

Statement of Montana-Dakota Utilities Co.

Docket PL04-15-000

FERC Technical Conference

Interconnection for Wind Energy and Other Alternative Technologies

September 24, 2004

Montana-Dakota Utilities Co. (MDU) appreciates the opportunity to provide comment at this technical conference. MDU is a small, vertically integrated utility serving customers in portions of North and South Dakota, Montana and Wyoming. MDU's service territory is located in a high wind resource area. It has been projected that more than 10,000 MW of wind generation can be located in North Dakota alone. Because of this, MDU has frequent contact with wind developers and has received several requests for interconnection.

MDU's position is that all generators, regardless of source, must meet specific technical and reliability criteria and be a positive addition to the grid. It is our position that AWEA is attempting to circumvent necessary reliability criteria and that the current standards must be maintained. All generator interconnections must not only meet NERC criteria but should be subject to good utility practice in general.

MDU acknowledges, as purported by AWEA, that the expectations of generators set forth in FERC Order 2003-A may be overly comprehensive to meet minimum reliability requirements at many points of prospective interconnection. To that end, MDU would be in favor of modifications to Order 2003-A which prescribe performance criteria in lieu of generator criteria for purposes of interconnection. However, such modifications should not be implemented for the purpose of providing concessions to any specific form of generation, and especially not to a form of generation which is not dispatchable. In no

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event should generators be absolved of their obligations to system reliability, but such obligations should be reasonably commensurate to the system of interconnection. If modifications were made to Order 2003-A, here is some verbiage for consideration which would not express favoritism to any form of generation:

The requirements for any given generator or aggregate of generators wishing to interconnect should meet certain conditions both at the point of interconnection and realm of direct regional impact. These requirements should apply both to system intact and intended alternate operating configurations. In general terms, all intended modes of operation of the generator should:

- 1) maintain pre and post contingency **steady state voltage** criteria*
- 2) maintain industry standard **voltage flicker** criteria*
- 3) maintain **ride-through capability** for disturbances which would otherwise become a regional security risk without the ride-through capability*
- 4) implement manual and/or automatic **mitigations**, not to exclude generator tripping, where appropriate to maintain system reliability*
- 5) demonstrate appropriate benevolence to **small signal damping** if the lack thereof could lead or contribute to a break-up of the transmission grid*
- 6) provide **real-time telemetry and control** deemed reasonable and necessary to parties responsible for maintaining system reliability*
- 7) mitigate other impacts which are not in conformance with good utility practice, e.g. excessive losses, measurable loss-of-life to impacted equipment, etc.*

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Concerning matters of self-study, the availability of refined and comprehensively validated models are not common, especially in coordinated sets of powerflow, short circuit, and stability data. Further adding to this complexity is the incredible AWEA expectation that these model sets should be available “off the shelf” with the implied suitability for any voltage class on any operating or planning horizon.

MDU has no objections to self-study for feasibility of interconnections per se, but parties wishing to investigate such feasibilities may have to rely on the best-available modeling data, and such parties may need to tailor the models for their own purposes which may involve some modeling assumptions of their own. In no situation should such feasibility studies be exempt from ad hoc review of impacted transmission providers if the generator registered in a generator interconnection queue and is seeking approvals towards an interconnection agreement, nor should a generator be absolved of their obligations to system reliability regardless of the feasibility study results and/or the expiration of the period for comment on the study results.

MDU is geographically located in a low population area with concentrations of significant generation and long transmission lines. Reliable operation of the transmission grid currently relies on various mitigations which range from manual operating procedures to automatic generator tripping. These mitigations are generally established for a given expected use of the transmission grid. If the utilization of the transmission

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grid is altered appreciably by new generation and/or market use, the outcome of such mitigations may be unpredictable without additional extensive restudy.

The transmission operating challenges of today are formidable even with dispatchable forms of generation. A proliferation of non-dispatchable generation without substantial transmission upgrades will most assuredly degrade system reliability even if reliability assessments claim otherwise.

Any form of generation which routinely relies on the real and reactive reserves of other resources certainly should not be given special concessions for interconnection or remunerations for self-supply of reactive resources required to meet interconnection criteria. Furthermore, expectations of these intermittent forms of generation to ride-through disturbances certainly should not be construed as an acknowledgement of their contribution to system reliability. On the contrary, these expectations should be construed as their obligation to system reliability during and after major disturbances so other dependable resources of real and reactive operating reserves are not further strained or exhausted entirely.

FERC has a responsibility to provide non-discriminatory access to the grid, promote reliability and not favor a particular type of generation. The AWEA request for special exemptions must be denied.