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APM Terminals to Retrofit and Electrify RTG Fleet Worldwide

The conversion of diesel-powered units to a combination diesel-electric power through the installation of new power coupling systems will reduce CO₂ emissions from RTG operations by 60-80%.

The Hague, Netherlands – APM Terminals has embarked on a program to convert and retrofit more than 400 Rubber-Tired Gantry Cranes (RTGs) in use throughout the APM Terminals Global Port, Terminal and Inland Services Network to a combination electric and diesel power as a measure to reduce both costs and emission of carbon dioxide (CO₂) from the current diesel-powered RTG fleet.

RTGs, which are used to move loaded and unloaded containers at the terminals, are usually powered by diesel engines. The new power supply will be a combination of electricity and diesel, utilizing a busbar- a rail providing access to electrical power. Recent technological advances have made such a hybrid power option possible for RTGs.

“Early RTG electrification systems restricted operational flexibility, as the machines were either permanently stuck to the busbar, or operated with a long coil of electrical cable on its side. Someone had to plug the machines, unplug them and then plug them in again between moves” said APM Terminals’ Head of Design and Operations for New Terminals, Ross Clarke.

As the result of industry development in this area of power supply, RTGs can now be connected and disconnected automatically from the busbar through the use of a retractable connector arm attached to the RTG. This system allows the RTG power to switch between the diesel engine and electricity from the busbar automatically and without interruption.

“The automated system for connecting the RTG to the busbar means that we can benefit from the environmental and cost benefits of electric RTG’s, with no loss of operational flexibility” said Clarke.

The conversion of a terminal is completed in two steps: installation of busbars within the terminal along the container storage stacks, and fitting the connector arms to the individual RTG units.

The projected maintenance and repair costs for the electrified RTGs (E-RTGs) are 30% lower than for standard diesel-powered RTGs, with additional savings of as much as 70% in fuel costs. The use of E-RTGs will reduce CO₂ emissions by between 60-80% compared with conventional

Latin America

Santos, Brazil
Moin, Costa Rica

New terminal being built
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