SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

For the agenda of: March 24, 2005

To: **Board of Directors**
Sacramento Metropolitan Air Quality Management District

From: **Larry Greene**
Air Pollution Control Officer

Subject: **Summary Report on the Clean Heavy-Duty Vehicle Conference sponsored by WestStart and the U.S. Army that took place in La Quinta, CA on February 22-23, 2005.**

Recommendation Receive and file this summary report on the Clean Heavy-Duty Vehicle Conference.

Summary Freya Arick and Mike Neuenburg from the Mobile Source Division, Vehicle and Engine Technology section attended the Clean Heavy-Duty Vehicle Conference sponsored by WestStart and the U.S. Army that took place in La Quinta, CA on February 22-23, 2005. The conference presented the latest information on current and new technologies, that are being used and researched, in the heavy-duty vehicle sector to reduce air emissions, fuel consumption, and improve engine efficiency. These new technologies are critical in meeting the District's air emission reduction goals and also meeting the world's need to find better environmental solutions towards global warming and energy usage demands. Listed below is a summary of the key points from the conference. Attached is a two page bulleted summary that Mike and Freya provided along with a glossary of the acronyms that are used in the report.

- A strong emphasis was placed on the need to reduce our dependency on fuels and energy.
- Global energy demands are rising rapidly and China is now the 2nd leading user of energy. However, the supply side for petroleum is dwindling.
- There is some link between global warming and air emissions.
- Energy conservation is cheaper than finding new energy sources.
- New hybrid technologies include using electric or hydraulic energy and are applicable in both the on and off road sectors.
- Engine technology is advancing at a fast pace. Engines are becoming more reliable, fuel efficient, and produce less toxic emissions.
- Fuel cells are still being explored, but cost and feasibility are still big issues to be overcome.
- The military and transit bus fleets are leaders in testing these new technologies.
- Several exhaust after treatment technologies are being developed and are showing promise in meeting upcoming Federal Emission Standards.
- Engine manufacturers do not anticipate any issues in meeting the new Federal Emission Standards that will continue to tighten over the next 10 years and will affect on and off road equipment.
- Several projects the District supported were demonstrated or discussed at the conference including the Regional Transit buses, the Fed-Ex hybrid trucks, and the Elk Grove hybrid buses.

Respectfully submitted,

Larry Greene
Air Pollution Control Officer

Acronym Glossary

Acronym	Definition
HD	Heavy-Duty Vehicle
NOx	Oxides of Nitrogen
APU	Auxiliary Power Unit
Hp	Horsepower
SCR	Selective Catalytic Reduction – An exhaust after treatment device that reduces both NOx & PM
MW	Megawatt or 1,000,000 watts
OEM	Original Equipment Manufacturer
LNG	Liquefied Natural Gas or Natural Gas chilled into a liquid state
LCNG	Liquefied Compressed Natural Gas or Natural Gas chilled into a liquid state and under pressure
CNG	Compressed Natural Gas
Cat	Caterpillar engine manufacturer
EGR	Exhaust gas recirculation
DPF	Diesel particulate filter
MY	Model Year
Mpg	Miles per gallon
g/bhp	Grams per brake horsepower; in this summary it is a unit of measurement primarily used to show a measurement of air emissions.
ATA	American Trucking Association
ULSD	Ultra Low Sulfur Diesel
PM	Particulate matter