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SSA Marine Eyes Advanced Technology

Completely automated 'low frame electric bridges' could eliminate transtainers

SSA Marine plans to make a huge gamble on new container crane technology which, if successful, will revolutionize cargo-handling in the port industry.

The Seattle-based terminal operator is negotiating with China's Shanghai Zanhua Port Machinery Company, one of the largest manufacturers of container cranes in the world, on a new system of electrified guide rails to move containers throughout the yard at a terminal.

If SSA becomes ZMPC's first customer, it will install the completely automated "low frame electric bridges" at its Pier J facility in Long Beach, said Ed DeNike, chief operating officer.

DeNike predicts that the ZMPC system would triple Pier J's throughput capacity on its existing footprint. Container moves per-hour, per-crane, which average about 26 to 27 in Southern California, would increase to 40 to 50 moves per hour.

The current International Longshore and Warehouse Union contract calls for two drivers per container crane per eight-hour shift. That would be reduced to one driver, and all of the drivers would work from the terminal's control tower.

If the system functions as envisioned, productivity would soar and the terminal operator's costs would go way down. "The numbers are mind-boggling," DeNike told a port productivity conference in Long Beach sponsored by Cargo Business.

During the deep economic recession, terminal operators on the West Coast have seen their costs increase as rapidly as their cargo volumes have declined. The waterfront contract signed last year with the ILWU increased pension, welfare and wage costs 18 percent, DeNike said.

Shipping lines, truckers and port authorities are all pressuring terminal operators to increase their productivity. West Coast terminal operators could increase productivity by imitating Hong Kong -- placing more transtainers in the container yard and assigning more longshoremen to yard work.

This would increase container moves per hour, but the terminal operator would go out of business because the man-hours paid would be unbearable. DeNike said the number of man-hours a terminal operator pays per container handled determines the terminal's profits or losses.

Total longshore wages and benefits on the West Coast are now about \$100 an hour. Since a number of positions include overtime pay, it costs a terminal on average \$1,000 per longshoreman per day, DeNike said.

A number of terminals have reduced man-hours by using optical character readers, cameras and global positioning satellite technology to eliminate work formerly performed manually by marine clerks. The clerk jobs that remain have been moved from the gates and yards to the control tower.

A typical operation used to employ 12 to 14 marine clerks in the tower. That number is now down to three or four, and the remaining clerks are handling four times the volume they used to handle. "That's how you reduce costs," DeNike said.

Terminal operators must now move to the machinery deployed in the container yard. The costliest piece of equipment is the transtainer. By contract, four longshoremen are assigned to each transtainer.

ZMPC's electrified bridge network would replace most of the transtainers, significantly improving the terminal's manpower-per-container ratio.

If SSA reaches agreement with ZMPC on the cost of its system, the company will also have to negotiate with the ILWU under the contract's grievance provisions. DeNike said SSA will attempt to convince the union that in the long run job opportunities will increase because container volumes at the efficient terminal will increase.

He believes the 2002 waterfront contract gives employers the right to implement this technology. The 2008 contract reaffirmed the ability of employers to implement technology in return for large increases in the benefits paid to longshoremen.

"We, as employers, earned it. We deserve this technology," he said.

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