Case No. 602: Reducing PM, CO and VOC’s from a Marine Diesel Engine with DOC

Seaworthy Systems, Inc. chose Johnson Matthey to retrofit a DOC (Diesel Oxidation Catalyst) converter on a DDC Series 60 diesel engine to reduce Particulate Matter as well as CO and VOC on a New York Water Taxi vessel.

Emissions Reduction Targets:
PM 15%, CO 80%, VOC’s 70%

Background

The application of diesel oxidation catalyst for the reduction of PM, CO and VOC on a marine vessel is a part of a long term Emissions Control Technology Demonstration. It is sponsored by the New York State Energy Research and Development Authority (NYSERDA) and is a component of the New York City Private Ferry Emissions Reduction Technology Study and Demonstration Project. The overall goal of the project is to attain a fleet-wide reduction of NOx by 30% and of PM2.5 by at least 50% based on the vessel’s normal operating profiles.

Following this demonstration, it is anticipated that a more extensive program will allow retrofitting of most of the NYC private ferry fleet with the best performing and most affordable technologies. This retrofit installation was challenging due to the limited space. Johnson Matthey fabricated a DOC converter to be an exact replacement for the existing muffler.

Summary

• Product: Diesel Oxidation Catalytic Converter
• Application: 600 Hp Detroit Diesel Series 60 Engine
• Customer: Seaworthy Systems, Inc.
• Location: New York City
• Installed By: New York Water Taxi
• Date Installed: January 2006
• Operation: Marine diesel ships
• Pollutants: CO, VOC’s and PM
• Comments: Johnson Matthey was chosen to supply this DOC converter because of their ability to engineer a specialized converter that was installed as a direct replacement for the ship’s muffler.