

Port Services Are Essential To Wind Energy Logistics

Niche services are available in an emerging growth market.

BY MARIE WISE

Ports with the infrastructure, experience and reputation for handling wind turbine components have become an essential part of the emerging wind energy industry. The process of shipping wind turbine components from their overseas manufacturing facilities into the U.S. requires concentrated logistics coordination and experienced handling services – a specialized niche – provided by just a handful of ports. Knowing which port to use and why is essen-



Workers receive cargo from a ship's gear and unload it to the dock.

Photo courtesy of the Port of Longview.

PORT LOGISTICS

Wind turbine components take a long and complicated journey before arriving at a project site. A crucial part of that journey occurs when cargo arrives by sea, as in the case of the towers being unloaded at the Port of Longview in Washington state. Turbines and towers must then move quickly to their ultimate destinations across North America.

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tial to the timely and safe delivery of a project.

Wind turbine components take a long and complicated journey before arriving at the project site. The journey consists of an ocean voyage on a cargo vessel from an overseas manufacturer to a U.S. port that provides specialized handling services for wind energy cargo. The port must have the infrastructure, labor and equipment in place to transfer tower sections, blades and nacelles to the logistics provider responsible for transporting the components to the project site.

Although simply stated, the process can be fraught with delays

if pre-operative planning is neglected, necessary equipment is not available or breaks down, labor disputes arise, or vessel discharge or truck loading are not coordinated properly.

In selecting a port, shippers typically evaluate handling facilities based on criteria developed to meet their specific needs. Some of these criteria include location review, ocean carrier accessibility, prior experience, rates and availability of value-added services.

A visit to the handling port's facilities is an important part of the supply chain evaluation process. It is imperative that potential service



Photo courtesy of the Port of Longview

providers have knowledgeable personnel, a responsive work force and adequate storage area to handle the job.

Fragile cargo

In the port industry, wind turbine components are classified as “project cargo.” They are oversized, require heavy-lifting equipment, and are fragile, awkward pieces of machinery to maneuver. Port services consist of coordinating all handling of the cargo once it is placed on the dock.

Before a vessel arrives, port operations personnel – typically terminal superintendents – have already ordered skilled union laborers, mobilized heavy-lifting equipment, made arrangements for special services and secured storage areas. They have coordinated with logistics providers, typically railroads or specialized heavy-haul carriers, and secured adequate lay-down space for the cargo in a storage area, if needed. The over-sized nature of wind-turbine components and the amount of space they occupy eliminates many ports from handling the cargo – they simply don’t have the space.

One example at the Port of Longview in Washington state was specialized handling of a shipment of 60 tower sections for Vestas American Wind Technology Inc. in 2004. Vestas needed the port to move the tower sections from the dockside to a lay-down area and then load them onto rail cars at a later date. In order to accommodate Vestas, the port’s crew of mechanics, millwrights and utility men had to engineer a special transporter to mobilize the towers without the use of subcontracted trucks and cranes.

A fully-operational port, meaning it operates all of its terminals



Coordination between different logistics providers is needed for timely delivery of turbine components.

Photo courtesy of the Port of Longview.

with its own crew of skilled millwrights, mechanics, utility men and other union craftsmen, is essential.

It also gives the port more control over what happens on its dockside. When it comes to handling over 750 lifts of wind tower sections with zero damage, having control over what happens on the dockside is critical.

Valerie Harris, the port's new manager of business development, was until late 2004 the transportation manager for Vestas American Wind Technology Inc., a customer shipping wind tower components

wind energy cargo moves through ports fairly quickly and storage areas are not filled to capacity for any length of time.

Examples include specialized welding services performed by port employees to outfit rail cars with tie downs, installing lashing points for over-dimensional cargo and offering additional cargo securement options.

Heavy haul considerations

Even though logistics providers transporting wind energy cargo from the port to the project site are

Peninsula of Quebec, Tennessee, Ohio, Texas, Pincher Creek of Alberta, Canada, Oklahoma and Oregon. Numerous other shipments of transport frames, spare parts, paint, steps and ladders and associated assembly components were also shipped via flatbed truck and 40-foot container and chassis to support wind energy projects across the U.S. and Canada.

The more wind energy developers and manufacturers understand about the process of shipping delicate and over-sized wind energy cargo, the more efficiently they can manage the process. Ports with the experience and availability are invaluable to the logistics process. With careful planning, clear communication and knowledgeable resource coordination, a wind energy project will benefit from damage-free cargo handling and timely delivery results. **WIP**

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across the Port of Longview's docks.

At Vestas she was responsible for communicating Vestas' concerns to the port and scheduled pre-op meetings to coordinate numerous details involved in the cargo shipment.

A port's ability to handle project cargo is dependent not only on experienced labor, but having the right type of equipment and infrastructure available. In most cases,

hired by the customer, the port is still responsible for coordinating the process, since truck loading occurs on port premises.

Port superintendents coordinated the reload of 180 GE Energy tower sections onto schnable trailers for delivery to Montana's largest wind farm in Judith Gap, over 900 miles by state and interstate highway. Other destinations for cargo handled by the Port of Longview include Wyoming, Gaspe

Marie Wise is the communications/public affairs manager at the Port of Longview, a full-service bulk and breakbulk port on the deep-draft Columbia River in Washington state. For more information call (360) 425-3305 or go to www.portoflongview.com.



Wind turbines handled by the Port of Longview have been shipped across North America. Illustration courtesy of the Port of Longview.

In most cases, wind energy cargo moves through ports fairly quickly.



Welding and other services are sometimes needed to accommodate the needs of cargo shippers. Photo courtesy of the Port of Longview.