



Breakthrough Clean Air System to be Tested

Pilot dockside treatment technology could cut 95% of air pollutants from ships

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The Port of Long Beach is reviewing an application by a terminal operator to conduct the first full-blown test of a dockside system that could treat air emissions from ships at berth, reducing a major source of pollutants by more than 95 percent.

Metropolitan Stevedoring Co., which operates the Pier G bulk cargo terminal in Long Beach, has partnered with Advanced Cleanup Technologies Inc. to develop a pilot project to test ACTI's dockside emissions treatment system at one berth. They are seeking Port development permits to begin construction as early as this fall. The Port is currently preparing an environmental analysis of the project and the South Coast Air Quality Management District is evaluating the air quality benefits.

The system consists of a "bonnet" that fits over the exhaust stacks of ships at berth. Through a network of ducts, emissions captured by the "bonnet" flow to a dockside treatment unit like those found at industrial plants. The treatment unit includes a multi-stage emission cleaning system, with a "scrubber" and selective catalytic reduction. ACTI of Rancho Dominguez estimates the system would reduce harmful air pollutants such as particulate matter and sulfur dioxide by 99 percent, and smog-forming nitrogen oxide by 95 percent.

"This could be a major breakthrough in our efforts to improve air quality," said Port Executive Director Richard D. Steinke. "Ships at berth are a significant source of air pollution. We are planning 'cold-ironing' or shore-side electricity to eliminate much of that problem. But cold ironing is not feasible for all ships, especially those that come here infrequently. The proposed treatment system could be the answer for how we 'clean' those vessels."

The Port is developing shore-side electrical infrastructure at the BP berth T121 oil terminal, the SSA Terminals Pier C-60 container terminal and the International Transportation Service container terminal at Piers G/J. The Port plans to invest tens of millions of dollars for still more cold ironing projects over the next ten years.

The majority of the vessels serving the breakbulk facilities in the Southeast Basin, at Piers F and G, are infrequent callers, presenting a challenge for controlling emissions from ships at berth. Cold ironing for these terminals is much less cost effective than for terminals that are serviced by more frequent callers. Therefore, implementing an emission control system at these facilities that does not require vessel retrofits has advantages over cold ironing.

“It doesn’t make sense to require all vessels to cold iron,” said Al Garnier, the chief operating officer for Metropolitan Stevedoring Co. “But we all want to do our part to improve air quality. We are proud to be partners in this giant step forward at the Port.”

“Our system could be designed to work with almost any vessel,” said Matt Stewart, executive vice president for ACTI. “This will be the first time that this technology has been used in a marine environment. But the emission reduction control technology that this employs is widely used to treat exhaust at many industrial sites.”

ACTI is preparing to test the treatment system on locomotives at Union Pacific Railroad’s yard in the Northern California community of Roseville.

If the pilot test at Metropolitan Stevedoring Co. proves effective at treating exhaust from vessels at berth, the treatment system may be expanded. The Port is currently evaluating the potential environmental benefits of extending the system to other facilities in the Southeast Basin, at Piers F and G.

Contact: Art Wong, Port of Long Beach Beach Assistant Director of Communications/Public Information Officer, (562) 590-4123 (office); (562) 619-5665 (cell), or wong@polb.com.

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