

July 28, 1995

FACT SHEET

FINAL AIR RULES FOR MARINE TANK VESSEL LOADING OPERATIONS

TODAY'S ACTION...

- ◆ Under authority of the Clean Air Act Amendments of 1990, EPA is issuing a final rule to reduce emissions of air toxics and volatile organic compounds (VOCs) that result from marine tank vessel loading operations. Marine tank vessels are used to transport crude oil, gasoline, and toxic chemicals.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?

- ◆ EPA's final rule will reduce emissions of air toxics by approximately 4,500 tons annually. These pollutants include benzene, toluene, hexane, xylene, and ethyl benzene. Benzene is a known human carcinogen, and the other toxic compounds have been associated with adverse health effects, including central nervous system damage, developmental effects, and respiratory problems. Air toxics are those pollutants that are known or suspected of causing cancer or other serious health effects.
- ◆ Emissions of VOCs will be reduced by approximately 43,000 tons annually. VOCs are key components in forming ground-level ozone, or smog. Exposure to ground-level ozone can damage lung tissue and cause serious respiratory illness. Emissions reductions in VOCs resulting from this final rule will lessen agricultural damage associated with ground-level ozone.

HOW DOES THE RULE PROVIDE FLEXIBILITY TO INDUSTRY?

- ◆ EPA's rulemaking contains a market-based provision, "emissions averaging," that will allow facilities flexibility to choose certain emissions points to control in order to achieve the required emissions reductions in the most cost-effective manner possible. In some situations, facilities may find it more cost-effective to overcontrol certain emissions points and undercontrol others, so that the overall result would be greater emissions reductions at lesser control costs.

- ◆ EPA's final rule provides additional flexibility by permitting the use of emissions averaging among marine terminal loading operations, gasoline distribution facilities, and petroleum refineries located at the same site. The final rule spells out how facilities may use emissions averaging and which emissions points may be included.

BACKGROUND

- ◆ In 1985, the Coast Guard requested that the National Research Council evaluate the feasibility of controlling emissions from marine tank vessel loading operations. The Council concluded that controls were technically feasible, but that the Coast Guard would need to promulgate safety requirements before EPA set a uniform emissions requirement. The Coast Guard safety requirements were promulgated in June 1990.
- ◆ EPA was provided the authority to regulate marine vessel loading operations with the passage of the Clean Air Act Amendments of 1990. Specifically, EPA is required to regulate emissions of hazardous air pollutants (air toxics) and VOCs from tank vessel loading or unloading operations. These operations occur at refineries, bulk terminals, chemical plants, and pipeline terminals.

WHO WILL BE AFFECTED BY THE FINAL RULE?

- ◆ Affected facilities include new and existing marine bulk loading and unloading facilities.
- ◆ There are approximately 30 marine tank vessel loading facilities nationwide that will be affected by this regulation.

WHAT DOES THE REGULATION REQUIRE?

- ◆ EPA's final rule will require large marine loading terminals which load either 200 million barrels per year of crude oil, or 10 million barrels per year of gasoline, to reduce emissions of VOCs by 95 percent using reasonably available control technology (RACT) as defined under the nonattainment provision of the Clean Air Act.
- ◆ The final rule will require all other marine loading terminals which emit 10 tons or more per year of a hazardous

air pollutant or 25 tons or more per year of any aggregate hazardous air pollutants, to reduce emissions by 97 percent using maximum achievable control technology (MACT) as defined under the air toxics provision of the Clean Air Act.

- ◆ Monitoring, recordkeeping, and reporting requirements are outlined in the final rule.

HOW MUCH WILL THE FINAL RULE COST?

- ◆ The total nationwide capital cost of the final rule is expected to range from \$270 to \$440 million. The total nationwide annual cost for the final rule is expected to range from \$60 to \$100 million.
- ◆ Maximum product price increases from the final rule are expected to be less than one percent.

FOR FURTHER INFORMATION

Anyone with a computer and a modem can download the rule from the Clean Air Act Amendments bulletin board (look under "Recently Signed Rules") of EPA's electronic Technology Transfer Network by calling (919) 541-5742. For further information about how to access the board, call (919) 541-5384. For further information about the rule, contact David Markwordt at (919) 541-0837.

**TECHNICAL ADDENDUM TO FACT SHEET
FINAL AIR RULES FOR MARINE TANK VESSEL LOADING OPERATIONS**

RECOMMENDED STANDARDS

- Terminals with an annual marine bulk loading throughput greater than or equal to 10 million barrels per year (bbl) of gasoline or 200 million bbl of crude oil will be required to control emissions of VOCs and HAP resulting from the loading of gasoline or crude oil. These facilities will be required to apply reasonably available control technology (RACT).

- Facilities that are not subject to RACT but have annual HAP emissions exceeding 10 tons or more or 25 tons or more of aggregate HAP will be required to control emissions of HAP.

These facilities will be subject to the national emission standard for hazardous air pollutants (NESHAP) and will be required to apply maximum achievable control technology (MACT)(i.e., 95 percent emission limit).

- Facilities seeking to control loading emissions under RACT or MACT using a combustion device will be required to operate the device at 98 percent efficiency. Facilities seeking to control loading emissions under RACT using a recovery device will be required to operate the device at 95 percent efficiency or, for gasoline vapors, reduce the control device outlet concentration to 1,000 parts per million (ppm) or less.
- Vessels loading at an affected facility must pass one of two vapor tightness tests or be loaded at less than atmospheric pressure.

Initial Performance Test

- An initial performance test is required of all combustion and recovery devices except (1) boilers and process heaters with design heat input capacity of 44 megawatts or less and the vent stream is used as the primary fuel, and (2) boilers or process heaters with a design heat input capacity of 44 megawatts (150 million Btu/hr) or greater.
- The proposed standards require the use of EPA Method 25 or 25A for performance tests.

Monitoring

- Facilities will be required either to determine baseline monitoring criteria during the initial performance test or to establish baseline monitoring criteria as manufacturer recommended operating values and then to monitor combustion temperature for combustion devices; VOC concentration in the exhaust stream outlet or the vacuum pressure during regeneration or the total

stream flow for steam regeneration for carbon adsorbers; exhaust stream temperature or VOC concentration for condensers; and liquid to vapor ratio for absorbers.

- Facilities will be required to monitor for the continuous presence of a flame for flares.
- Facilities using a vent system containing valves that could divert a vent stream from a control device must either monitor the vent stream flow of the bypass line to ensure that it is not diverted from the control device or secure the bypass line valve in the closed position.

Recordkeeping/Reporting

- The owner or operator of any marine vessel bulk loading operation subject to these standards will be required to fulfill the reporting and recordkeeping requirements of §63.7 through §63.10 as specified in the regulation.
- Affected facilities will be required to submit an annual monitoring report for periods in which a monitored parameter is exceeded.
- Facilities with annual throughputs above 50 percent of the cutoffs will be required at the end of the calendar year to record the throughput for the preceding 12 months at the end of each month during the year. If a facility exceeds the cutoff value during any 12-month period, the facility becomes a subject to the regulation and must comply immediately by installing and beginning operation of an approved vapor control system. The facility must report the 12-month throughput values once, in order that facilities likely to exceed a throughput cutoff can be identified.

- Facilities must keep records indicating that only vapor-tight vessels are loaded.
- Owners and operators will be required to maintain all records of compliance for 5 years.