

18 August 2006

Dr John Tamblyn  
Chairman  
Australian Energy Market Commission  
Level 16  
1 Margaret Street  
SYDNEY NSW 2001

Dear Dr Tamblyn

**REQUEST FOR PARTICIPANT DEROGATION TO THE NATIONAL  
ELECTRICITY RULES – STUDLAND BAY TECHNICAL STANDARDS**

Please find contained a request by Woolnorth Studland Bay Wind Farm Pty Ltd initiated under section 91(5) of the National Electricity Law (NEL), for a Participant Derogation to be made as a “non-controversial Rule” under section 96(1)(b) of the NEL.

The Participant derogation is intended to amend the National Electricity Rules (the Rules) so as to allow the Studland Bay wind farm to connect and operate under a voltage disturbance ride through performance regime proposed by the National Electricity Market Management Company (NEMMCO), under the proposed clause S5.2.5.3B of the Rules, and currently under consideration by the Australian Energy Market Commission (AEMC) as part of the ‘Technical Standards for Wind Generation and Review of Existing Provisions’ Rule change proposal.

This Rule Change request is submitted by me on behalf of Woolnorth Studland Bay Wind Farm Pty Ltd in my capacity as a Director of Woolnorth Studland Bay Wind Farm Pty Ltd. Please contact Andrew Jones on 0400 537 944 if you require any further information.

Yours Sincerely



Mark Kelleher  
Managing Director

## **Rule Change Proposal**

### **1. Background**

Schedule 5.2 of the National Electricity Rules (the **Rules**) defines the conditions for generating unit connecting to the National Electricity Market (the **NEM**). Specifically, clause S5.2.5.3(a)(2) sets the system voltage disturbance conditions under which each generating unit is required to be capable of continuous uninterrupted operation.

The AEMC is currently consulting on proposed changes to the Rules which include a proposed clause S5.2.5.3B, which would substantially change the technical requirements referred to above.

Roaring 40s (through its subsidiary company Woolnorth Studland Bay Wind Farm Pty Ltd) is currently in the advanced stages of constructing the 75MW Studland Bay wind farm in north west Tasmania. The grid integration studies for this project have indicated that the cost of reactive plant required to meet the current clause S5.2.5.3(a)(2) is substantially higher than it would be if clause S5.2.5.3B, or an equivalent clause were adopted.

### **2. Name and Address of person making request**

Refer Regulation 8(1)(a) of the National Electricity (South Australia) Regulations.

The person making the request is Woolnorth Studland Bay Wind Farm Pty Ltd (ABN 63 11 996 377). For the purpose of section 91(5)(a) of National Electricity Law (NEL), Woolnorth Studland Bay Wind Farm Pty Ltd has applied to NEMMCO to be registered as a Registered participant (as defined to Part 1 of the NEL). As such Woolnorth Studland Bay Wind Farm Pty Ltd is subject to the obligations imposed under the Rules on an applicant for registration as a participant. This Rule making request is in respect of these obligations.

The address of the person making the request is

Woolnorth Studland Bay Wind Farm Pty Ltd  
Level 7, 86 Collins Street Hobart, 7000  
GPO Box 1484, Hobart, 7001  
Tasmania

### **3. Description of the proposed Rule**

Refer Regulation 8(1)(b) of the National Electricity (South Australia) Regulations.

#### ***Proposed Participant Derogation***

The following is the drafting of Studland Bay proposed participant derogation.

- (a) Until the expiry date, the requirement under clause S5.2.5.3(a)(2) of the *Rules* for generating units to be capable of continuous uninterrupted operation at voltages in excess of 110% of nominal voltage does not apply to *generating units* registered to Woolnorth Studland Bay Wind Farm Pty Ltd, provided that the total capacity of the *generating units* registered by Woolnorth Studland Bay Wind Farm Pty Ltd does not exceed 80MW.
  
- (b) Until the expiry date, each *generating unit* registered to Woolnorth Studland Bay Wind Farm Pty Ltd must be capable of continuous uninterrupted operation during the occurrence of power system voltages that do not exceed 110% of rated nominal voltage at the connection point.

***Proposed expiry date***

We propose that the derogation apply from the date of determination of this application, through to a date 270 days after the final determination of the 'Technical Standards for Wind Generation' Rule change proposal. This would cover the period until the AEMC makes a final determination on the 'Technical Standards for Wind Generation' Rule change proposal currently under consideration. In addition, the further period is requested to allow installation of equipment to ensure compliance with clause S5.2.5.3(a)(2) in the event that the proposed clause S5.2.5.3B not in the changes as proposed.

Preferred drafting for the expiry date is:

This *derogation* expires on the day 270 days after the date when the AEMC publishes a final determination on the Rule change request submitted by NEMMCO on the 10<sup>th</sup> of February 2006 entitled "National Electricity Rules – Request for Rule Technical Standards for Wind Generation and Review of Existing Provisions".

Alternative drafting for expiry date (should an absolute date be considered necessary) is:

This *derogation* expires on 01 October 2007.

**Issue with existing Rules that is to be addressed by proposed Rule.**

Refer Regulation 8(1)(c) of the National Electricity (South Australia) Regulations.

Clause S5.2.5.3(a)(2) of the Rules places a uniform requirement on generation plant with regard to being able to maintain continuous, uninterrupted operation during periods of high voltage at the connection point.

Under certain circumstances, relaxation of these requirements can result in significant reduction in the cost of connection generation plant with no corresponding detriment to system security or reliability. The existing Rules do not allow NEMMCO and Transmission Network Service Providers or generators any flexibility in this regard.

The proposed Rule will substantially reduce the cost to Studland Bay wind farm of participating the National Electricity Market, while ensuring that Transend and NEMMCO are not impeded in discharging their responsibilities with regard to system security and reliability.

It is recognised that the provisions of the Rules to which this request pertains is currently under consideration in response to the NEMMCO 'Technical Standards for Wind Generation and Review of Existing Provisions' Rule change proposal. As such, this Rule change request does not seek to initiate a parallel review, or indeed pre-empt the outcome of this process. Rather it is intended as a bridging mechanism, pending determination on the NEMMCO rule change request.

#### **4. How the proposed Rule would contribute to the market objective**

Refer Regulation 8(1)(d) of the National Electricity (South Australia) Regulations.

This participant derogation furthers the market objective by promoting efficient investment in electricity services for the long-term interests of consumers without compromising the security of the national electricity system.

The Rules currently require generation plant to maintain continuous uninterrupted operation for the voltage conditions described in clause S5.1a.4. These requirements are intended to prevent cascading failure of generation plant under voltage disturbance conditions. In the case of Studland Bay wind farm, this requirement adds significantly to the cost of connecting this installation to the transmission system.

In the 'Technical Standards for Wind Generation' Rule change proposal currently under consultation, NEMMCO has recognised that, in some circumstances, the objective of preventing cascading failure of generation plant under voltage disturbance conditions can be achieved while allowing specific generation plant to disconnect at voltage levels below those describe in clause S5.1a.4.

As a result of discussions with NEMMCO and Transend, we have ascertained that, provided Studland Bay wind farm can maintain continuous uninterrupted operation between 0.9 and 1.1pu, the objective of avoiding cascading failure of generation plant during system voltage disturbances can be met.

## 5. Non-controversial Rule change

We request that the AEMC treat this application as 'non-controversial' in accordance with section 96 of the National Electricity Law on the basis that:

- it is an interim measure pending determination on the 'Technical Standards for Wind Generation' rule change proposal.
- it is consistent with the market objective in that it reduces the cost of electricity supply with no associated material detriment to electricity end users.
- it does not impose additional costs, or have any material adverse impacts on other market participants.
- it does not impose any barriers to NEMMCO or Transend in meeting their respective power system security and reliability responsibilities.
- it will substantially reduce the cost of connecting Studland Bay wind farm to the Transend network.
- We will incur significant equipment procurement costs and/or lost production in the event that this Rule change is not progressed expeditiously. This is due to the long lead times associated with the reactive equipment required to meet the obligations imposed by clause S5.2.5.3(a)(2) of the Rules.

## 6. Extract from NEMMCO 'Technical Standards for Wind Generation' Rule change proposal

### S5.2.5.3B Generating unit response to voltage disturbances

(a) *Automatic access standard*: Each *generating unit* must be capable of *continuous uninterrupted operation* during the occurrence voltage at the *connection point*:

- (1) in the range of over-voltages for the durations permitted under clause S5.1a.4;
- (2) in the range 90% to 100% of *normal voltage* continuously;
- (3) in the range 80% to 90% of *normal voltage* for a period of at least 10 seconds; and
- (4) in the range 70% to 80% of *normal voltage* for a period of at least 2 seconds.

(b) *Minimum access standard*: Each *generating unit* must be capable of *continuous uninterrupted operation* for voltages at the *connection point* in the range 90% to 110% of *normal voltage*, provided that the ratio of voltage to *frequency* (as measured at the *connection point* and expressed as percentage of *normal voltage* and a percentage of 50 Hz) does not exceed:

- (1) 115% for more than two minutes or
- (2) 110% for more than 10 minutes.

(c) Each *generating unit* must be capable of *continuous uninterrupted operation* for the range of voltages specified in the *automatic access standard* except where *NEMMCO* and the *Network Service Provider* agree that:

(1) the proposed *access standard* is as close as practicable to the *automatic access standard* while respecting the need to protect the *plant* from damage;

(2) the *generating plant* that would be tripped, as a result of any voltage excursion within levels specified by the *automatic access standard*, is not more than 100 MW; and

(3) there would be no material adverse impact on the quality of *supply* to other *Network Users* or on *inter-regional* or *intra-regional power transfer capability*.

(d) The *access standard* must include any operational arrangements necessary to ensure the *generating unit* will meet its agreed performance levels under abnormal *network* or *generating system* conditions.

(e) In carrying out assessments of proposed *access standards* under clause S 5.2.5.3B, *NEMMCO* and the *Network Service Provider* must take into account, without limitation

(1) the expected performance of existing *networks* and *network developments* that are *considered projects*;

(2) the expected performance of existing *generating plant* and *generation projects* that are *considered projects*, and

(3) any corresponding *performance standard* (or where no *performance standard* has been registered, the *access standard*) that allows *generating plant* to trip for voltage excursions in ranges specified under the *automatic access standards*.

(f) *NEMMCO* must be involved in the negotiation of *access standards* under clause S5.2.5.3B.



Tasmania

DEPARTMENT of  
INFRASTRUCTURE,  
ENERGY and RESOURCES

OFFICE OF THE SECRETARY

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Our Ref:

Mr Anthony Englund  
Secretary Reliability Panel  
Australian Energy Market Commission  
PO Box H166  
AUSTRALIA SQUARE NSW 1215

RECEIVED 21 AUG 2006

Dear Mr Englund

I am writing to you regarding the rule change request submitted to you by Roaring 40s regarding the technical performance standards of Studland Bay wind farm in north west Tasmania.

I understand that Roaring 40s is seeking a derogation of high voltage ride through provisions of the Rules, pending final determination by the AEMC on NEMMCO's 'Technical Standards for Wind Generation' rule change request.

Roaring 40s informs me that changes proposed as part of the 'Technical Standards for Wind Generation' rule change application are likely to reduce the cost of Studland Bay wind farm meeting the requirements of the Rules, with no associated material impact on other market participants or consumers.

Unfortunately, I understand that it is not possible for a determination to be made on these Technical Standards in time for commissioning of the Studland Bay wind farm. This is due to the National Electricity Law requirements for consultation times and the commissioning program for Studland Bay Wind Farm.

The Tasmanian Government has reviewed Roaring 40s rule change request from the perspective of system security in Tasmania, and is pleased to inform you that it finds no grounds upon which to oppose the request. Therefore I wish to note the Tasmanian Government's support for the application by Roaring 40s and I urge you to progress the Roaring 40s' Rule change application in an expeditious manner.

Yours sincerely

Phil Harrington

**Jurisdictional System Security Co-ordinator**

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