☐ 18414 S. Santa Fe Ave., Rancho Dominguez, CA 90221-5612
Tel: 310-763-1423 ♦ Fax: 310-763-9076

☐ 4548 Wesley Lane, Bakersfield, CA 93308-9625
Tel: 661-392-7765 ♦ Fax: 661-392-7762

ADVANCED CLEANUP TECHNOLOGIES, INC.

☐ 3021 Moore Street, San Diego, CA 92110
Tel: 619-702-6008 ♦ Fax: 619-702-6223

☐ 1500 Mariner Drive, #E, Oxnard, CA 93033
Tel: 805-486-1115 ♦ Fax: 805-486-1225

LM

August 9, 2007
Commander, U.S. Army Corps of Engineers,
Los Angeles District, c/o Dr. Spencer D. MacNeil
P.O. Box 532711
Los Angeles, California 90053-2325

Dr. Ralph Appy, Director Environmental Management Division
425 South Palos Verdes Street
San Pedro, CA 90731

Re: DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT (EIS/EIR) FOR THE BERTH 136-147[TRAPAC] CONTAINER TERMINAL PROJECT

Gentlemen:

We would like to comment on the above EIS/EIR regarding the Mitigation Measures outlined in Section 3.2 page 62-65.

The mitigation measures proposed are the application of Alternative Maritime Power (AMP) only, with no consideration of alternative technologies which are equivalent to or better than AMP. And, the schedule of use of AMP for ships calling at Berths 136-147 while hotelling is

2009 - 25 percent of total ship calls
2010 - 40 percent of total ship calls
2012 - 50 percent of total ship calls
2015 - 80 percent of total ship calls
2018 - 100 percent of total ship calls

Also, AMP would only cover auxiliary engines not the diesel fired boilers.

A very viable alternative technology which could be used to fill the time gap while waiting for full deployment of AMP (and be able to cover the boilers too), is the Advanced Maritime Emissions Control System (AMECS) developed and built by Advanced Cleanup Technologies Inc (ACTI). A full description of AMECS is provided in Appendix 1.

AMECS captures all the exhaust gas emissions from the ship's stack, including auxiliary engines and boilers, transfers them to a treatment unit on a barge tied to the container ship and reduces the NOx , SOx and PM. The full scale treatment unit, comprising a Cloud Chamber Scrubber and a Selective Catalytic Reactor system was used for test runs, sponsored by EPA, CARB, SCAQMD, Placer County APCD etc. conducted on large locomotive diesel engines in Union Pacific's repair yard. Both low sulfur CARB diesel and EPA diesel fuel were used. Results were reductions of 97% NOx, 98% SOx and 92% PM.

ACTI, Metropolitan Stevedore Company and the Port of Long Beach will be testing AMECS on ships' exhaust gases starting in October 2007 using a dock-based system. The AMECS system will be able to treat the exhaust gases from two ships simultaneously while they are berthed at Metropolitan's berths. Testing of the bonnet on ships' stacks will commence in August 2007

ACTI could supply enough AMECS barges to TraPac to handle the container ships not being AMP'd, including these ships which have not been retrofitted to accept AMP. AMECS does not require infrastructure investment by the Port or TraPac to supply high voltage electrical power and is not affected by power brown outs. Each barge has a power generator on board.

AMECS cost effectiveness is better than AMP.

San Pedro Bay Ports (SPBP) Clean Air Action Plan (CAAP) is complied with by use of AMECS;

- OGV-2; No electrical infrastructure is required
- OGV-3; AMECS can handle auxiliary marine engines burning fuels ranging from high sulfur bunker fuel oil to 0.2% Sulfur MGO to 15 ppm sulfur diesel
- OGV-4; AMECS can handle start of main engines for 15-30 minutes but is designed to service auxiliary marine engines and boilers.
- OGV-5; AMECS can reduce PM, NOx and SOx by over 90% in all fuels used in auxiliary marine engines and boilers by OGV's

The full scale AMECS treatment system has been successfully tested. The bonnet emissions capture system has been manufactured and will be tested on actual operating ships shortly.

We would like to request that you include AMECS as an alternative technology to AMP in the EIS/EIR for the Berth 136-147 TraPac container terminal project.

If you have any questions, please call me at 310-763-1423.

Sincerely,

Matthew F Stewart
Executive Vice President

Advanced Maritime Emissions Control System (AMECS)

Advanced Cleanup Technologies Inc.(ACTI) specializes in Full Service Environmental Waste Management.. The Company was founded in 1992 and provides innovative, cost-effective hazardous materials cleanup services to private industry and government regulatory agencies. ACTI has a highly skilled staff experienced in emergency response l cleanup and waste management services, with the capabilities to manage multiple incidents.

The technology developed by ACTI is a system to capture the exhaust emissions from various sources and treat the exhausted gas stream by removing harmful polluting gases and carcinogens prior to being exhausted into the atmosphere.

The systems are environmentally friendly and incorporate the latest in emissions control devices. They include several innovative exhaust capture systems, designed to accommodate the many geometries of exhaust stacks of ocean-going vessels. They are cost-effective, well under the target set by the Carol Moyer Program and designed for a life span of twenty- years.

Several patents have been awarded and applied for as a result of the design and development of the technology being developed by ACTI.

The Advanced Maritime Emissions Control System (AMECS) is designed for marine applications to capture and treat the exhaust emissions froorm ocean-going vessels while at anchorage within the harbor and while berthed for loading and unloading. There are two variations of the system, a Barge-Based and a Dock-Based configuration.

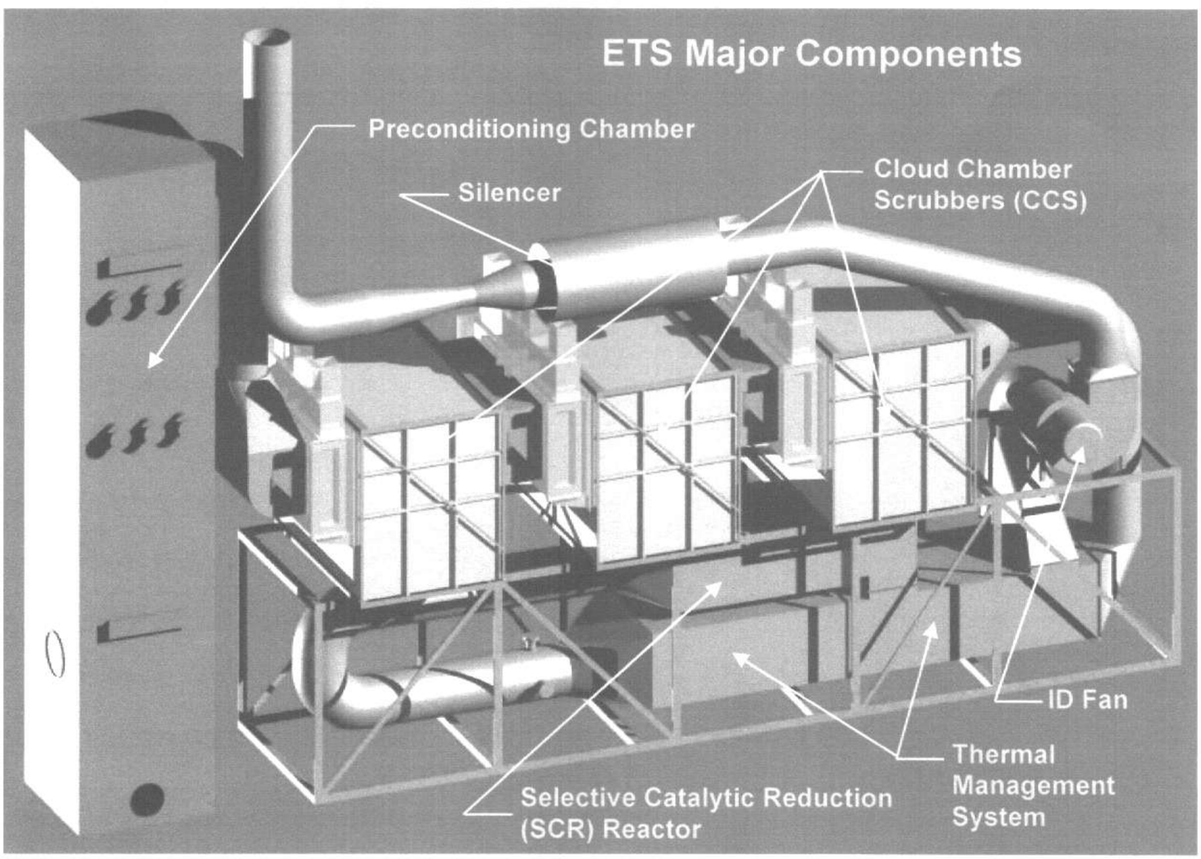
The Barge-Based system consists of four major subsystems. These are the Exhaust Capture Subsystem (Support Tower, Robotic Arm and Exhaust Intake Bonnet); Emissions Treatment Subsystem (Cloud Chamber Scrubber and Selective Catalyst Reduction (SCR) Reactor); Operation Control Subsystem (where the monitoring and control systems are housed); and a Seagoing Barge. Each AMECS will be serviced by support vessels, and monitored and maintained through a centralized support facility. It is designed to treat an exhaust flow of up to 12,000 scfm.

The Capture Subsystem is used to capture the ocean-going vessel's (OGV) exhaust gases by attaching a bonnet, at the end of a robotic arm, over the vessel's exhaust stack and ducting the exhaust gases down the Support Tower into the Emissions Treatment Subsystem. The Emissions Treatment Subsystem is where the exhaust gas is treated to remove the harmful pollutants. The Exhaust Capture System is designed to withstand winds of 25 knots during operations as well as 45 knot gusts. At 60 knots it is stowed. A station- keeping system continuously monitors the position of the vessel stack relative to the robotic arm and makes adjustments to motions caused by tidal variation, unloading and loading operations of the vessel or from wind- and wave-induced motions of the arm.

The Emissions Treatment Subsystem is the heart of the system. The ETS utilizes a state-of-the-art Cloud Chamber Scrubber (CCS) system and a Selective Catalytic Reduction (SCR) Reactor system to remove pollutants (including SOx, NOx and Particulate Matter) from the ship exhaust gas stream.

The ETS consists of four major components: a Preconditioning Chamber (PCC) that removes oxides of sulfur (SO_X) and an amount of hydrocarbons (THC); a Cloud Chamber Scrubber (CCS) that removes particulate matter (PM); a Thermal Management System to increase operating efficiency' and a Selective Catalytic Reduction (SCR) Reactor for removal of oxides of nitrogen (NOx).

Shown below in Figure 1, is the ETS and relative location of its components.



The first component the exhaust gas encounters as it enters the system is the PCC which serves several functions. First, it cools the gas adiabatically through a counter flow water spray and in the process increases the water vapor content to near saturation. This feature is required by the following stage, which cannot accept hot gas. Secondly, it removes most of the soluble hydrocarbons and other water soluble compounds. Third, the water is rendered caustic by means of a metered injection of sodium hydroxide to remove 95% to 99% of the SO_2, depending on inlet concentration. The fourth function of the PCC is to cause the nanometer size PM particles to agglomerate into larger particulate globules, which facilitates their removal in the next stage

The path of the exhaust emissions flow through the ETS, along with the relative positions of the major components is shown in Figure 2.

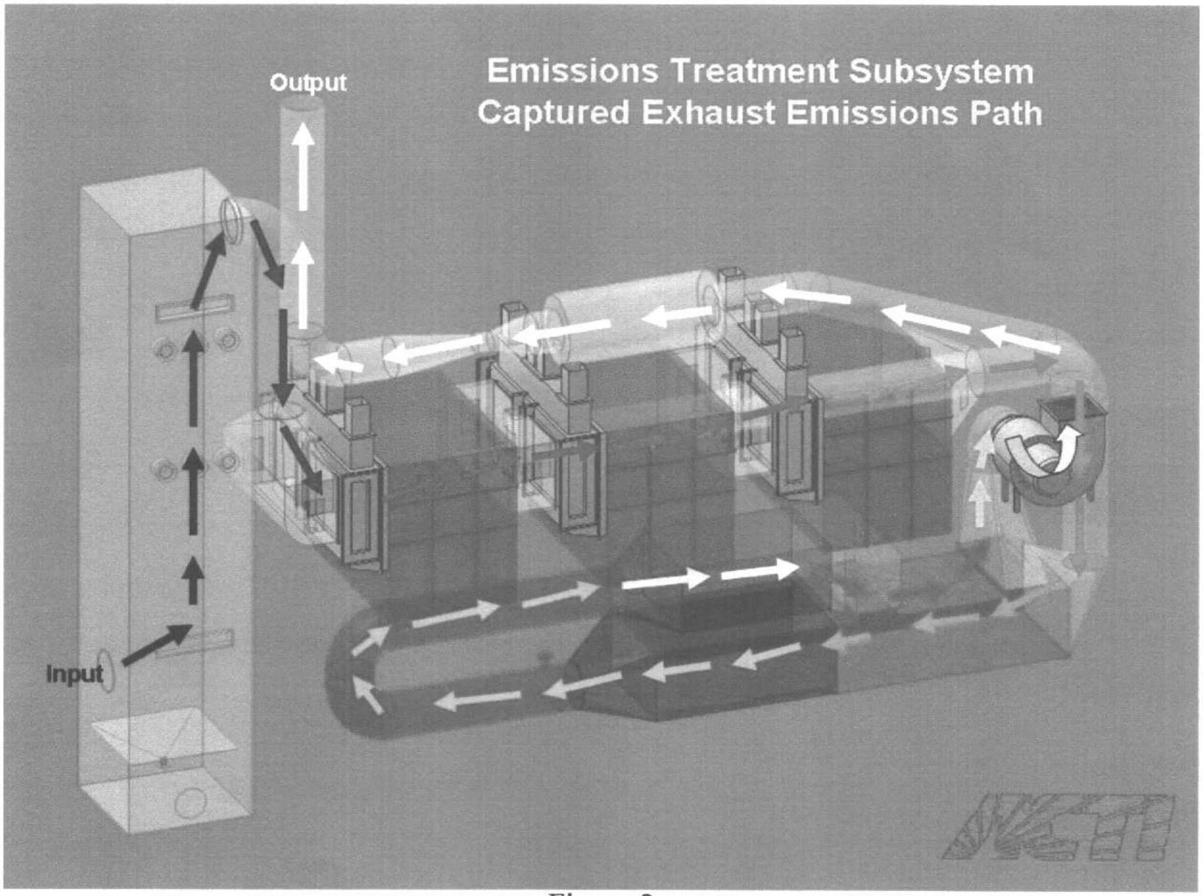


Figure 2

The gas exits the PCC at a temperature of about 140° F. This gas is directed to the first of three Cloud Chamber Scrubbers (CCS). These vessels are empty, except that they are filled with a fog of minute water droplets generated by an array of spray nozzles collinear with the exhaust gas stream. Each droplet is charged to a high voltage immediately after leaving its nozzle. This charge causes particulate matter in the gas stream to be attracted to and adhere to the water droplets, with each of the billions of water droplets collecting many particles.

The particles thus collected are flushed through a solids removal system where they are collected for subsequent removal from the premises and disposal using approved regulatory means. The removal system consists of a solids separation device for inline solids removal, water extraction, and compaction.

The SCR Reactor requires a temperature of approximately 600° F to operate. The exhaust gas exiting the CCS has been cooled to about 140° F and stripped of SO_2, PM, soluble hydrocarbons, and condensed (particulate) hydrocarbons and sulfates. This clean but cool gas must now be reheated. This is accomplished by a Heat Exchanger – Heater System that is connected to the treatment system. In this scheme, the hot exhaust from the SCR Reactor is used to heat the cold gas entering the SCR Reactor. Approximately 80% of the available heat is recovered from the hot gas leaving the SCR Reactor by this heat exchanger. The additional heat increment required to bring the gas stream up to 600° is provided by a natural gas or propane-fired burner.

The exhaust emissions flow through the Heat Exchanger-Heater System with the relative positions of the components shown below in Figure 3.

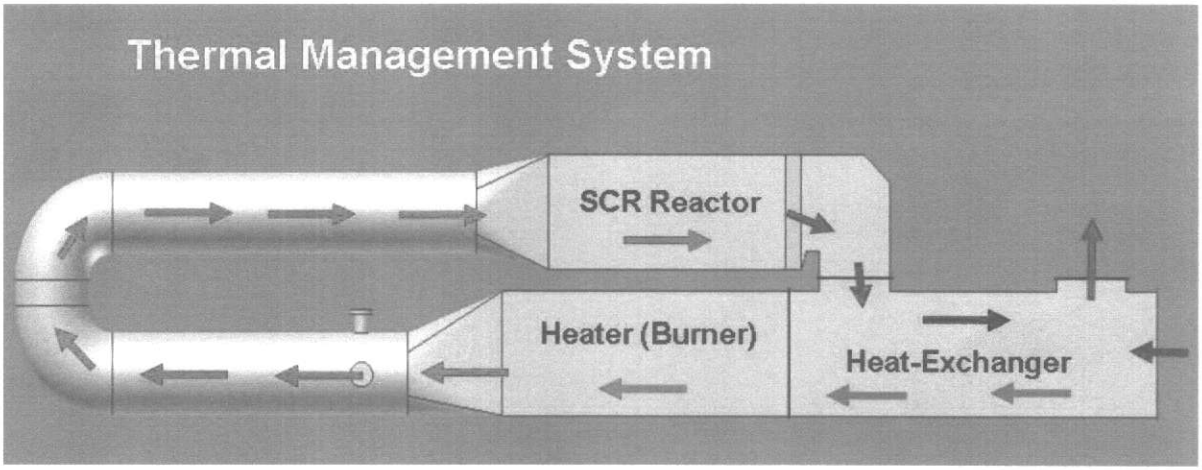


Figure 3

Urea is the reagent this system uses as the source of ammonia. The urea is injected into the system immediately after the burner. Special atomizer nozzles and flow modification devices ensure uniform distribution, and a long mixing duct assures complete conversion of urea to ammonia. The 600°F gas is passed through the SCR Reactor for NOx removal. In the SCR Reactor, ammonia combines chemically with NOx in the presence of the catalyst, converting the NOx and ammonia into water vapor and nitrogen gas

A low noise Induced Draft (ID) fan is located downstream of the SCR Reactor and Thermal Management System, and a silencer is located downstream of the Induced Draft fan. This fan draws the exhaust gas from the ship through the ducting into the ETS. The flow and pressures are controlled by dampers and the fan's variable speed drive motor.

In addition to the silencer, which acts as a muffler, the downstream ducting and fan housing are acoustically insulated to ensure that the systems operating noise level is reduced to an acceptable level.

Shown below in Figure 4, is a picture of the actual ETS in Roseville, California

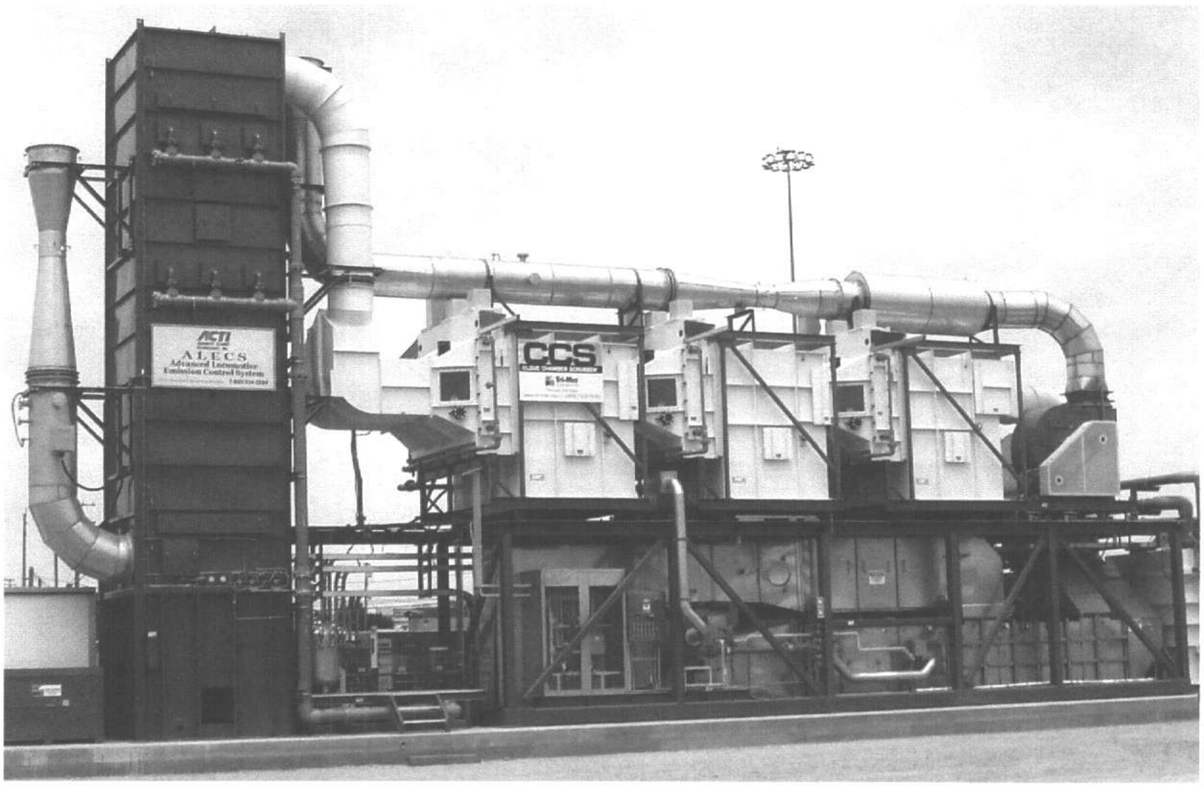


Figure 4

The AMECS arrangement of pollution removal systems (CCS before SCR) greatly extends catalyst life by presenting the catalyst with a clean gas stream. Both particulate matter and sulfur compounds, which are removed by the scrubber, would otherwise quickly degrade the performance and life of the catalyst. By removing these pollutants upstream of the catalyst, system cost effectiveness is significantly improved.

The Cloud Chamber Scrubber (CCS) manufactured by Tri-Mer Corporation is where the sulfur dioxide (SO_2), particulate matter (PM), and water-soluble volatile organic compounds (VOCs) are removed. It is designed to remove over 95% of NOx and SO_2, and over 95% of PM .

The CCS system consists of a Preconditioning Chamber (PCC) and the Cloud Generation Chambers (CGC). The PCC is a counter flow unit that injects a spray of water directly into the gas stream. This water spray cools the OGV exhaust gas stream to approximately 140 degrees F, and aggregates submicron size particles into larger agglomerations that are more efficiently captured in the CGC.

The Selective Catalytic Reduction (SCR) Reactor system is built by Argillon. The system is designed to remove over 95% of oxides of nitrogen (NOx). Liquid urea is injected into the hot gas-stream ahead of the SCR as a source of ammonia. The ammonia reacts with the NOx while passing through the catalyst to form nitrogen and water which are vented to atmosphere.

The OCS houses all operational controls of the system, including monitoring, control, measurement, and recording functions. Audible and visual alarms and backup systems are provided for fail-safe operations and are located within the centralized control center as well.

The entire system is mounted on a seagoing barge. Placing the system on a barge, allows access to the vessels stack from the opposite side of the unloading and loading operations, minimizing any interference with port operations. A drawing is shown in figure 5

The fleet of AMECS barges will be serviced by shuttle services boats and a central support facility. This will permit the direct transfer of AMECS barges from ship to ship and thus maximize the utilization of each AMECS barge. Replenishment of chemicals, water and parts, removal of waste liquids and solids and crew transport will be provided by shuttle service boats. Storage of chemicals and parts, disposal of waste products, maintenance functions and central monitoring of AMECS operations will be based at the central support facility.