

Gear problems shut down windmills in Lackawanna

Complicated repairs of turbines expected to take several months

By Maki Becker

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The giant blades on the turbines in the Steel Winds wind farm in Lackawanna haven't been turning lately — but not for lack of wind.

ClipperWind, the manufacturer, and UPC Wind and BQ Energy, wind farm developers, reported that a problem is forcing them to replace the gearboxes on all eight windmills.

That will entail removing the rotor and all three blades — each longer than the wing of a Boeing 747.

The windmills — officially called “Liberty 2.5 Megawatt wind turbines” — are the first of their kind to be used commercially. They brought national attention to Lackawanna for its creative reuse of an abandoned industrial site.

The state-of-the-art turbines are so new that ClipperWind had anticipated a need for some tweaking here and there.

But resolving the problem has been more difficult than expected.

“This one's a pain because you need a big crane,” acknowledged Bob Gates, ClipperWind senior vice president.

The work is expected to take several months, Gates said.

“We happen to have had the bad luck of building [Steel Winds] in the winter, and retrofitting it in high winds and cold weather doesn't speed up the work,” he said.

The gearbox problem initially was noticed in August when highly sensitive sensors on one turbine activated.

Engineers quickly discovered that a tooth on one of the four gears in the box had broken.

After testing, engineers realized that, because of unclear assembly instructions, the gears' timing was off, causing them to operate unevenly.

Inspections found the same problem, in varying degrees of severity, on all seven of the other turbines on the site.

Liberty turbines in Iowa and Minnesota have developed the same problems, which also will require

repairs.

This week, a massive crane arrived at the former Bethlehem Steel site to begin removing the blades and rotor from the massive towers.

While the gear boxes are being replaced, Gates said a reinforcing bond will be applied to the fiberglass blades to prevent any major damage from tiny cracks that have developed on some.

Michael Alvarez, executive vice president and chief operating officer of UPC Wind, said the gear box issue has left him disappointed but not disheartened.

“For a couple of months, we were receiving great performance,” Alvarez said of the turbines. Technical problems, he added, are “in the nature of these sorts of projects.”


“ClipperWind is stepping up and replacing the gear boxes. . . . It’s definitely not irreparable.”

Alvarez added that the turbines were under warranty and that ClipperWind is covering the costs of all repairs, as well as some of the revenue UPC Wind will lose while the turbines are not operating.

mbecker@buffnews.com

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