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APM Terminals, Elizabeth, NJ

Preventive Maintenance Identifies Current and Potential Repair Items to Keep Port Cranes Up and Running



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THE CHALLENGE

Nearly 4,500 containers a day pass through the gates at APM Terminal's 380-acre Port Elizabeth facility in Elizabeth, New Jersey. The terminal processes anywhere from 550,000 to 763,000 containerized cargo annually.

To handle the transfer of these massive containers from ship to shore and back, the facility built a fleet of 30 Rubber Tire Gantry (RTG) cranes from Konecranes. RTG cranes carry a 50-ton capacity with load control, sway prevention, spreader micro motions, and GPS-based autosteering and container positioning—features designed for demanding, high volume terminals.

APM facilities are required by OSHA Maritime regulations to have an OSHA-certified inspector examine their cranes annually. However, the basic safety check performed by OSHA did not provide the Port Elizabeth facility with critical information about the mechanical, structural, and electrical aspects of each RTG crane.

THE SOLUTION

With each RTG crane costing nearly \$1.5 million, the Port Elizabeth facility chose to invest in Konecranes MAINMAN® inspection services to prolong the lifespan of each crane and maximize their investment. The in-depth crane and hoist inspection is a multi-point visual inspection of overhead lifting equipment using Konecranes proprietary software.

The OSHA inspection takes one technician about 1.5 hours per crane to complete. The Konecranes MAINMAN inspection takes 3 technicians working 8 hours per crane to complete. That translates into a team of 15 Konecranes inspectors working on-site for up to 3 weeks.

MAINMAN inspections require a substantial amount of time because they capture data on the condition of more than 225 crane components. Konecranes certified inspectors evaluate hundreds of component parts and draw on thousands of hours of training and experience to analyze wear patterns. Once they get to the root of the problem, they offer cost-effective repair recommendations in writing.

The results include a detailed analysis of each crane, repair priorities, and a suggested schedule of required repairs in compliance with local statutes and laws. Recommendations for preventive maintenance are ranked first by safety conditions, then by production risks, followed by inconsequential findings.



THE RESULT

Because of the MAINMAN inspections, APM has found that they rarely have to call Konecranes for warranty work or troubleshooting. Instead, they use the crane summary reports as a guideline for their maintenance crew to use in mapping out their workload.

"It saves us time because we do preventive maintenance checks on the machines based on Konecranes recommendations," APM says. "We have 30 mechanics to look over 32 RTGs, 19 top loaders, 10 empty handlers, payloaders, snow removal equipment, man-lifts, and large forklifts. It works out to be about 2 machines per man, so we always keep busy. We don't have the time to do the fine-tooth comb inspections that Konecranes does for us."

In addition to saving time, the inspections have also caught small issues and brought them to the maintenance manager's attention before they became major problems. Finally, the inspections have helped Port Elizabeth facility extend the life of the RTG cranes via recommendations about how and when to rotate parts and tires. "Our machinery is getting older," APM acknowledges. "The more we can prolong equipment life, the better. Konecranes MAINMAN program helps us do that."

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