Air Resources Board

Mary D. Nichols, Chairman
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Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

June 25, 2015

Mr. Nick Tonsich
Clean Air Engineering - Maritime, Inc.
2500 Via Cabrillo Marina, Suite 300
San Pedro, California 90731

Dear Mr. Tonsich:

Air Resources Board (ARB) staff has reviewed Clean Air Engineering-Maritime, Inc.'s (CAEM) Test Report, dated March 9, 2015, for the Marine Exhaust Treatment System-1 (METS-1). The objective for the Test Report was to provide emission measurements and associated information to support the development of control factors for METS-1 for use by regulated fleets subject to ARB's Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port" Regulation (At-Berth Regulation). ARB staff's review of the CAEM Test Report was based on the requirements in the At-Berth Regulation, the guidelines provided in ARB's "Recommended Emissions Testing Guidelines for Oceangoing Vessels," and the approved CAEM Test Plan dated August 11, 2014.

We are pleased to inform you that we have approved the results of the emission measurements and are issuing the attached Executive Order AB-15-01 which allows the use of METS-1 by specified container vessels for compliance with the At-Berth Regulation. Executive Order AB-15-01 identifies the approved control efficiencies, as well as monitoring, reporting, and recordkeeping requirements for METS-1. Executive Order AB-15-01 also stipulates the approved operating conditions for the use of METS-1 which are identified in the table below.

METS-1 Approved Operating Conditions

Parameter	Value
Ocean-going Vessel type	Container Vessels
Ocean-going Vessel Engine type	One auxiliary engine
Fuel composition limitations	Marine distillate fuel with ≤ 0.1% sulfur content
Engine exhaust temperature requirements	350-700^{0}F
Other parameters that affect performance	Filter face velocity less than 0.03 m/s
Static Pressure	Minimum of -0.2 inches of water at the capture system shuttle
Maximum engine MCR (kilowatt (kW)) for each engine type	2500 kW
Allowable operating range (kW)	600-1500 kW; only one auxiliary engine may be controlled per METS-1 system
Exhaust flow rate that can be treated (standard cubic feet per minute (scfm)	1020 to 5100 scfm of engine exhaust
Maintenance Requirements	Per Section 5: Maintenance in CAEM's Test Protocol

While METS-1 can now be used by fleets for compliance with the At-Berth Regulation, it is important to note that this approval is not a verification under the "Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines" (verification process). Because this action does not require CAEM to provide the warranty required under the verification process, purchasers/lessees will need to negotiate warranty coverage directly with your company. We note that if Proposition 1B funding is used to acquire the system, CAEM must provide a ten year warranty for the performance of the system.

In closing, we appreciate the opportunity to work with CAEM in its efforts to implement a barge based control system as an alternative compliance option for the At-Berth Regulation. If you have any questions, please contact Peggy Taricco, Manager, Technical Analysis Section at peggy.taricco@arb.ca.gov or (916) 323-4882. In addition, please feel free to contact Jonathan Foster, Air Resources Engineer, Technical Analysis Section at jonathan.foster@arb.ca.gov or (916) 327-1512.

Sincerely,

Richard W. Corey
Executive Officer

Attachment

cc: See next page.

cc: Peggy Taricco, Manager
Technical Analysis Section
Transportation and Toxics Division

Jonathan Foster
Air Resources Engineer
Technical Analysis Section
Transportation and Toxics Division