

21 September 2005

Dr Patrick Walsh
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**Draft Statement of Principles: Wind Farm Licensing
Response to submissions**

Dear Pat

In December 2004 the Chairperson of the Essential Services Commission of South Australia (ESCOSA), wrote to the Planning Council seeking its advice in relation to a number of generation licence applications for the development of wind-farms in South Australia. Specifically, ESCOSA requested that the Planning Council provide advice on any impacts that the proposed wind-farm developments might have on the long term interests of South Australian consumers with respect to the price, quality and reliability of electricity services.

The Planning Council response to that request was published in April 2005 and was discussed with the industry and interested parties. The analysis indicated that impacts on power system security with 400 and 500 MW of wind generation should be modest. The analysis also indicated that higher levels of wind generation in South Australia raised concerns. The 800 and 1,000 MW cases studied showed growing impacts on system reliability, security and price unless there were changes to the arrangements for their connection to, and operation in, the market. Since the release of that work there has been extensive consultation with a range of parties, further work by the Planning Council, NEMMCO and its consultants DlgSILENT and some (limited) operating experience. This additional work has not changed our broad conclusions.

The report recommended that action be taken to ensure the market and regulatory arrangements work effectively and efficiently with wind generation. To go beyond the 500 MW level of wind generation in South Australia the Planning Council considered that changes were needed to:

- apply appropriate technical standards
- introduce state of the art wind energy forecasting
- optimise the dispatch of unscheduled generators through the dispatch engine; and
- allocate costs efficiently especially in regard to ancillary services.

The Planning Council continues to consider these as the key issues and notes that these recommendations are broadly consistent with both emerging international practice and the findings of the Ministerial Council on Energy's taskforce into wind related issues. The Planning Council is represented on a number of national working groups and is pleased to report that progress is being made in each area. It is, however, unclear how long it will take to finalise these considerations and implement changes to the National Electricity Rules.

Recognising that appropriate national arrangements will not be devised and implemented in the near future, in June 2005 the Commission released a proposed set of principles to apply to the licensing of Wind Farms in the intervening period. Consultation on the draft principles closed on 8 August 2005. Some 23 submissions were received raising a broad range of issues. The Planning Council has addressed the issues raised in detail in the attached document and proposed some modifications for consideration by the Commission as a result. The main area where changes have been recommended is technical standards. A number of respondents argued that the requirements of the automatic access standards were too onerous. Whilst the Planning Council is reluctant to generate unique standards as an interim arrangement, we have proposed some interpretation and relaxation of the automatic access standards which we are confident still meet the original objectives to maintain the security of the power system, but at a lower impost on prospective generators. The following table summarises the existing and proposed provisions.

<i>Principle</i>	<i>Summary of interim requirements</i>	<i>Suggested modifications</i>
1.	<ul style="list-style-type: none"> • there must be a signed connection agreement between the proposed wind farm operator and the relevant network service provider; and • the licensee must be able to demonstrate that its proposed generating plant and associated equipment meets the further technical standards in Principle 2. 	<ul style="list-style-type: none"> • no change proposed • this requirement should be incorporated into principle 2
2.	<ul style="list-style-type: none"> • the generating plant must be capable of meeting the automatic access standard in respect of its low voltage ride through ability; • the generating plant must have a reactive power capability equivalent to that required under the automatic access standard applicable to synchronous generators and, to the extent it is not needed locally, deliver voltage support to the 275 kV system. 	<ul style="list-style-type: none"> • The standard required should be explicitly outlined and based on the National Electricity Tribunal interpretation. The requirement should only apply to a two phase to ground fault. • The requirement to deliver voltage control to the 275 kV network should be removed. The level of dynamic and static reactive power should be specified to achieve the automatic access standard at rated output only. Limited flexibility should apply to the provision of static reactive plant. Fast acting voltage control should be required.

<p>2. (contd)</p>	<ul style="list-style-type: none"> • the generating plant must meet requirements as specified by NEMMCO for real time supply of data on active and reactive power, wind speed and wind direction etc, and be capable of remote control by NEMMCO. • the control equipment at the wind farms must be capable of operating for at least three hours following total loss of supply at the connection point. 	<ul style="list-style-type: none"> • no change proposed • minor redrafting proposed to clarify application to the windfarm
<p>3.</p>	<ul style="list-style-type: none"> • the generator must be classified as a <i>scheduled generator</i> under the National Electricity Rules. 	<ul style="list-style-type: none"> • no change proposed
<p>4.</p>	<p>The generator must:</p> <ul style="list-style-type: none"> • provide relevant wind energy and generation forecasting data on request from the Planning Council, the Commission or NEMMCO; • cooperate with the development and implementation of wind energy forecasting systems for use in the NEM; and • ensure that forecasts of expected generation output are incorporated into pre-dispatch, medium term and long term PASA data. 	<ul style="list-style-type: none"> • no change proposed except minor redrafting to clarify
<p>5.</p>	<p>The generator must:</p> <ul style="list-style-type: none"> • ensure that it has metering suitable for the calculation of “causer pays” factors under the National Electricity Rules; • comply with requirements imposed under the Rules in relation to ancillary services; and • be registered under the National Electricity Rules as a “Market” generator. 	<ul style="list-style-type: none"> • no change proposed
<p>6.</p>	<ul style="list-style-type: none"> • retrospectivity should not apply to the requirements in Principles 2, 3 and 5; but • retrospectivity should apply to the requirements Principle 4 in relation to wind forecasting. 	<ul style="list-style-type: none"> • no change proposed (issue for Commission)
<p>7.</p>	<ul style="list-style-type: none"> • the licence will expire if the operations authorised by the licence have not commenced within a specified time (e.g. 1-2 years) following issue of the licence 	<ul style="list-style-type: none"> • no change proposed (issue for Commission)

The Planning Council recognises that these modified requirements will still impose some costs on some prospective wind generators in excess of those incurred to meet the current technical requirements. Our expectation is that there would be no additional capital costs where the best performing wind turbine generators are proposed but potential for a few percent additional capital cost in some other cases. The costs imposed by being scheduled, market generators would depend totally upon the impact an individual wind farm was having on the network and efficient market dispatch and the requirement for ancillary services. With the potential for a significantly higher, world ranked penetration of wind generation in the South Australian power system we consider those costs are fully justified by the reduction in security risks they would provide and that the proposals deliver a more efficient allocation of costs.

A number of the submissions raised an issue over the applicability of the Planning Council recommendations with respect to wind farm installations of less than 30MW. On this issue the Planning Council recommends that the requirement to be classified as a scheduled generator should only apply to wind farms larger than 30 MW in size and the more stringent technical standards, wind forecasting requirements and obligation to be a market generator should apply to wind farms over 5 MW in size. This is consistent with the usual application of the National Electricity Rules.

The Planning Council acknowledges the cooperation of the Commission staff in dealing with the issues raised in the submissions to its draft licensing conditions. We would be pleased to provide any further advice as the Commission seeks to finalise this matter.

Yours sincerely

David Swift
CHIEF EXECUTIVE