



TRANSMITTAL

255 Fuller Road, Suite 274  
Albany, NY 12203

---

**Date: March 6, 2006**  
**To: Vicki Colello, NYSERDA**  
**Re: Wind Energy Construction and Ground Water Impacts**

AWS Truewind is pleased to provide you with the following information regarding wind energy and the potential for impacts upon an area's ground water resource during turbine installation.

*Overview of Issue*

There is no available evidence indicating that wind energy construction, in general, has any permanent or temporary effect upon an area's groundwater resource. For certain areas, where the ground water level is shallow enough, it is possible that installation of a turbine foundation could impact the local water table. The Bureau of Land Management (BLM) offers the following guidance to developers seeking to build projects in western states where ground water is depended upon for drinking. "Because the foundations of the towers may be excavated as deep as 30-40 feet (depending on geotechnical considerations), and because wells in some parts of a proposed Project may be as shallow as 50 feet [site specific], ensuring that foundation excavation and construction do not affect groundwater availability and/or quality will require an assessment of groundwater resources in residential areas."

Under the BLM guidance document, potential wind power sites are evaluated using the following criteria:

- Proximity of wells to proposed turbine locations
- Topographic position of wells relative to turbine locations (e.g., up- or down-gradient)
- Potential contribution of soil type/stratigraphy to flow disruption
- Depth of local water tables

Using these criteria, residential water supplies that may be impacted will be identified and subject to further assessment and mitigation strategies if necessary.

A Project Manager with PPM Energy (developer of the Maple Ridge Wind Farm in Lewis County, NY) and a Construction Manager with Mortenson Construction were consulted on the relevance this topic in relation to northeastern US wind project sites. PPM Energy indicated that there was no known impact upon the local ground water resource resulting from the 195-turbine Maple Ridge project. Areas where the local ground water resource penetrated the surface (i.e., wetlands) were identified during the State Environmental Quality Review and avoided during the wind turbine siting process. Further, PPM indicated that, in their experience, this issue is likely non-existent in the vast majority of New York State cases. Mortenson Construction, having built several wind projects throughout the country, indicated a similar experience; there've been no issues to date with wind turbines affecting the local ground water resource.

In closing, it is worth noting that unlike other power generation facilities, wind turbines use absolutely no freshwater during the course of their day-to-day operations. In contrast, electricity generated by nuclear and coal facilities mandates the use of copious amounts of freshwater on a continuous basis. Lastly, there is no evidence indicating that wind turbines in general have any adverse effect upon an area's freshwater resource.

#### *Web Sites*

The National Wind Coordinating Committee's Permitting Handbook  
<http://www.nationalwind.org/publications/permit/nwccch4.pdf>

Bureau of Land Management Guidance Document  
<http://windeis.anl.gov/documents/fpeis/maintext/Vol1/Vol1Ch5.pdf>