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Emissions Control System

ACTI has developed innovative technology for eliminating the air pollution created by ocean going vessels in our ports and from locomotives in rail yards.

The system for the marine application is referred to as the Advanced Maritime Emissions Control System (AMECS) and the system for the railroad applications is referred to as Advanced Locomotive Emissions Control System (ALECS).

AMECS and ALECS are composed of an Emissions Treatment Subsystem (ETS) and an Emissions Capture Subsystem (ECS). The ECS is different for the two applications, but the ETS is the same for both. The ETS contains two emissions removal technologies: a Cloud-Chamber Scrubber for removal of sulfur dioxide (SOx), particulate matter (PM), hydrocarbons and a Selective Catalytic Reduction Reactor for the removal of oxides of nitrogen (NOx).

AMECS treats ocean-going vessels while at anchorage or berthed for unloading and loading cargo. The ship's exhaust gas is captured by an innovative bonnet that attaches to and surrounds the ship's stack. The captured emissions are sucked through a duct to the ETS for removal of toxic pollutants. AMECS can be either barge mounted or located on the dock.

ALECS is designed to treat railroad locomotives' exhaust gas while in maintenance and rail yards. The exhaust gas is captured by a mechanism that attaches to the locomotive exhaust stack, directing the exhaust gas through an overhead manifold network to the ETS for removal of the toxic pollutants. The locomotives may move within designated areas while the system is attached. The system will treat several locomotives simultaneously.

These systems reduce sulfur dioxide (SOx) by 99%, particulate matter (PM) by more than 95% and oxides of nitrogen (NOx) by 99% with a very attractive cost effectiveness. Neither AMECS nor ALECS require that the ship or locomotive be modified to capture and treat the exhaust gas.

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