



December 15, 2006

Mr. Bill Strongman
Director, Regional System Planning
Alberta Electric System Operator
2500, 330-5th Ave SW
Calgary, Alberta T2P 0L4

Re: 10-Year Transmission System Plan

By e-mail: bill.strongman@aeso.ca

Dear Mr. Strongman,

As a follow-up to our letter dated September 15th, 2006, the Canadian Wind Energy Association (CanWEA) is pleased to have an opportunity to provide detailed comments on the *10-Year Transmission System Plan*.

On several occasions, CanWEA has expressed our concern regarding the 900 MW cap that was imposed on the wind industry on April 21, 2006. This has resulted in numerous projects being delayed indefinitely and has essentially stranded the majority of future wind generation developments in Alberta. However, CanWEA has looked upon this situation as an opportunity to work with the AESO to find solutions to the wind integration issue.

CanWEA acknowledges that the AESO *10-Year Transmission System Plan* does examine scenarios of more than 900 MW of wind, but we are concerned that the current Plan may not fully capture the scope of planned wind energy developments, particularly in S.E. Alberta. We are keen to ensure that there is no disconnect between transmission planning and planned wind energy development.

Along with the other mitigation solutions being jointly considered by the AESO and CanWEA, we view a robust transmission system as essential to maintain the reliability of the electricity system in Alberta. As such, CanWEA would like to engage itself more closely to properly scope the future transmission requirements for wind generation. We would like to propose that this collaboration be carried out with the formation of an Industry/AESO working group, similar in structure to those formed for wind forecasting and wind integration, to find mutually acceptable solutions to transmission planning that integrates as much wind into the Alberta system as feasible. We would like to suggest that

this collaborative work group is formed immediately upon filing the current *10-Year Transmission System Plan* with the AEUB in Q1 2007.

CanWEA is concerned that generation plan estimates may have been used in the current *10-Year Transmission System Plan* related to the capacity factor for wind energy. In the transmission plan, CanWEA would like to understand if 100% of the output has been factored into the transmission studies rather than the 20% that was used in the generation studies. In the generation plan, CanWEA would like to ensure that the capacity value used reflects the latest thinking among system operators in North America. We would like the opportunity to discuss this issue with the AESO in more detail.

We would also like to ensure that all new development, no matter what the generating source, is treated equally from the perspective of the *10-Year Transmission System Plan*. Specifically, we want to ensure that projects that are at a similar stage in the development and planning process are treated equally. For example, current wind development in the south as demonstrated to the AESO by CanWEA, is exceeding that which is currently outlined in the *10-Year Transmission System Plan*. In future, CanWEA would like to see a more accurate reflection of wind development activities in Alberta.

CanWEA would like to acknowledge the statement made by the AESO on December 4th, 2006 at the Stakeholder Session that the current *10-Year Transmission System Plan* is still conceptual and more work is required. Furthermore, we recognize our comments are more useful for the overall transmission planning process, and that the current *10-Year Transmission System Plan* will likely be filed to the AEUB as is currently drafted.

As previously stated, CanWEA and its members are motivated to work with the AESO to find solutions to effectively plan for wind generation development in Alberta. It is our understanding that the AESO is open to such an arrangement and CanWEA would like to further explore this opportunity through joint consultations starting early in 2007.

We look forward to continuing to work with the AESO. Thank you again for the opportunity to comment.

Yours sincerely,



Robert Hornung
President

cc. Dale McMaster, President and Chief Executive Officer
Neil Millar, Vice-President Transmission



January 17, 2007

Mr. Robert Hornung
President, CanWEA

VIA EMAIL

Dear Mr. Hornung:

Re: 10-Year Transmission System Plan

The AESO is pleased to have received your comments in the form of your letter addressed to Bill Strongman dated December 15, 2006.

Regarding the 900 MW wind threshold, we are pleased that the collaborative approach on the wind issues is receiving the participation and support of CanWEA and CanWEA members.

Your letter raised the concern that the levels of wind generation explored in the AESO's 10-Year Plan will limit the ability to integrate additional generation in the future. I want to assure you that this is not the case. In developing the 10-Year Plan, the AESO considered reasonable levels of generation to test the system requirements with different emphasis on different types of generation including wind generation. We do not consider that those levels necessarily reflect the maximum potential of any form of generation. We also want to reiterate that the level of generation tested for testing the limitations of the existing transmission system and setting direction on the types of transmission upgrades necessitated by those more extreme scenarios do not preclude transmission planning for higher levels as we move forward in developing need identification applications and as the issues relating to the present 900 MW wind threshold are addressed. To elaborate, the AESO is expecting to file a Need Identification Document in early 2007 relating to the requirements to accommodate the needs of wind generation projects within the present 900 MW threshold, as well as the other local area needs. With comfort that additional wind generation may be integrated based on results from the wind integration work, the AESO will either amend the initial application, withdraw and amend if it is already filed, or file an additional application depending on the timing and approval progress on the initial application and the assessment of the overall most expeditious means to meet the needs of our system access service customers.

You have also raised the issue that a collaborative team approach, implemented to address the wind integration issues, would also be appropriate for transmission planning activities to allow additional wind integration in southern Alberta. The AESO has instituted, and is committed to

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an open and transparent stakeholder process for transmission planning. This process has been engaged in the present SE transmission system reinforcement and is expected to be applied in other future reinforcement projects in southern Alberta meeting the needs of all stakeholders in those areas. In this context, the AESO encourages and supports the participation of CanWEA and CanWEA members. A team approach, however, that excludes other industry participants also affected by transmission development in those areas, would simply not be acceptable. The AESO is committed to a broader process, inclusive of all stakeholders, than perhaps your letter envisions. This does not preclude smaller discussions between the AESO and individual stakeholders or groups of stakeholders; the input is documented and shared publicly to maintain transparency.

I should reiterate, however, that the wind integration work which you referenced in your letter is the issue at this time. As you are aware, the wind integration work is intended to address the scale, scope and cost of necessary measures to integrate more wind on the AIES beyond the 900 MW threshold and how the costs will be collected. This will include broad stakeholder discussion of necessary transmission reinforcements to accommodate wind in excess of the current 900 MW threshold. The wind integration issues and the 900 MW threshold must be addressed to advance the plans for additional wind-driven transmission reinforcements to be documented in an application with the Alberta Energy and Utilities Board.

I would be pleased to discuss the implications of this effort on the transmission planning and regulatory application and approval process, and encourage continued support of the wind integration project. The transmission planning process is coordinated with the wind integration project as it is currently the most critical AESO initiative impacting additional wind integration into the Alberta system.

In your letter, you raised the issue of the level of capacity factors applied to wind generation in the testing of transmission requirements. In general, a single capacity factor would be inappropriate to apply in all contexts – a different capacity factor would be relevant in different circumstances depending on the situation being studied. That being said, the AESO used 100% of the output of the wind generation (3300 MW) when studying the transmission requirements necessary to integrate higher levels of wind generation into the system. However, lower levels of wind output are generally used in examining the reinforcements necessary to adequately carry northern generation into southern Alberta, to ensure that the transmission system can provide reliable service to load in southern Alberta even during times when wind generation is not available.

Please note that "capacity factor" is a means of expressing the amount of energy that a wind generator might produce over a period of time, while the 20% you refer to is a measure of the amount of wind generation capacity that is expected to be available over peak load periods. They are not the same thing.

The structure of the electricity industry in Alberta is such that the market determines the timing, location, size and type of generation that is added to the system. The 10-Year Generation Outlook was developed as input to the 10-Year Transmission System Plan for the purposes of determining the conceptual transmission facility additions required to meet future needs of market participants. As with all generation types, the AESO must develop a forecast of generation development upon which to base its transmission plans and regulatory submissions. In this respect, the AESO welcomes any relevant information or suggestions that would assist in the preparation of generation outlook material and encourages CanWEA to participate in future

stakeholder processes where this is being considered. While the scenarios studied in the 10-Year Plan may not go as far as the South Eastern Energy Developers (SEED) members may have preferred, the AESO obtained input from the South Eastern Energy Developers (SEED) group in developing the wind scenarios used in the 10 Year Plan. The AESO is committed to continuing to work with SEED, CanWEA and other organizations to find ways to integrate as much wind into the Alberta electricity system as feasible without compromising system reliability or the fair, efficient, and openly competitive operation of the market. develop reasonable wind scenarios for testing the transmission system.

The AESO looks forward to continuing its relationship with CanWEA and encourages CanWEA to become actively involved in the Needs Application stakeholder process for Southeast Alberta.

Yours sincerely,

Neil Millar, P. Eng
Alberta Electric System Operator

cc. Bill Strongman
Dale McMaster