PIANC World Congress 2018 – Technical Paper Abstract

Theme: Logistics & Infrastructure - Provision of added value logistic services in maritime hubs

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**Increasing Berth Utilization with Alternative Technology**

As the demands for general cargo movements through ports and terminals can vary over time, operators are often left with valuable infrastructure that is underutilized, or even abandoned due to a lack of available customers moving product. Historically, some container or break bulk operations have entertained the idea of diversifying into handling bulk cargos over their dock, and while this has brought additional revenues, it comes with its own set of problems. Depending on the source of the cargo, on-site covered storage is often required to receive trucks, and loading ships requires mobile conveying equipment which needs to be moved on/off the dock. All this also requires additional clean-up efforts, as well as the risk of environmental contamination.

An alternative technology that is growing in popularity is known as containerized bulk handling, and this facilitates the movement of bulk cargo from source to ship without the need to provide interim bulk storage facilities at the terminal. This system utilizes specialized open top containers that are provided with locking lids to allow easy filling and sealing of the containers at this source, and their standard ISO footprint makes them easy to transport by truck or train to the terminal site. Because they are sealed from the environment, they can be accumulated at the terminal and used as temporary quayside storage for the bulk cargo until enough containers are accumulated to load a ship. When ready for loading, containers are moved to the dock by truck and lifted into the hold of a bulk carrier using either a mobile harbour crane (or even ship’s gear) using a specialized rotary spreader unit. This spreader will automatically lift the lid from the top, and then rotate the container upside down to dump the cargo into the hold. As the unit is returned to the dock the lid is replaced on the empty container, and a new one is picked up to repeat the process.

This system offers a relatively low capital investment option to handle bulk cargos over a general cargo or container dock. It not only offers diversification that improves utilization of assets and increased revenue, it is fully flexible to be moved between dock operations or the assets sold to others when core business improves. This presentation will discuss this system in more detail, and will also share some case studies of where it has been implemented.