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POSITION PAPER ON PROPOSED ONTARIO GREEN ENERGY ACT BILL 150

I represent 18,000 people who use small aircraft for personal travel and recreation in Canada. At the outset I would like to emphasize that our Association is in favour of encouraging the development of green energy concepts. However, legislation that makes this so should include safeguards that protect safety, the economy and the social aspects that we enjoy in Canada.

The proposed Act does not currently include a method to ensure that aerodromes are adequately protected in the siting of wind energy projects. The sweeping provisions of the Act to override other agreements or provisions for wind turbine placement would therefore have safety and loss of use implications for many landing facilities in Ontario.

Ontario's system of aerodromes (certified, registered and non-registered) represents a significant factor in the economic and social fabric of the Province. Many aerodromes are operated to support and enhance businesses and also to provide emergency, policing and medical support services. They also serve to promote and encourage many recreational and personal aviation activities. There are 32,000 aircraft and 60,000 pilots in Canada. Many of these aircraft and pilots visit Ontario in the course of their business and personal travel by aircraft. There are more than 9,600 aircraft and 23,000 pilots located in Ontario who operate regularly out of several hundred aerodromes in carrying out these activities.

Safety and usability issues are created in two ways by the location of wind turbines near an aerodrome. Wind turbines present an obstruction hazard when located in the approach and departure paths of a runway. Also, wind turbine blades create wake vortex turbulence, which is hazardous to smaller aircraft that may pass behind an operating turbine during low level maneuvering for take off, landing and in the circuit at an aerodrome. Therefore, it is important that approach and departure paths as well as the circuit pattern around aerodromes be free from this hazard in order for these aerodromes to continue to be safely used.

In order to appreciate our concern, it is useful to understand the extent of the aerodrome infrastructure system in the Province.

There are 73 aerodromes in the Province that are classified as airports by Transport Canada. Airports are aerodromes that have been granted an airport certificate by the federal Minister of Transport when they meet the requirements of Transport Canada document TP 312 "Aerodrome Standards and Recommended Practices", including the standards for obstacle limitation surfaces (see Figure 1).

Of these 73 airports, 34 have registered zoning in effect, restricting the land in the vicinity of the airport from obstructions that would protrude into defined airspace. This zoning has been enacted in accordance with the provisions of the federal Aeronautics Act to ensure that the airspace in the vicinity of the airports remains clear of obstructions. We trust that the Green Energy Act is not intended to interfere with the registered zoning protection under federal law.

The remaining 39 airports have no registered zoning protection. In addition, there are 71 certified heliports in the Province, of which 63 are at hospitals where they provide critical augmentation to the health care system in Ontario. Any penetration of certain airspace in the vicinity of these airports and heliports would affect the certification status, with consequent loss of its utility.

Most of these 73 airports and several of the heliports, plus an additional 60 aerodromes in Ontario have published instrument approaches to improve the aerodromes' usability in poor weather to, for example, deliver a critical care patient to a specialized care facility. A primary factor in the design of these approaches is the required obstacle clearance (ROC), the parameters of which are spelled out in accordance with the provision of Transport Canada document TP 308 "Criteria for the Development of Instrument Procedures". These parameters govern the minimum descent altitudes for aircraft in poor weather conditions and therefore the usability of an aerodrome or airport. The instrument approach procedures are managed by Nav Canada but there is no protection in law for these approach procedures. If there is a penetration of the so-called protected surface, Nav Canada can only cancel an approach or raise the aircraft descent limit, thereby effectively reducing the usability of the aerodrome. The economic and social implications should be carefully examined whenever the location of a wind turbine is being considered.

Finally, there are hundreds of aerodromes, some registered (recognized officially by Transport Canada and therefore listed in the Canada Flight Supplement) and some unregistered and largely unknown to Transport Canada but known to those who use them for personal travel and recreation. Many of the properties on which these aerodromes are located were purchased for the express purpose of developing an aerodrome for personal enjoyment and travel. An inappropriately located wind turbine may result in a loss of use of that property for aviation purposes and this should be taken into account when planning for wind turbine locations.

TP312 and TP308 address the obstacle clearance requirements and were developed before wind turbines were a factor in aviation safety. The additional safety issue that is unique to wind turbines is wake vortex turbulence. The downwind effects of turbulence are not well understood but the effects are more pronounced for small aircraft than larger ones. There is no clear guidance regarding how far wind turbines should be located from an aerodrome but Figure 2 illustrates that turbulence is a factor. The photo is from the North Sea where the turbulence generated from wind turbines stirred up the moist air near the surface and created clouds that traveled well downwind.

With respect to the role of Transport Canada in this issue, for aerodromes that do not have zoning protection in place Transport Canada is powerless to prevent a wind turbine from interfering with aviation. On the other hand, if a wind turbine will create a safety hazard,

Transport Canada will take steps to restrict or even prohibit aviation operations. For certified and registered aerodromes, particularly those with instrument approaches, Transport Canada could have no choice but to shut them down or severely restrict their usability. This would have a significant economic and social impact for the communities and individual property owners involved.

To date, some townships and municipalities have recognized the importance of considering aviation issues and have written setbacks and other considerations into planning and other documents. The proposed Act would nullify these provisions and pave the way for ignoring the economic, safety and social implications.

We believe that the existing aerodrome system represents a tremendous economic and social benefit to all of the people of this Province, and should therefore be adequately protected against aerodrome safety and usability issues. Our experience indicates that no single standard, in terms of distance away from the aerodrome, is appropriate. The safe distance is dependent on the type and classification of aerodrome, the types of aircraft and flight missions operated, and the requirements for local flight procedures to be compatible with the local community, for example, for minimizing noise.

We believe that a provision should be made in the proposed Green Energy to require that an aeronautical evaluation be undertaken by a wind turbine proponent in all cases to ensure that all aviation facilities are identified and the potential risks and impacts on the aviation facilities are analyzed so that potential adverse effects from the development can be mitigated. This would ensure that aviation safety hazards are eliminated or minimized and that aerodromes can continue to serve the people of Ontario for many years to come.

On behalf of thousands who engage in aviation as a career, business and recreation, we urge you to amend the Act to address our concerns.

Kevin Psutka
President and CEO

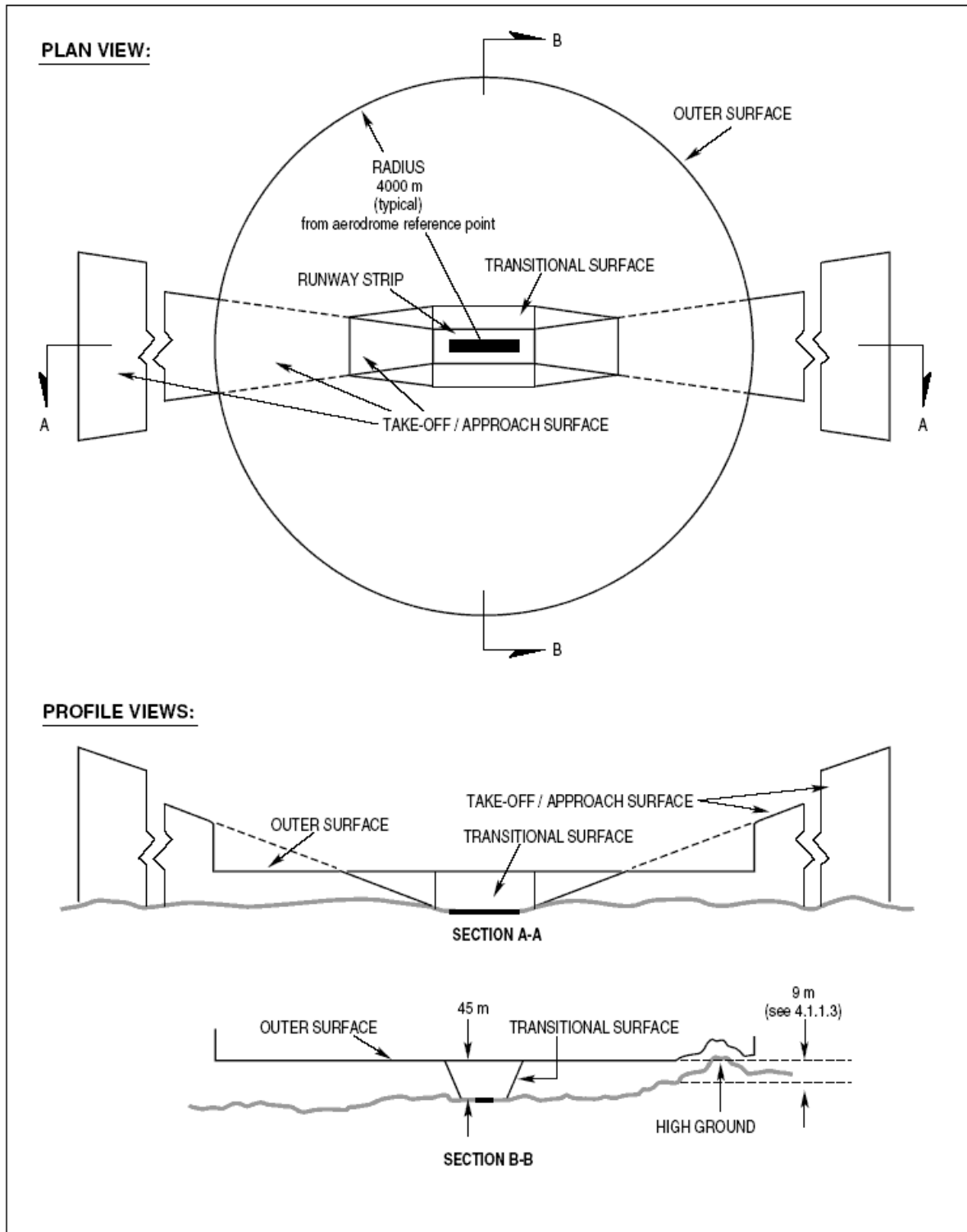


Figure 1: Sample obstruction clearance criteria from Transport Canada TP312.



Figure 2: Turbulence effects from wind turbines.