

Offer of Terms for Use of the All- Island Transmission Networks Application Form in Respect of a Generator Connected in Northern Ireland

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1 Introduction

System Operator for Northern Ireland Limited (SONI) is the Transmission System Operator for Northern Ireland. It is authorised to participate in the transmission of electricity by means of a Transmission Licence¹ and is regulated by the Utility Regulator for Northern Ireland (the Authority).

Under its Transmission Licence SONI is responsible for the planning and operation the Transmission System in Northern Ireland in a safe, secure, efficient manner. SONI is the only party in Northern Ireland entitled to offer terms to enter into a Transmission Use of System Agreement, an agreement between SONI and an Eligible Person for use of the All-island Transmission Networks.

The following categories of persons should apply using this form for an offer of terms for a Transmission Use of System Agreement:

- a) Generators seeking a new or modified connection to the Transmission System; and
- b) Generators with a Maximum Export Capacity of 5MW² and above seeking a new or modified connection to the Distribution System.

This Application Form sets out the information which must be submitted in order for SONI to prepare and offer terms to enter into a Transmission Use of System agreement.

The Transmission Use of System Agreement will specify:

- a) the quantities of electricity which may be provided by such Eligible Person at such entry point or points on the Transmission System;
- b) the Use of System charges to be paid by the person seeking use of the All-island Transmission Networks in respect of generation in Northern Ireland; and
- c) such further terms as are or may be appropriate for the purposes of the agreement.

SONI shall offer terms as soon as practicable and in any event, not more than 28 days after receipt by SONI of a fully completed application³. The application must be from an Eligible Person and must contain all information reasonably required by SONI in order to formulate the terms of the offer.

SONI shall not be obliged to offer to enter or to enter into any Transmission Use of System Agreement:

- a) if to do so would involve SONI:
 - a. in breach of its duties under Article 12 of the Order; or

¹ Issued by The Department of Enterprise, Trade and Investment (the Department), under Article 10(1)(b) of the Electricity (Northern Ireland) Order 1992.

² Note that the threshold for Transmission Use of System (TUoS) charging is in accordance with [SEM-11-078 \(Generator Transmission Use of System Charging\)](#).

³ Save where the Authority consents to a longer period.

- b. in breach of any regulations made under Article 32 of the Order or of any other enactment relating to safety or standards applicable in respect of the Transmission System; or
 - c. in breach of the conditions of its Transmission Licence;
 - d. in breach of the Grid Code; or
- b) if the Eligible Person making the application does not undertake to be bound by such parts of the Grid Code and to such extent as the Authority shall from time to time specify in directions issued to SONI for the purposes of Condition 25 of the Licence; or
- c) if, when requested to do so by SONI, NIE and/or the Republic of Ireland System Operator does not offer to enter into an agreement for connection and/or modification works in respect of the Connection Agreement or Transmission Use of System Agreement in question.

If the applicant is not already a party to a Connection Agreement or Transmission Use of System Agreement then the applicant is required to undertake, as part of this application, to comply with the provisions of the Grid Code. Data submitted pursuant to this application are deemed to be submitted under the Grid Code.

Copies of the Grid Code are available to download at www.soni.ltd.uk.

If the generating equipment is to be connected to the Northern Ireland Distribution System then SONI will need to discuss this application with Northern Ireland Electricity Networks plc ("NIE") and by signing this Form applicants consent to information contained with this Form being shared with NIE Networks.

Completed Application Forms should be sent to:

TUoS Applications
SONI Ltd
Castlereagh House
12 Manse Road
Belfast
BT6 9RT

If any additional information is required or if assistance is need in completing this form please contact:

connections@soni.ltd.uk

2 Use of System Application

1. We hereby apply to use the All-island Transmission Networks in respect of

(insert name of generating station)

from its connection to the **Distribution System / Transmission System**.*

2. We confirm that we are an Eligible Person and therefore are entitled to apply for an Offer of terms for use of the All-Island Transmission Networks.
3. We undertake for the purposes of this application to be bound by the terms of the Grid Code.
4. We authorise the release of information provided pursuant to this application to NIE should SONI consider it necessary.

Signed by:

*(For and on behalf
of the Applicant)*

Date:

* Delete as appropriate

Table 1: Applicant's Details

Company name:	
Company Registered Address:	
Company Registration No:	
Contact within company:	
Address: (if different to above)	
Tel No:	
Email address:	
Fax No:	

Table 2: General Information

Project Name:		
Address/Location of Site:		
Grid co-ordinates of the electrical connection point: <i>Irish Grid Reference only</i>	Easting (6 digits)	Northing (6 digits)
Site location and layout plans enclosed?	<p style="text-align: center;">Yes / No *</p> <p>Site Location Plan: provide a 1:50,000 Ordnance Survey map with the location of the facility clearly outlined. Where there are multiple site, please include and label each site.</p> <p>Site Layout Plan: provide a map with the electrical connection point clearly marked with an "X". All generating units and other infrastructure should be shown and labelled.</p>	
Has the applicant obtained Planning Permission for the facility from the NI Planning Service?	Yes / No *	
SONI requires a copy of the relevant Planning Permission(s). Has it been submitted with this application?	Yes / No *	
Is applicant an Eligible Person and entitled to apply for an Offer of terms for use of the All-Island Transmission Networks?	<p style="text-align: center;">Yes / No *</p> <p>(If 'Yes', please provide evidence of the license granted under Article 10 of the Order or evidence that the applicant has applied for a licence under Article 10 and that this application has not been withdrawn or rejected. If claiming an exemption from the requirement to be so licensed under Article 9 of the Order, please advise that this is the case, and for information purposes only, the reasons for the exemption)</p>	
In which BSP Group will the Power Station be connected? (Distribution connected only)		
Planned date for commencing generation (dd/mm/yy):		

* *delete as appropriate*

Table 3: Standard Planning Data (User System Details)

<p>Has a Single Line Diagram (SLD) enclosed?</p> <p>Please provide a SLD of existing and proposed arrangements of main connections and primary distribution systems showing equipment ratings and if available number and nomenclature. This should include:</p> <ul style="list-style-type: none"> • Busbar layouts • Electrical circuitry (i.e. lines, cables, transformers, switchgear, etc.) • Phasing arrangements • Earthing arrangements • Switching facilities and interlocking arrangements • Operating voltages • Numbering and nomenclature 	<p>Yes / No *</p>	
<p>In the case of Controllable or Dispatchable PPMs...</p> <p>for Wind, a diagram showing the wind speed and direction against electrical output in MW, in “rose” format, is required. Has this information been submitted with this application?</p> <p>for Solar PV, a Weather vs. Power Curve should be submitted. Has this information been submitted with this application?</p>	<p>Yes / No / NA *</p>	
<p>Details for the total number of generating units:</p> <p>Total Registered Capacity:</p> <p>Maximum Export Capacity:</p> <p>Minimum Generation (if applicable):</p>		<p>MW</p> <p>MW</p> <p>MW</p>
<p>If the Maximum Export Capacity is <10MW, will this project be participating in the SEM / I-SEM?</p>	<p>Yes / No / NA *</p>	
<p>Maximum auxiliary demand</p> <p>Active:</p> <p>Reactive:</p>		<p>MW</p> <p>MVAr</p>
<p>Operating regime of units not subject to Central Dispatch (e.g. continuous, peak lopping, intermittent):</p>		
<p>Maximum 3-phase short circuit current infeed into the Transmission System:</p>		<p>kA</p>
<p>The minimum zero sequence impedance of the applicant's system at the Connection Point:</p>		<p>% on 100</p>
<p>Details of any Transformers proposed to be connected on customer side of the connection point (if applicable)</p> <p>Rating:</p> <p>Positive sequence reactance:</p> <p>Tap change range:</p>		<p>MVA</p> <p>% on MVA</p> <p>+% to -%</p>

* delete as appropriate

Table 4A: Standard Planning Data (Non Power Park Module Unit Details)

Where a number of Generating Units, other than **Power Park Modules***, are proposed to be connected, the standard Planning data shall be submitted for each type of Generating Unit. Please complete Table 4A below.

Where a number of *Power Park Modules (see definitions) are proposed to be connected, the standard Planning data shall be submitted for each type of Generating Unit. Please complete Table 4B below.

If it is intended that Generating Units will be spread geographically over a number of separate sites, please also indicate this in the tables below, by stating the site or sites that each Generating Unit Type will be part of – this should align with the Site Location Plan submitted as part of this application.

Please continue on separate sheet if necessary.

	Generating Unit Type 1	Generating Unit Type 2 (if applicable)	Generating Unit Type 3 (if applicable)
Proposed for site(s) if applicable:			
Prime mover type:			
Generating Unit type: (e.g. synchronous, induction, etc.)			
Generating Unit Rating:	MW	MW	MW
Generating Unit Terminal voltage:	kV	kV	kV
Generating Unit Power Factor range at terminals:			
Registered Capacity:	MW	MW	MW
Minimum Generation (where applicable):	MW	MW	MW
Generating Unit Power Factor rated power factor:			
Maximum auxiliary demand			
Active:	MW	MW	MW
Reactive:	MVA _r	MVA _r	MVA _r
A Sustained Load diagram is required. Has this diagram been submitted along with this application?	Yes / No *	Yes / No *	Yes / No *
A CCGT Installation Matrix in respect of its CCGT Installations is required. Has this information been submitted along with this application?	Yes / No / NA *	Yes / No / NA *	Yes / No / NA *

Table 4B: Standard Planning Data (*Power Park Module* Generating Unit details*)

		Generating Unit Type 1	Generating Unit Type 2 (if applicable)	Generating Unit Type 3 (if applicable)
Proposed for site(s) if applicable:				
Manufacturer of Generating Unit:				
Model of Generating Unit:				
Type of Generating Unit:				
Number of Turbines				
Rated power output of each generating unit:		MW	MW	MW
Generating Unit Terminal voltage:		kV	kV	kV
Generating Unit Power Factor range at terminals:				
Registered Capacity (sent out):		MW	MW	MW
Maximum Generation (sent out):		MW	MW	MW
Minimum Generation (sent out):		MW	MW	MW
Reactive Power Capability		MVAr (Lagging)	MVAr (Lagging)	MVAr (Lagging)
		MVAr (Leading)	MVAr (Leading)	MVAr (Leading)
Reactive Power (Max. Gen)	<i>For Wind, please attach Wind Turbine Power Capability Curve</i>			
Reactive Power (Normal Full Load)				
Reactive Power (Normal Minimum Load)		<i>For Solar PV, please attach PQ Capability Curve</i>		
Maximum auxiliary demand				
Active:		MW	MW	MW
Reactive:		MVAr	MVAr	MVAr
Inertia constant:		MWs/MVA	MWs/MVA	MWs/MVA
Short circuit ratio:				
Direct axis transient reactance:		% on MVA	% on MVA	% on MVA
Direct axis sub-transient time constant:		s	s	s
Generating transformer				
Rating:		MVA	MVA	MVA
Positive sequence reactance:		s on MVA	s on MVA	s on MVA
Tap change range:		+% to -%	+% to -%	+% to -%

**Table 5: Standard Planning Data for Non Power Park Module*
Generating Units with a Registered Capacity >5MW**

Where a number of Generating Units are proposed to be connected the data required by this Table 5 shall be completed for each type of Generating Unit. Please continue on separate sheet if necessary.

Generating Unit Type 1

Inertia constant:	MWs/MVA
Short circuit ratio:	
Direct axis transient reactance:	% on MVA
Direct axis sub-transient time constant:	s
Generating transformer Rating:	MVA
Positive sequence reactance:	% on MVA
Tap change range:	+% to -%

Generating Unit Type 2 (if applicable)

Inertia constant:	MWs/MVA
Short circuit ratio:	
Direct axis transient reactance:	% on MVA
Direct axis sub-transient time constant:	s
Generating transformer Rating:	MVA
Positive sequence reactance:	% on MVA
Tap change range:	+% to -%

Generating Unit Type 3 (if applicable)

Inertia constant:	MWs/MVA
Short circuit ratio:	
Direct axis transient reactance:	% on MVA
Direct axis sub-transient time constant:	s
Generating transformer Rating:	MVA
Positive sequence reactance:	% on MVA
Tap change range:	+% to -%

3 Definitions

All-island Transmission Networks	Means the Transmission System and the Republic of Ireland transmission system taken together.
Authority	Means the Northern Ireland Authority for Utility Regulation, as established under the Energy Order;
Central Dispatch	<p>The process of Scheduling and issuing Dispatch Instructions in relation to CDGUs, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Units, Aggregated Generating Units and/or Interconnectors direct to a Control Facility by the TSO pursuant to the Grid Code. In particular:</p> <ul style="list-style-type: none">• All Dispatchable PPMs shall be subject to Central Dispatch;• All other Power Stations with a Registered Capacity of above 10 MW shall be subject to Central Dispatch;• All other Power Stations with a Registered Capacity of 10 MW or less can agree with the TSO to be subject to Central Dispatch.
Centrally Dispatched Generating Unit (or CDGU)	A Generating Unit within a Power Station subject to Central Dispatch .
Connection Agreement	An agreement between SONI and a customer setting out the terms relating to a connection to the Transmission System or an agreement between NIE and a customer setting out the terms relating to a connection to the Distribution System , as the context requires;
Controllable PPM (or CPPM)	A PPM first connected to the NI System on or after 1 April 2005 whose generators comprise a Registered Capacity of 5 MW or more.
Dispatchable PPM (or DPPM)	A Controllable PPM which must have a Control Facility in order to be dispatched via an Electronic Interface by the TSO .
Distribution System	The electric lines within the Authorised Area, as defined in the licence held by NIE, owned by NIE, (but not, for the avoidance of doubt, any lines forming part of the Transmission System or any Interconnector), and any other electric lines which the Authority may specify as forming part of the Distribution System.
Eligible Person	Means persons licensed under Article 10 of the Order (or exempt from the requirement to be so licensed under Article 9 of the Order) or who have applied for a licence under Article 10 and whose application has not been withdrawn or rejected (including, for the avoidance of doubt, the Power Procurement Business in its capacity

as such).

Generator	A person who generates electricity under a licence or exemption under the Order and who is subject to the Grid Code either by virtue of a licence or exemption or pursuant to any agreement with the TSO or otherwise.
Grid Code	The code of that name drawn up pursuant to SONI's Transmission licence as amended from time to time in accordance with SONI's licence;
Maximum Export Capacity (or MEC)	Means the maximum permissible amount of electricity, expressed in MW, which can be exported to either the Distribution System (as set out in the NIE Connection Agreement) or the Transmission System (as set out in the SONI Connection Agreement);
Minimum Generation	The minimum MW Output which a Generating Unit can generate continuously, registered with the TSO under SDC1 as a Technical Parameter.
Power Park Module (or PPM)	A Generating Unit or ensemble of Generating Units generating electricity which: <ul style="list-style-type: none">• Is connected to the System non synchronously or through power electronics, and• Has a single Connection Point to a Transmission System, Distribution System or HVDC System.
Order	The Electricity (Northern Ireland) Order 1992;
Registered Capacity	The normal full load capacity of a generating unit measured at the connection point and in relation to a PPM, the normal full load capacity of the collection of one or more generating units, measured as at the connection point of the PPM.
Transmission System	The System consisting (wholly or mainly) of high voltage electric lines and cables operated by the TSO for the purposes of transmission of electricity from one Power Station to a sub-station or to another Power Station or between sub-stations or to or from any Interconnector including any Plant and Apparatus and meters owned or operated by the TSO or TO in connection with the transmission of electricity.
Transmission System Operator (or TSO)	The holder of the licence granted pursuant to Article 10(1)(b) of the Order to operate a Transmission System.