UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

Mr. John Hopewell
Manager, Environmental Affairs
National Paint and Coatings Association
1500 Rhode Island Avenue N.W.
Washington, D.C. 20005

Dear Mr. Hopewell:

Thank you for your October 12, 2006 letter in which you seek clarification of 40 CFR 262.34(a)(1)(ii) in connection with the turnover of hazardous wastes stored in generator accumulation tanks. Specifically, you request guidance on whether a hazardous waste generator accumulation tank has to be completely emptied every 90 days to meet the accumulation time requirement, or whether the tank volume can be "turned over," removing a volume of material equal to or greater than the tank volume from the tank every 90 days. This turnover approach (which EPA refers to in our letter as the "mass balance approach") appears to be used, as described in your letter, in connection with tanks that receive hazardous wastes on an ongoing, continuing basis (which EPA refers to in our letter as a "continuous flow process"). By completing this turnover, you believe that the hazardous waste volume remaining in the tank unit would not be considered as being stored or accumulated for more than 90 days, thus avoiding the need to obtain a Resource Conservation and Recovery Act (RCRA) Part B storage permit. In response to your request, EPA is interpreting 40 CFR 262.34(a)(1)(ii) to allow for the turnover approach you describe in your letter, subject to the various conditions and requirements we discuss in greater detail below.

As you state in your letter, large quantity generators accumulating hazardous wastes in tanks must comply with the 40 CFR 262.34(a)(1)(ii) requirements in order to accumulate hazardous waste on-site in tanks for 90 days or less without a permit, provided they comply with the 40 CFR part 265 Subpart J requirements (except 265.197(c) and 265.200). You believe that, as written, this regulation is unclear and, in the absence of any clarification in this area, may be interpreted to mean that each tank must be completely emptied at least every 90 days even where the tank's "volume capacity" has already been turned over within the 90 day timeframe. You argue instead for an interpretation of this regulation to allow for hazardous waste "turnover" at least once every 90 days.

EPA interprets this regulation to allow large quantity generators accumulating hazardous wastes in tanks to meet the 40 CFR 262.34(a)(1)(ii) requirement by using periodic tank "turnover," so long as hazardous waste entering the tank remains in the unit for no more than 90 days. EPA's interpretation of this regulation is set forth below in greater detail.

Tanks can be operated in one of two ways – in a batch process or in a continuous flow process.

Batch Process

Under a batch process, a tank receives a batch (or batches) of hazardous waste on a one-time or intermittent basis. Under a batch process scenario, the 90-day waste accumulation clock for a large quantity generator starts when hazardous waste first enters the tank. If, for example, the tank fills up in 30 days, and is emptied on day 30, the requirements of 40 CFR 262.34(a)(1)(ii) are met since the hazardous waste has been in the tank for less than 90 days. The next 90 day period begins when hazardous waste is added to the tank that has been emptied (for example, on day 31). If the tank is emptied a second time within 90 days of day 31, the requirements of 40 CFR 262.34(a)(1)(ii) are met.

EPA explained this particular method of 90-day waste accumulation calculation, intended to apply to tanks utilizing a batch process, in the preamble to the generator accumulation final rule promulgated on January 11, 1982 (47 FR 1250):

> As with accumulation in containers, the 90-day period begins the moment the generator first places hazardous wastes in an "empty tank." The generator then must remove all wastes from the tank within 90 days from the time he first places wastes in the "empty" tank. A tank will be considered empty when its contents have been drained to the fullest extent possible. Since many tank designs do not allow for complete tank drainage due to flanges, screens or siphons, it is not expected that 100% of the wastes will always be removed. As general guidance, a tank should be considered empty when the generator has left the tank's drainage system open until a steady, continuous flow has ceased."

Large quantity generators utilizing a batch process must meet the requirements of 40 CFR 262.34(a)(1)(ii). For example, the use of inventory records in conjunction with tank markings may provide confirmation that the tank has been emptied within an appropriate time period. Specifically, the inventory records typically show the dates and associated quantity of hazardous waste entering the tank, as well as the dates the tank was emptied. Shipping or hazardous waste manifest records also may be used to verify when the tank was emptied. Likewise, tanks accumulating hazardous wastes may have information indicating the time and date hazardous waste first entered the tank. There may be other methods to demonstrate that a tank has been emptied, but any method used to confirm compliance with 40 CFR 262.34(a)(1)(ii) must be reasonable and easily discernible to EPA or an authorized state.

Continuous Flow Process

Under the continuous flow process, in contrast to the batch process described above, the tank receives hazardous waste on an ongoing, continuous basis. In the case of hazardous wastes flowing through tanks continuously, there is a means of demonstrating when a tank is "emptied" within 90 days under 40 CFR 262.34(a)(1)(ii) that would not require completely emptying the tank, and may be more suitable for tanks with continuous flow. More specifically, a mass balance approach (i.e., the "turnover" approach, as you referred to it, in your letter) can be used for continuous flow tanks rather than the approach described above for batch process tanks. The key parameters in this mass balance approach are the volume of the tank (e.g., 6,000 gallons), the daily throughput of hazardous waste (e.g., 300 gallons per day) and the time period the hazardous waste "resides" in the tank. In this example, the hazardous waste entering the tank would have a residence time of 20 days ((6,000 gallons/300 gallons per day) = 20 days) and meet the requirements of 40 CFR 262.34(a)(1)(ii) since the hazardous waste has been in the tank for less than 90 days.

Large quantity generators accumulating hazardous wastes through a continuous flow process must also demonstrate that the hazardous waste has not been stored for more than 90 days. This may be achieved by the use of inventory, or some form of accounting or monitoring data. For example, a generator could confirm that the volume of a tank has been emptied every 90 days by recording the results of monitoring equipment both entering and leaving a tank. This recordkeeping, in conjunction with the tank volume, would enable inspectors, as well as facility personnel to demonstrate compliance with 40 CFR 262.34(a)(1)(ii). Likewise, in marking the tank, a generator could mark both the tank volume and estimated daily throughput to allow inspectors to determine the number of days that hazardous waste resides in a tank to determine compliance with 40 CFR 262.34(a)(1)(ii). As noted above, there may be other methods to demonstrate that a tank has been emptied, but any method or demonstration to confirm compliance must be reasonable and easily discernible to EPA or an authorized state.

As you state in your letter, generators also would still be required to meet all applicable hazardous waste tank regulations found in 40 CFR part 265, Subpart J. In addition, if the tank is removed from service, the regulation requires the system to undergo a formal RCRA closure to remove or decontaminate all hazardous waste associated with the tank system.

Please note that this is EPA's interpretation of the federal hazardous waste regulations. Most states are authorized to operate their own hazardous waste management program. As such, states may impose regulations which may be more stringent and/or broader in scope than the federal regulations. Therefore, you should check with the appropriate state agency to determine the requirements applicable to your activities.

Should you have any questions on this subject, please contact Jim O'Leary at (703) 308-8827 or oleary.jim@epa.gov.

Sincerely yours,

Matt Hale, Director
Office of Solid Waste

cc: Tom Kennedy, Association of State and Territorial Solid Waste Management Officials (ASTSWMO)
Barry Elman, OPEI