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Arnold Schwarzenegger
Governor

March 24, 2005

RSPA-99-6223-41

Docket Management System
U.S. Department of Transportation
400 Seventh Street SW
Nassif Building, Room PL-401
Washington, District of Columbia 20590-0001

OSHA 30113-00
U.S. DEPARTMENT OF LABOR

Dear Sir or Madam:

The purpose of this letter is to submit the California Air Resources Board's (ARB's) comments on the U.S. Department of Transportation (DOT) December 30, 2004, proposed rule to limit the risks posed by unprotected cargo tank product piping noticed under Docket No. RSPA-99-6223 (HM-213B) Hazardous Materials: Safety Requirements for External Product Piping on Cargo Tanks Transporting Flammable Liquids.

The proposed regulation is intended to prohibit the retention of liquid gasoline in a quantity exceeding one liter in the external product piping (wetlines) of a DOT specification cargo tank, unless the cargo tank is equipped with bottom damage protection devices. DOT estimates that the wetlines on a five-compartment gasoline cargo tank may contain from 30 to 50 gallons of gasoline after loading. If a passenger vehicle strikes the cargo tank, the impact can fracture the unprotected wetlines resulting in spillage and fire hazards.

The intent of the proposed rule, we understand, is to eliminate the safety risks posed by unprotected product piping containing flammable liquids during transportation. Further, we realize the proposed rule is essentially a performance standard limiting the volume of lading to less than one liter in the unprotected piping. In the docket, multiple solutions are suggested, including retrofitting tanks with bottom damage protection devices. However, the cost analysis relies on a purging system for evacuating product from the wetlines, which may be viewed as the most feasible solution. This system consists of forcing the liquid from the wetline back into the cargo tank by use of pressurized air.

ARB is concerned that use of an air purging system on gasoline cargo tanks will increase air pollution. The large number of gasoline deliveries in our urban areas suggests this purging process could result in the release of a potentially significant amount of additional ozone forming emissions in the atmosphere.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

This reasoning is based on AP-42 (U.S. Environmental Protection Agency, "Compilation of Air Pollutant Emission Factors," Page 5.2-12 and Table 5.2-5), which states:

"Emissions from gasoline truck cargo tanks during transit have been studied by a combination of theoretical and experimental techniques, and typical emission values are presented in Table 5.2-5. Emissions depend on the extent of venting from the cargo tank during transit which, in turn, depends on the vapor tightness of the tank, the pressure relief valve settings, the pressure in the tank at the start of the trip, the vapor pressure of the fuel being transported, and the degree of fuel vapor saturation of the space in the tank."

The statement in AP-42 states that initial pressure upon leaving the rack is a factor in transit emissions (defined as emissions from cargo tanks while on the road) is our main concern. This is because the available wetline purging systems will increase this pressure. A purging system manufacturer, Cargo Tank Concepts, has confirmed this fact. They have confirmed that the pressure will increase and have provided an example calculation that indicates a pressure increase of 0.38 pounds per square inch (psi) for a purging operation that puts five gallons of liquid from the wetline into a cargo compartment which has 200 gallons vapor space.

This pressure increase occurs because the purging process is initiated after disconnection from the vapor recovery system, and as such, is essentially loading without vapor recovery. Thus, the purged lading is loaded into a sealed space, reducing the vapor volume and increasing the pressure. Then, as the tank vibrates down the road, the additional pressure is relieved to atmosphere through the normal pressure/vacuum vent valve or through leaks. Even though associated leak rates may still be within allowable limits under certain circumstances, the result will nonetheless be an increase in emissions. These additional emissions will hamper our ability to meet federally prescribed air quality standards and harm public health.


The AP-42 emission factors given for transit emissions indicate that up to 0.45 pounds of volatile organic compounds per 1,000 gallons of gasoline transported may result. Furthermore, recent studies conducted by CARB indicate that the AP-42 transit emission factor understates emissions from pressure-related fugitives and pressure-vacuum relief valves. While the emissions impact due to the operation of a purging system is not precisely known, the available information indicates that it will cause an increase in pressure-driven transit emissions from cargo tanks.

In conclusion, we request that you not adopt a standard that allows an air-pressurized purge of wetlines, due to the increased smog-forming emissions that will result.

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If you have any questions relating to these comments, please contact William V. Loscutoff, Chief of ARB's Monitoring and Laboratory Division at (916) 445-3742 or via email at wloscuto@arb.ca.gov.

Sincerely,


Catherine Witherspoon
Executive Officer

cc: See next page.

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