

06 May 2005

Wind Energy Policy Working Group
c/- Office of Energy Planning and Conservation
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Dear Sir/Madam

Re: Integrating Wind Farms into the National Electricity Market

Thank you for the opportunity to comment on the Integrating Wind Farms into the National Electricity Market Discussion Paper (the Paper).

Southern Hydro Pty Ltd (SHP) is Victoria's biggest renewable energy generator owning and operation 15 hydro-power stations (11 in Victoria) with one under construction and another undergoing feasibility studies. Southern Hydro is also the owner of the largest wind farm in South Australia and has two potential wind farms in Victoria in planning or approvals processes.

The Paper identified a number of matters arising from the increasing penetration of wind energy that will need to be considered by policy makers and narrowed these down to 5 major issues. Most of the other detailed issues investigated were manifestations of these major issues:

- An urgent review of the technical standards for connection;
- Managing the impact of intermittent generation on network flows;
- Wind farm modelling in respect of power system operational implications;
- Disclosure of appropriate information; and
- Cost recovery of Regulation Frequency Control Ancillary Services (FCAS) services.

SHP agrees that these, along with wind forecasting and network connection are likely to be the major issues surrounding a larger penetration of wind energy into the NEM.

Wind Forecasting

Before discussing the specific issues listed above, SHP would like to briefly comment on the wind forecasting work being undertaken by the AGO. SHP believes that accurate forecasting by NEMMCO of both customer demand and non-scheduled generation is critical to the performance of the market. With improved forecasting a number of the issues identified in the paper may remain trivial and/or be managed by market responses without the need for changes to the rules or imposition of restriction on participants. SHP supports the work being done by the AGO and NEMMCO and suggests that a program of continuing improvement to the current NEMMCO centralised systems will deliver the most economical solution in the least time. In this way the market can be assured that the forecasting system is best tailored to the needs of the primary user of its output, NEMMCO.

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Technical Standards Review

SHP agrees with the report that the current technical standards are not well suited to wind generators, particularly large wind farms. Many requirements are based on assumptions that generators will be large scheduled units with synchronous generating units. However, wind farms are usually made up of a large number of small induction generators and due to the nature of wind they are not scheduled. SHP supports the work that is currently under way to review the technical standards in the Code and make them more technology-neutral.

SHP supports the concepts of minimum, automatic and negotiated technical standards and believes that Network Service Providers (NSPs) should be encouraged to negotiate below the automatic level to the minimum level that will not adversely impact on other users.

SHP does not support regular reviews of the technical standards, as this is likely to lead to uncertainty for developers. Reviews should only be held when there is an identified deficiency in the existing standards.

SHP believes that a critical component of the current review (and any future reviews) is to maintain the principle of grandfathering and that the review is not used as a method for forcing existing participants to upgrade plant beyond its current performance. This grandfathering principle needs to be expanded further to include plant under development at the time of changes to the technical standards. The risk of retrospective regulatory changes would create a serious disincentive for investment in the Australian energy market.

Managing the impact of intermittent generation on network flows

The most controversial issue in the Paper is the management of the impact of intermittent generation on network flows. As the WETAG was at pains to highlight in their report, the Paper was purely a qualitative report and no effort was made to quantify the impacts of the issues raised. The fact that the system currently operates with minimal impact from the intermittent generation indicates the perceived issues with network control are not materially impacting on the system at this time.

More analysis is needed to show which, if any, of the issues relating to network flows are real and at what levels of wind generation they are likely to be of concern. SHP believes that high quality wind forecasting will allow the system and network flows to be managed economically under most conditions and the provision such things as runback schemes and generation limiters installed under requirements of a connection agreement will manage the local issues if they arise.

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It must be recognised in these discussions that network flows are influenced by many things such as, changing customer load, variations in scheduled generation, switching, faults on the system, intermittent generation etc. There seems a tendency in this debate to assume that all variations are due to wind generators.

SHP sees no advantages and many disincentives to investment should wind farms be forced to become fully dispatched by the market operator. Any increases in the costs to wind farm developers either through systems that would need to be installed or through increased financing charges are likely to be eventually passed through to consumers.

Wind farm modelling

SHP understands that appropriate models are required to represent the dynamic performance of wind farms at their connection points so that the power system security implications of large scale wind developments may be assessed. SHP agrees that the NSPs and other developers need access to these models in order to evaluate new investment proposals. Such models for more traditional generating units have been developed over a long period of time. SHP also understands the amount of research that has gone into the control systems of the turbines and the desire of wind turbine manufacturers to protect their intellectual property.

SHP believes these at times conflicting desires could be overcome by the development of a generic connection point model for wind turbines. SHP suggests that NEMMCO and the NSPs working with wind turbine manufacturers could come up with such a model.

Disclosure of appropriate information

The Code currently requires NEMMCO to release certain data from scheduled generators. SHP supports the release of similar data from wind farms.

Cost recovery of Regulation Frequency Control Ancillary Services

The Code currently requires generators with “which has metering to allow their individual contribution to the aggregate deviation in frequency of the power system to be assessed” to pay for regulation FCAS. SHP supports this concept for cost recovery of regulation FCAS from all significant generators and looks forward to working with NEMMCO to develop an appropriate methodology to determine the causer pays factor for non-scheduled generators.

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Network Connection

The last issue SHP would like to touch on relates to network connection.

The process of negotiating a connection agreement is long and at times complicated. The procedure in the Code does not reflect the realities faced by developers in their negotiations with NSPs and SHP supports any moves to clarify and simplify the process

SHP also agrees with the Paper that the current arrangements may lead to sub-optimal connection of multiple developments that may result in increased cost and increased environmental impact. SHP would support the investigation of policy options to better manage these issues.

Should you wish to discuss further any of the issues raised here please do not hesitate to contact me on ph 9252 2875.

Yours sincerely

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Manager Market Development and Regulation

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