



PORT OF INDIANA BULK TERMINAL:

METRO PORTS VENTURES INTO GREAT LAKES MARKET



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It took 165 years, but Metro Ports is now operating a Great Lakes terminal. On July 1, 2017 the company took over operation of the bulk terminal at the Port of Indiana-Burns Harbor on Lake Michigan. Metro Ports, which already had more than 25 operations in 10 coastal states, traces its roots back to 1852 when its original parent corporation, California Stevedore and Ballast Company, was established during the California Gold Rush era.

Today, the company moves a wide range of bulk and breakbulk cargoes including coal, cement, aggregates, potash, fertilizer products, petroleum coke, borax, bauxite, steel, wind energy components and project cargo.

Why would an established company more than a century and a half old with such a strong presence at coastal ports decide to take over a terminal on the Great Lakes and inland rivers system?

THE WORLD'S BUSIEST INLAND TRANSIT

Like any successful company, Metro Ports is always looking for growth opportunities and, with an already-stable presence on the East, West and Gulf Coasts, there was strong interest in operating an inland terminal. The Port of Indiana-Burns Harbor serves two of the world's busiest inland waterways, with the Great Lakes and Mississippi River systems handling over 800 million tons of cargo annually. Situated on the southern coast of Lake Michigan, the Port of Indiana is only 20 miles from Chicago, the country's third largest city, and offers major transportation connections to numerous interstate highways as well as the country's largest railroad network, including access to eight rail carriers. The port also has the unique ability to handle ocean vessels arriving via the St. Lawrence Seaway from the Atlantic Ocean, 1,000-foot Great Lakes bulk carriers and river

barges that provide year-round barge access to more than 20 inland states and transshipment with ocean vessels in the Gulf of Mexico.

SERVING THE US 'STEEL CAPITAL'

Metro Ports determined there were significant opportunities for handling bulk raw materials and byproducts for the large industrial base that surrounds the Port of Indiana. Northwest Indiana is known as 'The Steel Capital of North America' because Indiana has been the leading steel producing region since 1975, with companies such as ArcelorMittal, US Steel and NLMK operating multiple facilities in and around the port. Because of this heavy industrial cluster, Indiana generates 40% of the US economic activity related to Great Lakes shipping on less than one percent of its shoreline. The port has nearly 600 acres of land that is home to 30 companies, including 15

steel-related businesses, and has direct connections to three steel mills as well as Chicago's massive industrial market. Metro Ports has significant experience handling the cargoes that were already moving through the port, including coal, coke, magnesite, ore, grain, fertilizers, limestone and salt, and has identified significant opportunities to expand the volumes of the current cargoes while also adding new cargoes to the port's throughput.

DOUBLING PORT CAPACITIES

The first order of business for Metro Ports was to immediately double the size of the previous bulk terminal at the Port of Indiana. The company secured two covered storage buildings, one 56,000 square feet and the other 63,800 square feet, as well as nearly 10 acres of dedicated outside storage area and an additional 11 acres of temporary laydown area adjacent to 2,500-feet of ship and barge berths. The expansion provides Metro Ports with 100,000 tons of indoor storage, 200,000 tons of outdoor storage and 100,000 tons of temporary dockside loading areas with total throughput capacity of approximately five million tons per year. Increasing the terminal's capacity was critical for growing the business and providing flexibility for handling various commodities that are sensitive to weather or need to be in separate areas. Besides having the covered and outside storage options, another consideration is to understand where the product needs to be stored and how to get it there. Inbound cargo is often delivered to the Burns Harbor port by self-unloading laker vessels that can stack directly to the docks. But barges and ocean-going ships require the terminal to have the ability to offload and stack material.

PICKING THE RIGHT EQUIPMENT

Selecting the proper equipment for the terminal was determined based on the physical properties of the materials being handled, especially the density. These cargoes range from very heavy pig-iron to light grain. Each individual bulk material has its own set of particular handling characteristics and sensitivities. The challenge is always handling a wide variety of cargoes, from moisture-sensitive materials like grain, which require clean handling practices, to the heavy materials that could damage certain equipment. Materials typically range in density from 35 pounds per cubic-foot to 240 pounds per cubic-foot. Foundry coke, used abundantly in the steel-making process, weighs about 35 pounds per cubic-foot. Grains like wheat can weigh about 42 pounds per cubic-foot. Some products are virtually indestructible while others are extremely susceptible to degradation. Fragile cargoes must be handled

properly and equipment operators use soft-opening bucket procedures to avoid damage to the customer's product.

TECHNOLOGIES IMPROVE EFFICIENCIES

A key strategy Metro Ports uses to aggressively grow business is the implementation of high-speed material handling equipment that can improve efficiencies and save money for port customers. The new terminal features several significant upgrades to its cargo-handling technologies, including the use of mobile conveyors and material handlers with an assortment of attachments that can provide flexibility to efficiently discharge a variety of cargoes. Metro Ports replaced the previous stick-crane bulk operation with two diesel-powered Sennebogen 860D material handlers that have 15-ton capacities and a reach of 40 feet. Raising the Sennebogen's outriggers and changing its location takes only minutes and with its sufficient reach, thirty-second cycle times can be easily achieved to unload an entire 60 meter-long barge without moving it. The ability to load from a single point to a truck or hopper can reduce cycle time by at least 50%. A diesel Liebherr L586 front-end loader with 45,000-pound bucket capacity is also utilized as well as two smaller front-end loaders with environmentally-friendly Tier 3 diesel engines. In order to pile bulk materials, Metro Ports uses two portable radial stacking conveyors to move materials throughout the dock and storage areas. The Masaba 150-foot, self-contained portable stacker uses a diesel engine and a digital Programmable Logic Controller (PLC) to increase efficiency. Metro Ports' Superior Industries 150-foot telescoping stacking conveyor is also PLC-controlled, but uses electric motors. Both can be used to feed existing hoppers, which are set up to receive bulk materials from self-discharging vessels, allowing the material to go directly to the covered storage warehouses with minimal handling. This equipment will reduce handling times and increase the throughput speeds for bulk cargoes at the port.

ENVIRONMENTAL STANDARDS

Metro Ports strives to be an industry leader in the use of environmental best practices for port operations, and when it comes to bulk cargoes, dust suppression is a top priority in all transfers of material. Dust collectors are typically used as well as water sprays and dry-fog systems to reduce or eliminate fugitive dust which could contaminate other products or blow off the site. Inside storage and tarping are essential for some products to eliminate contamination from other products being carried in the wind or rain. Material handlers also help control dust emissions by reducing the drop height

and controlling cargo flow without losing productivity. Metro Ports is also exploring opportunities to secure environmental grants to implement newer, more efficient equipment at the port with Tier 4 engines and hybrid-electric motors, as it has done at other terminals around the country.

SMOOTH SAILING FOR NEW TERMINAL

Venturing into a new market has been smooth sailing so far and having a strong partnership with the Port of Indiana has allowed Metro Ports to hit the ground running. Combining the local industry knowledge of the Port of Indiana with the national network of Metro Ports has already generated new business opportunities. Metro Ports also found that some of its customers from other ports are interested in venturing inland to take advantage of the US Midwest's heavy industry, agriculture and manufacturing sectors, as well as Indiana's favorable business climate and significant opportunity for future growth. Metro Ports has an aggressive plan for growing its Great Lakes hub at the Port of Indiana and expects to more than double previous cargo levels at the port in the near the future.

ABOUT THE AUTHOR

Michael Ferguson is the president of Metro Ports and has 40 years experience in energy and minerals industries including leadership roles in ports and terminals, mining, material handling and bulk transportation. Background includes executive leadership roles, operational management at ports and terminals, mine engineering and supervision, project management of large capital investments and the achievement of commercial business development opportunities. Mike has a BS Degree in Mining Engineering from the University of Missouri, Rolla and an MBA – Operations Management from Auburn University in Alabama.

ABOUT THE ORGANISATION

Metro Ports is a terminal operator and stevedoring company based in Long Beach, California, that operates terminals around the US, including its only Great Lakes terminal at the Port of Indiana-Burns Harbor, which opened July 1, 2017.

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