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September 24, 2015

RESS, EMAIL & COURIER

Ontario Energy Board
P.O. Box 2319
27th Floor
2300 Yonge Street
Toronto, ON M4P 1E4

Attention: Ms. K. Walli, Board Secretary

Dear Ms. Walli:

Re: Windlectric Inc. - Application for Leave to Construct Transmission Facilities (EB-2014-0300)

We are counsel to Windlectric Inc. ("Windlectric") in respect of its application for leave to construct transmission facilities (EB-2014-0300).

On June 11, 2015, the Board requested that Windlectric provide either updated SIA and CIA reports that address certain modifications to the generation facilities associated with the Amherst Island Wind Energy Project (as described in Windlectric's June 2, 2015 letter), or letters from the IESO and Hydro One confirming that the SIA and CIA reports remain accurate despite those modifications. The Board advised that it will not render its decision on Windlectric's leave to construct application until the requested documentation is received.

Windlectric received the Notification of Addendum of Conditional Approval to Connection Proposal, together with SIA Addendum Report #2, from the IESO on September 11, 2015. These are attached hereto as **Schedule 'A'**. The SIA Addendum Report #2 concludes that, subject to Windlectric providing 6 Mvar inductive reactive power compensation rather than the 8 Mvar previously contemplated, the modified proposal will have no material adverse impacts on the reliability of the integrated power system. Windlectric also received a letter from Hydro One dated September 23, 2015 referencing the project modification and confirming that the changes do not significantly impact the results of the CIA and, therefore, that no CIA addendum needs to be issued. A copy of the Hydro One letter is attached hereto as **Schedule 'B'**.

Also attached, at **Schedule 'C'**, is an updated Single Line Drawing that accounts for the modified requirements for inductive reactive power compensation, set out in Section 2 of SIA Addendum Report #2.

We trust that the enclosed materials satisfy the Board's June 11, 2015 request and that the Board will now be in a position to render its decision on Windlectric's application.

Yours truly,

Jonathan Myers

Tel 416.865.7532
jmyers@torys.com

cc: Mr. A. Tsopelas, Windlectric Inc.
Intervenors

SCHEDULE 'A'

Notification of Addendum of Conditional Approval to Connection Proposal

and

SIA Addendum Report #2

September 11, 2015

Mr. Alex Tsopelas
Project Manager, Renewables, Windlectric Inc.
345 Davis Road, Oakville, Ontario
L6J2X1

ieso
Independent Electricity System Operator

Station A, Box 4474
Toronto, Ontario M5W 4E5
t 905 855 6100

www.ieso.ca

Dear Mr.Tsopelas:

Amherst Island
Notification of Addendum of Conditional Approval to Connection Proposal
CAA ID Number: 2011-433

Thank you for the updated information regarding the proposed *Amherst Island*.

From the new information provided, we have concluded that the proposed changes at *Amherst Island* will not result in a material adverse impact on the reliability of the integrated power system.

The IESO is therefore pleased to grant **conditional approval** for the modification detailed in the attached addendum to the System Impact Assessment (SIA) report. Please note that any further material change to your proposed connection may require re-assessment by the IESO and may result in a nullification of this conditional approval.

In addition, please note that this conditional approval does not in any way constitute an endorsement of the proposed connection, with or without the proposed changes, for the purposes of obtaining a contract with the IESO for the procurement of supply, generation, demand response, demand management or ancillary services.

You may now initiate the IESO's **Market Registration** process. To do so please contact Market Registration at market.registration@ieso.ca at least eight months prior to your expected energization date. The addendum to the SIA report, attached hereto, details the requirements that your company must fulfill during this process, including demonstrating that the facility *as installed* will not be materially different from the facility *as approved* by the IESO.

Your conditional right to connect is balanced by an obligation to demonstrate installed equipment meets performance requirements. During the **Market Registration** process, you shall be required to demonstrate this obligation has been fulfilled in accordance with Market Manual 2: Market Administration Part 2.20: Performance Validation.

When your company has successfully completed the IESO's **Market Registration** process, the IESO will provide you with a **final** approval, thereby confirming that the facility is fully authorized to connect to the IESO-controlled grid.

For further information, please contact me.

Yours truly,

Ahmed Maria
Manager – Connections & Registration
Telephone: *(905) 855-6457*
Fax: *(905) 855-6319*
E-mail: *ahmed.maria@ieso.ca*
cc: *IESO Records*

REPORT

ieso
Independent Electricity System Operator

System Impact Assessment Report (2nd Addendum)

CONNECTION ASSESSMENT & APPROVAL PROCESS

Final Report

CAA ID: 2011-433
Project: Amherst Island
Applicant: Windlectric Inc.

Connections & Registration Department
Independent Electricity System Operator

Date: September 11, 2015

Document Name	System Impact Assessment Report (2nd Addendum)
Issue	Final Report
Reason for Issue	2nd Addendum Report
Effective Date	September 11, 2015

System Impact Assessment Report

Acknowledgement

The IESO wishes to acknowledge the assistance of Hydro One in completing this assessment.

Disclaimers

IESO

This report has been prepared solely for the purpose of assessing whether the connection applicant's proposed connection with the IESO-controlled grid would have an adverse impact on the reliability of the integrated power system and whether the IESO should issue a notice of conditional approval or disapproval of the proposed connection under Chapter 4, section 6 of the Market Rules.

Conditional approval of the proposed connection is based on information provided to the IESO by the connection applicant and Hydro One at the time the assessment was carried out. The IESO assumes no responsibility for the accuracy or completeness of such information, including the results of studies carried out by Hydro One at the request of the IESO. Furthermore, the conditional approval is subject to further consideration due to changes to this information, or to additional information that may become available after the conditional approval has been granted.

If the connection applicant has engaged a consultant to perform connection assessment studies, the connection applicant acknowledges that the IESO will be relying on such studies in conducting its assessment and that the IESO assumes no responsibility for the accuracy or completeness of such studies including, without limitation, any changes to IESO base case models made by the consultant. The IESO reserves the right to repeat any or all connection studies performed by the consultant if necessary to meet IESO requirements.

Conditional approval of the proposed connection means that there are no significant reliability issues or concerns that would prevent connection of the proposed project to the IESO-controlled grid. However, the conditional approval does not ensure that a project will meet all connection requirements. In addition, further issues or concerns may be identified by the transmitter(s) during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with physical or equipment limitations, or with the Transmission System Code, before connection can be made.

This report has not been prepared for any other purpose and should not be used or relied upon by any person for another purpose. This report has been prepared solely for use by the connection applicant and the IESO in accordance with Chapter 4, section 6 of the Market Rules. This report does not in any way constitute an endorsement, agreement, consent or acknowledgment of any kind of the proposed connection for the purposes of obtaining or administering a contract with the IESO for the procurement of electricity supply, generation, demand response, conservation and demand management or ancillary services.

The IESO assumes no responsibility to any third party for any use, which it makes of this report. Any liability which the IESO may have to the connection applicant in respect of this report is governed by Chapter 1, section 13 of the Market Rules. In the event that the IESO provides a draft of this report to the connection applicant, the connection applicant must be aware that the IESO may revise drafts of this report at any time in its sole discretion without notice to the connection applicant. Although the IESO will use its best efforts to advise you of any such changes, it is the responsibility of the connection applicant to ensure that the most recent version of this report is being used.

Hydro One

The results reported in this report are based on the information available to Hydro One, at the time of the study, suitable for a System Impact Assessment of this connection proposal.

The short circuit and thermal loading levels have been computed based on the information available at the time of the study. These levels may be higher or lower if the connection information changes as a result of, but not limited to, subsequent design modifications or when more accurate test measurement data is available.

This study does not assess the short circuit or thermal loading impact of the proposed facilities on load and generation customers.

In this report, short circuit adequacy is assessed only for Hydro One circuit breakers. The short circuit results are only for the purpose of assessing the capabilities of existing Hydro One circuit breakers and identifying upgrades required to incorporate the proposed facilities. These results should not be used in the design and engineering of any new or existing facilities. The necessary data will be provided by Hydro One and discussed with any connection applicant upon request.

The ampacity ratings of Hydro One facilities are established based on assumptions used in Hydro One for power system planning studies. The actual ampacity ratings during operations may be determined in real-time and are based on actual system conditions, including ambient temperature, wind speed and project loading, and may be higher or lower than those stated in this study.

The additional facilities or upgrades which are required to incorporate the proposed facilities have been identified to the extent permitted by a System Impact Assessment under the current IESO Connection Assessment and Approval process. Additional project studies may be necessary to confirm constructability and the time required for construction. Further studies at more advanced stages of the project development may identify additional facilities that need to be provided or that require upgrading.

1. Notification of Conditional Approval

This assessment concludes that subject to the requirements specified in the original SIA report, the first Addendum to the SIA and the requirements specified in this report, the modified project is expected to have no material adverse impact on the reliability of the integrated power system. It is recommended that a *Notification of Conditional Approval for Connection* be issued for the modified project.

2. IESO Requirements for Connection

The project is required to have the capability to inject or withdraw reactive power continuously (i.e. dynamically) at the connection point up to 33% of its rated active power at all levels of active power output.

Based on the proposed change to the 115 kV tap line and the confirmation provided by the connection applicant that it is not possible to automatically disconnect the project's collector system when the WTGs automatically disconnect, static reactive power compensation of 8 Mvar capacitive and 6 Mvar inductive at 34.5 kV would need to be installed at the project's collector bus to satisfy the Market Rules requirements for reactive power.

This requirement of providing an 8 Mvar capacitive and 6 Mvar inductive reactive power compensation supersedes the connection applicant's specific requirement (1) in the first Addendum report, which recommends an 8 Mvar capacitive and 8 Mvar inductive reactive power compensation. All of the other requirements specified in the original SIA and the first addendum continue to apply.

The connection applicant has an obligation to ensure that the project has the required reactive power capabilities and to be able to confirm these capabilities during the commission tests.

3. Project Description

Windlectric Inc. (the "connection applicant") is developing a new 75 MW wind generation facility, Amherst Island (the "project"), in Amherst Island, Ontario. The project will be connected to the IESO-controlled grid via 115 kV circuit Q6S, about 20 km from Cataraqui Transformer Station (TS).

The project has been awarded a Power Purchase Agreement under the Feed-In Tariff (FIT) program with the formerly Ontario Power Authority (now IESO). The scheduled project in-service date is December 2016.

The System Impact Assessment and an addendum for Amherst Island Wind Farm (CAA ID 2011-433) were completed on April 18, 2012 and May 12, 2015, respectively. Recently, the connection applicant has notified the IESO that the project's wind turbine generator (WTG) type has changed from Siemens SWT 2.3 VS to Siemens SWT-3.2-113 In addition, the number of WTGs will decrease from 33 to 26. Figure 1 shows the connection arrangement of the modified project. In addition, the connection applicant also provided updated parameters for the collector system.

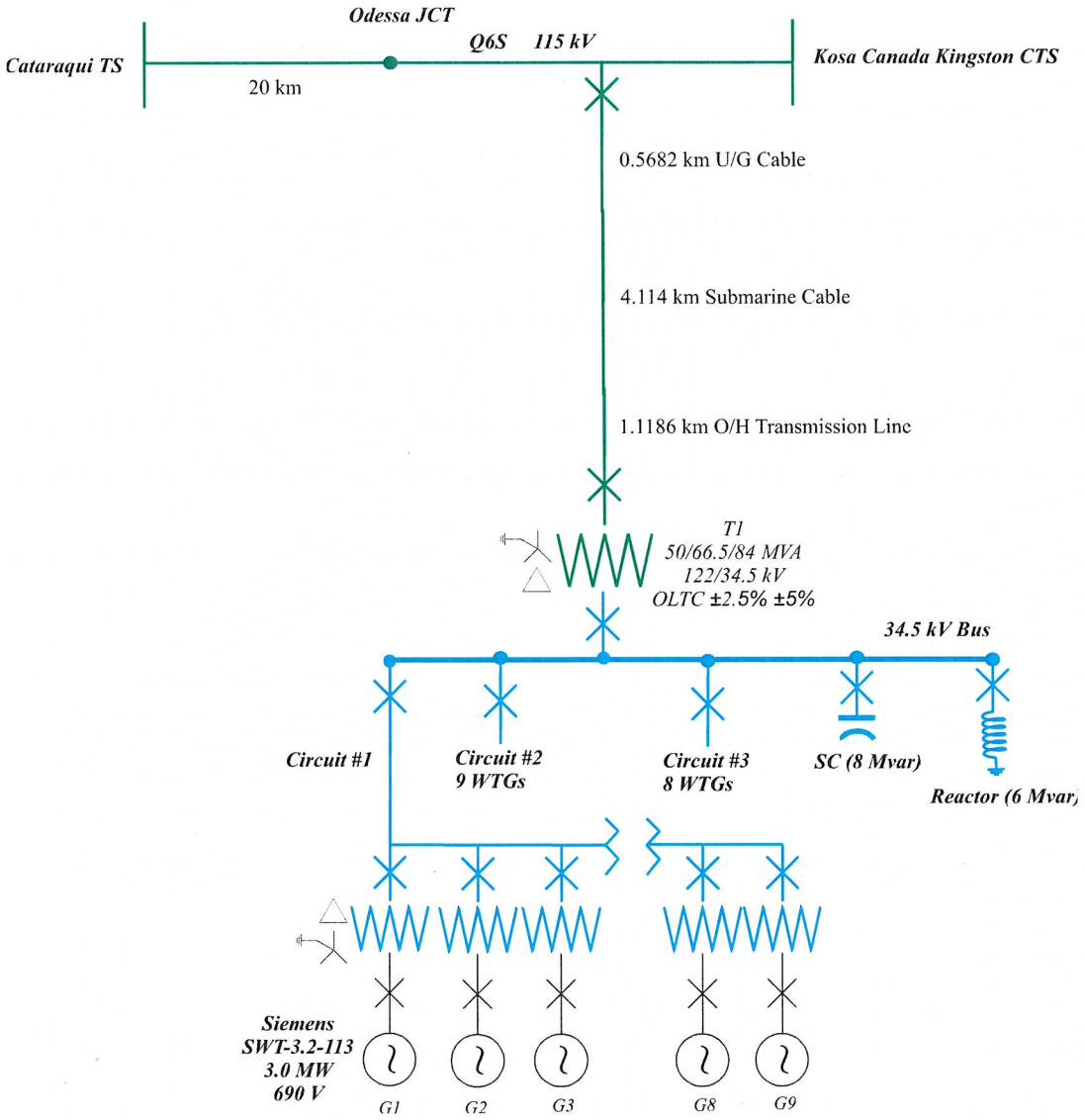

Figure 1: Amherst Island Single-Line Diagram

4. Data Verification

The connection applicant has provided the following data for the modified project. Table 1 and Table 2 show the new turbine model and the original turbine model respectively.

Table 1: Modified Turbine Model

Type	PSS/E Model Library	Rated Voltage	Rated MVA	Rated MW	Unit Transformer		
					MVA	R	X
SWT-3.2-113	Rev. 9	690 V	3.08(x14) 3.269 (x12)	2.772 (x14) 2.942 (x12)	3.4	0.84%	6.0%

Table 2: Original Turbine Model

Type	PSS/E Model Library	Rated Voltage	Rated MVA	Rated MW	Unit Transformer		
					MVA	R	X
SWTVS4	Rev. 7	690 V	2.556	2.3	2.6	0.79%	5.947%

Table 3 and Table 4 show the modified collector system model and the original collector system model respectively.

Table 3: Modified Collector System

Circuit	# of Units	MW	Positive Sequence Impedance (pu, S_{Base} = 100 MVA)			Zero Sequence Impedance (pu, S_{Base} = 100 MVA)		
			R	X	B	R	X	B
34L1	9	25	0.0741	0.0405	0.0101	0.2688	0.0234	0.0101
34L2	9	25	0.0309	0.0253	0.0067	0.1088	0.0141	0.0067
34L3	8	25	0.0822	0.0860	0.0135	0.2766	0.0472	0.0135

Table 4: Original Collector System

Circuit	# of Units	MW	Positive Sequence Impedance (pu, S_{Base} = 100 MVA)			Zero Sequence Impedance (pu, S_{Base} = 100 MVA)		
			R	X	B	R	X	B
34L1	11	25	0.0530	0.0530	0.0128	0.1789	0.0291	0.01280
34L2	11	25	0.0273	0.0208	0.0094	0.0979	0.0117	0.00949
34L3	11	25	0.0809	0.0898	0.0167	0.2673	0.0490	0.01679

5. Assessments

Transient Stability Performance

This assessment examines the impact of the proposed change on the transient stability of the modified project and surrounding generating stations. The contingencies described in the original SIA report were re-simulated with the updated turbine model. It is found that with the updated model and updated equivalent impedances for the collector system, the integrated power system is expected to be transiently stable for assessed planning performance events.

Reactive Power Compensation

The requirements for reactive power compensation as per the current Market Rules were described in the original SIA and the first Addendum to the SIA and are still applicable to this assessment.

Dynamic Reactive Power Capability

The following summarizes the IESO's required level of dynamic reactive power and the available capability of SWT-3.2-113 from Siemens document "User guidelines for application of Siemens Wind Power SWT4 Wind Turbine Model" Appendix A.2.2.

	Terminal Voltage	Active Power (MW)	Reactive Power Capability
IESO Requirement	690 V	2.772	$Q_{gen} = 2.772 \times \sin [\cos^{-1}(0.9)] = 1.21$ Mvar $Q_{abs} = 2.772 \times \sin [\cos^{-1}(0.95)] = 0.86$ Mvar
		2.942	$Q_{gen} = 2.942 \times \sin [\cos^{-1}(0.9)] = 1.28$ Mvar $Q_{abs} = 2.942 \times \sin [\cos^{-1}(0.95)] = 0.92$ Mvar
SWT-3.2-113 Capability	690 V	2.772	$Q_{gen} = 1.97$ Mvar $Q_{abs} = 2.35$ Mvar
		2.942	$Q_{gen} = 1.94$ Mvar $Q_{abs} = 2.12$ Mvar

The SWT-3.2-113 generators can deliver IESO required dynamic reactive power to the generator terminal at rated power and rated voltage. Thus, the IESO has determined that there is no need to install any additional dynamic reactive power compensation device.

Static Reactive Power Capability

Load flow studies were performed to calculate the static reactive compensation required to meet the Market Rules requirements mentioned in the original SIA. The reactive power capability in lagging power factor was assessed under the following assumptions:

- typical voltage of 123 kV at the connection point;
- maximum active power output from the equivalent WTG;
- maximum reactive power output (lagging power factor) from the equivalent WTG, unless limited by the maximum acceptable WTG terminal voltage;

- maximum acceptable WTG voltage is 1.05;

The reactive power capability in leading power factor of the project was assessed under the following assumptions:

- typical voltage of 125 kV at the connection point;
- minimum (zero) active power output from the equivalent WTG;
- maximum reactive power consumption (leading power factor) from the equivalent WTG, unless limited by the minimum acceptable WTG terminal voltage;
- minimum acceptable WTG voltage is 0.95;

The studies showed that the reactive power output of the WTGs were not limited by the WTG terminal voltage; however, due to extra losses in the facility, additional static shunts of 8 Mvar capacitive must be installed at the collector bus by the connection applicant to meet the reactive power requirements at the connection point.

During high wind conditions, the WTGs may automatically disconnect themselves from the system. This leaves only the collector system connected to the grid providing charging reactive power to the system. Simulation results show that under this situation the project will inject 6 Mvar into the system at the connection point, which may aggravate the high-voltage situation under some system condition. The project shall be capable of reducing the reactive power injection at the connection point at the request of the IESO. This can be achieved by disconnecting the project's collector systems; however, the connection applicant confirmed that it is not operationally possible to disconnect the project's collector systems since each individual WTGs requires auxiliary power for communications, heating and other loads which are supplied from the collector system. Therefore, a static shunt of 6 Mvar inductive at 34.5 kV must installed at the collector bus to reduce the reactive power output to zero at the connection point.

– End of Document -

SCHEDULE 'B'

Hydro One Letter re No CIA Addendum

Hydro One Networks Inc.
483 Bay Street
North Tower, 13th Floor
Toronto, Ontario M5G 2P5
www.HydroOne.com

Tel: (416) 345-5958
Email: j.currie@hydroone.com

J. Brent Currie
Network Management Engineer
Network, Connections & Development

hydro one

September 23, 2015

Mr. Alex Tsopelas
Algonquin Power Co.
354 Davis Road,
Oakville, ON L6J 2X1

Attention: Mr. Alex Tsopelas
Project Manager, Renewables

Dear Mr. Tsopelas:

Re: SIA-CAA ID: 2011 - 433 2nd Addendum dated September 11, 2015

The System Impact Assessment (SIA) and a first addendum for Amherst Island Wind Farm (CAA ID 2011-433) were completed on April 18, 2012 and May 12, 2015, respectively.. The Independent Electricity System Operator (IESO) notified Hydro One Networks Inc. (HONI), on May 22, 2015, that the connection applicant made the following changes to the original proposal:

1) The project's wind turbine generator (WTG) type has changed from Siemens SWT 2.3 VS to Siemens SWT-3.2-113
2) The number of WTGs will decrease from 33 to 26.

Table 1: Modified Turbine Model

Type	PSSIE Model Library	Rated Voltage	Rated MVA	RatedMW	Unit Transformer		
					MVA	R	X
SWT-3.2-113	Rev. 9	690V	3.08(x14) 3.269 (x12)	2.772 (x14) 2.942 (x12)	3.4	0.84%	6.0%

Table 2: Modified Collector System

Circuit	#of Units	MW	Positive Sequence Impedance (pu, Sa-= 100 MVAJ			Zero Sequence Impedance (pu, S_8 = lOOMVA)		
			R	X	B	R	X	B
34LI	9	25	0.0741	0.0405	0.0101	0.2688	0.0234	0.0101
34L2	9	25	0.0309	0.0253	0.0067	0.1088	0.0141	0.0067
34L3	8	25	0.0822	0.0860	0.0135	0.2766	0.0472	0.0135

This letter is to inform you that the above changes to the application do not significantly impact the results of the CIA and therefore no CIA addendum will be issued by HONI.

Yours truly,

HYDRO ONE NETWORKS INC.

J. Brent Currie
Network Management Engineer

cc: Farooq Qureshy – Manager Transmission Planning
cc: Quyen Diep – Network Management Engineer
cc: John H. Walewski – Manager, Network Connections

SCHEDULE 'C'

Updated Single Line Drawing

REVISION F
DWG. NO. H340642-3000-70-082-0002

AMHERST INTERCONNECTING SWITCHING STATION

LINE Q6S
INVISTA JUNCTION
MSO
O/H 115kV LINE APPROX 30m 477kcmil 'HAWK' ACSR
S.A. (3)
COMBINATION INSTRUMENT TRANSFORMER METERING CLASS
CT (3) CT (3) CT (3)
VT (3)
SSVT (1) 115kV:120/240V 50kVA
REVENUE METER A
REVENUE METER B
ITERP
METER CABINET
52
52-L-1
CVT (3)
UNDERGROUND CABLE 3 x 1c-#750kcmil APPROX 600m
SPLICE BOX
SUBMARINE CABLE APPROX 4.2kM
UNDERGROUND CABLE 3 x 1c-#750kcmil APPROX 30m
115kV O/H LINE 477kcmil 'HAWK' ACSR APPROX 1.2km
87L-21A SEL-311L
87L-21B GE-L90
SEL-421
GE-D60
F.O. CABLE, TO AND FROM AMHERST COLLECTOR STATION
MAIN ALT NSD570 'A'
TRANSFER TRIP/BLOCKING TO AND FROM HONI
TO AND FROM HONI T.S.
AUTOMATIC TRANSFER SWITCH
120/240V AC PANELBD
125V DC SEALED BATTERY 125AH
125V DC BATTERY CHARGER 'A'
125V DC BATTERY CHARGER 'B'
SCADA
FU
BATTERY ISOLATOR
125V DC PANELBOARD 'A'
125V DC PANELBOARD 'B'
VT
REVENUE METER
PROVIDER BY METER SERVICE
CT
50kVA V : 120/240V SINGLE PHASE
(3) L.A.
SWITCH LOAD BREAK
UTILITY LOCAL

89L1-1
CVT (3)
TESLA 3000 DFR
87L-21B GE-L90
87L-21A SEL-311L
2Pr F.O. CABLE
TO AND FROM AMHERST INTERCONNECTING SWITCHING STATION
52-SS-1
87T1B SEL-487E
87T1A GE-T60
TRANSFORMER 'T1' 50/67/84MVA @ 65°C 122kV : 34.5kV TAPS @ ±2.5% & ±0.5% ONAN/ONAF/ONAF Z @ 50MVA = 8.0%
87B1 SEL-587Z
X1/2/3
BUS DUCT
CT1 (3)
52-SS-2 2000A, 34.5kV
CT3 (3)
50/51-SS-2 SEL-751
WINDFARM CONTROL SYSTEM
SEL-735 OWNER'S METER
VT (3) 34.5kV:115V/115V
34.5kV, 2000A, 60Hz MAIN BUS
STATION SERVICE TRANSFORMER 'ST-1' 50kVA 34.5kV : 120/240V SINGLE PHASE
50/51-F3 SEL-751
50/51-F2 SEL-751
50/51-F1 SEL-751
50/51-C1/L1 SEL-751
CT (3) 800,600:5A MR 0.3B1.8
F3 1200A 38kV 25kA SYM
F2 1200A 38kV 25kA SYM
F1 1200A 38kV 25kA SYM
C1/L1 1200A 38kV 25kA SYM
WINDFARM CONTROL SYS
S.A. (1) INT. CLASS
89-ZZB 34.5kV 1200A
ZIG-ZAG GND TRANSFORMER 34.5kV
C1 8 MVar
L1 6 MVar
TO COLLECTOR FEEDER No.3 8 WTG
TO COLLECTOR FEEDER No.2 9 WTG
TO COLLECTOR FEEDER No.1 9 WTG

AMHERST COLLECTOR STATION
CONTROL BUILDING

DEVICE & FUNCTION LIST

21 – DISTANCE PROTECTION RELAY (LINE IMPEDANCE)
24 – VOLTS PER HERTZ RELAY
25 – SYNCHRONOUS CHECK
26 – THERMAL DEVICE
27 – UNDERVOLTAGE PROTECTION
32 – DIRECTIONAL POWER PROTECTION
46 – CURRENT UNBALANCE
49 – TRANSFORMER THERMAL RELAY (WINDING TEMPERATURE)
50BF – BREAKER FAILURE RELAY
50 – PHASE INSTANTANEOUS OVERCURRENT PROTECTION
50N – NEUTRAL INSTANTANEOUS OVERCURRENT PROTECTION
51 – PHASE TIME DELAY OVERCURRENT
51N – NEUTRAL TIME OVERCURRENT PROTECTION
50/51N – NEUTRAL INSTANTANEOUS AND TIME OVERCURRENT PROTECTION
50/51P – PHASE INSTANTANEOUS AND TIME OVERCURRENT PROTECTION
52 – CIRCUIT BREAKER
59 – OVERVOLTAGE PROTECTION
60 – LOSS OF POTENTIAL
63A – TRANSFORMER LIQUID OR GAS PRESSURE, LEVEL/FLOW RELAY
63G – COMBUSTABLE GAS DETECTION
67 – DIRECTIONAL OVERCURRENT RELAY
71 – TRANSFORMER OIL LEVEL SWITCH
79 – AUTOMATIC RECLOSER
81 – FREQUENCY RELAY, O-OVER, U-UNDER
86 – LOCKOUT AUX RELAY
87 – DIFFERENTIAL PROTECTIVE RELAY
87B – BUS DIFFERENTIAL PROTECTIVE RELAY
87G – RESTRICTED EARTH GROUND
87L – LINE DIFFERENTIAL PROTECTIVE RELAY
87T – TRANSFORMER DIFFERENTIAL PROTECTION
89 – DISCONNECT SWITCH

P–PHASE, Q–NEGATIVE SEQUENCE, G–GROUND, N–NEUTRAL

A – AMMETER
CT – CURRENT TRANSFORMER
CVT – CAPACITIVE VOLTAGE TRANSFORMER
GE – GENERAL ELECTRIC
SA – SURGE ARRESTOR
MET – METERING (MW, MWH, MVAR, MVARH, MVA, PF)
MR – MULTI-RATIO CURRENT TRANSFORMER
MV – MEGA-VOLTS
ULTC – UNDERLOAD TAP CHANGER
RM – REVENUE METERING
RTAC – REAL TIME AUTOMATION CONTROLLER
SEL – SCHWEITZER ENGINEERING LABORATORIES
V – VOLTMETER
VT – VOLTAGE TRANSFORMER
ZCT – ZERO SEQUENCE CURRENT TRANSFORMER

NOTES

1. COMBINED TOTAL WIND FARM DESIGN RATING IS 75MW.
2. REACTOR SIZE AND RATING TO BE DETERMINED DURING DETAIL ENGINEERING.
3. TRANSMISSION LINE PROTECTION, TELEPROTECTION AND CONTROL SCHEMES AT AMHERST COLLECTOR STATION AND AMHERST INTERCONNECTION SWITCHING STATION WILL BE FINALIZED AFTER DISCUSSION WITH HONI IN CONJUNCTION WITH PROTECTION SCHEMES EXISTING AT TERMINAL STATIONS FOR LINE Q6S.
4. RELAY TYPES ARE PRELIMINARY.
5. BATTERY SIZING IS PRELIMINARY.
6. CABLE LENGTHS ARE APPROXIMATE.
7. FIBRE OPTIC PATH DIVERSITY BETWEEN STATIONS TO BE REVIEWED DURING DETAIL ENGINEERING.
8. LOCKOUT & TRIPPING RELAYS NOT SHOWN.

PRELIMINARY
NOT FOR CONSTRUCTION

THIS DRAWING IS FOR ESTIMATING USE ONLY
ALL RATINGS AND SIZES OF EQUIPMENT, CONCRETE, STEEL, AND MATERIALS, SHOWN ON THIS DRAWING ARE APPROXIMATIONS ONLY AND, MUST NOT BE CONSIDERED AS FINAL DESIGN REQUIREMENTS.
DO NOT USE FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

NO.	DESCRIPTION	CHK'D	APP'D	DATE
REVISIONS				

REV.	ISSUE FOR	AUTH. BY	DATE
F	CHANGED REACTOR RATING	LM	BL	15-09-11
E	ADDED CAPACITOR	LM	BL	15-05-01
D	FOR REGULATORY PURPOSES	LM	BL	14-03-26
C	ISSUED FOR CLIENT REVIEW	LM	BL	2014-03-07
B	ISSUED FOR CLIENT REVIEW	LM	BL	2014-02-22
A	ISSUED FOR CLIENT REVIEW		RS	2012-10-30
ISSUE AUTHORIZATION				

HATCH

DESIGNED BY B. LACKENBAUER	DATE	DRAWN BY L. MONTEAN	DATE
CHECKED BY	DATE	DISCIP. ENGR. B. LACKENBAUER	DATE
PROJ. DES. COORD.	DATE	PROJ. ENGR.	DATE
PROJ. MGR. R. CROSTHWAIT	DATE	PROJECT NUMBER H-340642	

Windlectric Inc.
Amherst Island Wind Energy Project

COLLECTOR STATION AND TRANSMISSION SINGLE LINE DIAGRAM

SCALE: NONE
DRAWING NO.: H340642-3000-70-082-0002
REVISION: F

Sep 11, 2015 - 12:48pm Login name: mont109875 Layout: Layout1
Drawing Name: P:\ALCONQUI\340642\CAD\E\H340642-3000-70-082-0002.dwg