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March 2, 2021

Ministry of The Environment, Conservations and Parks
Windsor Area Office
Unit 620
4510 Rhodes Dr
Windsor, Ontario
N8W 5K5

ATTN: David Racz, Provincial Officer

Subject: Re: South Kent Wind – REA No. 2871-8UKGPC – Acoustic Audit – Immission – T60 Noise Abatement Action Plan

Dear David Racz,

The purpose of this letter is to update the Ministry of Environment Conservation and Parks ("MECP") on the Noise Abatement Action Plan implemented for Turbine T60 at the South Kent Wind Project in July 2020.

South Kent Wind LP ("SKW") has been working diligently to address the issues raised by the I-Audit at receptor R2794 near to Turbine T60 and has completed follow up E-testing after the implementation of the pitch table updates.

Unfortunately, the initial mitigation measures (pitch table updates) have been unsuccessful in decreasing the acoustic sound power of Turbine T60 by at least 1 dB. SKW is committed to implementing mitigation measures on this turbine to address the acoustic issues and bring the facility into compliance. As such more conservative mitigation measures in the form of noise mode de-rate for Turbine T60 is proposed to bring the turbine in compliance.

The results of follow up E-testing and a plan to implement and test further mitigation measures is outlined in this updated Noise Abatement Action Plan ("NAAP").

Background

SKW submitted to the MECP acoustic Immission Audit assessments for receptors R4368, R3287, R3344, R3167, R2794 and R3306 prepared by Aercoustics Engineering Ltd., dated February 28, 2020.The I-Audit reports concluded based on the levels measured, the South Kent Wind facility was determined to be in compliance at receptors R4368, R3287, R3344, R3167,

R3306 and non-compliant at receptor R2794 compared to the MECP limits described in the REA.

Based on the results presented in the Acoustic Immission Audit report for receptor R2794 dated February 28, 2020, the sound levels at the audited point of reception near to R2794 were found to be above the sound level limits by 1 dB. The reason for the exceedance has been attributed to T60 (SWT-2.126-101 model turbine) near to receptor R2794.

The results of the E-audit at T60 near to receptor R2794 are presented in the table below.

Table 1 Summary of Wind Turbine Noise Emission Results - T60

Turbine ID	Permitted Maximum sound power level (dBA)	Maximum PWL Audit Result		Maximum Tonal Audibility
		Measured (dBA)	Uncertainty (dB)	
T060	104.0dBA + 0.5dB	104.9	0.8	5.8dB at 478Hz

A brief summary of the acoustic audit work that has been completed to date is provided below:

- The REA for the South Kent Wind Project was issued on June 15, 2012.
- As per Section F of the REA, immission audit ("I-Audit") tests were conducted at three (3) different points of reception on two (2) separate occasions and test reports were submitted to the MECP.
- As per Section G of the REA, emission audit ("E-Audit") tests were conducted at six (6) SKW turbines and test reports were submitted to the MECP.
- Based on these reports, the MECP requested that additional supporting I-Audit tests be conducted at receptor locations close to each test turbine in order to support the completion of the E-audit requirement.
- Individual I-Audit reports have been submitted to the MECP for the audit locations R4368, R3287, R3344, R3167, R2794 and R3306.
- Follow up E-audit testing has been completed for Turbine T60 to address the non-compliant result at receptor R2794.

Results of Mitigation Measures – Pitch Table Updates

Based on the testing and actions taken to date, in order to address the findings of the I-Audit at R2794, SKW implemented the following Action Plan in July 2020:

- A Pitch table update that will decrease the acoustic sound power of Turbine T60 (SWT-2.126-101 turbine) by at least 1 dB.

A summary of the noise emission results of the E-test at T60 after the pitch table update are presented in Table 2 below.

Table 2 Summary of Wind Turbine Noise Emission Results - T60 with Pitch table updates

Turbine ID	Permitted Maximum sound power level (dBA)	Maximum PWL Audit Result		Maximum Tonal Audibility
		Measured (dBA)	Uncertainty (dB)	
T060	104.0dBA + 0.5dB	104.9	0.7	6.7dB at 478Hz

The pitch table updates did not have the intended effect of decreasing the acoustic sound power of Turbine T60 by at least 1 dB.

Proposed Updated Mitigation Measures

As the results of the follow-up E-testing have not resulted in a 1 dB decrease in the acoustic sound power of Turbine T60, SKW proposes to implement the following Action Plan:

- Noise mode reduction -5 dB - The noise emission of turbineT60 will be reduced during the nighttime hours (19:00 to 07:00) by implementing a -5 dB noise mode, with a rated capacity of 1.824 MW and nominal maximum sound power level of 101 dBA.
- IF the -5 dB noise mode reduction above is deemed to not be viable because of frequency or safety issues, THEN noise mode reduction -6 dB – The noise emission of turbine T60 will be reduced during the nighttime hours (19:00 to 07:00) by implementing -6 dB noise mode, with a rated capacity of 1.745 MW and nominal maximum sound power level of 100 dBA.

No changes to the operation of Turbine T60 will be made during the daytime operation as the 45 dBA daytime limit is applicable (as per NCP-350 Section D6 – Reference [4]). It should be noted that the I-audit measurements at the receptor close to T60 (R2794) showed sound pressure levels below 45 dBA. As such T60 will be automated to operate in a reduced noise mode during the nighttime hours only.

Verification of Compliance

Upon completion of the proposed updated abatement measures to the satisfaction of both the manufacturer and SKW, a verification of compliance will be conducted in the form of an Emission test per the requirements of Part E of the MECP Compliance Protocol for Wind Turbine Noise.

Timelines for NAAP Implementation

Proposed timelines for the implementation of the SKW NAAP and communication of progress to the MECP are provided in Table 3.

Table 3 Timeline for NAAP implementation at South Kent Wind

Milestone	Anticipated Date of completion
-5 dB or -6 dB noise mode implementation	January 31, 2021
SKW to start E-test compliance verification testing*	January 31, 2021

SKW to provide MECP update on noise mode implementation	February 15, 2021
SKW to provide MECP update on compliance verification testing*	March 1, 2021
E-test compliance verification completed*	March 31, 2021

*Compliance Verification Testing dependent on weather conditions

Should any changes to the schedule be required, SKW will communicate the change to the MECP.

SKW intends to continue to work with the MECP and keep the MECP informed of any significant developments related to the project. We are available to discuss the above Action Plan with you.

Yours Truly,

SOUTH KENT WIND LP,
by its general partner,
South Kent Wind GP Inc.

Per: _____
Name:
Title: J. Andrew Collingwood
Authorized Signatory

Per: _____
Name:
Title: Jae Young Ahn
Authorized Signatory