

Ministry of the Environment,
Conservation and Parks

Ministère de l'Environnement, de
la Protection de la nature et des Parcs

Environmental Permissions Branch

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June 21, 2021

To: Robert Campbell
Pattern Energy Group Inc.
1201 Louisiana St. Suite 3200
Houston, TX 77002
United States of America

**RE: Acoustic Audit Review Summary
North Kent Wind 1 Project: REA # 5272-A9FHRL
Municipality of Chatham-Kent**

Dear Mr. Campbell,

We have completed our review of the following Phase 1 Immission audit (I-Audit) reports and supporting documents for verification of the NAAP prepared by Aercoustics and signed by Payam Ashtiani, PEng.

A) Phase 1 I – Audit reports and supporting documents titled:

- A1. R3408 “*North Kent Wind 1 LP – Phase 1 Acoustic Immission Audit – Part 1 of 5 – R3408*”, dated February 20, 2020, Version 3;
- A2. R3099, “*North Kent Wind 1 LP – Phase 1 Acoustic Immission Audit – Part 2 of 5 – R3099*”, dated February 20, 2020, Version 4;
- A3. R3214, “*North Kent Wind 1 LP – Phase 1 Acoustic Immission Audit – Part 3 of 5 – R3214*”, dated February 20, 2020, Version 5;
- A4. V6202, “*North Kent Wind 1 LP – Phase 1 Acoustic Immission Audit – Part 4 of 5 – V6202*”, dated February 20, 2020, Version 3;
- A5. R3281, “*North Kent Wind 1 LP – Phase 1 Acoustic Immission Audit – Part 5 of 5 – R3281*”, dated February 20, 2020, Version 3; and
- A6. “*North Kent Wind Power Project Acoustic Audit – Immission – Phase 1 Report Submission*”, dated June 28, 2019

We have completed our review of the following Phase 2 Immission audit (I-Audit) reports and supporting documents for verification of the NAAP prepared by Aercoustics and signed by Christopher Bosyj, PEng and Payam Ashtiani, PEng.

B) Phase 2 I – Audit reports and supporting documents titled:

- B1. R3408 “*North Kent Wind 1 LP – Phase 2 Acoustic Immission Audit – Part 1 of 5 – R3408*”, dated February 28, 2020;
- B2. R3099, “*North Kent Wind 1 LP – Phase 2 Acoustic Immission Audit – Part 2 of 5 – R3099*”, dated March 25, 2020, Version 2;
- B3. R3214, “*North Kent Wind 1 LP – Phase 2 Acoustic Immission Audit – Part 3 of 5 – R3214*”, dated February 24, 2020, Version 3;
- B4. V6202, “*North Kent Wind 1 LP – Phase 2 Acoustic Immission Audit – Part 4 of 5 – V6202*”, dated April 23, 2020, Version 2;
- B5. R3281, “*North Kent Wind 1 LP – Phase 2 Acoustic Immission Audit – Part 5 of 5 – R3281*”, dated February 25, 2020;
- B6. “*North Kent Wind Power Project Acoustic Audit – Immission – Phase 2 Report Submission*”, dated February 28, 2020;
- B6. “*North Kent Wind Farm Phase 2 I-Audit - MECP Responses*”, dated March 26, 2020; and
- B7. “*North Kent Wind Farm Phase 2 I-Audit - MECP Responses*”, dated April 23, 2020.

There was an exceedance of 1 dB at Receptor R3408 in the Phase 2 I-Audit campaign. A Noise Abatement Action Plan (NAAP) was proposed in response to the exceedance of 1 dB at Receptor R3408.

The ministry has received the NAAP verification in form of E-Audit reports for Turbines T03 and T04 and an I-Audit report at receptor R3408 for review. The NAAP implements the -3.0 dB operating mode during nighttime operation (i.e. 106.0 dBA - 3.0 dB =103.0 dBA) with a nominal sound power level of 103.0 dBA.

C) Noise Abatement Action Plan titled:

- C1. “*Proposed Noise Abatement Action Plan (NAAP) for the North Kent Wind Project*”, dated May 11, 2020, prepared by DNV GL, signed by Aren Nercessian; and

- C2. “North Kent Wind 1 LP NAAP Validation Measurement Plan”, dated August 11, 2020, prepared by Aercoustics Engineering Limited and signed by Christopher Bosyj, PEng.

We have completed our review of the following acoustic emission audit (E-Audit) report and supporting documents for verification of the NAAP prepared by Aercoustics and signed by Christopher Bosyj, PEng and Payam Ashtiani, PEng.

D) E-Audit reports and supporting documents titled:

- D1. “North Kent Wind 1 LP / Turbine T03 IEC 61400-11 Edition 3.0 Measurement Report” dated January 28, 2021, Version RP3;
- D2. “North Kent Wind 1 LP / Turbine T04 IEC 61400-11 Edition 3.0 Measurement Report” dated January 28, 2021, Version RP3;
- D3. “NKWPP NAAP Verification Audit MECP Responses” dated January 15, 2021; and
- D4. “NKWPP NAAP Verification Audit MECP Responses 2” dated January 28, 2021.

We have completed our review of the following acoustic immission audits (I-Audit) report and supporting documents for verification of the NAAP prepared by Aercoustics and signed by Christopher Bosyj, PEng and Payam Ashtiani, PEng.

E) I – Audit reports titled (Nighttime operation):

- E1. “North Kent Wind 1 LP – NAAP Verification Acoustic Immission Audit R3408” dated January 15, 2021, Revision 1;
- E2. “NKWPP NAAP Verification Audit Summary Memo” dated December 4, 2020; and
- E3. “NKWPP NAAP Verification Audit MECP Responses” dated January 15, 2021.

As the NAAP verification E-Audits and I-Audits only addressed the nighttime operation of Turbines T03 and T04 and the nighttime sound levels at R3408, the ministry has received the Daytime I-Audit at R3408.

We have completed our review of the following acoustic immission audits (I-Audit) report and supporting documents for the Daytime I-Audit prepared by Aercoustics and signed by Christopher Bosyj, PEng and Payam Ashtiani, PEng.

F) I – Audit report titled (Daytime operation):

- F1. “North Kent Wind 1 LP Daytime Acoustic Immission Audit R3408”, dated June 8, 2021, Initial Report; and
- F2. “NKWPP Daytime I-Audit Summary Memo 17283.07”, dated June 8, 2021.

By means of this letter, it is acknowledged that the Facility has not fulfilled the requirements associated with the Condition E (i.e. the I-Audit condition) of the REA # 5272-A9FHRL dated June 29, 2016.

In addition, by means of this letter, it is acknowledged that the Facility has fulfilled the requirements outlined in the Noise Abatement Action Plan. Therefore, the requirements associated with the Condition E (i.e. the I-Audit condition) can be satisfied by updating Schedules A and B of the REA # 5272-A9FHRL dated June 29, 2016.

Wind Turbines T03 and T04 must continue to operate at the -3.0 dB operating mode at nighttime. The de-rated generated power output is outlined by Table 1 below and the NAAP. Daytime operation is defined in NAAP as 7:00 to 19:00 and nighttime operation is defined in NAAP as 19:00 to 7:00.

Table 1: Turbine ID T03 and T04 details from approval and NAAP

Turbine ID	Daytime operation Approved Noise Specifications			Nighttime operation NAAP Noise Specifications		
	Source Description	Approved Power Output (kW)	Approved Sound Power Level (dBA)	Source Description	De-rated Generated Power Output (kW)	De-rated Sound Power Level (dBA)
T03	SWT-2.772-113	2,772	104.0	SWT-2.628-113	2,628	103.0
T04	SWT-2.772-113	2,772	104.0	SWT-2.628-113	2,628	103.0

As the current Renewable Energy Approval dated June 29, 2016 does not describe the operation of the Turbines T03 and T04 with the NAAP implemented, an amendment is required to update the Schedule A and B for operation of Wind Turbines T03 and T04 in the Renewable Energy Approval.

In accordance with Sections E3 and E5 of the 2017 Compliance Protocol for Wind Turbine Noise (Protocol), your firm will be required to **post the acoustic E-audit and I-audit reports and NAAP**, on the project website **within ten (10) days** of the date on this letter. The acoustic audit reports, and any updates must be made available to the public on the project website for the life of the project.

If you have any questions regarding the above, please contact me.

Yours truly,



Mahdi Zangeneh, PhD, PEng
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cc: Ian Greason, Manager, Special Noise Projects, MECP, EPB
Sean Morrison, District Manager, MECP, Sarnia District Office
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