer and the shallower surface water in this area. However, the Tribunal finds that the Director has included conditions to protect water resources in the area, which to some extent compensate for the lack of more specific information. The Tribunal finds there is insufficient evidence to show the Project, operating in accordance with the REA, will cause serious and irreversible harm to water resources outside the ORM area.

Sub-issue 1b: Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to Species at Risk ("SAR")

Harm to Birds

Appellants' Submissions

[418] The Appellants submit that there are several species of birds that Mr. Carpentier identified as breeding or foraging in the "project area", which are classified as "SAR" under the *ESA* and which will be seriously and irreversibly harmed by the Project. The Appellants submit that most of these species were not identified by NRSI, the Approval Holder's consultant, because they carried out an inadequate number of surveys.

[419] The Appellants, relying on Mr. Carpentier's opinion that all of the foraging and breeding habitat of the SAR will be "negatively impacted" by the Project, argue that "it is clear that a very significant amount of habitat will be permanently damaged and/or removed … due to construction necessary to build and support the Project turbines as well as construction and maintenance of access and service roads." In addition, they submit that the Project will "fragment the breeding populations, reduce foraging sites and impact the amount of food that is available to parents feeding their young." They

disagree that the proposed mitigation measures will prevent or address the harm that will be caused.

[420] The Appellants submit that the relevant scale of impact is the population in the area of the ORM. They disagree with the use of PVA and argue that the impacts of the Project should be assessed locally to determine the impacts on meta-populations. They rely on the Tribunal's decision in *Fata* in support of this approach. The Appellants submit further that it is not appropriate to rely on the evidence of Dr. Kerlinger and Dr. Strickland to the effect that birds that are displaced by the Project will move to nearby sites. They argue that those witnesses are not familiar with the area and are not aware that there are no other areas to which birds could relocate when they are displaced from the Site.

Director's Submissions

[421] The Director submits that the Appellants have not met their onus to prove that the Project will cause serious harm to birds, much less serious and irreversible harm. The Director further submits that the Appellants have not demonstrated that the Project "will cause" harm, but have only speculated about possible effects having only the potential for harm.

[422] The Director also submits, in the alternative, if the Tribunal finds that the test for serious harm is met, that the mitigation measures outlined in the REA and in the Approval Holder's documents referred to therein will ensure that the harm is not irreversible.

[423] The Director submits that the Appellants provided no evidence respecting collision mortality for any of the bird species they have identified. As a result, the Director asserts, Dr. Kerlinger's evidence that wind turbines do not have significant impacts on birds due to collision mortality is uncontested.

[424] The Director submits that the only evidence presented by the Appellants relates to the potential loss of habitat due to construction and operation of the Project. The Director argues that the Approval Holder's witnesses, Drs. Kerlinger and Strickland, are eminent specialists who provided opinions based on sound and established scientific approaches that were grounded in the scientific literature, and so their evidence should be preferred to that of Mr. Carpentier and Dr. Girard. The Director also argues that the Tribunal should give little weight to the raptor study done by Mr. Dyson and put into evidence through Mr. Carpentier, but that in any event Mr. Dyson's study does not indicate that there will be any significant risk of harm to raptors from the Project.

[425] The Director asserts that Mr. Carpentier was inconsistent in his evidence about the amount and location of habitat that will be lost due to construction of Project infrastructure, yet he concluded that it would be "significant". The Director notes that the only specific evidence regarding the displacement of birds due to hedgerow destruction by Dr. Girard related to song sparrows, an abundant species; otherwise, her comments were general in nature with no estimates of potential losses. The Director also notes that Dr. Girard agreed with Dr. Kerlinger that Bobolink and Eastern Meadowlark do not nest or forage in or near hedgerows. The Director submits that Dr. Strickland and Mr. Carpentier disagree about the presence of suitable habitat on the Site for Eastern Whip-poor-will and Bank Swallow and that Dr. Strickland's evidence should be preferred.

[426] It is the Director's position that the Appellants have failed to provide any data on the bird population being affected by the Project. The Director submits that data on the relevant population is necessary for the Tribunal to be able to determine, within an order of magnitude, whether the alleged harm will be irreversible. The Director submits that the REA contains conditions restricting construction activities and requiring monitoring, reporting and mitigation that will ensure that irreversible impacts are avoided.

Approval Holder's Submissions

[427] The Approval Holder submits that there is no evidence before the Tribunal that demonstrates that there will be serious and irreversible harm to bird populations as a result of construction and operation of the Project in accordance with the REA. The Approval Holder recommends that the Tribunal prefer the evidence of NRSI and Drs. Kerlinger and Strickland to that of Mr. Carpentier. The Approval Holder submits that the only evidence regarding collision mortality for the species identified by Mr. Carpentier demonstrates that there will not be significant harm to those species due to collisions. In addition, the Approval Holder argues that Mr. Carpentier did not provide evidence on the size and status of the populations of birds that might be affected, which is necessary to assess whether the alteration of habitats for the Project will result in serious and irreversible harm to those species. Thus, the Approval Holder submits, the only evidence is that provided by Dr. Strickland that there will not be serious and irreversible harm.

[428] The Approval Holder submits that the differences in the survey results between Mr. Carpentier and NRSI are due to the fact that Mr. Carpentier surveyed a different area than did NRSI. The Approval Holder objected to some of the evidence presented by Mr. Carpentier in his reply witness statement on the grounds that he could have presented this evidence when he was testifying in chief, and thus was splitting his case, that he was relying on inadmissible hearsay, and that he departed from the standard of independence expected of an expert and became an advocate.

Analysis and Findings

The presence of SAR

[429] Mr. Carpentier's evidence was primarily devoted to identifying the birds that frequent the area in and around the Site. He undertook surveys over four days in the summer of 2014, and identified seven SAR as possible or confirmed breeders.

Mr. Carpentier also based his opinion on a raptor survey done by Mr. Dyson. The Approval Holder's consultant, NRSI, conducted a records review and a habitat assessment and then carried out two breeding bird surveys in June and July of 2010. Their results were compiled into the SAR Report, dated July 2012.

[430] NRSI reports that the "approximate boundaries of the project area are Highway 7A to the north, Ballyduff Road to the south, agricultural and wooded areas to the east of Highway 35, and agricultural land to the west of Pit Road." What they refer to as the "project area" is the "project location" as defined in O. Reg. 359/09 plus 120 m beyond the boundary of the project location. The following discussion will refer to NRSI's surveyed area as the "project area". It is recognized that Mr. Carpentier did not survey the same area and his references to the "project area" are not consistent with NRSI's, although there is overlap. Mr. Carpentier did not survey the area around Turbine 1 and went beyond the project area to the south. The raptor survey conducted by Mr. Dyson covered a substantially larger area but only a very small portion of the project area.

[431] Mr. Carpentier's witness statement and the NRSI report were reviewed by Dr. Strickland and Dr. Kerlinger, who provided evidence at the hearing on behalf of the Approval Holder. The witnesses all agreed with NRSI on the presence of three SAR breeding in the project area: Bobolink, Eastern Meadowlark and Barn Swallow, all of which are listed as "threatened" under the *ESA*. There was some disagreement about how close Barn Swallow might be nesting, but all agreed that the species forages in the project area.

[432] Mr. Carpentier testified that he found evidence of other SAR in the area he surveyed, not found by NRSI, specifically Bank Swallow, Eastern Whip-poor-will and Chimney Swift, which are "threatened", and Golden-winged Warbler and Common Nighthawk, which are "of special concern". The additional species identified for the first time by Mr. Carpentier in his reply evidence have been disregarded as improper reply, since the Approval Holder and Director have had no opportunity to respond.

[433] Mr. Carpentier's evidence regarding Bank Swallow is a sighting of one individual foraging within 120 m of Turbine 5 on June 10, 2014. NRSI did not identify this species through the records review or its surveys. Mr. Carpentier did not assert that Bank Swallow nest in the project area. Both Dr. Strickland and Dr. Kerlinger agreed that there is no suitable habitat in the project area for Bank Swallow and that breeding in the area beyond cannot be confirmed by the sighting of one bird during one survey, particularly as the birds nest in colonies.

[434] Mr. Carpentier's evidence that Eastern Whip-poor-will is breeding comes from one survey date when he heard two males singing. He also asserted that there is suitable nesting habitat available but did not specify where. NRSI identified this species during the records review but concluded that suitable habitat did not exist in the project area. NRSI reported that the species is associated with large forests, of more than 100 ha, of which there are none in the project area (although a significant woodland of 1,068 ha abuts the Turbine 5 site). Both Dr. Kerlinger and Dr. Strickland agreed with NRSI and noted that the species likely nests in the area to the south and east of the site of Turbine 5, likely more than several hundred metres from any turbine. This is consistent with Mr. Carpentier's record of his surveys, which indicates that he observed the birds more than 120 m "to the south and east of T5" on May 30, 2014.

[435] NRSI identified Chimney Swift as possibly in the project area during the records review but concluded that no suitable habitat exists within the project area.
Mr. Carpentier disagreed, arguing that the species might nest in the chimneys of old farm houses in the area or in tree cavities in the project area. However, neither he, nor anyone else, observed any of these birds in any of the surveys conducted.
Dr. Strickland noted that there appears to be very limited habitat for Chimney Swift in the area surrounding the project area. Dr. Kerlinger considered it unlikely that the species nests in the project area.

[436] Mr. Carpentier's evidence of the presence of Golden-winged Warbler is an observation of two males on June 10, 2014 in the vicinity of Turbine 3. In reply he

mapped only a small area for foraging within the project area. Dr. Strickland stated that this single observation is not enough to establish that the species is nesting in or regularly using the area. He noted that the OBBA shows only minimal breeding activity in the vicinity of the Site.

[437] Regarding Common Nighthawk, Mr. Carpentier observed two males displaying on May 30, 2014 in an area more than 120 m from Turbine 5. His view was that there is suitable habitat in the project area. NRSI did not identify this species through records review or its surveys. Dr. Strickland observed that it is likely that the species nests in the Manvers area, but there is no evidence that it nests in the project area itself.

[438] In summary, the Tribunal finds that there is sufficient evidence that Bobolink, Eastern Meadowlark and Barn Swallow, all of which are “threatened” species, are present in the project area. The Tribunal also finds that the evidence for the other bird SAR identified by Mr. Carpentier as using the project area is not strong, although it appears that Bank Swallow, Common Nighthawk, Golden-winged Warbler and Eastern Whip-poor-will may use areas adjacent to the project area. The evidence from Mr. Dyson’s raptor survey does not support a finding that any raptor SAR nest in the project area.

Impacts of the Project on SAR

[439] The Appellants do not allege that the turbines themselves or other infrastructure will cause direct mortality to the SAR identified; rather, they argue that the Project will have indirect effects through permanent destruction of the birds’ habitat and through “displacement”, that is, by birds avoiding the operating turbines and seeking out other suitable breeding and foraging locations.

[440] With respect to habitat destruction, the Appellants assert that construction of the turbines and the access roads will permanently damage or remove “a very significant

amount of habitat," and will "fragment the breeding populations, reduce foraging sites and impact the amount of food that is available to parents feeding their young."

[441] "Habitat" is defined in s. 2(1) of the *ESA* to mean an area prescribed by a regulation as the habitat of a species or, where no regulation is in place, "an area on which the species depends, directly or indirectly, to carry on its life processes, including life processes such as reproduction, rearing, hibernation, migration or feeding, and includes places in the area described … used by members of the species as dens, nests, hibernacula or other residences." Habitat of an endangered or threatened SAR is protected from damage or destruction under s. 10(1) of the *ESA*.

[442] There is no doubt that some SAR bird habitat will be removed for construction of the Project. NRSI estimated that the Site contains 199 ha of suitable habitat for open country breeding birds and that 2.78 ha of this habitat, or 1.4%, will be permanently disturbed by the construction of the turbines, access roads and infrastructure. NRSI indicates that 86% of the habitat removal will be within a heavily grazed pasture, with the remaining 14% (0.4 ha) in a hayfield. NRSI described the impact on Bobolink and Eastern Meadowlark habitat as follows:

> This habitat has also been deemed not significant during the evaluation of significance phase of this project, as it is dominated by heavily grazed cattle pasture, and several areas are located adjacent to maintained municipal roads. In addition, only one indicator and one common field species were identified during the breeding bird surveys, indicating that these fields do not support large populations of single species or large populations of several species. Therefore, based on the proposed development layout, as well as the high level of disturbance on the open country bird breeding habitat, limited impacts to bobolink [and eastern meadowlark] breeding habitat are anticipated.

[443] NRSI described the impact on Barn Swallow habitat as follows:

> Although removal of some foraging habitat for barn swallow is anticipated, the majority (98.6%) of [open pasture habitat] will remain intact. Therefore, based on the proposed development layout, limited impacts to barn swallow foraging habitat are anticipated. In addition, man-made structures will not be removed within the project area, and

> therefore, nesting habitat for barn swallow will not be impacted by the proposed development.

[444] The NRSI SAR Report did not address the impact of the Project on the other "possible" SAR identified by Mr. Carpentier.

[445] The Appellants did not attempt to quantify the amount of habitat that will be lost due to construction and operation of the Project, submitting only that it will be "a very significant amount." Mr. Carpentier's reply evidence was that 100% of the habitat of the SAR will be "negatively impacted". It seems likely that Mr. Carpentier meant that the quality of the species' habitat would be diminished by the Project, as he stated that Eastern Meadowlark may still breed onsite were the Project to be built. However, Mr. Carpentier did not base his opinion on personal experience or observations with regard to the behaviour of birds at wind farms, nor did he ground his opinion in the scientific literature. Most importantly, he did not describe what level of impact would be expected. Even if one were to consider that 100% of the habitat will be negatively impacted, the question remains as to what specific type and degree of impact this would have on the SAR. For example, would there be any impact on population numbers or breeding success of the SAR, or would the impact be negligible?

[446] Dr. Kerlinger's evidence included studies on the displacement of birds due to the presence of wind turbines. One study explained the difference between habitat loss and displacement as follows:

> The footprint of turbine pads, roads, and other infrastructure required for a wind farm is generally a small percentage of a site, often estimated at two to four percent. Thus, in most cases, overall land use is little changed by wind power development, and actual habitat lost is small. This is particularly true in agricultural landscapes.
>
> Despite the relatively small footprint of a wind farm, the amount of wildlife habitat potentially altered by a wind-power project may extend beyond the limits of disturbed ground. This results from the presence and operation of the wind turbines, which are large, new structures in the landscape, and the increased human activity to construct and maintain them. Various studies have examined wind turbine presence to determine whether birds avoid or are displaced as a result of these new features.

[447] While displacement is generally less well studied than collision mortality, several of the studies referenced by Dr. Kerlinger confirm that there can be displacement, particularly of some breeding grassland species, as a result of the presence of wind turbines. However, it was Dr. Kerlinger's opinion, based on these studies, that the expected displacement here will not be significant or necessarily long-term. For Bobolink, for example, he stated that the area of displacement may be 50 – 75 m from a turbine, whereas for Eastern Meadowlark, there is likely to be "minimal" displacement. Dr. Strickland also concluded that there would be minimal displacement of other grassland bird species and raptors, based on the literature he reviewed. He also noted that the small size of the Project and the mitigation measures that restrict construction activities during the breeding season would limit displacement.

[448] The Tribunal finds that there will be some loss of SAR habitat and some displacement caused by the Project. However, the Tribunal does not conclude that there will be destruction of and displacement from 100% of SAR habitat. At a minimum, the amount of habitat that will be destroyed will be 2.78 ha. Other than finding that there will be some displacement, the degree of displacement has not been proved. The question is whether this type and extent of harm is "serious and irreversible".

[449] As the Tribunal stated in *APPEC*, the fact that a species has been identified as being at risk is a factor that has "considerable weight" in assessing serious and irreversible harm. The *ESA* provides useful benchmarks for the Tribunal's assessment of serious and irreversible harm to SAR.

[450] The *ESA* prohibits damage to or destruction of the habitat of threatened species. Under the scheme of the act, the Minister may issue a permit to authorize what would otherwise be a contravention of s. 10(1), subject to numerous conditions. This type of permit was at issue in the *APPEC* decision. In addition, the General Regulation under the *ESA*, O. Reg. 242/08, provides for a number of exemptions. For example, regarding Bobolink and Eastern Meadowlark, s. 23.6 of O. Reg. 242/08 provides:

> (1) This section applies with respect to any activity to develop land, such as the construction of buildings, structures, roads or other infrastructure and the excavation and landscaping of land, in an area that is the habitat of bobolink or eastern meadowlark …
> (2) Clause 9(1)(a) and subsection 10(1) of the Act do not apply to a person who, while carrying out an activity described in subsection (1) kills, harasses, captures or takes a bobolink or an eastern meadowlark, or damages or destroys its habitat, if,
> (a) The size of the area of habitat of bobolink or eastern meadowlark that is damaged or destroyed by the activity is equal to or less than 30 hectares; and
> (b) The person satisfies all of the conditions set out in subsection (4).

[451] These conditions include notifying the Minister, preparation of a habitat management plan, restrictions on activities between May 1 and July 31, routing access roads along existing fencerows and hedgerows, creating new habitat or enhancing existing habitat, and so on. A similar provision applies to Barn Swallow habitat, but targets activities that damage or destroy habitat "while carrying out the maintenance, repair, modification, replacement or demolition of a building or structure that provides barn swallow habitat" (s. 23.5 of O. Reg. 242/08).

[452] O. Reg. 242/08 was amended in 2013 to add s. 23.20, which specifically exempts wind energy facilities from the *ESA* in certain circumstances. This provision, effective July 1, 2013, provides that the prohibitions in the *ESA* on harming a member of a species or damaging or destroying its habitat do not apply to "a person who is engaged in the operation of a wind facility" if that person satisfies a number of conditions before doing anything that is prohibited. These conditions include: registration of the activity with the Minister; preparation of a mitigation plan that details the steps to be taken to "minimize the adverse effects of the operation of the wind facility on each species… and its habitat"; approval of the mitigation plan by the Minister; implementation of the mitigation plan; monitoring of the effects of operation and the effectiveness of mitigation measures; and reporting those results. This registration process operates independently of the Tribunal's decision and it is not known whether the Approval Holder has sought or obtained approval of a mitigation

plan. Regardless, the provision is an indication that the Ontario government expects wind facilities to take steps to ensure that adverse effects on SAR are minimized.

[453] The MNRF treats Bobolink and Eastern Meadowlark together because of their similar habitat requirements. There is no regulation defining their habitat; however, MNRF has issued a "general habitat description" and a "recovery strategy" that recommend habitat definitions for these species. Under the General Habitat Description for the Eastern Meadowlark and the General Habitat Description for the Bobolink, issued by the MNRF under the *ESA*, habitat for these species is divided into three categories. Category 1, with the "lowest tolerance to alteration", is the nest and the area within 10 m of the nest during the nesting and fledging season, for both species. Category 2, with a "moderate level of tolerance to alteration", is the area between 10 and 100 m of the nest or centre of defended territory for Eastern Meadowlark, and between 10 and 60 m for Bobolink. Category 3, with a "high level of tolerance to alteration," consists of the area of "continuous suitable habitat" between 100 and 300 m of a nest or centre of defended territory for Eastern Meadowlark and between 60 and 300 m for Bobolink. "Suitable habitat" for these species includes pastures, hayfields, old or abandoned fields, and native grasslands. Both documents go on to state that "[a]ctivities in general habitat can continue as long as the *function of these areas for the species is maintained and individuals of the species are not killed, harmed, or harassed*" [emphasis in the original]. They also indicate that "[d]evelopment activities that result in significant fragmentation or removal of large tracts of suitable grasslands" are "[g]enerally not compatible." According to the General Habitat Description for the Barn Swallow, Category 1 habitat is the nest, Category 2 is the area within 5 m of the nest, and Category 3 is area between 5 and 200 m of the nest. Activities that are "generally not compatible" include "[s]ignificant modifications to structures such as buildings and bridges where nests are found" and development activities that result in significant fragmentation or removal of large tracts of habitat.

[454] The MNRF Recovery Strategy for Bobolink and Eastern Meadowlark (2013) states that the abundance and productivity of both species require relatively large

patches of grassland, of more than 10 ha, and on grassland surrounded by other open habitats (p. 65). The Recovery Strategy states that the main threats to their habitat generally are the conversion of hayfields and pasture into cropped land, abandoned fields that succeed to forest, and encroachment of urban development onto agricultural lands. Other threats to the species include loss of habitat in their wintering grounds, incidental mortality from agricultural operations, particularly hay cutting during breeding season, intensive grazing, habitat fragmentation, and pesticide exposure, among others. The Recovery Strategy indicates that collision threats for Bobolink include tall structures that are lit at night, with relatively high mortality at wind turbine sites due to their aerial displays. For Eastern Meadowlark, the Recovery Strategy states that there is no significant threat due to collisions with tall structures. This is consistent with the evidence presented by Dr. Kerlinger.

[455] The Recovery Strategy's short term goal (over the next ten years) is to slow the annual rate of population decline to an average or no more than 1% per year while the long-term recovery goal for these species is to "maintain stable, self-sustaining populations" at roughly 90% of the present day population. This is because, "in reality, stabilizing populations at present-day levels is deemed impossible because of the nature and number of threats. Habitat loss in Ontario can be expected to continue, at least over the next 10 years, owing to provincial trends in urbanization, agricultural commodity prices, human population growth, and changes in the beef and dairy sectors" (p. 76-7). Actions that will be pursued include primarily incentives to landowners to encourage them to increase and manage grasslands, to maintain existing pasture, and to modify agricultural operations.

[456] In considering the impacts of the Project in light of this guidance, the Tribunal finds that, while any loss of habitat is of concern, the amount of Bobolink and Eastern Meadowlark habitat that will be destroyed by the Project is small. The evidence is that they prefer grasslands over heavily grazed pasture for nesting; therefore the building of infrastructure on heavily grazed pasture will likely have a minimal, if any, effect on their breeding success. The amount of the more attractive nesting area, i.e., hayfields, that

will be destroyed totals 0.4 ha, which is small compared with their required field size of 10 ha. In addition, given the design of the Project and the existing land uses in the area, there is no evidence that the Project will result in fragmentation of existing fields or the loss of adjacent open habitats.

[457] With respect to Barn Swallow, because the birds nest in structures – usually barns – which will not be affected by the Project, the primary concern here is with respect to the effect of the Project on their foraging habitat. The MNRF Recovery Strategy for Barn Swallow (2014) indicates that Barn Swallows, which are aerial insectivores, forage close to the ground in a wide range of open and semi-open country habitats, "including farmland, lakeshore and riparian habitats, road rights of way, clearings in wooded areas, parkland, urban and rural residential areas, wetlands and tundra." In the Recovery Strategy, the MNRF recommends that habitat for Barn Swallow be narrowly defined to include current season and previously used nests, areas within 1.5 m of current nests, and significant roost sites containing more than 5,000 birds, until knowledge gaps are filled. Under that limited definition, there would be no habitat lost due to the Project. However, even considering the loss of 2.78 ha, there is no indication in the evidence that this would cause serious harm to individuals or the local population of this species.

[458] As noted, the Tribunal finds that displacement of birds will likely occur; however, the extent of displacement is not likely to be significant for Bobolink, Eastern Meadowlark, Barn Swallow, or the SAR identified by Mr. Carpentier as possibly present. The Project consists of a small number of turbines. The mitigation measures proposed by the Approval Holder and incorporated into the REA prohibit construction activities on the Site during the breeding season, thereby minimizing disruption to same year nesting. The measures also require the Approval Holder to delineate clearly the work area using barriers, to educate on site staff in identification of SAR, and if a SAR is observed, to follow the SAR Sighting Response Protocol. In addition, following construction, the proposed measures include carrying out maintenance activities during daylight hours to avoid excessive noise or light at night and monitoring to ensure that

mitigation strategies are effective. Mr. Carpentier agreed that these measures are appropriate. It is not known how much displacement will be caused by operation of the turbines, but the evidence of the Appellants does not demonstrate that displacement will be permanent or that it will have more than a minimal impact on individual birds. The Tribunal prefers the evidence of Dr. Kerlinger and Dr. Strickland over that of Mr. Carpentier on this point.

[459] Overall, the Tribunal finds that the Appellants have not advanced sufficient evidence to demonstrate that the locally nesting population of Bobolink, Eastern Meadowlark, Barn Swallow or other bird SAR will suffer serious and irreversible harm because of habitat destruction and displacement caused by the Project.

Harm to Butternut Tree

Submissions

[460] The Appellants submit that the Butternut tree is listed as a SAR both provincially and nationally, that at least one Butternut is present near the location of Turbine 5, and that construction activity at that location will either directly or indirectly destroy it.

[461] The Appellants acknowledge that there is one Butternut sapling on the east side of Wild Turkey Road near the location of Turbine 5, but suggest that there are more in that general area. They point to the “incidental observations” of Mr. Miller from Stantec who, during his site visit in September 2014, observed two mature Butternut trees in the area and two small saplings east of Wild Turkey Road at the west end of FCH(B). They submit that he was not able to provide a precise location for these trees.

[462] The Appellants argue that the mitigation strategy for the one confirmed sapling will not work because the area for a buffer around it will have to be reduced as a result of Mr. Wimmelbacher’s survey. They state that NRSI located the sapling 8 m from Wild Turkey Road and concluded that a buffer of 8 m from construction could be maintained

if the road were expanded by 1 m to the west and no construction took place east of the road. They Appellants submit that Mr. Wimmelbacher surveyed the present distance as 5.2 m rather than 8 m. In addition, they argue, Mr. Wimmelbacher found historical evidence that the road allowance for Wild Turkey Road is 20 m, rather than the surveyed 15 m, so that expansion of the road to City standards, measuring from the centre line, would bring it within 2.5 m of the Butternut sapling.

[463] The Director submits that the Appellants' submission that the 8 m buffer will have to be reduced to 2.5 m is incorrect because Mr. Wimmelbacher conceded he was not certain about the precise location of Wild Turkey Road and because the City disagreed with him that it was a 20 m Quarter Sessions road. The Director submits that the mitigation measures, including a 25 m buffer around the sapling, with an 8 m buffer to Wild Turkey Road, a prohibition of vegetation removal in the area, and clear marking of vegetation to be protected, are sufficient to ensure that the Butternut sapling will not be harmed.

[464] The Approval Holder submits that Mr. Miller found more Butternut trees because he surveyed a different area than NRSI did. It submits that NRSI recorded the precise location of the sapling, as 8 m from the roadway and that there is no evidence proving that construction of the Project would cause serious and irreversible harm to the Butternut.

Analysis and Findings

[465] The Butternut is listed as "endangered" under the Ontario *ESA*. MNRF in its Butternut Assessment Guidelines cites the primary threats to it as canker disease and hybridization with non-native walnut species. In its SAR report, NRSI confirmed the presence of a sapling, its size (3 cm in diameter at breast height), and its location using GPS as "approximately 8 m east of the closest project location, identified as an access road." In addition, NRSI stated that it observed "six walnut species (*Juglans* sp) saplings, identified as possible butternut saplings or hybrids" in the southeast portion of

the project area. NRSI reported: “These saplings, located in the savannah community east of Wild Turkey Road, have all been planted by the landowner, and as such, are not protected under Section 9 of the ESA (OMNR 2011).” This statement appears to explain Mr. Miller’s “incidental observations.” The Tribunal agrees that the evidence supports the presence of one Butternut sapling in the project area.

[466] The exact location of the Butternut is a disputed point. NRSI puts it 8 m from Wild Turkey Road, east of the fence, while Mr. Wimmelbacher puts it between the fence and the road, 5.2 m east of the road surface. The Tribunal cannot determine this based on the evidence presented. Whatever the exact location of the sapling, the issue for the Tribunal is whether construction of the Project will cause it serious and irreversible harm.

[467] As stated by Mr. Richardson in his evidence, it is not known whether the Butternut sapling is a pure specimen or a hybrid, but the Approval Holder and MNRF are treating it as a pure Butternut. As outlined in its letter to the Approval Holder, the MNRF requires the following mitigation measures to protect the sapling:

> The Butternut tree (listed as Endangered and protected under the ESA) requires a 25 m buffer to protect the root system of the tree. MNR is aware than an existing municipal road, Wild Turkey Road, is beside the Butternut. The buffer shall extend as far as possible around the tree, excluding Wild Turkey Road. The tree shall be clearly marked and all staff shall be made aware of its presence to ensure no harm is caused to the tree. All construction material, trucks, etc., shall be located away from the Butternut tree. If these mitigation measures cannot be met and the tree is not protected from harm or damage, compensation will be required.

[468] It is not known if the City of Kawartha Lakes will authorize the modification and use of Wild Turkey Road as access to the Site. If Wild Turkey Road is not modified, the minimum buffer between it and the sapling will be 5.2 m, using Mr. Wimmelbacher’s figure. If it is authorized for use, it is unknown what the modifications to Wild Turkey Road will be or where exactly they will be located. The Appellants argue that the road is a 20 m Quarter Sessions road, not the 15 m road that Mr. Wimmelbacher surveyed.

This is speculative, as Mr. Wimmelbacher himself admitted. Moreover, Mr. Taylor, representing the City, which owns the road, disagreed with Mr. Wimmelbacher on this point. If it is upgraded, Mr. Rojas testified that the City standard is a road surface of 8.9 m, even though the road surface of the opened portion of Wild Turkey Road is only 8 m. He also testified that the City usually prefers to centre a road surface on the centre of the road allowance.

[469] Even without knowing the specifics, the Tribunal finds that if the road is upgraded and opened for access to the Site, there is a risk that this construction activity will be close enough to the location of the Butternut that it could be damaged directly by construction equipment, or indirectly by having its roots damaged. Thus, the protection of the Butternut sapling will depend on the success of the mitigation measures. The Appellants did not challenge the mitigation measures *per se* but expressed the conviction that the buffer to the east would be inadequate to ensure protection.

[470] The Tribunal notes that the Approval Holder has undertaken to maintain a buffer of 8 m between the Butternut sapling and Wild Turkey Road and to conduct no construction activities to the east of the existing road. This undertaking formed the basis of the MNRF's acceptance of the mitigation measures proposed by NRSI. The MNRF letter to the Approval Holder states that if "these mitigation measures cannot be met and the tree is not protected from harm or damage, compensation will be required." It states further that "[s]hould any of the project parameters change, please notify the District office immediately to obtain advice on whether the changes require authorization under the ESA 2007."

[471] The Tribunal finds that there is a risk of harm to the Butternut sapling but there is insufficient proof that construction of the Project will cause serious and irreversible harm to Butternut. However, this finding is based on the maintenance of a buffer of 8 m from construction activities on Wild Turkey Road, as discussed above.

Other SAR

Submissions

[472] The Appellants submit that the Project will destroy suitable habitat for Snapping Turtle, Eastern Hog-nosed Snake and Milk Snake, all SAR, and habitat for other reptiles and amphibians. They submit that these species were not properly studied by NRSI.

[473] The Appellants point to the identification of a pond on the south side of Gray Road by NRSI and Ortech Environmental as suitable habitat for Snapping Turtle. They note that NRSI concluded that the pond did not meet the criteria for specialized habitat so did not evaluate its significance. They submit that Ms. DeNure saw a mature turtle on the road allowance in 2013.

[474] The Appellants argue that, even though the Approval Holder has no plans to use Gray Road as an access route, it still intends to install hydro poles to carry the transmission line to the substation along this route. It is their position that this activity will cause serious and irreversible harm to the Snapping Turtle.

[475] They also submit that there is Eastern Hog-nosed Snake habitat in the area and that Mr. Preston observed one on his land as recently as 2013. They refer to the MNRF Recovery Strategy, which recommends that "in areas where Eastern Hog-nosed Snakes occur, areas of contiguous natural habitat including open areas …, wetlands, forest and forest edge within five kilometres be prescribed as habitat…" They submit that construction of the Project will require significant land alteration in the snake's habitat, which will result in serious and irreversible harm to this species.

[476] The Appellants submit that Milk Snakes, a species of special concern under the *ESA*, have been observed near the Site by Ms. DeNure and that there are potential hibernacula for them in rock piles along Wild Turkey Road, in pastures and in

hedgerows. They argue that widening of Wild Turkey Road will require removal of the rock piles, destroying an important part of the species' habitat.

[477] Finally, the Appellants submit that there is suitable habitat for other reptiles and amphibians in the area, but that there was no proper study done and as a result no mitigation strategies in place.

[478] The Director submits that the Appellants have led no evidence that establishes the existence of suitable habitats for any of these other SAR in the project area. The Director notes that NRSI conducted a proper evaluation in accordance with the regulatory requirements and the guidance of the MNRF and concluded that there was no suitable habitat in the project area.

[479] The Approval Holder submits that the Appellants have not established that there is suitable habitat for any of these other SAR in the project area.

Findings

[480] The Appellants raise a concern about the presence of suitable habitat specifically for Snapping Turtle and two species of snake, and, generally, for other reptiles and amphibians.

[481] Snapping Turtle is a species of special concern under the *ESA*. The MNRF on its website indicates that the species lives mostly in water, but that during the nesting season females travel overland to find a nest site, usually along streams, but that they will also use gravel shoulders of roads, dams or aggregate pits for nesting. Threats to the species include adult mortality when crossing roads and nest predation in urban and agricultural areas. The only evidence the Appellants presented of Snapping Turtle is the existence of the pond on Gray Road and an observation by Ms. DeNure of a mature turtle near the pond. This evidence may indicate the presence of suitable habitat for Snapping Turtle, but the only component of the Project near this location will be the

installation of the hydro poles connecting the Project to the substation at Gray Road and Highway 35. The Appellants did not present any evidence regarding how the installation of the poles will cause serious and irreversible harm to Snapping Turtle.

[482] Eastern Hog-nosed Snake is a threatened species under the *ESA*. It is found in a range of areas, preferring sandy soils. MNRF identifies conversion of lands to agricultural use or waterfront recreational use as the major threat to its habitat and human persecution and road kills as serious threats. The evidence of Eastern Hog-nosed Snake was the observation of Mr. Preston in the pit on his property to the northeast of the Site, beyond the project area. There was no evidence provided regarding how the Project will cause serious and irreversible harm to this species or its habitat.

[483] Milk Snake is a species of special concern under the *ESA*. MNRF reports that it lives in a range of habitats, but that in southern Ontario it is often found in old farm fields and farm buildings where there is an abundance of mice. It hibernates underground, in old logs or the foundations of old buildings. The MNRF identifies human persecution as the most significant threat to the species, but also notes that habitat loss due to urbanization, road construction and conversion of natural areas to agricultural use are also threats. The only evidence of Milk Snake comes from the observations of Ms. DeNure on her property, outside the project area. There was no evidence presented about how the Project will cause serious and irreversible harm Milk Snake or its habitat.

[484] In summary, the Tribunal finds that there is not sufficient evidence to demonstrate that the Project will cause serious and irreversible harm to these species or their habitats.

Sub-issue 1c: Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to bird and wildlife habitats

[485] The Appellants contend that the Project will result in the destruction of two areas that contain distinct types of bird and wildlife habitat: a savannah and hedgerows. Each of these is addressed in the following sections.

Savannah

Submissions

[486] The Appellants submit that Turbine 5 is located in a savannah, which is a unique ecosystem that is identified under the ORMCP and O. Reg. 359/09 as a significant natural feature. They submit that construction in a savannah is prohibited and that construction of the Project will mean the "complete removal" of the savannah, which will result in serious and irreversible harm to plant life, animal life and the natural environment.

[487] The Appellants submit that NRSI, when conducting the NHA, used the ELC system to identify different habitats and identified the area of Turbine 5 as "Dry-Fresh Mixed Savannah Ecosite (SVMM2)." They assert that the Approval Holder's expert witnesses confirmed this classification in their oral testimony. In addition, they submit, Ms. Zednik's plant survey revealed the presence of several savannah and tallgrass prairie indicator plants.

[488] The Appellants submit that, despite its classification of the area of Turbine 5 as SVMM2, NRSI concluded that the Project is not located within 120 m of known savannahs. They term this conclusion "illogical".

[489] According to the Appellants, there will be complete removal of the savannah ecosite to accommodate the construction of Turbine 5, the laydown area and the access road. They submit that once destroyed, this unique ecosystem cannot be replaced.

[490] The Director submits that the Appellants have failed to establish that this site is a "savannah" as defined in the ORMCP, which is the definition used in O. Reg. 359/09. That definition relies on the presence of specific plant species, 25-60% tree cover, and mineral soils and requires identification by the MNRF or a qualified person using MNRF evaluation procedures. The Director submits that the Appellants did not lead qualified expert evidence on any of these factors. The Director submits that NRSI properly used the ELC system, ORMCP Technical Paper Series No. 1, and MNRF's Significant Wildlife Habitat Technical Guide as guidance in determining whether this part of the Site constituted a savannah. The Director submits that Ms. Zednik is not qualified to make that determination.

[491] The Approval Holder submits that NRSI used the appropriate guidance documents in reaching its conclusion that no savannahs were present. It argues that the Appellants have referred only to NRSI's initial records review and have not reported NRSI's findings from its detailed site investigation, thus failing to acknowledge the conclusions in the latter report. The Approval Holder submits that Ms. Zednik's plant survey did not identify any species on the MNRF's list of indicator plants, set out in Appendix N-2 of the SWHTG. It submits further that she was not qualified as an expert to give an opinion on the presence of savannahs or tallgrass prairies.

Findings

[492] O. Reg. 359/09 prohibits the construction of a renewable energy facility in, or within 120 m of, a "sand barrens, savannah or tallgrass prairie" if the project is located within the ORMCP area, subject to an environmental impact study report that identifies negative effects and mitigation measures. The regulation incorporates the definitions of

sand barrens, savannah and tallgrass prairie found in the ORMCP. There, savannah is defined as

> land … that
> (a) has vegetation with a significant component of non-woody plants, including tallgrass prairie species that are maintained by seasonal drought, periodic disturbances such as fire, or both;
> (b) has from 25 per cent to 60 per cent tree cover;
> (c) has mineral soils; and
> (d) has been further identified, by the Ministry of Natural Resources or by any other person, according to evaluation procedures established by the Ministry of Natural Resources, as amended from time to time.

[493] Tallgrass prairie is defined in a similar way except that it has tree cover of less than 25%.

[494] The Appellants assert that the area of Turbine 5, which is located within the ORMCP area, is a savannah or tallgrass prairie, that it has not been adequately protected, and that it will be destroyed and cannot be replaced.

[495] The Appellants consider the area to be a savannah or tallgrass prairie because of NRSI's classification and because of Ms. Zednik's plant survey. NRSI identified the area as "Mineral Cultural Savannah Ecosite (CUM1), or alternatively … SVMM2" in its records review report. The Appellants base their claim on the fact that NRSI referred to the area again in this way in the EOS report but stated an illogical conclusion. This submission is misleading. The quote stating the area is CUM1 or SVMM2 from the EOS report is taken from a section discussing whether nine candidate woodlands meet the criteria to be considered "significant", and the location of Turbine 5 is discussed as part of the woodland referred to as WOD-001. The EOS reports that the area of Turbine 5, as a "community within WOD-001", is a different vegetative community and does not itself meet the criteria for being a significant woodland. The missing piece in this narrative is the site investigation report. As discussed by Mr. Stephenson in his testimony, the NRSI Site Investigation Report concluded, based on the ELC system, the ORMCP Technical Paper Series No. 1 and the Appendix N-2 from the SWHTG, that the

community did not meet the definition of a savannah in the ORMCP because of the lack of vascular plants indicative of savannah.

[496] The Appellants assert that Ms. Zednik found several indicator plants consistent with the presence of tallgrass prairie or savannah at this location. However, Ms. Zednik is not qualified to make a determination using the ELC system. In addition, Ms. Zednik and NRSI relied on different lists of savannah indicator species. NRSI used the list in Appendix N-2 of the MNRF's SWHTG, entitled "List of vascular plant [*sic*] indicative of Tall Grass Prairie and Savannah habitats in southern Ontario," while Ms. Zednik used a list in Tallgrass Ontario, A Landowner's Guide to Tallgrass Prairie and Savanna Management in Ontario (2005) ("Tall Grass Guide"). She also did not find any plants on the Appendix N-2 list. Both she and NRSI identified plants at this location that the Tallgrass Guide lists as "problem plants" that are invasive, non-native or non-prairie species.

[497] The ORMCP does not contain a map of sand barrens, savannahs or tallgrass prairies on the ORM, but leaves the identification of them to municipalities, which are required by s. 9(2) of the *ORMCA* to implement the Plan by way of their official plans. The City of Kawartha Lakes did not identify any part of the project area as a sand barrens, savannah or prairie in SPA-7, Schedule 5, of its Official Plan for the ORM Policy Area.

[498] The Tribunal finds that the evidence does not support the Appellants' assertion that the area surrounding Turbine 5 is a savannah, as defined in the ORMCP.

Hedgerows

Submissions

[499] The Appellants submit that hedgerows exist throughout the project area and function as important bird and wildlife habitat, particularly as corridors that link important

wildlife habitats. They argue that "all, or almost all," of these hedgerows will be removed to accommodate the Project, causing serious and irreversible harm to plant and animal life and biodiversity.

[500] The Appellants submit that the hedgerows on the Site are found on private property and along public road allowances. They contend that up to eight hedgerows on private property will be removed, but that these hedgerows were not properly evaluated in the NHA. They submit that the amount of vegetation removal is significant, citing the Approval Holder's Construction Report, which estimates that 30 cubic metres ("m^3") of wood waste will be produced to construct access roads, 100 m^3 to upgrade Wild Turkey Road, 30 m^3 to construct turbine foundations, and 100 m^3 to install electrical lines.

[501] The Appellants submit that hedgerows extending more than 1 km along both sides of the municipal road allowance will be removed to upgrade Wild Turkey Road and another 1 km along Gray Road for construction of the transmission lines. They estimate that the hedgerows contain 2 trees per linear m, resulting in the loss of more than 5,000 trees.

[502] The Appellants submit that these hedgerows will be permanently destroyed, resulting in a loss of habitat for birds, small mammals, and invertebrates. They argue that even if replanted, it would take many years for the hedgerows to reach their current maturity, and they would be subject to invasive species, thus reducing overall biodiversity.

[503] The Director submits that these hedgerows are not significant wildlife habitat. He submits that Dr. Girard, the Appellants' witness on this issue, conceded that she had not visited the Site and had no specific information about the hedgerows in the area of the Project. The Director submits that she was only able to testify in general terms about the importance of hedgerows as habitat for plants and animals in farmland. He also contends that Dr. Girard conceded that her estimate of the loss of 57 pairs of song

sparrows would have no immediate impact on the population of song sparrows in the province, and that Bobolink and Eastern Meadowlark, as SAR on the Site, avoid hedgerows.

[504] The Approval Holder submits that NRSI did not evaluate hedgerows as a specific feature because they are not identified as “natural features” under O. Reg. 359/09; rather, NRSI properly evaluated the significance of woodlands and wildlife habitat in the project area.

[505] The Approval Holder submits further that there is no reliable evidence before the Tribunal regarding the quantity or location of any hedgerow removal that may occur. It points to the NRSI’s EIS Report, which states that “other areas of upland vegetation clearing will be limited to hedgerow crossing which will occur perpendicular to the hedgerow orientation.” It argues that the Appellants have submitted no authority for their estimates of the distances of hedgerows to be destroyed or for the factor of 2 trees per m.

[506] The Appellants object that the EIS Report was not entered into evidence at the hearing and cannot be relied on. They also reply that the hedgerow along Wild Turkey Road was not evaluated as part of the significant woodland but was given a distinct ELC designation.

Analysis and Findings

[507] The evidence presented to the Tribunal indicated that a “hedgerow” has no single meaning, but can originate naturally or be planted, comprise a range of native and non-native plant species, and be used by a variety of animals depending on age of the plants, size, continuity and location. Some are referred to as wind breaks or fencerows. NRSI, in carrying out the NHA, classified the lands in the area in accordance with the ELC system and followed the evaluation steps required in O. Reg. 359/09. On the Site, NRSI classified the perimeters of some of the fields, along some of the laneways, and

the area along Gray Road as TAGM5, “Fencerow”; only the unopened portion of Wild Turkey Road was classified as THDM3, “Dry Fresh Deciduous Hedgerow Thicket Ecosite.”

[508] Under O. Reg. 359/09, the NHA considers the presence of “natural features” and evaluates the significance of those features. “Natural feature” is defined to include “a wildlife habitat”, which is defined to mean “an area where plants, animals and other organisms live or have the potential to live and find adequate amounts of food, shelter and space to sustain their population…” This definition of wildlife habitat is also used in the ORMCP. It provides that development is prohibited within a “key natural heritage feature”, which includes “significant wildlife habitat”. “Significant” in the ORMCP means “identified as significant by the Ministry of Natural Resources, using evaluation procedures established by that Ministry…”

[509] In its initial review of records, NRSI determined that the “treed fencerows and woodlands within the project area … have the potential to act as candidate significant wildlife habitat for species of conservation concern.” In its EOS Report, NRSI stated that it evaluated whether the four categories that MNRF identifies as “significant wildlife habitat”, including “animal movement corridors”, were present. The Report states:

> Animal movement corridors are typically considered linear features that connect two or more significant, or otherwise ecologically important, habitats. These features are important for several reasons, including promoting genetic flow, protection from predators, and connectivity to habitats required for breeding, foraging, and/or hibernating (OMNR 2000). No animal movement corridors have been confirmed within 120 m of the project location based on the results of the records review and site investigation.

[510] While the Tribunal accepts that hedgerows can act as important movement corridors, the Appellants did not introduce evidence to refute NRSI’s conclusion regarding the significance of the fencerows and the hedgerows on the Site as generalized habitat or animal movement corridors.

[511] The Appellants also did not introduce evidence regarding the impact of construction of the Project on the fencerows located across the Site. They merely speculated about a complete loss, but given their locations, it is not apparent why there would need to be complete removal of all of the fencerows. Therefore, the primary issue is the impact of construction of the Project on the hedgerows along Wild Turkey Road.

[512] While a relevant consideration, the fact that the hedgerows along Wild Turkey Road are not classified as “Natural Linkage” under the ORMCP and are not “significant” by MNRF standards is not by itself determinative of the question the Tribunal must answer. *If* Wild Turkey Road is widened and upgraded, which as noted above may not be authorized by the City of Kawartha Lakes and, if authorized, it is not known precisely where the construction work would be carried out, there is no doubt that some degree of the vegetation in the hedgerows would be removed and permanently replaced by a gravel or paved road. Thus, the question is whether removing the vegetation for the road will cause serious and irreversible harm.

[513] The maximum length of the hedgerows appears to be about 1 km between Ballyduff Road and the opened portion of Wild Turkey Road, but the aerial photographs show them to be discontinuous. The only evidence regarding the plant species in these hedgerows was provided by the Appellants’ witness, Mr. Richardson. He stated his belief that the hedgerows had been there for 50 years. He surveyed them for trees and shrubs and found Hawthorn, Oak, Sugar Maple, Black Cherry, Ironwood, Basswood and Ash, although he did not provide field notes or indicate the abundance of these species. The other evidence regarding the importance of hedgerows was at a very general level and no specific information was provided to the Tribunal about the presence of other plants or the extent of use of these hedgerows by animals for breeding, foraging or as a movement corridor. It is therefore not possible to determine whether the likely impact on the hedgerows, in their function as habitat, will be serious and irreversible.

[514] The Tribunal finds that the evidence does not demonstrate that the Project will cause serious and irreversible harm to fencerows and hedgerows as wildlife habitat. Even so, given the apparent maturity of the hedgerows on Wild Turkey Road, their potential local importance as generalized habitat, and the fact that if road widening occurs it could result in their long-term or permanent loss, the Tribunal recommends that vegetation removal be minimized along Wild Turkey Road.

Sub-issue 1d: Whether the Project will cause serious and irreversible harm to the natural environment, together with plant and animal life, in the vicinity of Turbine 5

[515] As noted above, Turbine 5 is in the ORMCP area. The Tribunal has analyzed the specific allegations of impacts of this turbine and others on aspects of the natural environment (water resources), as well as plant life (Butternut, hedgerows) and animal life (birds, SAR). However, when considered through the ORMCP lens and a more integrated "ecological integrity" standpoint, the Tribunal has particular concerns about the potential impact of Turbine 5 on the overall natural environment in its vicinity, together with plant life and animal life. The Tribunal finds the factors listed below, among the many listed by the Appellants, to be of particular concern in its integrated analysis of the environmental impacts of Turbine 5.

Turbine 5 is located within a high aquifer vulnerability zone

[516] The MOE surface water Reviewer stated the following:

> The area around Turbine 4 and 5 are identified to be of the greatest concern due to the SLR [wpd consultants] findings of coarser and more permeable soil in this general location. In Figure 1 of the Water report and EIS the applicant has demarked general area high groundwater susceptibility where an accidental spill must be avoided at all cost.

[517] Despite the area's recognized vulnerability, very little information is available respecting the sub-surface water flow regime. Only one deep borehole was bored at

Turbine 5 location (borehole 2 at 26.0 m BG), as well as 3 shallow ones for crane pad and assembly areas. Given the vulnerability of the area, the comments by the MOE water reviewer, the existence of a provincial plan protecting the area and the specific request by the relevant Conservation Authority for a hydrogeological study, the Director should have been provided with a hydrogeological study, on which to make a better informed decision.

Water features

[518] While FCH(A) and (B) do not meet the definition of "water bodies" in O. Reg. 359/09, their importance should not be underestimated. They are headwaters of Fleetwood Creek. They feed into a cold water trout stream which supports fish habitat. They are at the top of a steep slope and part of a complicated hydrologic system, which includes seeps and springs. The area is designated as a high infiltration area, meaning precipitation soaks into the ground almost as soon as it lands.

[519] The proximity of Turbine 5 and its associated infrastructure to water features is especially important within the ORMCP area, which benefits from a provincial plan, enshrined in regulation, which recognizes the importance and vulnerability of water resources in this area and is designed to protect water quality and quantity. O. Reg. 359/09 provides a minimum setback of 30 m from water bodies in the ORMCP area. According to the topographic survey prepared by the Appellants, the blade swept area of Turbine 5 appears to extend closer than 30m for both FCH(A) and FCH(B). The Tribunal finds this to be additional support for its conclusion that a hydrogeological study for this area should have been completed.

Steep slopes

[520] MOE requested further information on landform conservation areas in 2012. The Ortech Memo of November 30, 2012 confirms that "both Category 1 (complex landform) and Category 2 (moderately complex landform) were identified within the Sumac Ridge

Wind Project area." Section 30(5) and (6) of the ORMCP provide direction on how landform conservation principles are to be applied.

> 30(5) An application for development or site alteration with respect to land in a landform conservation area (Category 1) shall identify planning design and construction practices that will keep disturbance to the landform character to a minimum, including,
>
> (a) maintaining significant landform features such as steep slopes, kames, kettles, ravines, and ridges in their natural undisturbed form
> (b) limiting the portion of the net developable area of the site that is disturbed to not more than 25 percent of the total area of the site, and
> (c) limiting the portion of the net developable area of the site that has impervious surfaces to not more than 15 per cent of the total area of the site.

[521] With respect to the requirements under (b) and (c), the Tribunal accepts that the portion of disturbed area is within the limits set, as is the portion with impervious surfaces. This was outlined in the EOS report and was not challenged by any of the Appellants' experts. The Tribunal has a remaining concern, however, with respect to the requirement under s. 30(5)(a) to "maintain" steep slopes "in their natural undisturbed form." Turbine 5 is on the top of a steep slope. Ortech recognizes that "Turbine 5 is located within an area of steep slopes (greater than 15%)."

[522] The Ortech memo states that "the concrete foundation, crane pads and crane laydown area of Turbine 5 are all outside of the steep slopes; however, the northeast corner of the laydown area is just within the area of steep slopes." The Draft Construction Plan Report states that the laydown area "will measure 50 m by 100 m and will be restored to predevelopment conditions following construction. Due to the temporary nature of the laydown area and based on an understanding of turbine construction, NRSI does not anticipate there to be any alteration of the steep slopes in vicinity of Turbine 5."

[523] The Appellants' witnesses expressed concern that the soil at Turbine 5 will not bear the foundation as proposed, and the excavation will have to extend into the steep slope, and require much more concrete and fill than currently stated. Mr. Sisson believes that the current design shows that components encroach into the steep slope.

Mr. Singh's evidence leaves open the possibility that more excavation than described in the reports may be required. He testified that the upper compact sand layer will not provide adequate bearing support for the turbine foundation, and recommended that the turbine foundation be "designed to bear on the underlying dense to very dense gravelly sands to sand and gravel deposit encountered at a depth of about 4.6 m below grade." He acknowledged that geoscience is not exact, and that an engineer would have to do inspections during to construction, to ensure the expected layers are indeed present and sufficient. Ms. Singh acknowledged that any structure requiring excavation will result in some geotechnical dissimilarity, although in his view there are "ways to mitigate the impact."

[524] Again, no hydrogeology report was prepared for this area, which would have reduced the uncertainty. At the Turbine 5 location, however, there is very little room for error or modification. Due to setback requirements, Turbine 5 cannot be moved west, closer to Wild Turkey Road. It is bound on all other sides by natural features, including FCH(A) and (B), a steep slope, and a significant woodland.

[525] Adding further uncertainty to the actual construction conditions for Turbine 5 is Mr. Wimmelbacher's evidence on Wild Turkey Road, which he testified "is uncertain", and that "any construction plans based on the location of Wild Turkey Road, may require revision." In addition, the Municipality has not consented to open or maintain Wild Turkey Road, and there is some information the Approval Holder is considering other, unevaluated means of access to Turbine 5.

Significant woodland WOD-001

[526] The EOS Report (April 2012) recognized that WOD-001 (approximately 1,068 ha in size) "overlaps with the turbine blades of Turbine 5 and is located approximately 7 m from the access road associated with this turbine." WOD-001 is described in that document as having a number of ecological functions, and is significant, in part, in

combination with the nearby Fleetwood Creek Headwaters. One plant community within WOD-001 is described in the EOS Report this way:

> This wooded feature follows and provides cover to the Fleetwood Creek headwaters and is located within an area of high aquifer vulnerability. When compared with the Natural Heritage Assessment Guide, NRSI can confirm that there are ecological benefits provided by the association with the watercourse (located within 50m), as well as by woodland diversity (>4ha dominated by sugar maple and American basswood) and proximity to significant habitats (<30m from a candidate raptor wintering area). In addition, this woodland meets the minimum standards for tree cover (>60% in forests) and size threshold requirements (>4 ha) as outlines in the ORMCP Technical paper Series No. 7 for significant woodlands. Due to the ecological functions provided in this woodland, NRSI recommends this woodland be considered significant.

[527] O. Reg. 359/09 only allows development within 120 m of significant woodlands if it is demonstrated that there will be no negative impacts on the natural features or on the ecological functions. Mr. Wimmelbacher testified that the setback distance of the dripline of woodlands lying to the south east of the turbine marker overlaps the south side of the laydown area, and the minimum distance from the turbine location to the dripline is 30.65 m. The Approval Holder did not dispute this evidence.

Disturbance of natural areas

[528] The Tribunal in *Lewis* considered the current state of the land as an important factor in its analysis of harm. The area of Turbine 5 is not farmed and has not been for many years. It can be considered a transitional area between agricultural uses to the west and the significant woodland to the east. While it contains some non-native and invasive plant species, it is in the process of naturalizing. If Turbine 5 is built, it would require significant vegetation removal and the mitigation measures do not specifically require replanting with native species or mature specimens.

[529] Based on the evidence before it, the Tribunal finds that there is insufficient proof that the Project will cause serious and irreversible harm to the natural environment in the vicinity of Turbine 5, together with plant and animal life. However, due to the unique

combination of all of the above factors, the Tribunal considers that a risk of serious and irreversible harm to the natural environment together with plant and animal life exists at the Turbine 5 site. The Tribunal emphasizes that it is tasked with evaluating only the REA and its conditions as issued. However, should the Project require any changes with respect to Turbine 5 and its infrastructure, including but not limited to its placement, construction plan, access, etc., the change could have a significant impact on the natural environment together with plant and animal life in its vicinity and will not have been evaluated by the Tribunal.

Issue 2 – Whether engaging in the Project in accordance with the REA will cause serious harm to human health

[530] The Appellants Cransley Home Farm Limited and Manvers Wind Concerns allege that the Project will cause serious harm to human health through fires, spills and safety issues.

[531] The Appellants submit that, while turbine fires are not common, they do occur. The Appellants submit that the Project presents a "completely new fire risk" for local firefighters, who are not equipped to access the turbines, battle turbine fires and hazardous waste spills, or to rescue workers injured at the height of the turbine nacelle.

[532] The Appellants submit that "should a fire occur, serious harm to firefighters, other people and the natural environment would also likely be inevitable." In this regard they note that Gray Road and Wild Turkey Road are used as recreational trails. Chief Pankhurst recommends, as outlined in a recent local by-law, that all turbines have a built-in fire safety suppression system.

[533] The Appellants submit that Chief Pankhurst's evidence should be given full weight, as it is "his statutory responsibility to evaluate risks of all description in order to assess the Municipality's ability to deal with fire emergencies. He also sits on the Province's committee of Fire Chiefs and co-authored the Province's only guidance

document on fires and industrial wind turbines." The Appellants point out that neither the Director nor the Approval Holder tendered any evidence on fires, and submit that the Tribunal should rely on Chief Pankhurst's opinion over that of the Director as expressed through the REA.

[534] The Director submits that, as the Tribunal did not qualify Chief Pankhurst to provide opinion evidence as to the likelihood of a wind turbine catching fire, there is no evidence before the Tribunal that the proposed turbines will cause any fires which may pose a threat to human health.

[535] The Approval Holder submits that a "potential" for harm is not enough to satisfy the test under s. 145.2(2) of the *EPA*, and that "generic evidence of accidents caused at a very low rate across many turbine facilities does not constitute evidence of serious harm to human health at a particular project, in general, nor specifically at Sumac Ridge Wind Project." Further, it submits that the Tribunal's mandate compels it to consider that the Project will operate in accordance with the conditions outlined in the REA, as well as other legal requirements such as the Building Code and the Fire Code. The Approval Holder points to conditions requiring the Approval Holder to prepare a written manual for use by staff outlining "routine operating and maintenance procedures in accordance with good engineering practice and as recommended by the Equipment Suppliers", and emergency procedures (REA Sections M1(1) and (2)).

Analysis and Findings

[536] The Tribunal qualified Chief Pankhurst to give opinion evidence as an expert in firefighting, firefighting risk assessment and prevention, hazardous material spills, mitigation, containment and response, and as a first responder, knowledgeable in rescue and first aid and municipal fire services management. It found that his expertise did not extend to determining the likelihood of accidents or fires at wind turbines. On this basis a number of documents that were originally appended to Chief Pankhurst's witness statement were excluded.

[537] Chief Pankhurst has outlined safety concerns that the Project raises for him as a firefighting expert. However, the question for the Tribunal is whether the Project as approved will cause serious harm to human health. There is no evidence before the Tribunal as to the likelihood of turbine fires for the model of turbine to be used in this Project, or indeed any industrial wind turbines.

[538] The Tribunal also finds that it must consider the conditions imposed as part of the approval, in making this determination. While it may well be that if a turbine caught fire and the fire spread to the surrounding grassland or woodlands it would cause a serious risk to human health, there was no evidence on the effectiveness of the proposed mitigation measures for preventing fires or spills of hazardous wastes, associated with wind turbines.

[539] Condition M of the REA incorporates best practices for equipment operating procedures and maintenance, as follows:

> M1. Prior to the commencement of the operation of the Facility, the Company shall prepare a written manual for use by Company staff outlining the operating procedures and a maintenance program for the Equipment that includes as a minimum the following:
>
> (1) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;
> (2) emergency procedures;
> (3) procedures for any record keeping activities relating to operation and maintenance of the Equipment; and
> (4) all appropriate measures to minimize noise emissions from the Equipment.

[540] The City's By-law 2014-273 is also relevant to reducing the risk of a fire and the risk of resulting harm. It requires that the Approval Holder submit for the approval of the Chief a fire safety and emergency plan and plans for a fire detection and suppression system, that the fire detection and suppression system be maintained, that the Approval Holder provide to emergency service personnel site familiarization and training, that the Approval Holder contract with a third party for specialized high angle rescue emergency response service, that the Approval Holder provide and maintain suitable site access for

emergency response vehicles, and that the Approval Holder bear all the costs of emergency response service in connection with the Project.

[541] The Tribunal finds that the Appellants have not established that the Project, operating in accordance with the REA including Condition M, will cause serious harm to human health.

Issue 3 – Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to the natural environment of the Appellant Cham Shan Temple or interfere with its right to freedom of religion, contrary to s. 2(a) of the *Charter*

Submissions of the Parties

Appellants' Submissions

[542] The Appellants make two legal arguments regarding the impact of the Project on the CST and its adherents. First, the Appellants submit that the Tribunal should interpret the words "natural environment" in s. 145.2.1(2)(b) in light of the Buddhist conception of the environment. Second, the Appellants submit that the evidence establishes that the Project will adversely affect the natural environment and thereby will interfere with the Buddhists' practice of their religion, contrary to s. 2(a) of the *Charter*. As their arguments evolved, however, these two issues overlapped more and more.

[543] Respecting the issue of statutory interpretation, the Appellants submit that the Tribunal must follow a purposive approach to statutory interpretation and that the purpose of the *EPA* is to protect the public interest in the environment. The Appellants argue that the "public" includes Buddhists who belong to the CST, so that the Tribunal should interpret the words "natural environment" to take into account their conception of the environment. The Appellants submit that the proposed pilgrimage route relies on "quiet roads for travelling on foot" using a slow and meditative process and that the

Project will cause serious and irreversible harm to this environment by destroying the "silence, calm and … absence of vibrations" necessary for achieving their devotional experience through meditation.

[544] Respecting the *Charter* claim, the Appellants submit that the Tribunal is bound by the *Charter*, and must exercise its jurisdiction in compliance with the rights protected therein. The Appellants submit that the concept of freedom of religion includes the right to entertain the religious beliefs of one's choice, the right to declare those beliefs openly without fear of hindrance or reprisal, and the right to manifest religious beliefs by worship and practice, provided that such manifestations do not injure one's neighbours or their parallel rights. The Appellants cite the Supreme Court of Canada decisions in *R. v. Big M Drug Mart Ltd*., [1985] 1 S.C.R. 295, at 346 and *Syndicat Northcrest v. Amselem*, [2004] 2 S.C.R. 551 ("*Amselem*"), in support of its position. They argue that the evidence establishes that meditation in the context of pilgrimage is fundamental to Buddhist belief and practice and that the Project will interfere with that practice.

Director's Submissions

[545] The Director does not challenge the sincerity of the Appellant CST members' beliefs and practices or that such beliefs and practices have a nexus with religion. The Director makes three legal arguments. First, the Director submits that it is not appropriate for the Tribunal to interpret provisions of the *EPA* in a manner that is consistent with the Appellant CST's beliefs because there is no ambiguity in the meaning of the term "natural environment" and that, absent ambiguity in that term, the Tribunal has no jurisdiction to consider a broader claim that the Project will impair Appellant CST members' ability to practice their religion. Second, if the broader claim is properly before the Tribunal, the Director submits that the Appellant CST has failed to show that the Project as approved would have more than a trivial effect on its members' religious beliefs or practices. Third, the Director submits that the government has no obligation to facilitate a religious practice and that Appellant CST's claim amounts to an

argument for a right to government protection of a zone of exclusivity that would restrict the activities of third parties on private property.

[546] With respect to the first argument, the Director refers to the Appellant CST's NCQ, which states that the constitutional question is the proper interpretation of the term "natural environment" in the *EPA*. The Director submits that the Appellant CST's position that the Tribunal must interpret the term "natural environment" in a manner consistent with Buddhist understanding is not supported by the jurisprudence. The Director argues that the Supreme Court of Canada held in *Bell ExpressVu Limited Partnership v. Rex*, [2002] 2 S.C.R. 559 ("*Bell ExpressVu*"), that when there are genuinely ambiguous statutory provisions, the statute should be given the interpretation that is most consistent with *Charter* values; however, the term "natural environment" is not ambiguous. The Director cites the Supreme Court's decision in *R. v. Clarke*, [2014] 1 S.C.R. 612, which held that a claimant cannot reinterpret a statute to address an alleged conflict with a *Charter* right and cannot use *Charter* values to create an ambiguity where none exists.

[547] With respect to the second argument, the Director submits that the test from *Amselem* has two parts: first, s. 2(a) of the *Charter* is engaged when a claimant has a practice or belief with a nexus to religion and the person is sincere in his or her belief; and second, if so, the claimant must then show that there has been an interference with the exercise of those rights that is more than "trivial or insubstantial". The Director asserts that proving an infringement of s. 2(a) is not subjective, but must be proved on the basis of objective evidence on the balance of probabilities, citing *S.L. v. Commission scolaire des Chênes*, [2012] 1 S.C.R. 235 ("*S.L.*"). It is the Director's position that the Appellants have failed to prove that either the legislative provisions or the Project will infringe the Temple members' rights in more than a trivial way. The Director submits that Buddhist beliefs do not require the CST members to go to Wutai Shan or the other proposed temples, and that the particular locations of the temples and the pilgrimage route are not related to a religious belief. The Director points to the evidence of Mr. Skaljin which indicates that some noises are accepted and do not interfere with

meditation and that some Buddhist retreat centres are located in urban areas. The Director argues that the objective evidence does not establish that noise from the Project will substantially interfere with religious practice because the only evidence of possible noise effects is limited to a short 1 km stretch of a more than 20 km section of a pilgrimage route and that even if the Tribunal finds that the sound at that point would be disruptive, there are several other points along the proposed route where meditation will not be possible because of auditory and visual disruptions and that there was no evidence that any of those disruptions would substantially interfere with religious practice. With respect to the visual impact of the turbines, the Director argues that there is no objective evidence about where or to what degree the turbines would be visible along the proposed pilgrimage route, so that the witnesses were merely speculating about what they might see. The Director submits that the Tharpaland Study, which assessed the interference with meditation at a Buddhist retreat in Scotland caused by a wind farm, cannot be relied on for the truth of its contents because it was not entered through an expert such that its truth could be tested.

[548] With respect to the third argument, the Director submits that the effect of the Appellants' argument is that the building of Wutai Shan would crystallize CST's development rights at that location and require limits, enforced by government, on the activities of third parties on nearby properties in order to permit CST members to practice their religion in a preferred manner. The Director submits that there is no case law that supports that proposition and that a similar claim was expressly rejected by the Ontario Divisional Court in the case of *Residents for Sustainable Development in Guelph v. 6 & 7 Developments Ltd.*, [2005] O.J. No. 3623.

Approval Holder's Submissions

[549] The Approval Holder submits that the Appellants have failed to demonstrate that the Legislature, in enacting s. 145.2.1 of the *EPA*, or the Director, in issuing the REA, infringed the CST's rights protected by s. 2(a) of the *Charter*. The Approval Holder relies on and adopts the Director's submissions in this regard.

[550] The Approval Holder submits that the Appellants have not established that the Project will interfere with the practice of Buddhism by its adherents. The Approval Holder argues that the evidence has not established that Buddhist practice of meditation requires the absence of noise or visual stimuli, because the witnesses agreed that meditation is taught and practiced in urban environments with many distractions, that distraction is an individual, and thus a subjective, matter, and that individuals become accustomed to familiar noises and visual distractions. The Approval Holder also notes the evidence that pilgrimage does not require the absence of noise or visual stimuli, as the route in China on which the Manvers route is modeled requires pilgrims to take planes and buses, that a pilgrimage in 2008 from the CST on Bayview Avenue in Thornhill to Bethany traveled along urban roads and highways through numerous towns, and that the proposed pilgrimage route follows public roads and crosses a provincial highway. The Approval Holder also points to the evidence suggesting that noise was not a concern when the CST bought the land for the temples and when it chose the pilgrimage route and that there are numerous sounds and visual stimuli already present that are acceptable to the CST.

[551] The Approval Holder also submits that there is no evidence proving that particular sound levels, even if perceived by the pilgrims, would interfere with the practices of meditation or pilgrimage. It asserts that, assuming that sound at a certain level would interfere with Buddhist practices, there was no evidence of what the threshold level of disturbance would be; rather the evidence was only that it is subjective.

Appellants' Reply Submissions

[552] In reply, the Appellants disagree with the Director's and Approval Holder's characterizations of the evidence, submitting that the Buddhist witnesses gave expert opinions that the Project would interfere with the practice of pilgrims and that this evidence was not contradicted on cross-examination, nor was any contrary evidence presented. They submit further that the Director's submission that Buddhists meditate

in other locations where there are significant distractions is unsupported by objective evidence as to the conditions at those locations and thus amounts to mere speculation. They note that the noise experts all agreed that the turbines would be audible at a point on the proposed pilgrimage route. They also assert that the Buddhist witnesses should be able to rely on the Tharpaland Study for the truth of its contents. However, they submit, "whether it is the visible effect, the audible effect, or infrasound that causes disturbance is irrelevant to this hearing. The Tribunal has stated many times and it is further conceded by the Director … that the actual mechanism of harm need not be established for the Appellants to succeed."

[553] The Appellants disagree with the Director's interpretation of the *Bell ExpressVu* decision, arguing that it is not necessary to have ambiguity in a statute in order to interpret a statutory term in a manner that is consistent with the *Charter*. They go on to argue that, if it is necessary to identify an ambiguity, it is only necessary that a statutory term be capable of more than one interpretation "considering the context". The context here, according to the Appellants, is the assertion of the constitutional rights of the Appellant CST and the participant First Nations. The Appellants disagree that the term "natural environment" as used in the *EPA* has a fixed and invariable meaning, as claimed by the Director.

[554] The Appellants also disagree with the Director's view that the impact of the Project on the CST adherents would be trivial. They assert that the Supreme Court in *Amselem* accepted that it was not for the Court to tell believers what is or is not trivial to the practice of their religion, so that the opinion of the Buddhist witnesses that the impact of the Project will be significant must be accepted by the Tribunal. The Appellants also disagree that there is a lack of "objective facts" about impacts of the Project on Buddhist practice, unlike in the case of *S.L.*, as argued by the Director.

[555] The Appellants suggest that the Director's argument that the government is being asked to facilitate religious practice is a "straw man" as they have not argued that the government has that obligation. In addition, they argue that here the government is not

limiting the actions of third parties but is authorizing an interference with the Appellant CST's s. 2(a) rights. The Appellants suggest that this is similar to the *Amselem* case. Although that case was decided under the Quebec *Charter of Human Rights and Freedoms*, which binds private parties as well as government, the Appellants argue that the same action, if authorized by government, would have been struck down on the same basis.

Findings and Analysis

[556] The argument of the Appellants is that the construction and operation of wind turbines on the Site will cause serious and irreversible harm to the natural environment and thereby interfere with CST members' s. 2(a) *Charter*-protected right to freedom of religion. This is due to the distractions that will be caused by the Project, in particular, noise (audible and inaudible) and visual disturbance.

Jurisdiction

[557] As noted above, the Director and the Approval Holder brought motions to strike the Appellants' NCQ. In its Order of October 23, 2014, the Tribunal denied the motions to strike the Appellants' claims that s. 142.1 of the *EPA* interferes with the Appellants' rights to freedom of religion guaranteed by s. 2(a) of the *Charter*. This Order provided the Appellants an opportunity to put forward a full factual record and to fully develop their legal submissions in support of their claim.

[558] The principles respecting the scope of an administrative tribunal's *Charter* jurisdiction were affirmed by the Supreme Court of Canada in its decision in *R. v. Conway*, [2010] 1 S.C.R. 765. There, at para. 22, the Court stated that if a tribunal has the power to decide questions of law, and *Charter* jurisdiction has not been excluded by statute, then the tribunal "will have the jurisdiction to grant *Charter* remedies in relation to *Charter* issues arising in the course of carrying out its statutory mandate." It stated further at para. 81 that in such circumstances a tribunal "is a court of competent

jurisdiction and can consider and apply the *Charter* – and *Charter* remedies – when resolving the matters properly before it."

[559] The scope of the Tribunal's *Charter* jurisdiction was recently considered by the Ontario Divisional Court in *Dixon v. Director (Ministry of the Environment)*, [2014] ONSC 7404 (CanLII) ("*Dixon*"), which involved the human health ground in s. 145.2.1(2)(a) of the *EPA*. There, the Court stated, at paras. 113 and 114:

> The jurisdiction of the ERT in respect of renewable energy projects is triggered by a request for a hearing under *EPA* s. 142.1. At such hearing the *EPA* does not grant the ERT a broad power to review the Director's decision issuing a REA, but only grants a limited power of review to determine if the approved renewable energy project will cause serious harm to human health. It therefore was not open to the Tribunal to review the decision of the Director to issue the REA generally to ascertain whether the decision complied with the *Charter* – as argued by the Appellants before us – but only to review whether the project to which the REA was issued would cause serious harm to human health. The Tribunal correctly held that its power to address a *Charter* claim was limited to the matters assigned to it by *EPA* s. 142.1.
>
> It is also important to recall that the hearing before the ERT was not in the nature of the appeal, but a hearing in which it was open to the Appellants to present fully evidence and argument about the impact of the wind farm projects on human health, including the constitutional implications of the ERT's statutory review provisions. Only on that issue could the ERT revoke or alter the Director's decision to issue a REA or to direct the Director to take certain action.

[560] The Tribunal acknowledges that it has the jurisdiction to decide a *Charter* question that is relevant to its mandate under s. 142.1 and s. 145.2.1 of the *EPA*. These provisions limit the scope of the Tribunal's authority with respect to hearings on renewable energy projects to considering only two grounds – serious harm to human health and serious and irreversible harm to plant life, animal life or the natural environment. As the Divisional Court in *Dixon* makes clear, outside of these two grounds, the Tribunal does not have the authority to assess and rule on whether the Project as approved by the Director complies with the *Charter*. Thus, it is necessary for the Appellants to link their *Charter* claim to the grounds that fall within the Tribunal's jurisdiction.

[561] The Appellants modified their legal position over the course of this proceeding, moving away from their original challenge to s. 142.1 of the *EPA*. The essence of their argument is that the *Charter* requires the Tribunal to interpret the term "natural environment" in a way that accords with the religious beliefs of CST and its members. In their view, the natural environment suitable for Buddhist practice should be one that is quiet and calm, with unobstructed views and free of vibrations. They submit that the Project will interfere with this concept of the natural environment and thereby infringe CST's right to freedom of religion.

Statutory Interpretation

[562] In interpreting statutory provisions, the Tribunal follows the approach of Canadian courts, as summarized by the Supreme Court of Canada in *Rizzo & Rizzo Shoes Ltd. (Re)*, [1998] 1 S.C.R. 27 ("*Rizzo*"), at para. 21, that there is only one approach to statutory interpretation, "namely, the words of an Act are to be read in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament." In *Bell ExpressVu*, the Supreme Court stated that other principles of interpretation, including the "*Charter* values" presumption, are only applicable when the meaning of a statutory provision is ambiguous, that is, "reasonably capable of more than one meaning" (at paras. 28 and 29). When a provision is unambiguous, "courts must give effect to the clearly expressed legislative intent and avoid using the *Charter* to achieve a different result" (para. 66).

[563] In its decision in *Erickson v. Director, Ministry of the Environment* (2011), 61 C.E.L.R. (3d) 1 ("*Erickson*"), the Tribunal stated, at para. 648:

> To summarize, the Tribunal's overall approach to the statutory test is guided by *Rizzo*. The Tribunal will interpret and apply the wording of section 145.2.1(2) according to that approach. In many ways, the Tribunal finds that, despite the extensive submissions from the Parties, the wording is not particularly ambiguous. As well, the nature of the evidence leads the Tribunal to approach the totality of the evidence

> according to the entire wording of the test rather than attempting to artificially subdivide evidence according to the components of the test.

[564] The general purpose of the *EPA*, set out in s. 3(1), is "to provide for the protection and conservation of the natural environment." Part V.0.1 of the *EPA,* which provides authority for the Director to issue renewable energy approvals if in the "public interest"*,* has a broader purpose, which is to provide for the protection and conservation of the "environment", as that term is defined in the *Environment Assessment Act*, and thus includes "the social, economic and cultural conditions that influence the life of humans or a community" as well as air, land, water, plant life and animal life.

[565] In the context of the *EPA*, the Tribunal's jurisdiction is not found in Part V.0.1, but in Part XIII. Under s. 145.2.1(2)(b) of the *EPA*, the Tribunal in a REA appeal is limited to considering whether engaging in the Project in accordance with the approval issued by the Director will cause "serious and irreversible harm to plant life, animal life or the natural environment." The term "natural environment" is defined in s. 1(1) of the *EPA* as follows:

> In this Act, …"natural environment" means the air, land and water, or any combination or part thereof, of the Province of Ontario.

[566] This is an exhaustive definition that is focused on the physical components of the environment and their interaction. Two categories of living organisms (i.e., plants and animals) are expressly added to the Tribunal's considerations by the wording of s. 145.2.1(2)(b).

[567] The Tribunal finds that the meaning of "natural environment" is not so ambiguous that it contemplates two equally valid interpretations, thus allowing room for the Tribunal to rely on *Charter* values in interpreting it.

[568] Despite their initial position, the Appellants eventually conceded this point. However, they went on to argue that the impacts to the natural environment resulting

from the Project will be experienced differently by the Buddhist pilgrims because of the demands of their religious practice. In their reply submissions they state:

> Again to clarify, the Appellants do not seek some unique interpretation in this case. As stated above, there is nothing radical or unorthodox about the Appellants' interpretation of the "natural environment". Deer run in it. Fish swim in it. Berries grow in it. Buddhist pilgrims move through it in the course of their religious observances. On the other hand, industrial wind turbines are *not* part of the "natural environment". The issue in this case is the *differential impact* on these constitutional rights-holders of the changes to the "natural environment" if this industrial wind project as approved is allowed to proceed.

[569] In other words, the Appellants are asking the Tribunal to consider, not the impact of the Project on the natural environment *per se*, but the impact of changes the Project will bring about in the natural environment on the Buddhist pilgrims. They are asking the Tribunal to find that the resulting impact on them amounts to serious and irreversible harm, in light of s. 2(a) of the *Charter*.

Section 2(a) of the Charter

[570] The central issue raised on behalf of the CST is that the Project will infringe on the *Charter* rights of the CST and its adherents. The Supreme Court of Canada held in *Amselem*, at para. 46, that

> freedom of religion consists of the freedom to undertake practices and harbour beliefs, having a nexus with religion, in which an individual demonstrates he or she sincerely believes or is sincerely undertaking in order to connect with the divine or as a function of his or her spiritual faith, irrespective of whether a particular practice or belief is required by official religious dogma or is in conformity with the position of religious officials.

[571] Thus, in order to trigger a religious freedom analysis, a claimant must show that

> (1) He or she has a practice or belief, having a nexus with religion, which calls for a particular line of conduct … and
> (2) He or she is sincere in his or her belief. (*Amselem*, para. 56)

[572] Once triggered, the second step of the analysis requires a claimant to "show that the impugned contractual or legislative provision (or conduct) interferes with his or her ability to act in accordance with his or her religious beliefs in a manner that is more than trivial or insubstantial," as per *Amselem*, para. 59. This is because no right protected by the Quebec or Canadian *Charter* is absolute. As the Supreme Court has held, s. 2(a) "does not require the legislature to refrain from imposing any burdens on the practice of religion" (per Wilson, J. in *R. v. Jones*, [1986] 2 S.C.R. 284 at 313-314) and "shelters individuals and groups only to the extent that religious beliefs or conduct might reasonably or actually be threatened" (per Dickson, C.J. in *R. v. Edwards Books and Art Ltd.*, [1986] 2 S.C.R. 713 at 759).

[573] While the first step of the analysis, regarding what conduct an individual sincerely believes is necessary or linked to his or her faith, is considered on a subjective basis, the second step requires objective evidence of an interference. In *S.L.*, the Supreme Court stated, at paras. 23 and 24:

> At the stage of establishing an infringement, however, it is not enough for a person to say that his or her rights have been infringed. The person must prove the infringement on a balance of probabilities. This may of course involve any legal form of proof, but it must nonetheless be based on facts that can be established objectively.
>
> The question is not whether the person sincerely believes that a religious practice or belief has been infringed, but whether a religious practice or belief exists that has been infringed. The subjective part of the analysis is limited to establishing that there is a sincere belief that has a nexus with religion. … As with any other right or freedom … proving the infringement requires an objective analysis of the rules, events or acts that interfere with the exercise of that freedom. To decide otherwise would allow persons to conclude for themselves that their rights had been infringed and thus to supplant the courts in this role.

Findings on the Evidence

[574] Wutai Shan is the only temple that is currently under construction in the Manvers area. It is located 11.8 km from the Site, and no evidence was presented to the Tribunal demonstrating that sound levels from the Project would be heard or perceived in any way at Wutai Shan. In fact, the only evidence before the Tribunal on this point,

provided by Mr. Tse, indicates that sound levels from the Project would not be perceived there. Furthermore, no evidence was presented that sound levels from the Project would be perceived at the other three temple sites. Therefore, the issue of sound levels from the Project is limited to the impact on persons following the planned pilgrimage route.

[575] The essence of the Appellants' argument is that sound generated by the turbines will be perceptible at a point along the planned pilgrimage route and, if perceived, the sound will distract the pilgrims, thus interfering with their ability to develop the degree of concentration they are seeking as a key part of their spiritual practice. The degree of interference was stated by one witness as making it "impossible" for the pilgrims to practice their religion.

[576] The closest that the planned pilgrimage route comes to the Project is at the intersection of Gray and Pit Roads, approximately 980 m to the closest turbine. There is no regulatory requirement to calculate sound levels for transients passing along roadways, so Mr. James estimated what the sound levels would be using averages for the noise receptors in the area. Mr. James testified that the highest expected sound levels at this intersection would be 37 dBA. He characterized this as a doubling of background sound levels; however, to reach that conclusion he used the lowest background level, 26 dBA, which is the level exceeded 90% of the time, rather than the one hour average level, 36 dBA. Using the average level for background sound indicates that the average sound levels attributable to the turbines would be similar to background levels most of the time. Nevertheless, all of the noise witnesses agreed that at some times the turbines will be audible above background levels and will not be masked by traffic and other ambient sounds. Mr. James characterized the predicted sound level as requiring a person to speak in a "loud whisper" to be heard above the sound from the turbines. It should be noted that this level is below 40 dBA, which is the regulated noise level for rural areas. It is not clear what the effect of two other proposed wind projects in the area would have on these levels, given that the cumulative effects

were not assessed and will not be unless and until those other projects proceed through the approval process.

[577] Mr. James also proffered the theory that low frequency sound and infrasound, even when not audible, can still be perceived through organs of the human body other than the ears. Although not qualified to give an opinion on this, he stated his view that bodily perception of infrasound causes adverse health effects. Mr. Howe disagreed with this theory, explaining that, other than a few “dissenting voices”, most scientific studies do not accept this theory.

[578] Mr. James suggested, in addition, that sound levels will be sufficient to be “annoying” and so interfere with Buddhist concentration. He quoted from the conclusion in the HGC Study written by Mr. Howe to support this opinion. Despite this interpretation, it became clear during his testimony that Mr. James did not use the term annoyance in the way that it was used in the HGC Study, that is, to refer to self-reported levels of annoyance by residents living near wind farms resulting from exposure over long periods of time, usually 12 months.

[579] The Tribunal finds that the sound from the Project will likely be audible at least some of the time at the intersection of Gray and Pit Roads, the closest point between a turbine and the proposed pilgrimage route. Mr. James offered the opinion that the sound generated from the Project will interfere with the ability of the Buddhist pilgrims to concentrate. He did so despite his lack of qualification to give an opinion on the effect of sound levels on Buddhists and their ability to concentrate. Mr. Skaljin reached a similar conclusion even though he had no personal experience with exposure to wind turbine noise.

[580] The Appellants sought to rely on the Tharpaland Study as proof that wind turbine sound generated 1 km from a pilgrim will severely interfere with meditation; however, the parties disagree on whether the Tribunal can rely on the Tharpaland Study for the truth of its contents. When the Tharpaland Study was entered into evidence by Ms.

Chen, the Tribunal admitted it for the purpose of showing the source of her concern about the potential impacts of the Project. Mr. Mitton, Mr. Skaljin and Mr. James also referred to the Study. The Appellants argue that the Tharpaland Study can be relied on for the truth of its contents because experts are allowed to adopt the opinions of other experts as expressed in the literature as their own, citing A.W. Bryant, S.N. Lederman and M.K. Fuerst, *The Law of Evidence in Canada*, 3d Ed. (Lexis-Nexis, 2009).

[581] The Tharpaland Study is a qualitative study of some 12 Buddhist meditators, residing at the Tharpaland International Retreat Centre in Scotland, who visited three different wind farms and then reported on their observations about the impacts of the wind farms on their ability to develop concentration. As stated in Bryant, Lederman and Fuerst, at p. 852,

> In support of any theory, an expert is permitted to refer to authoritative treatises and the like, and any portion of such texts upon which the witness relies is admissible into evidence. Moreover, it appears that if a written work forms the basis of the expert's opinion, then counsel is allowed to read extracts to the expert and obtain his or her judgment on them.

[582] The key to admitting such works for the truth of their contents is that they must be accepted as "authoritative" by an opinion witness who has the qualifications to make that determination. The difficulty for the witnesses relying on the Tharpaland Study in this way is that none of the them knew who the author was and none was qualified by the Tribunal in a discipline that would allow him or her to assess whether the study was, in fact, an "authoritative" one in terms of its methodology, research design, sources of bias, and so on. For this reason, the Tribunal admitted the Tharpaland Study but only for the purpose of indicating the source of the witnesses' concern, and not for the truth of its contents.

[583] The evidence at its best supports a finding that noise or sound at some level can interfere with the development of concentration that is necessary for meditation; however, there was no evidence presented about what a threshold level for substantial interference might be. What makes the question of the impact of sound challenging is

that the Buddhist witnesses testified that measured sound levels are in fact irrelevant to their ability to develop the concentration necessary for meditation. As expressed in the Appellants' submissions, it is "not a question of the amount of noise, as even a mouse stirring could disturb a meditator." Thus, on the one hand, the witnesses stated, even a very soft sound may be enough to distract some meditators. On the other hand, Mr. Skaljin testified that very loud sounds, such as sirens, are not distracting for a person who becomes familiar with them in his or her everyday environment. He and Ms. Chen also noted that inexperienced meditators find it harder to concentrate than do those who are more experienced and have techniques for filtering out distractions. Thus, the evidence indicates that the impact of sound on the ability to concentrate for meditation is a subjective matter, dependent on an individual's sensitivity, familiarity with the particular sound, and degree of experience and skill with meditation, and it is unrelated to measured sound levels.

[584] This is similar to the Appellants' position on the visual impact of the turbines. Ms. Chen and Mr. Skaljin both testified regarding the importance of the temples being located in natural settings. Ms. Chen and Mr. Marsh observed that the temple sites, but not the pilgrimage route, were approved by the Reverend Sing Hung in compliance with the principles of Feng Shui. In their submissions, the Appellants assert that the Manvers area outside of the temple sites, as described by Mr. Skaljin, has a "beautiful, unobstructed natural landscape."

[585] The Appellants did not submit any evidence that the turbines would be visible from Wutai Shan, nearly 12 km away, or from any of the other temple sites. The Tribunal agrees, however, that the turbines are likely to be visible on the pilgrimage route, although there was no reliable evidence presented on where along the route they would be visible. Similar to sound as a distraction, the evidence indicates that the impact of visual stimuli is subjective, varying with the individual. As a result, the Tribunal finds that some participants on the proposed pilgrimage route may be distracted by the sight of the Project.

[586] It is not the purpose of the *EPA* to prevent every change in the *status quo* so as to protect an idealized concept of a silent and beautiful environment, but rather to ensure that changes that are introduced are consistent with the "protection and conservation of the natural environment." On a REA appeal, under the Environmental Test, the Tribunal's scope is narrower, as it can only revoke or modify a REA if it the Appellants prove that the Project will cause "serious and irreversible harm" to the natural environment. The Tribunal has held in several cases that sound levels equivalent to those expected here do not cause "serious" harm to human health. On the evidence presented here, the Tribunal finds that building a large structure on land that is visible a kilometre or more away and adding a facility that is audible at the level of a loud whisper is not enough to constitute "serious" harm to the natural environment.

[587] To the extent that the CST's religious practice is linked to its findings under s. 145.2.1(2)(b) of the *EPA*, the Tribunal makes the following findings. None of the other parties questioned the sincerity of the CST members' belief in meditation as an essential aspect of the practice of their religion. The Buddhist witnesses also stated that, although it takes many forms and is pursued only occasionally, pilgrimage is a form of meditation, and thus is an essential aspect of the practice of Buddhism. The Tribunal accepts that to be so, thus the remaining issue to be addressed is whether the Project will interfere with the CST members' practice of meditation in more than a trivial or insubstantial way.

[588] The evidence indicates that most of the practice of meditation, for those Buddhists who choose to come to the Manvers area on a retreat, will be conducted at the Wutai Shan site and the other three temple sites. There was no evidence presented demonstrating that meditation at those sites will be affected in any way by the Project. Thus, the only issue is whether the Project will sufficiently interfere with the practice of pilgrimage along the proposed route so as to violate the pilgrims' *Charter* rights.

[589] This situation is unlike that in the *Amselem* case, where the very practice Mr. Amselem sincerely believed was mandatory to his religion was *prohibited* by his

condominium contract. Here, the distractions due to the Project would not prohibit meditation, but may make it more difficult, thus interfering with the practice to some degree for at least some of the pilgrims some of the time.

[590] While pilgrimage may be an integral part of the practice of Buddhism, there was no evidence presented that the particular route selected for pilgrimage in Manvers, among a number of alternatives, is linked to any religious precept or requirement. The only evidence regarding the choice of the pilgrimage route is that of Ms. Chen, who was qualified as an expert in the religious requirements of the CST retreats. She stated that the direction of the pilgrimage, the starting and ending points, and the order in which the pilgrims were instructed to visit the temples, were of religious significance. However, Ms. Chen could not recall why the specific roads along which the route is to pass were selected, other than that it seemed to her and other CST members to be a relatively safe way to get between the future temples.

[591] The evidence indicates that Buddhists often tolerate distractions and disruptions to their concentration, and discount certain sights and sounds, while meditating, for example in urban areas. On retreat, however, the witnesses stated that they seek a location with few distractions where they can deepen their practice. However, in Manvers, along the planned pilgrimage route, the CST also stated that its members are willing to accept certain distractions. For example, the witnesses submitted that the sounds from Highway 7A will have a minimal impact on their pilgrimage because of the short time they will spend in proximity to, and crossing, the highway. When testifying, Ms. Chen presented only the part of the planned route that is near the Project. In its entirety linking all four temples, the route would run up to 40 km along public roadways, with different volumes and types of road traffic, going near settlements, across two provincial highways and a railway line, and past a ski area, an operational gravel pit, and numerous agricultural operations having farm animals and using heavy machinery. Planes and drones may fly over. In addition, there are numerous visual distractions, including communications towers located on nearby ridges and high voltage power lines that traverse the area. Other developments may be built in the area. It may be that

some or all of these could prove to be distracting to some of the pilgrims, whether or not the Project is constructed. In addition, each of these distractions is similar to those emanating from the Project in that it would be experienced by each pilgrim for only a short time during a pilgrimage.

[592] The Supreme Court in *S.L*. stated that a violation of s. 2(a) should be determined on an objective standard and on objective evidence establishing more than a trivial interference with a religious practice. In this case, the CST claims are subjective and selective about which distractions should be treated as violating freedom of religion and which should not. This is not consistent with the Supreme Court's guidance in *S.L.*. The Tribunal finds that there is not sufficient objective evidence before it that demonstrates that the Project will cause more than a trivial or insubstantial interference with the CST's pilgrimage. Thus, the Tribunal finds that the Project will not interfere with CST's and its members' right to practice their religion.

Issue 4 – Whether engaging in the Project in accordance with the REA will interfere with the treaty rights of the Participant First Nations, contrary to s. 35 of the *Constitution*

Preliminary Orders

[593] The Appellants filed a NCQ on behalf of the First Nations participants in this appeal.

[594] Prior to the start of the hearing, the Director brought a motion to strike the NCQ. The Tribunal issued an order dated October 29, 2014, which stated at paras. 44-46 as follows:

> The motion to strike the Participants' statements and the NCQ is granted in part.

> In particular, the Tribunal will not consider the sufficiency of the Director's consultations with First Nations in the REA approval process.
>
> Those aspects of the Participants' statements and the NCQ that address issues raised in the notice of appeal regarding impacts of the Project on human health and the natural environment, are not struck. As well, the Participants are entitled to refer to the *Constitution* as part of their legal submissions on the proper interpretation of terms in the *EPA*.

[595] The portions of the NCQ that were not struck state that "the First Nations and Brent Whetung intend to question the approval of the Sumac Ridge Wind Farm insofar as the REA allows for the violation of the Applicants' **environmental** Treaty rights recognised and affirmed under section 35 of the *Constitution Act, 1982*." (emphasis in the original).

[596] The NCQ also states:

> As part of its mandate the Tribunal must interpret the words "natural environment". In accordance with legal principle, terms in a statute must be interpreted in a manner consistent with the constitution.
>
> In the present case the "natural environment" and the uses made of it under the terms of Treaty 20 have a special constitutional significance to the First Nations that would be seriously and irreparably damaged by construction of the Sumac Ridge Wind Farm, as outlined in the supporting documents from Brent Whetung and Chief Phyllis Williams.
>
> In considering "serious and irreversible harm to the plant, animal and natural environment" and "serious harm to human health" the Tribunal is required to take into consideration the natural environment of the Treaty area as promised to the First Nations under the Treaty, and the uses traditionally made of the site of the proposed project that are dependent on the maintenance of the natural environment.

[597] The evidence provided on this issue by Ms. Dokis for the CLFN, Mr. Sheridan for the HFN, Mr. B. Whetung and Mr. R. Whetung is summarized above, in the section on evidence.

Submissions

[598] The Appellants made final submissions relating to s. 35 of the *Constitution*. The First Nations participants made oral and written submissions during their presentations to the Tribunal on December 9, 2014, which have been considered in the Tribunal's decision. They made no additional final submissions.

[599] The CLFN and the HFN are parties to Treaty 20. They claim that the Project is on lands on which they were guaranteed harvesting rights under Treaty 20.

[600] In their submissions, the Appellants addressed three issues:

- the correct interpretation of the words "natural environment" when applied to the Treaty rights of First Nations people;
- the evidence of "serious and irreversible harm" tendered before the Tribunal in light of the definition of "natural environment" thus arrived at; and
- the obligation of the Tribunal to give effect to the rights of the First Nations as required by s. 25 and s. 35 of the Constitution Act 1982 and the jurisprudence of the Supreme Court of Canada.

[601] The Appellants point to the case of *R v. Taylor and Williams* (1981), 34 O.R. (2nd) 360 (CA) ("*Taylor and Williams*") to establish the "factual background" to Treaty 20. The Appellants submit that the First Nations' s. 35 rights in the Treaty 20 area encompass hunting and fishing.

[602] The Appellants rely on *Calder v. AG British Columbia,* [1973] S.C.R. 313, per Judson J. at 328, to argue that the First Nations have a right to an "environment" which allows them to live "as their forefathers lived."

[603] The Appellants point to the principle of statutory interpretation established by the Supreme Court of Canada in *Nowegijick v. the Queen,* [1983] 1 S.C.R. 29 ("*Nowegijick*") at p. 36, as follows:

> …treaties *and statutes* relating to Indians should be liberally construed *and doubtful expressions resolved in favour of the Indians."* (italics added)

[604] The Appellants argue that the application of the *Nowegijick* principle is such that the Tribunal is "bound to interpret as between the *Province* and the *First Nations* ss. 142 (1) and 145 of the EPA as these terms would be understood by First Nations people" (emphasis in original). They further argue that this principle is not limited to treaty language, as *Nowegijick* itself involved its application to legislation in a tax case in relation to a First Nations person.

[605] In the NCQ, the Appellants argue that the First Nations' concept of "natural environment" includes the land "and the uses traditionally made of the site". In their written submissions, the Appellants state that "(i)n practical terms, unless settled lands are posted "no hunting" such right of access is granted to First Nations peoples throughout their traditional territory, which includes the project area."

[606] The Appellants argue that the First Nations participants' evidence of harm to the natural environment, as interpreted by First Nations, should be accepted by the Tribunal since neither the Approval Holder nor the Director brought any evidence to counter it.

[607] The Appellants submit that Brent Whetung's evidence is unchallenged, and therefore should be accepted by the Tribunal, as follows:

> Placing an unnatural object of enormous size such as a 450 foot turbine in this environment would have a highly disruptive effect on what he described as "the balance of life", driving away game including deer, grouse and wild geese on which First Nations' people depend for food. The environment would also be harmed by the destruction of natural vegetation for the access roads.

[608] The Appellants also point to the presentation of Mr. B. Whetung, in which he "spoke of the conflict between wind turbines and the eagles, the carriers of spiritual communications with the Creator." They submit that, from a First Nations' perspective:

> the destruction of eagles and other birds is not merely a matter of a “bird kill” but such an assault on their spiritual environment as to justify "a turbine for an eagle". What seems to be a matter of no concern to the Approval Holder and the Ministry is seen by the First Nations to be a matter of serious and irreversible harm to the Treaty 20 environment.

[609] The Appellants also point to Mr. R. Whetung’s evidence regarding the “indivisibility of all aspects of the environment from the First Nations’ perspective including the living elements of the environment.”

[610] The Appellants submit that the evidence of Ms. Dokis was uncontradicted that “First Nations' spiritual practices would be permanently harmed by ‘100 meter high wind turbines’.” Similarly, the Appellants argue that the evidence of Ms. Sheridan was uncontradicted that there is a “unique and compassionate relationship” between the First Nations people and Mother Earth, and as a result the “interference with the aquifers on which the Sumac Ridge project sits would harm future generations”.

[611] The Appellants argue that “as a matter of law, this Tribunal is required in dealing with the rights of First Nations' people to interpret the words "natural environment" in s 142.1 and s 145.3 of the *EPA* in the sense understood by First Nations' people, following the *Nowejijick* principle.”

[612] The Appellants then provide an analysis with respect to balancing s. 35 rights with the rights of broader society. They submit that:

> It is true that s. 35 rights are not absolute. “The First Nations communities in the Treaty 20 territory are not isolated and their rights may be overridden in the interests of the broader society, but such overrides must be strictly justified according to the standard laid down by the Supreme Court of Canada in *R v Sparrow* … :
>
> > “Section 35(1), at the least, provides a solid constitutional base upon which subsequent negotiations can take place. <u>It also affords aboriginal peoples constitutional protection against provincial legislative power</u>.” (emphasis added)

[613] The Appellants refer to the analysis outlined by the Supreme Court in *R. v Sparrow,* [1990] 1 S.C.R. 1075 (“*Sparrow*”), to submit that any violation of Aboriginal or

Treaty rights must be justified. The justification analysis first involves a determination that there is a valid legislative objective. If so, the following considerations apply:

> Within the analysis of justification, there are further questions to be addressed depending on the circumstances of the inquiry. These include the questions of whether there has been as little infringement as possible in order to effect the desired result; whether, in a situation of expropriation, fair compensation is available; and, whether the aboriginal group in question has been consulted with respect to the conservation measures being implemented.
> …
> We would not wish to set out an exhaustive list of the factors to be considered in the assessment of justification. Suffice it to say that recognition and affirmation requires sensitivity to and respect for the rights of aboriginal peoples on behalf of the government, courts and indeed all Canadians. [p. 1119]

[614] The Appellants submit that the Crown, represented by the MOE in this case, has neither acknowledged the s. 35 rights of the First Nations, nor made any attempt to reconcile the *GEGEA* with the promises made to the First Nations in Treaty 20. The Appellants submit that the First Nations claims must also "by definition succeed in this case."

[615] The Appellants submit that adequate consultation could have been a relevant element of justification on the part of the Director, but was not raised.

[616] The Appellants submit that this case is "entirely different" from *Preserve Mapleton v. Ontario*, [2012] O.E.R.T.D. No. 19, where the Tribunal found it had no jurisdiction to consider whether the Director's duty to consult was discharged in the process of issuing the REA. Rather, the Appellants submit that "the issue here is not about the process leading up to the REA, but the interpretation by the ERT of its own mandate under s. 142 (1) of the *EPA* and giving effect to s. 35 Constitutional rights in the making of an order under s. 142 (1) of the *EPA*."

[617] The Appellants submit that, in the exercise of its statutory powers, the Tribunal must have regard to the honour of the Crown: "This Tribunal is part of the executive

branch of the Crown in right of the Province of Ontario. … the Sumac Ridge project cannot proceed without the participation (or abdication) of this Tribunal."

[618] In this regard the Appellants refer to the case of *R v. Burns and Raffay*, [2001] 1 S.C.R. 283, where the Supreme Court of Canada found the government of Canada could not avoid responsibility for a *Charter* violation by allowing a convicted criminal to be returned to the United States where he would be subject to the death penalty. Similarly, the Appellants argue the Tribunal cannot "avoid the impact of its s. 142(1) decision on First Nations' Treaty 20 rights by saying the approval was given by the Director not the Tribunal", and submit that the Tribunal has the authority to recognize and affirm the First Nations' rights to the environment promised by Treaty 20.

[619] In his submissions, the Director first frames the First Nations issue and then responds. The issue is framed as follows.

> The First Nations Participants state that they are beneficiaries of the 1818 Rice Lake Treaty, known as Treaty 20, and that the Treaty guarantees the right to harvest for sustenance within the "natural environment". Brent and Ryerson Whetung's written statement asserts that the Treaty contains promises to protect an environment in which animal life will flourish to support hunting and gathering, an environment where plants will continue to provide medicines, and where berries will grow freely. They express the opinion that the environment as they understand it will be harmed by the Project and that the REA or the Project will infringe Treaty 20 rights. The First Nations Participants and the Appellants also submit that the Tribunal's jurisdiction to determine serious and irreversible harm to the natural environment must be interpreted as the term is "understood by First Nations people".

[620] The Director submits that the arguments advanced by the First Nations participants should be dismissed for three reasons:

a. the Tribunal's jurisdiction on a REA review is limited and does not extend to determining the existence, nature or scope of s. 35 rights, or whether such rights are, or will be, infringed by the REA or Project;

b. the Tribunal is not required to interpret s. 142.1 or 145.2.1 by the *Nowegijick* principle, or "as understood by First Nations People", since the *EPA* is not a statute "relating to Indians", and the provisions at issue are unambiguous; and
c. the First Nations Participants have not provided specific evidence of any material negative impact to the environment, let alone harm of sufficient magnitude to satisfy the applicable statutory test, i.e., evidence demonstrating that the Project will cause serious and irreversible harm to the plant life, animal life, and the natural environment.

[621] The Director acknowledges the importance of Aboriginal and treaty rights with respect to this Project:

> The Director accepts that respect for Aboriginal and treaty rights is both critically important and mandated by Canada's Constitution. The Director also accepts that the First Nations Participants may have treaty harvesting rights in the area of the proposed Project, and that the Crown's duty to consult is triggered by the Crown's consideration of the Project. … It is also clear that assertions regarding potential infringement of treaty rights, or the Crown's duty to consult, are reviewable by the courts (e.g. judicial review proceedings) and will be assessed and balanced against the Crown's right to authorize the use of land for settlement and development purposes.

[622] However, the Director requests that the Tribunal not make findings concerning the First Nations participants' s. 35 rights, or whether the REA and the Project unconstitutionally interfere with such rights, because the Tribunal does not have jurisdiction to do so. The Director argues that determination of the existence, nature, and scope of Aboriginal and treaty rights protected by s. 35, or whether they have been infringed, are not within the jurisdiction of the Tribunal on a s. 145.2.1(2) *EPA* review. The Director refers to the recent Divisional Court decision in *Dixon* where, at para. 105, the Court upheld the Tribunal's finding that it does not have jurisdiction to "go behind" the Director's decision in areas of the Director's discretion that do not fall within harm to human health or plant life, animal life or the natural environment.

[623] The Director submits that a consideration of the existence, nature, and scope of Aboriginal or treaty rights, and potential infringements thereof, is among the other broad public interest considerations which the Tribunal does not have jurisdiction to consider as part of its restricted mandate under s. 142.1 and s. 145.2.1 of the *EPA*. The Director submits that issues relating to the duty to consult, and alleged infringement of that duty, are reviewable through judicial review proceedings before the Divisional Court.

[624] The Director's second point is that the interpretive principle enunciated in *Nowegijick* does not apply in these circumstances; that is, the Tribunal is not bound to interpret s. 142.1 and s. 145 of the *EPA* as these terms would be understood by First Nations people, for two reasons:

> (1) the Act and the sections in question are provisions of general application and not legislation "relating to Indians", as was the case in *Nowegijick*; and (2) the term natural environment in s. 145.2.1 is unambiguous assessed in the context of the EPA as a whole, including its stated purpose, and does not require special interpretation in accordance with the *Nowegijick* principle or "as these terms would be understood by First Nations people".

[625] The Director points to the Ontario Court of Appeal decision in *Wasauksing First Nation v. Wasausink Lands Inc.,* [2004] 2 CNLR 355 at paras. 91-94 (Ont. CA); application for leave to appeal dismissed [2004] SCCA No. 200 ("*Wasauksing*"), in submitting that the *Nowegijick* principle applies only to the interpretation of treaties or statutes relating expressly to Indians where it is necessary to resolve ambiguities or "doubtful expressions", and not to the construction of statutory provisions of general application. The Director submits that the term "natural environment" in s. 142.1 and s. 145.2.1 of the *EPA* is "clear and unambiguous, limited to an objective assessment of harm caused to the air, land or water. It does not extend to a consideration of the beliefs or activities of local residents, and it is distinct from and cannot be conflated with Aboriginal or treaty rights."

[626] The Director's submissions relating to the CST appeal, discussed above, are also applicable in this regard. The Director submits that the meaning of the term

"natural environment" is clear and unambiguous on its face, and is further clarified when read within the context of the *EPA* as a whole. The Director submits:

> … s. 1 of the *EPA* expressly defines the term "natural environment" as meaning "the air, land and water, or any combination or part thereof, of the Province of Ontario." Further, the purpose of the EPA is clearly set out in the statute itself, at s. 3(1): "The purpose of this Act is to provide for the protection and conservation of the natural environment." The scope of the term "natural environment" is thus clearly limited to an objective assessment of the harm caused to the air, land or water. It does not extend to a consideration of the beliefs or activities of local residents.

[627] The Director's third point is that the First Nations participants have not demonstrated that the Project, operating in accordance with the REA, will cause harm within the meaning of s. 145.2.1. The Director submits that the First Nations participants have only voiced general concerns about potential impacts on the natural environment, plant and animal life arising from the Project, which falls short of the statutory requirement to show that serious and irreversible harm will be caused. In particular, the Director submits that "no specific evidence was provided by the First Nations participants permitting the Tribunal to find that the Project will in fact result in serious and irreversible harm to animal habitat, including animal movement corridors, or the decrease of animal populations in the Project area, or nearby."

[628] The Approval Holder adopts and relies upon the Director's submissions on the NCQ and in respect of other issues raised by the First Nations. The Approval Holder also submits that the First Nations participants have not established that they have hunting and fishing rights over the private property in the Project area.

[629] In reply submissions, the Appellants reiterate that Supreme Court of Canada jurisprudence establishes that a tribunal which is authorized to interpret and apply the law, when it encounters a constitutional objection in the course of exercising its statutory mandate, is not only authorized to decide the constitutional issue but is required to do so.

[630] The Appellants submit that the "harvesting rights" of the First Nations under Treaty 20, including harvesting of deer, fish, berries and other resources, must take place in the "natural environment". They submit that the *EPA* is a law of general application to which s. 88 of the *Indian Act* applies and therefore the Tribunal must interpret the meaning of "natural environment" as indicated in *Nowegijick*. The Appellants assert that "the question is whether the degradation of that natural environment proposed by the Approval Holder will infringe the Treaty 20 rights."

[631] The Appellants submit that the Director's questioning of the evidence provided by the First Nations presenters offends the rule in *Browne and Dunn*, which they state "does not permit counsel to criticize alleged weaknesses in a witness's testimony *without having put those criticisms to the witness to give the witness an opportunity to explain or otherwise respond to the alleged deficiencies.*" (italics in original)

[632] The Appellants rely on *Sparrow* to submit that the Tribunal must be sensitive to the Aboriginal perspective in construing any infringement of a treaty right. The Appellants cite the following passage from that decision, as to what a "Court or Tribunal must ask itself":

> First is the [government] limitation reasonable? Second, does the regulation impose undue hardship? Third ***does the regulation deny to the holders of the right their preferred means of exercising that right?*** (Emphasis added by Appellants)

[633] The Appellants submit that the evidence before the Tribunal establishes that the Project will deny the First Nations' "preferred means of exercising their rights".

[634] The Appellants submit that s. 145.2.1(2) test is met because the "natural environment" will be altered to the detriment of the First Nations, because the Project will interfere with their harvesting rights.

Analysis and Findings

[635] The *Constitution* provides:

> 35. (1) The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed.

[636] For ease of reference, the Tribunal's analysis will follow the format used by the Director in his submissions.

a. Whether the Tribunal's jurisdiction on a s. 145.2.1(2) *EPA* review is limited, or extends to determining the existence, nature or scope of s. 35 rights, or whether such rights are, or will be, infringed by the Project.

[637] As noted above, the Tribunal held, in its order dated October 29, 2014 in this proceeding, that it does not have jurisdiction over the question of whether the Director fulfilled the Crown's duty to consult First Nations in the course of approving the Project. In that order, however, the Tribunal did not strike the First Nations' NCQ and left it to them to lead evidence establishing an infringement of their constitutional rights, as long as they could establish a nexus to the s. 145.2.1(2) review grounds.

[638] The first submission of the Director appears to be a re-argument of the point that was already put to the Tribunal and determined earlier. As a result, the Tribunal rejects the blanket suggestion that it does not have the jurisdiction to determine the existence, nature or scope of rights under s. 35 of the *Constitution*, or whether they will be infringed by the Project or the REA.

[639] It should be noted, however, that the First Nations participants have not asked the Tribunal to interpret Treaty 20 to determine the existence or scope of a treaty right. The First Nations assert that they are signatories to Treaty 20, that Treaty 20 guaranteed them the rights to hunt, fish and harvest plants in their traditional territory, and that these rights were not extinguished by the 1923 Williams Treaties. The Director

did not challenge the *existence* of these rights. The Director informed the Tribunal that there is ongoing litigation in the Federal Court to determine the *scope* of the rights guaranteed by Treaty 20, but there was no evidence put before the Tribunal with respect to that issue. Thus, the Tribunal makes no findings with respect to the existence or scope of the participants' harvesting rights under Treaty 20, or their right to exercise them on privately owned land. For the purpose of this proceeding, the Tribunal has assumed that the participants have an existing treaty right to harvest on their traditional territory, which includes land in the Manvers area and the Site itself.

b. Whether the Tribunal is required to interpret s.142.1 or 145.2.1 in accordance with the *Nowegijick* principle

[640] The Appellants argue that the Tribunal must view its statutory mandate in relation to the "natural environment" through the eyes of First Nations people because it must apply the *Nowegijick* principle. The "*Nowegijick* principle" comes from a Supreme Court of Canada decision interpreting the federal *Income Tax Act* in light s. 87 of the *Indian Act,* which exempts "personal property of an Indian or band situated on reserve" from taxation. It is also known as the "ambiguity principle." In *Nowegijick*, the Court stated, at p. 36, "treaties and statutes relating to Indians should be liberally construed and doubtful expressions resolved in favour of the Indians." The Director submits that the *Nowegijick* principle does not apply, as the *EPA* is a statute of general application and not a statute "relating to Indians", and further that the term "natural environment" is not an ambiguous expression. The Director relies on the *Wasauksing* case, which held that *Nowegijick* and following cases do not "mandate an expansive interpretation of laws of general application."

[641] The Appellants argue in reply that the *EPA* is a provincial law "in relation to" Aboriginal people, which triggers s. 88 of the *Indian Act* and the application of *Nowegijick*. The *EPA* is not directed at, nor does it single out, Aboriginal people but applies generally to anyone who carries out activities that might cause adverse effects to the natural environment of Ontario, in this case the Approval Holder. Unlike the

provincial game and hunting legislation challenged in cases such as *Taylor and Williams*, the *EPA* does not on its face restrict any activity the First Nations participants wish to carry out in pursuit of their treaty-based harvesting rights. Thus, the *EPA* appears to be a valid provincial law of general application that applies to Aboriginal people and is not a law "in relation to" Aboriginal people. As such, based on *Wasauksing*, the *Nowegijick* principle does not, strictly speaking, apply to its interpretation.

[642] Furthermore, the *EPA* is not ambiguous. The term "natural environment" is defined in the *EPA* to mean "the air, land or water, or any combination thereof of Ontario." Neither the participants nor the Appellants pointed out any ambiguity in the term or offered any additional words to the definition. Rather, they asked that the Tribunal view the term through the First Nations' perspective, that is, the Tribunal should be aware of and sensitive to the importance of the environment, as a holistic concept to the First Nations, now and for future generations.

[643] It should be noted that the Tribunal is not limited to considering harm to the "natural environment" under s. 145.2.1, but can also consider harm that will be caused to plant life and animal life, and to human health. Thus, the Tribunal is not prevented by the structure of the *EPA* from viewing these aspects in an integrated way. For example, in its decision in *Monture v. Ontario (Ministry of the Environment)* (2012), 73 C.E.L.R. (3d) 87 ("*Monture 2*"), where the appeal related to harm to human health, the Tribunal found, at para. 82, that:

> Mr. Monture has established that, from the unique perspective of the traditional members of the Six Nations in this case, or "through the eyes of the original people" as was stated in *R. v. Van der Peet*, the two branches of the REA appeal test can significantly overlap. The uncontradicted evidence of the Monture Onkwehonwe witnesses is that, in their traditional culture, they are inseparable from the environment, and harm to the environment is harm to the well-being of their community.

[644] In that case and in *Monture v. Ontario (Ministry of the Environment)* (2012) 68 C.E.L.R. (3d) 191 ("*Monture 1*"), the Tribunal admitted traditional knowledge as opinion evidence and received submissions about how traditional values informed the issues. In *Monture 1* at para. 18, the Tribunal stated:

> As Mr. Monture described in his submissions, the Onkwehonwe have brought forth their perspective and expertise in this proceeding, sharing their knowledge of observed changes in behaviours of the animals and birds as a result of development. Both he and Mr. Green testified that they relied, in part, on knowledge of the natural environment, including plant and animal life, accumulated over generations through the oral traditions of the Onkwehonwe. In expressing their concerns, they clearly stated that they provided their opinions and views in the context of the traditional values of the Onkwehonwe. The Tribunal has admitted their opinion evidence in this context.

[645] These cases indicate that the Tribunal is open to considering harm to human health or to the environment in light of an Aboriginal perspective. However, the Tribunal held in both *Monture* cases that, given the restricted nature of its jurisdiction on a REA appeal, whatever aspects of health or the environment that may be considered, evidence regarding harm must relate to the statutory test. In other words, here the participants must adduce evidence that establishes that the Project will cause environmental harm, and that such harm is of a kind or degree that is serious and irreversible.

[646] In any event, the participants and the Appellants have not made it clear what difference reliance on *Nowegijick* would make to the Tribunal's analysis of the evidence. The Tribunal considers that it can dispose of the First Nations participants' argument on the facts alone. Thus, it is not necessary to determine whether the Project interferes with the First Nations' treaty rights right to hunt and fish and whether any such interference is insignificant or constitutes an infringement of s. 35 of the *Constitution*. The Tribunal has already discussed its findings with respect to the evidence presented by the Appellants and whether they have met the onus of proof to establish "serious and irreversible harm" to the environment. Specific findings with respect to the participant First Nations' evidence are set out below.

c. Whether the First Nations participants have provided evidence demonstrating that the Project will cause serious and irreversible harm to plant life, animal life, or the natural environment.

[647] The First Nations participants allege that the Project will have a highly disruptive effect on "the balance of life", driving away game including deer, grouse and wild geese on which First Nations' people depend for food. Mr. R. Whetung stated that the Project will destroy eagles and other birds, which is not merely a matter of a "bird kill" but is an assault on the spiritual environment. Ms. Sheridan spoke of the “unique and compassionate relationship” between the First Nations people and Mother Earth. She explained that water is central to the First Nations’ view of the environment, and protested that interference with the aquifers on which the Project sits would harm future generations.

[648] The Approval Holder and the Director called no evidence regarding the impacts of the Project on the First Nations participants and did not challenge their witnesses in cross-examination. The Appellants submit that the evidence of the First Nations participants is therefore “uncontradicted” and “unchallenged”. Notwithstanding this, the Tribunal must reach its own findings on whether the evidence presented constitutes proof that the Project will cause serious and irreversible harm to the natural environment, plant life or animal life.

[649] The Tribunal finds that the evidence of the First Nations participants presented here amounts to expressions of general concern about land use changes within their traditional territory that might affect the animals and plants that they harvest, without specific evidence of how this Project will cause serious and irreversible harm.

[650] Unlike in *Monture 1* and *Monture 2*, the witnesses did not bring forward evidence of their personal or traditional knowledge or traditional practices on the Site or in the project area. Only Mr. B. Whetung stated that he had once fished in the Fleetwood

Creek Conservation Area to the east of the Site. The witnesses did not indicate whether, or the extent to which, they visit or use the Site for harvesting plants or animals, nor did they testify regarding their knowledge about the presence and relative health of populations of deer, other game or birds of concern to them on the Site or in the area of the Project. They stated only generally that they carry out harvesting practices on their traditional territory.

[651] The witnesses also failed to identify how the Project would infringe their rights, other than in a general way. They did not provide examples of experiences at other locations where game has been driven away due to wind turbines, nor did they explain how the Project would interfere with aquifers or other waters in the area. There was no evidence as to studies, data or personal knowledge collected from other wind projects. While raising an important concern that the “balance of life” would be disrupted, the participants did not provide any specifics about how this would occur because of the Project. The Tribunal finds that the testimony of the First Nations participants regarding the impacts of the Project on plant life, animal life and the natural environment amounts at most to an expression of concern about the possible harm the Project might cause. Their testimony was sincere and heartfelt, but it does not constitute evidence demonstrating that the Project *will cause* the harm they allege.

[652] In summary, the Tribunal finds that the evidence does not demonstrate that the Project will cause serious and irreversible harm to plant life, animal life or the natural environment of the traditional lands of the First Nations participants.

CONCLUSION

[653] For all of the above reasons, the appeals are dismissed and the decision of the Director confirmed.

13-140
13-141
13-142

Appeals Dismissed

"Heather Gibbs"

HEATHER GIBBS
VICE-CHAIR

"Marcia Valiante"

MARCIA VALIANTE
MEMBER

Appendix A

Procedural Rulings

Request by Appellants to summons Ian Bonsma

Background

In their notice of appeal, the Appellants raised the ground of appeal of serious harm to human health and the issue of the impacts of noise from the Project on human health. On February 12, 2014, prior to the adjournment, the Appellants filed a Main Hearing Information Form that listed William Palmer as an expert witness to address the issue of noise. After the proceeding resumed following the adjournment, the Appellants filed an updated Main Hearing Information Form on November 4, 2014 that no longer included Mr. Palmer, but now included Mr. James as an expert to address the issue of noise. On November 7, the Appellants filed an updated form that continued to list Mr. James as an expert witness, but that also included documents from Dr. Hazel Lynn regarding the issue of wind turbine noise impacts on human health. On the same day, the Director filed a Main Hearing Information Form that listed Mr. Tse, MOE noise engineer, as his only witness and the Approval filed a similar form listing Mr. Bonsma as its noise witness.

On November 10, 2014, the Tribunal held a TCC to discuss the hearing, which was scheduled to start on November 17. Counsel for the Director and the Approval Holder informed the Tribunal that they had only received witness statements, due on November 7, for the Appellants' witnesses that morning and that Mr. James' witness statement was not included. They both expressed concern that they would have insufficient time to prepare responding witness statements by the deadline that had been imposed by the Tribunal. In response, counsel for the Appellants confirmed that he would call no expert noise witnesses, including Mr. James, and that the issue of the health impacts of noise would not be an issue in the hearing. However, he stated that the issue of noise continued to be relevant to the CST's appeal.

On November 13, 2014, the Approval Holder filed Mr. Bonsma's witness statement. On the same date, the Appellants filed a Statement of Issues and Material Facts and Summary of Intended Evidence that referred to noise only in the context of "serious and irreversible harm to the tranquil environment, preventing Buddhist meditation and concentration." However, on November 18, following the start of the hearing, they filed a revised Statement of Issues that added the issue of "serious harm to human health caused by interference with the practice of Buddhism" but did not list any noise witnesses. This addition was objected to by the Director.

Subsequently, the Director filed an updated witness list, which removed the earlier planned noise expert, Mr. Tse, and noted that the Director would call no witnesses.

On November 21, 2014, the Approval Holder filed an updated witness list that continued to include Mr. Bonsma. On December 1, the Approval Holder filed a Provisional Witness Schedule, which did not include Mr. Bonsma as a witness.

On December 4, 2014, due to a scheduling problem, the Approval Holder by agreement began calling its witnesses before the Appellants' final witnesses were heard. When these witnesses concluded their testimony that day, counsel for the Appellants stated that he was "not closing his case", but "reserving the right to call additional witnesses in chief". The Approval Holder did not object and continued with its case.

At the end of the next hearing day, a Friday, counsel for the Appellants informed the Tribunal that he wanted evidence on noise before the Tribunal and that he might call a noise witness or might request the Tribunal to issue a summons to Mr. Bonsma. On December 8, the Tribunal sent an email to the parties that stated: "The Tribunal is concerned about the impact of this on the fairness and efficiency of the hearing and therefore directs the Appellants to indicate by 12 noon on **Tuesday, December 9** whether they intend to call another witness, the identity of the witness, and a justification for the need to call the witness at this stage of the proceeding. The parties should be

aware that this issue may affect the scheduling of the remainder of the hearing and should be prepared to address the issue at **10 a.m.** on **Wednesday, December 10, 2014."**

On December 9, 2014, the Appellants sent a request for the Tribunal to issue a summons to Mr. Bonsma. On December 10, the Tribunal asked counsel for the Appellants to speak to the necessity for the summons, and the relevance of the evidence, as required by Rule 192.

Submissions

The Appellants submitted that they had intended to rely on the Approval Holder's noise witness, Mr. Bonsma, as they believed they could get the needed information before the Tribunal and that they were taken by surprise when the Approval Holder decided not to call Mr. Bonsma. They submitted that they would no longer be able to present their full case without this evidence. When asked by the panel why he did not call Mr. James, counsel for the Appellants was frank in stating that "Mr. James costs money, and Mr. Bonsma was coming anyway."

The Tribunal provided an opportunity for the Director and the Approval Holder to address the question of whether it should issue the summons to Mr. Bonsma. The Approval Holder submitted that it withdrew Mr. Bonsma as a witness when it became clear that the Appellants, who have the onus of proof, would not call any evidence regarding noise. It submitted further that the timing of the request was inappropriate. The Director submitted that Mr. Bonsma's evidence was not relevant because he could not speak to noise levels at Wutai Shan or on the pilgrimage route because these were not included in the Noise Assessment Report that he prepared and that his evidence was not necessary because the Appellants could have called Mr. James, as they had intended. The Director stated that the Appellants' counsel had taken a "gambling approach" with his hearing strategy, in that he took a risk that Mr. Bonsma would be

called, and has to accept the consequences when the witness is withdrawn for an appropriate reason.

Findings

The Tribunal found that the issue of noise at it relates to the CST is an issue in the hearing and accepted the Appellants' submission that they believe their case would be compromised if no noise evidence were before the Tribunal. However, the Tribunal did not find that the Appellants had satisfactorily explained why the evidence of Mr. Bonsma was necessary, as required by Rule 192(c). Given the circumstances, however, the Tribunal stated it would allow the Appellants an opportunity to call Mr. James as originally planned or it would accept an agreed statement of facts regarding noise.

Reply evidence

Background

Following the closing of the Approval Holder's case on December 12, 2014, the Appellants proposed to bring four witnesses in reply: Mr. Sisson, Mr. Kerr, Mr. Carpentier, and Ms. Storm. Reply Witness Statements were filed for the first three on December 16 and they all testified on December 19.

On December 19, Mr. James testified for the Appellants in chief regarding the issue of noise. The Approval Holder and the Director each called one witness in response, both of whom testified on the same day. The Tribunal then gave the Appellant an opportunity to file reply evidence by Mr. James by December 30. The Appellant filed a reply witness statement for Mr. James on December 30, and he was subject to oral cross-examination before the Tribunal on January 5, 2015.

The Approval Holder and Director objected to the reply evidence of all five of these witnesses on similar grounds and asked that the Tribunal not admit it as proper reply

evidence. They made oral submissions on December 19 and, regarding Mr. James, on December 31 by TCC. At the hearing on December 19, counsel for the Appellants stated that he was not then prepared to argue the issue of whether the evidence was proper reply, due to the short notice of the objection, and that if the Tribunal forced him to do so, it would constitute a denial of natural justice.

In order to avoid a lengthy delay over the issue, the Tribunal ruled on December 19 that it would hear the witnesses, receive the Appellants' counsel's argument as part of their final written submissions and render a ruling on whether the reply evidence was proper reply, and therefore whether it could be considered by the Tribunal, in its final decision. This was done because the Tribunal determined that the objections did not raise any issue of prejudice that could not be cured by a delayed determination by the Tribunal on propriety of reply. This was an approach taken by the Tribunal in the *Erickson* case with respect to determinations of expertise of witnesses.

On December 30, the Appellant filed two more reply witness statements, by Ms. Chen and Mr. Mitton. The Director and Approval Holder objected to the filing of these additional reply witness statements on the grounds that the Tribunal had specifically permitted reply by Mr. James only, and that Ms. Chen and Mr. Mitton were not appropriate witnesses to reply to the noise evidence of Mr. Tse and Mr. Howe.

At the TCC on December 31, the Tribunal heard submissions and determined that the reply statements of Ms. Chen and Mr. Mitton would not be admitted into evidence. The Tribunal found that the evidence on noise levels did not give rise to proper reply from Ms. Chen or Mr. Mitton, who have no expertise on noise and therefore were not qualified to reply to those aspects of the evidence. The Approval Holder and Director brought no evidence on Buddhism, meditation or the CST's requirements; thus there was nothing to which Ms. Chen and Mr. Mitton could reply. The Tribunal also found that, to the extent Mr. Howe or Mr. Tse commented on the impact of wind turbines on the practice of meditation, it was outside their expertise.

Submissions

The Approval Holder refers to several cases that identify the principles regarding proper reply evidence. In summary, it submits, these principles prohibit an appellant from splitting its case, in order to ensure that a responding party, which has no right of reply, knows the entire case it must meet when it leads its evidence. The Approval Holder submits that it is not proper in reply to simply repeat, and thereby reinforce, previous evidence or to provide new evidence that could have been brought in chief.

The Director refers to the Tribunal's decision in *Guelph (City) v. Director, Ministry of the Environment*, 2014 CarswellOnt 2546 ("*Guelph*"), as confirming that the Tribunal applies similar principles to those followed by the courts in its treatment of reply evidence.

The Approval Holder and the Director each give a detailed account of why, in its view, each paragraph of the reply witness statements was not in accordance with these principles. In addition, each identifies aspects of the witness statements that were not proper evidence, in particular that the witnesses were making submissions rather than providing evidence. The Approval Holder submits further that Mr. Kerr, Mr. Sisson and Mr. Carpentier were each "acting as an advocate" in their reply witness statements, and as such their actions "must be considered to impair the objectivity" of their testimony throughout the proceedings. Similar objections were made with respect to reply evidence of Mr. James.

The Appellants argue that the reply evidence should be admitted in order to give them a full and fair opportunity to respond to the respondents' evidence. They also rely on the *Guelph* decision in support of their view that all of the reply provided is proper.

They argue that the reply evidence of the Appellants is proper in that it either:

> (a) responds directly to new matters raised by witnesses called on behalf of the Respondents, including replying to the Appellants' witnesses, (b) clarifies areas of misunderstanding, (c) amplifies areas made significant

> by the Respondents' witnesses and evidence, and/or (d) responds to comments and issues in the Respondent(s) case that have never been commented on.

In addition, the Appellants argue that the rules of reply are based on the principle of fairness. They submit that an appellant does not know the respondent's case until it is put before the Tribunal, and that fairness dictates that the appellant "must be entitled to an opportunity to respond to new matters/evidence or unanticipated points of emphasis raised by the respondent."

The Appellants argue that they are not required to anticipate all of the ways in which a respondent will rely upon pre-existing evidence. Otherwise, they state, "this would severely limit the applicant/appellants right of reply to the point of creating a major inequality between the parties in presenting their cases fully and fairly."

The Appellants submit that the reply evidence is required in this case for a full and fair hearing, and note that the respondents have had the ability to cross-examine on this evidence, and make written and oral closing submissions.

Findings on Reply Evidence

The basic principles regarding proper reply evidence were outlined by the Supreme Court of Canada in *R. v. Krause*, [1986] 2 S.C.R. 466 ("*Krause*"), at pp. 473-4:

> This rule prevents unfair surprise, prejudice and confusion which could result if the Crown or the plaintiff were allowed to split its case, that is, to put in part of this evidence … then to close the case and after the defence is complete to add further evidence to bolster the position originally advanced. The underlying reason for this rule is that the defendant or the accused is entitled at the close of the Crown's case to have before it the full case for the Crown so that it is known from the outset what must be met in response.
> The plaintiff or the Crown may be allowed to call evidence in rebuttal after completion of the defence case, where the defence has raised some new matter or defence which the Crown has had no opportunity to deal with and which the Crown or the plaintiff could not reasonably have anticipated. But rebuttal will not be permitted regarding matters which merely confirm or reinforce earlier evidence adduced in the Crown's case which could have been brought before the defence was made. It will be

> permitted only when it is necessary to insure that at the end of the day each party will have had an equal opportunity to hear and respond to the full submissions of the other.

In the *Guelph* case, at para. 14, the Tribunal outlined the principles it applies when determining what is proper reply:

> - An applicant is expected to put its complete case forward in its leave application;
> - In reply, an applicant may not add new issues or evidence that it was aware of or could have reasonably anticipated and addressed in its application;
> - In reply, an applicant may respond directly to a new issue or new evidence contained in the respondent's submissions; and
> - In reply, an applicant may not simply repeat earlier submissions or attempt to bolster its application, but may clarify or amplify an earlier submission, especially where a response misconstrues its position or where an initially less significant issue takes on greater importance because of the response.

After reviewing the reply witness statements in light of these principles, the Tribunal finds, other than Mr. Carpentier's statement which is discussed below, that they are largely an attempt to bolster the Appellants' case by repeating what was stated earlier. In addition, the witnesses provide extensive submissions, rather than evidence, which is also not proper. Even so, there is some proper reply contained within the statements, including for example Mr. Sisson's comments on Ms. Clubine's testimony as to the difference between "ephemeral" and "intermittent" streams, and Mr. Kerr's reply to evidence by Mr. Donaldson regarding "confining layers" on the ORM.

The Tribunal does not intend to make findings for each paragraph of these reply witness statements in order to determine which should be excluded in whole or in part. Rather, the Tribunal considers that no prejudice has been identified by the Approval Holder or Director by admitting the statements. Given the short time lines available for completion of evidence, submissions and issuing a decision in this case, the Tribunal finds it is more expedient to admit the reply witness statements into evidence (with the exception of Mr. Carpentier's, as outlined below), acknowledging that the statements are largely improper and relying on only those portions that meet the principles set out in the *Guelph* decision.

The Tribunal will exclude portions of Mr. Carpentier's reply witness statement, on the grounds that they are a clear attempt to introduce new evidence that could have been provided earlier, in order to fill gaps in his evidence, but not in response to new or unanticipated evidence adduced by the responding parties. Therefore, the Tribunal disregards Mr. Carpentier's evidence with respect to his visit to the Manvers Pit on November 26, 2014, which was following the conclusion of his testimony.
Mr. Carpentier agreed on cross-examination that he was gathering further data to "confirm" his earlier observation regarding Bank Swallow. If information collected post-testimony were allowed into the hearing, the Tribunal's evidence-gathering process would never be at an end. In addition, the responding parties have had no opportunity to respond to this evidence, which undermines the basic principles of reply as outlined in *Krause* and *Guelph*. In addition, the Tribunal disregards the reference to three experts who "affirmed my position" in para. 10, reference to the views of "three provincial government officials" in para. 11, and reference to SAR he had not addressed in his earlier testimony, for similar reasons.

Objections to Final Submissions

On January 8, 2015, the Appellants filed their final submissions. On January 16, the Director and the Approval Holder filed theirs. With its submissions, the Approval Holder also filed a table labeled "Appendix A – Issues re paragraphs in Appellants' Closing Submissions by paragraph numbers" and a single sheet labeled "Appendix B – Submissions of the Approval Holder regarding documents at tabs to the witness statement and supporting documents of Diane Chen." On January 19, the Appellants filed reply submissions, divided into two parts, each directed at one of the responding parties. On the same day, the Appellants' counsel noted in an email his objection to the Approval Holder's Appendix A because it was unreadable and as a result he was not able to review it or provide a response. In response to the Appellants' reply submissions, the Approval Holder summarized its objections in a document entitled "Detail regarding objections of the Approval Holder with respect to 'reply' contained in

the Appellants' Reply to the Approval Holder and in the Appellants' Reply to the Director."

On January 23, 2015, the parties convened in Pontypool to make their final submissions before the Tribunal. Counsel for the Appellants indicated that he had prepared his own chart in response to the Approval Holder's Appendix A and "objections" document that he wished to put before the Tribunal. He also indicated that he would like to make oral submissions on the Approval Holder's objections. Counsel for the Approval Holder indicated that he would not refer to it in his closing submissions.

The panel indicated to the parties that the Tribunal had only an electronic version of Appendix A that was likewise unreadable, so that it had not reviewed it. The panel chair stated that if counsel for the Approval Holder was not intending on referring to it, then there was no need for further submissions and the Tribunal would not refer to it in reaching its decision.

Motion to admit new evidence

Background

The Appellants, in their Reply Submissions to the Director, filed on January 19, 2015, made reference for the first time to a media release regarding conviction of a wind farm operator in Wyoming for causing the deaths of protected birds. During oral submissions on January 23, the panel told counsel for the Appellants that it would not receive the information in the form of final submissions, and that if he wanted it in evidence he would have to bring a motion to admit new evidence under Rules 233 and 234.

On January 29, 2015, the Appellants filed a motion to admit new evidence. The Tribunal ruled that it would hear this motion in writing, and established dates for responding and reply submissions. On February 10, the Tribunal issued an Order dismissing the motion, with reasons to follow. These are those reasons.

Submissions

The Appellants submit that the new evidence they seek to have admitted, specifically an article published by Associated Press on December 20, 2014 entitled “PacifiCorp Energy pleads guilty in bird deaths,” meets the criteria in Rule 234. They argue the evidence did not exist at the time of the hearing, as it was only published after all of the evidence had been heard, and that the evidence is credible. They submit that the evidence is material to the issue of whether the Project will cause serious and irreversible harm to birds, that it casts “serious doubt on the veracity of the evidence” provided by Dr. Strickland and Dr. Kerlinger because the information was known to them and they concealed it from the Tribunal, and it directly contradicts the testimony they provided. Finally, they submit that the evidence will affect the outcome of the hearing. They request that the evidence be admitted and that the proceeding be adjourned to allow the witnesses to be recalled to “explain themselves” and to be cross-examined.

The Director submits that the Appellants have not met the criteria in Rule 234 and the motion should be dismissed. The Director submits that the article is not “new” evidence in that it was in existence and obtainable prior to the completion of evidence on January 5, 2015 and that the information in the article reflects activities dating back to 2009. He argues that the evidence is not material to an issue in the proceeding, because the Appellants did not pursue the issue of bird collision mortality. According to the Director, this evidence could not affect the outcome of the proceeding, as it is simply a summary of information about a conviction and is inaccurate. In addition, it is argued, the recitation of the facts of this conviction and the number of birds killed is not rationally connected to the issue of whether there will be serious and irreversible harm to birds in this case and in no way contradicts the evidence of either Dr. Strickland or Dr. Kerlinger.

The Approval Holder submits that the evidence was known to Appellants’ counsel on the day it was published, before completion of the hearing, and that the evidence is not

credible because it is incomplete, failing to identify crucial facts. The Approval Holder argues that the evidence is not material to the issues in the hearing and will not affect the outcome because it in no way undermines the opinions expressed by Dr. Strickland and Dr. Kerlinger. It asserts that there is nothing in this information that would cause either of them to change his opinion, so there is no basis on which to disqualify either witness or disregard either's testimony. Finally, the Approval Holder submits that the Appellants did not advance the issue of bird mortality.

In reply, the Appellants submit that the article did not exist at the time that Drs. Strickland and Kerlinger were being cross-examined. They express the view that it is unreasonable to expect a party to have discovered this information regarding a proceeding in another country, but it is reasonable to expect that a person in Dr. Strickland's position, with a close professional and geographic relationship to the projects under investigation, would have been aware of the information and would have provided this information to the Tribunal in accordance with his duty as an expert witness. They argue that the issues raised by the article are serious and could have an impact on the outcome of the hearing, but that the only way to test this new evidence and its significance to the Project is to admit the evidence and allow cross-examination of an appropriate expert witness. They point to the Divisional Court decision in *Ostrander*, which held that the Tribunal must ensure a full and fair hearing, notwithstanding the six-month statutory decision requirement, and can do so by extending the hearing on its own initiative.

Analysis and Findings

Rules 233 and 234 provide as follows:

> 233. Once the Hearing has ended but before the decision is rendered, a Party may make a motion to admit new evidence.
>
> 234. The Tribunal shall not admit new evidence unless it decides that the evidence is material to the issues, the evidence is credible and could affect the result of the Hearing, and either the evidence was not in

> existence at the time of the Hearing or, for reasons beyond the Party's control, the evidence was not obtainable at the time of the Hearing.

The motion seeks to allow the admission of an article reporting on the conviction of a wind farm operator, PacifiCorp Energy, with respect to birds killed at two facilities in Wyoming from 2009 to 2014. The article on its own is not sufficiently accurate and detailed to be of assistance, so it seems that what the Appellants really seek is to use the article as the basis for recalling Dr. Strickland and Dr. Kerlinger for further cross-examination.

The Tribunal must determine whether the new evidence is material to the issues in the hearing. The Appellants raised the general issue of harm to birds and their habitat in the notice of appeal but did not list collision mortality in their Statement of Issues, did not lead any evidence on it and did not make final submissions on it, focusing exclusively on habitat loss and displacement. Both Drs. Strickland and Kerlinger included references to studies from across North America on collision mortality in their witness statements, but the Appellants did not cross-examine them on that evidence. The Tribunal recognizes that a general concern with eagle mortality was raised by Mr. R. Whetung on behalf of the participant, CLFN; however, no detailed evidence was provided in that regard. Whether the Project will cause serious and irreversible harm to birds because of collision mortality is not an issue in the hearing.

The Appellants seek to use the new evidence primarily to call into question the credibility of Drs. Strickland and Kerlinger and thereby undermine the entirety of their evidence. It is not at all apparent why Dr. Kerlinger's credibility should be undermined by this evidence, as there is nothing to indicate that he was aware of the information or had any involvement with the facilities. With respect to Dr. Strickland, the Appellants argue that because Dr. Strickland lives in Wyoming and his consulting firm had some involvement with the company that was convicted, he had personal knowledge of the bird mortality figures at these facilities and failed to disclose it. Dr. Strickland openly provided evidence that "collision mortality is well documented at most wind-energy facilities" without identifying specific facilities, and went on to give his opinion, based on

numerous studies, that the impacts of this mortality “are not significant at the population level”. It is not evident to the Tribunal that the report of bird deaths at the Wyoming facilities is materially different from the type of evidence Dr. Strickland disclosed and on which he based his opinion. From the material in the Director’s motion record, it also appears that PacifiCorp was warned by its consultants, assuming this refers to Dr. Strickland’s firm, about the risk of collision mortality but the company did not follow their advice or federal government guidance on avoiding and minimizing collision mortality until after the mortality occurred. There is nothing in the evidence before the Tribunal that undermines Dr. Strickland’s credibility.

For these reasons, the Tribunal finds that the new evidence would not affect the outcome of the proceeding and dismisses the motion.