

percent. Thus, the MACT floors are based on these conditions.

We recognize that basing MACT floors for stationary and portable vessels on capture and control does not overtly consider fuel, materials, process, or similar changes that could result in lower overall mass emissions. However, based on the information we have, we cannot accurately quantify a level of mass emissions that could result from such emission reduction techniques as a MACT floor and that could be achieved by all coating manufacturers given the variability in processing operations, the scale of processing operations, and products manufactured.

We did not specifically request information for portable or stationary process vessels with capacities less than 250 gal, and we do not have any such information. We set a MACT floor of no emissions reductions because we do not have information indicating that a sufficient percentage of sources are using emission reduction techniques or add-on controls to enable us to set a MACT floor.

The MACT floor for stationary process vessels at existing sources is based on overall control. Thus, the final rule specifies that these process vessels must either be equipped with tightly-fitting vented covers and closed vent systems meeting the requirements of subpart SS of 40 CFR part 63. We have decided to exempt some emissions releases that result from safety and hygiene practices because it is unlikely that these vents would reach the 50 ppmv concentration level defined to be a process vessel vent. The exemption also will relieve owners and operators from the burden of demonstrating that they meet the concentration level. Specifically, the definition of process vessel vent excludes flexible elephant trunk systems that draw ambient air (*i.e.*, systems that are not ducted, piped, or otherwise connected to the unit operations) away from operators that could be exposed to fumes when vessels are opened. As an alternative, capture efficiency must be considered in the overall control efficiency determination if vessels are not equipped with tightly-fitting vented covers and closed vent systems. Opening of covers for addition of materials, sampling, etc., is included as part of the capture efficiency demonstration. For new sources, the final rule requires the use of tightly-fitting vented covers to controls; determining capture is not an option because, as the commenters noted, achieving 95 percent overall control would require nearly 100 percent capture.

Finally, we have not required control of cleaning that is accomplished manually. However, emissions resulting from automatic wash systems are required to be considered and controlled. Similarly, control is required for emissions resulting from flushing of lines or other equipment with solvent at the end of a batch because these are closed operations.

*Comment:* Most of the commenters stated that the standard for stationary process vessels at existing sources should be set at the MACT floor. According to the commenters, the cost of the regulatory alternative is unreasonable because our analysis overstated the uncontrolled emissions, used unrealistic model plant and emission stream characteristics, and understated the costs.

The commenters disputed our estimate of uncontrolled emissions for a number of reasons. Their primary argument is that using the Emission Inventory Improvement Program (EIIP) equations would give a more accurate estimate of the HAP emissions than the AP-42 VOC emission factor. They noted that EPA has identified the EIIP equations as the preferred method, companies use them as the basis for title V permits, States prefer them for permitting and compliance demonstrations, and EPA specifies the use of similar equations in 40 CFR part 63, subpart GGG. Conversely, they noted that the AP-42 VOC emission factor is inappropriate because, typically, half or less of the VOC is HAP; the factor is meant to estimate emissions from the entire process, not just stationary process vessels; and the industry has shifted to less volatile solvents in recent years. One commenter provided data showing that the EIIP methodology, calibrated with stack testing, results in emissions equal to about 0.2 to 0.6 percent of HAP throughput. Another commenter also noted that our baseline emissions estimate exceeds facility-wide Toxic Release Inventory (TRI) emissions (which also include non-HAP, fugitives, emissions from portable vessels, and emissions from other processes) by factors between 3 and 36. The commenter also does not believe that 5 facilities generate half of the emissions in the source category. For example, the commenter contacted the facility in our database with the highest estimated emissions and determined that only 2 percent of the solvent throughput is attributable to the manufacture of inks and coatings; the remainder is associated with the distribution of paint thinners and paint reducers.

The commenters considered many of the model plant parameters and

emission stream characteristics to be unrealistic. Related to their concerns that 100 percent capture is infeasible, they noted that local exhaust ventilation systems usually convey large volumes of air to minimize worker exposure, reduce the risk of fires, and contain dust. As a result of the high air flow rates, they noted that the HAP concentration is much lower than the 40,000 ppmv in our impacts analysis. Based on stack test data, one commenter stated that actual concentrations are less than 1,200 ppmv. Another commenter indicated the concentrations are in the hundreds of ppmv. The commenters noted that for toluene, the surrogate HAP used in our analysis, 40,000 ppmv is within the flammable range, which poses safety concerns and would necessitate the use of expensive fire/explosion prevention equipment and inerting systems. One commenter stated that xylene should be used as the surrogate HAP because it is now four times more prevalent than toluene. The commenters noted that the model included emissions only from filling, but emissions also result from other process steps such as mixing, gas sweep, heat-up, holding, emptying, and cleaning. They also disagreed with the assumption that a control device needs to be sized to handle emissions from only 5 vessels at a time. For example, one commenter indicated that many facilities have dozens of process vessels being filled simultaneously (as much as 50 to 75 percent of all vessels onsite). Another commenter noted that each vessel would have to have its own condenser because a common header poses safety and product quality risks. One commenter objected to the assumption that condensers can be used to control all process vessels because water cooled condensers will not be effective for the low concentration (and high flow) streams in the industry, and condensers are meant to operate for long periods of time under steady-state conditions, not intermittently during filling steps.

According to this commenter, our cost analysis included a number of errors and deficiencies. For example, the analysis did not include the cost to replace existing vessels with chemical reaction type tanks and raw material addition equipment, which would be needed to even approach 100 percent capture. If cleaning emissions must be controlled, the commenter indicated that a cost for automatic wash systems must be included. Fire and safety instrumentation and systems would be needed since the model operates with toluene in the flammable range.

Even if condensers are assumed to be applicable for all process vessels (which