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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA-HQ-OAR-2003-0146; FRL-]

RIN 2060-AO55

**National Emission Standards for Hazardous Air Pollutants
From Petroleum Refineries**

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This action proposes amendments to the national emission standards for petroleum refineries to address the risk remaining after application of the 1995 standards. This action also provides the results of EPA's 8-year review of developments in practices, processes, and control technologies that have occurred since the time EPA adopted the emissions standards. Based on the results of the residual risk and technology review, this action proposes two options for both wastewater treatment systems and storage vessels. For wastewater treatment systems, the first option would not require any additional controls as necessary to address residual risk or under the technology

review. The second option would require refineries to apply new or additional requirements for wastewater treatment systems. For storage vessels, the first option would also not require any additional controls as necessary to address residual risk or under the technology review and the second option would require refineries to apply new or additional requirements for storage vessels. Finally, we are also proposing two options for amendments to add emissions standards for cooling towers.

DATES: Comments must be received on or before [INSERT DATE 60 DAYS FROM DATE OF PUBLICATION].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2003-0146 (for petroleum refineries), by one of the following methods:

- www.regulations.gov: Follow the on-line instructions for submitting comments.
- E-mail: a-and-r-Docket@epa.gov.
- Fax: (202) 566-9744.

IV. Rationale for Proposed Amendments

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G. What amendments to the national emission standards for benzene waste operations are we proposing?

The final BWON rule (55 FR 8346, March 7, 1990) establishes national emission standards for wastes containing benzene that are generated by chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries. The rule addresses wastes from a wide variety of processes and provides compliance options for controlling air emissions and treating wastes to remove or destroy benzene. Over the past several years, numerous petroleum refineries have entered into consent decrees with EPA regarding certain emissions sources and their associated regulatory requirements. A key focus of many consent decree requirements was the correct implementation of the BWON. The increased scrutiny of the BWON requirements caused by the consent decrees highlighted the need to clarify some of the provisions in BWON to ensure that the requirements are more easily understood and that the rule achieves the emission reductions that were originally intended. Over the past several years, enforcement personnel, affected facilities, and engineering consultants (hereon referred to

as commenters) raised several questions and issues related to interpretation and application of specific provisions in the rule. We are proposing clarifications to the rule and providing additional interpretive guidance in this proposal preamble to address these questions and issues. These clarifications are necessary for the consistent implementation of the rule requirements and to address uncertainties in past and future compliance determinations, and are not expected to result in significant cost impact to any individual facility. These proposed revisions would apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, petroleum refineries, and hazardous waste treatment, storage, and disposal facilities. Emission sources covered by this standard include wastewater collection, treatment, and storage units that manage benzene-containing wastes and wastewater. We discuss each of the proposed clarifications below and provide the background and rationale for the proposed changes.

1. Proposed Clarifications to the Determination of Total Annual Benzene (TAB)

Several commenters expressed some uncertainty and confusion related to determining the TAB, which is used to determine the rule's applicability (a TAB of 10 Mg/yr or

more subjects the facility to detailed control, treatment, monitoring, reporting, and recordkeeping requirements). Clarifications were requested as to what is and what is not a "waste" (with some specific examples of both) and what is "integral to the production process," which is part of the definition of point of generation (POG). The POG is important because that is where the TAB is determined in most cases, and the POG is prior to handling or treatment in an operation that is not an integral part of the production process.

We are including in the definition of "waste" some specific examples to address these questions, many of which were raised because certain wastes are sold for recovery or reuse of constituents, and others have value that make onsite recovery or recycle of constituents economically beneficial for the facility. The fact that a material may be sold or have beneficial use onsite does not preclude it from being a waste. Waste includes "any material...that is discarded or is being accumulated, stored, or ... treated prior to being discarded, recycled, or discharged." The benzene in a waste stream (with certain exceptions discussed below) is included in the TAB if the flow-weighted annual average water content of the waste stream is greater than 10 percent or if the waste is mixed with

water or other wastes at any time and the mixture has a water content greater than 10 percent. Some specific examples that we are adding to the definition of "waste stream" are spent caustic, slop oil, sour water skimmings, and the float from dissolved air flotation units.

The TAB is determined at the POG (with a few exceptions discussed below) when it exits the process and before exposure to the atmosphere or removal of benzene in a waste management unit. The rule defines POG as "the location where the waste stream exits the process unit component or storage tank prior to handling or treatment in an operation that is not an integral part of the production process, or in the case of waste management units that generate new wastes after treatment, the location where the waste stream exits the waste management unit component." For example, the POG for desalter water is at the exit of the desalter vessel (a process unit) prior to the removal of benzene by exposure to the atmosphere or by a treatment process.

There are three exceptions to determining the TAB at the POG: (1) at the exit of sour water strippers for sour water streams, (2) at the exit of the ammonia still at coke by-product plants if the ammonia still meets the definition of sour water stripper and the transfer of wastes is

through hard piping or enclosed systems, and (3) at the point the waste enters the facility for hazardous waste treatment, storage, or disposal facilities that receive wastes from offsite. The rule clearly states that the benzene determination for the TAB calculation for sour water streams that are processed in sour water strippers is where the water exits the sour water stripper. Although we do not think a rule clarification is needed, we are addressing a question here related to mixing of other streams with sour water prior to the stripper. The benzene for the TAB calculation for waste streams not meeting the definition of sour water that are mixed with sour water streams prior to the sour water stripper is based on the benzene at their POG (not at the exit to the stripper). In addition, all benzene in the water exiting the stripper is included in the TAB. The streams that are not sour water streams in this case are also subject to all applicable rule requirements based on the benzene concentration and benzene quantity before mixing.

We have received questions that asked whether storage tanks, feed vessels, or other units that may contain or manage sour water prior to the sour water stripper must be controlled for benzene emissions under the rule. Since the benzene quantity in sour water is determined at the exit of

the sour water stripper, it would seem that these units would not have to be controlled under any of the compliance options. However, to qualify for using the stripper exit as the POG, the stripper must meet the definition of sour water stripper in the rule. The second of three criteria in the definition states the stripper "has the sour water streams transferred to the stripper through hard piping or other enclosed system." Our intent in developing the provisions for sour water and sour water stripping was that all units managing or storing the sour water prior to the stripper must be enclosed and vented to a control device. We propose to clarify in the rule that for the exit of the stripper to qualify as the POG for sour water, vessels containing the sour water prior to stripping must meet the closed vent and control device requirements in §61.349. The second of three criteria in the definition states the stripper "has the sour water streams transferred to the stripper through hard piping or other enclosed system." Our intent in developing the provisions for sour water and sour water stripping was that all units managing or storing the sour water prior to the stripper must be enclosed and vented to a control device. We propose to clarify in the rule that for the exit of the stripper to qualify as the POG for sour water, vessels containing the sour water prior

to stripping must meet the closed vent and control device requirements in §61.349.

We are clarifying what is integral to the production process by giving some examples because of the importance of the term in determining the POG for a waste. In general, an operation is integral to the production process if it is used to process or store the primary feedstocks at a facility, to store or produce the primary intermediate or final products, or to supply heating or cooling in the production of intermediate or final products. It does not include operations used for treating or recovering constituents from by-product streams for recycle to the process, recovery for sale, or treatment to meet discharge requirements. Examples of operations integral to the production process include process units as defined in the rule, storage tanks for feedstock and intermediate or final products, and operations used for supplying heating or cooling. For example, a cooling system that includes a cooling tower that supplies cooling water to a process unit's heat exchanger is integral to the process; however, any wastewater blowdown from the cooling tower would be a waste with a POG at the discharge point from the cooling water recirculation loop.

We received requests for clarification of the term

"recycled to the process" because the emission control and treatment requirements of the rule no longer apply to a waste stream once it has been recycled to the process. We decided it would be more useful to clarify this concept in the preamble and provide examples rather than attempting a definition in the rule. A waste is recycled to the process once it has been returned to a process unit as defined in the rule, to a storage tank for the primary feedstock or intermediate or final products, to a process feed tank, or to other operations associated with the process and not with waste management. For example, controls for slop oil are not required under the rule once the slop oil has been returned to a crude oil storage tank or to a feed tank for the distillation column. The transfer of slop oil to a storage tank dedicated to slop oil or for mixing other recovered materials is not recycle to the process. Once a recovered material, such as float from the dissolved air flotation unit, has been sent to the coker for recovery of its carbon content, it has been recycled to the process (i.e., the coker is a process unit).

The rule address many aspects of representative sampling, such as the use of static mixers to obtain a homogeneous sample, analysis of wastes with multiple phases, and sampling before exposure to the atmosphere. We

are emphasizing the importance of representative sampling for the TAB determination (and determinations associated with the compliance options) based on the difficulties several facilities have had in obtaining representative samples for wastes with multiple phases and those that are generated at changing flow rates. The experience shows that many facilities may have underestimated the quantity of benzene in waste at the POG because the sum of benzene at the POG in many instances was less than the benzene entering a common collection point after the streams were combined. When multiple waste streams are combined, we recommend determining the waste quantity and benzene concentration of the combined streams and comparing the benzene quantity for the combined streams with the sum of the benzene quantities determined at the POG for individual waste streams. Any discrepancies should be investigated, and in particular, the owner or operator should be sure that the benzene in each phase of multiple phase wastes is measured at the POG and that there is an accurate accounting of the waste quantity associated with each phase. In addition, we are adding a clarification to the rule that the sampling must be conducted when the process unit or waste management unit generating the waste stream and all equipment handling the waste stream are operating

normally as determined by all monitored process parameters, such as process flow rates, temperatures, pressures, etc.

Questions have arisen as to whether the 10 percent water criterion used throughout the rule is based on volume or weight. The rule clearly states that it is "on a volume basis as total water." We emphasize "total" water because it includes the water in an oil-water emulsion as well as that in a separate water phase and any dissolved in the organic phase (which would be quite low). Total water is not simply based on the volume of water in the water phase but is based on all water in a representative sample of the waste stream.

We have received questions as to whether wastes generated offsite must be included in the TAB calculation. We propose clarifying in the rule that a waste generated offsite is included in a facility's TAB calculation if the waste was generated by a chemical manufacturing plant, coke by-product recovery plant, or petroleum refinery and the water content is greater than 10 percent (either before or after mixing with water or other wastes). A specific example is that if ballast water generated at a marine vessel loading operation that is not part of the petroleum refinery is transferred to the refinery, the benzene in the ballast water is not included in the refinery's TAB because

it was not generated by one of the three affected source categories. However, if the ballast water is added to the wastewater treatment system and mixed with regulated benzene wastes, the mixture must be managed according to the rule requirements. If the marine vessel loading operation is part of the refinery and located at the refinery, benzene in the ballast water is included in the refinery's TAB.

The rule specifically excludes from the TAB calculation benzene in wastes from remediation activities at the facility, such as the excavation of contaminated soil, pumping and treating of groundwater, and recovery of product from soil or groundwater. We are clarifying that if the facility is managing remediation waste generated offsite or any other waste generated offsite, the benzene in the waste is included in the TAB if the waste was generated by a chemical manufacturing plant, coke by-product recovery plant, or petroleum refinery and the water content is greater than 10 percent (either before or after mixing with water or other wastes). Not all excavated material is a waste because excavation can be associated with site preparation for the installation or reconstruction of equipment and other construction activities. We are clarifying that excavated material is a

waste under subpart FF only if it is associated with site remediation.

We are also proposing a simplification to reduce the burden associated with TAB determinations at facilities with a TAB of over 10 Mg/yr, but at the same time, ensuring that the benzene quantity is accurately determined. Some of the larger affected facilities have hundreds of small waste streams, and although the facility may know without doubt they are subject to the control and treatment requirements of the rule, each of these waste streams must be evaluated for benzene concentration and waste quantity. For example, blowdown and knock out drums can be waste management units, and they may be interconnected throughout the facility with the transfer of wastes from one drum to another drum or central collection point that also receives other waste streams. Each unit could be considered as having its own POG, but determining the benzene quantity for each unit could be burdensome and result in multiple counting of benzene. We are proposing that under certain specific circumstances, the benzene quantity for the TAB calculation for waste streams may be determined at an end-of-line collection point after they are combined. We propose that the end-of-line determination may be made instead of a determination for each and every waste stream

if the facility has a TAB of over 10 Mg/yr; the upstream units that contain the wastes are enclosed and vented to a flare, the fuel gas system or a benzene emission control device; the waste streams are hardpiped to waste management units or discharged into individual drain systems that are equipped with flexible shields or other devices that enclose the space between the pipe discharging the waste to the drain receiving the waste; and the common collection point for determining the TAB is prior to any treatment to remove benzene and prior to exposure to the atmosphere. We are also proposing that any facility using this TAB determination option must continue to identify each individual waste stream and its point of generation.

When the flow-weighted annual average benzene concentration is determined by measurements of the waste stream, the rule requires a minimum of three representative samples. However, the rule does not describe when the samples are to be taken (e.g., at the same time or separated in time), how often (or if) the measurements must be repeated, and what is a "representative sample." We are proposing clarifications to address these considerations. For waste streams that are generated on a relatively continuous basis over time, we are proposing that the three samples may be taken at the same time or at an interval

left to the discretion of the owner or operator during normal process operating conditions because the concentration should be reasonably consistent unless the process changes. For waste generated by batch processes or a process that operates intermittently, we are proposing that a sample be taken from three different batches or intermittent cycles. We are not proposing clarifying changes to the frequency for determining the benzene concentration. The rule is clear and requires the TAB determination be repeated when there is a change in the process generating the waste that could increase the TAB to 1 Mg/yr or more or to 10 Mg/yr or more.

We understand that processes, production rates, and unit configurations change over time. Although the rule states that the TAB is to be based on current configuration and operating conditions, we propose clarifying in the rule that the annual TAB determination must represent the waste stream characteristics based on the configuration and operating conditions of the facility during the operating year associated with the annual report. We also propose providing an option to allow the TAB to be based on the configuration and operating conditions of each calendar year (January through December). We are also proposing that the TAB report for a calendar year be submitted by

April 1st of the following year for those facilities choosing to use a calendar year as the basis for the annual report.

2. Proposed Clarifications to the Compliance Options

The rule includes compliance options to provide flexibility for controlling and treating the variety of wastes from several different processes and to accommodate differences in configurations of both processes that generate wastes and waste treatment units. We are proposing clarifications and minor changes to certain compliance options to remove uncertainty with respect to the requirements for each of the options and to improve consistency among options. The three compliance options discussed below include: (1) treating process wastewater to achieve a total annual benzene quantity of 1 Mg/yr (§61.342(d)(2)(i)), (2) the 2 Mg/yr exemption for certain waste streams (§61.342(c)(3)(ii)(B)), and (3) the 6 Mg/yr benzene quantity option (§61.342(e)(2)(i)).

Our discussions with affected facilities, enforcement personnel, and engineering consultants have indicated that the 1 Mg/yr treatment option cited above is not used by any facilities and has no practical application because the other two options offer much more flexibility. The option is an artifact of the original promulgation and no longer

has any utility. Consequently, we are proposing to delete the option in §61.342(d)(2) to simplify the rule and avoid any confusion or questions related to the non-functional compliance option. We are specifically requesting comment on the merits of this deletion and whether any commenter knows of any facility that has applied the option in the past or under what circumstances a facility might have chosen to use it in the future.

We are proposing to revise the procedures for determining the benzene quantities for the 2 Mg/yr exemption to more accurately reflect the actual operations at a facility during the year for which it is determined. Currently, the determination uses a maximum or upper-bound estimate of annual waste quantity based on the same procedures for determining TAB. A more accurate and realistic procedure for making the determination for a given year would be to use the actual waste quantities for that year rather than the highest quantity in the past 5 years, the maximum design capacity of the waste management unit, or the maximum waste generation rate (as the rule currently requires). We are proposing to revise the rule to require that the annual determination for the 2 Mg/yr exemption compliance option discussed above be based on the actual waste quantities for each calendar year and reported

by April 1st of the following year. We are also proposing to clarify that that wastes generated by startup, shutdown, or malfunction events (including spills) in a given year be accounted for in the benzene quantity determinations for that year if they meet the criteria specified for identifying the waste streams to be included in the determination.

We are proposing clarifying revisions to the rule to address questions and confusion related to the 2 Mg/yr exemption, the aggregation of wastes, and where the benzene quantity must be determined for wastes managed in controlled units. The rule requires that the benzene quantity for the 2 Mg/yr exemption (except for specific cases) be determined at the POG; however, our intent was that the benzene quantity be determined at the POG for uncontrolled wastes and when the waste first exits a controlled waste management unit (before exposure to the atmosphere) for wastes that are controlled for benzene emissions. We are proposing changes to the rule to make these clarifications. We are also clarifying that if waste streams are aggregated or mixed for treatment (even with those waste streams that are exempted under the 2 Mg/yr compliance option), then the owner or operator is allowed a 1 Mg/yr exemption from the standards (under §61.348(b)(2))

for waste management units receiving waste streams with a benzene concentration less than 10 ppmw downstream from the mixing.

Some commenters have questioned whether the dilution prohibition in §61.348(a)(3) applies to the aggregation or mixing of wastes to facilitate management or treatment in a wastewater treatment system as allowed in §61.348(a)(5). We are clarifying in this preamble discussion that the dilution prohibition does not apply to §61.348(a)(5) and that it specifically applies only to wastes treated in accordance with §61.348(a)(1)(i), which is a requirement to treat the waste to remove benzene from the waste stream to a level less than 10 ppmw. The control of the inlet concentration is especially important for the proper operation of an enhanced biodegradation unit, and the dilution prohibition was never intended for such units or for other wastewater treatment units managing waste streams according to §61.348(a)(5). The rule is clear on this point as written; consequently, we are not proposing any rule changes or clarifications to address this question.

A few commenters asked if the treatment option for 99 percent removal of benzene applied to each phase of a waste with both an oil phase and a water phase or to the waste as a whole. The concern was that a facility could achieve 99

percent control simply by decanting the oil phase. The rule clearly requires the overall removal or destruction of 99 percent of the benzene; consequently, the form of the waste is not relevant in achieving this limit. Moreover, it is difficult to envision a scenario where phase separation would remove 99 percent of the benzene.

The standards for treatment processes include options based on compliance with other regulatory requirements, such as those developed for hazardous wastes or for wastewater discharges. For example, a treatment process or waste stream is in compliance with the rule if the waste stream is treated to a level that meets benzene-specific effluent limitations or performance standards in accordance with Effluent Guidelines and Standards in 40 CFR parts 401-464, and the treatment process has a closed-vent system and control device that meets the rule requirements. See §61.348(d)(4). When we developed this option, we expected that the benzene concentration in the final discharge would have to be low to meet direct discharge limits to surface water. However, this option also includes the opportunity for the facility to send wastewater with high benzene concentrations and large benzene quantities to a publicly-owned treatment works (POTW) for treatment prior to discharge. Benzene would be emitted during the transfer to

the POTW and at the POTW, and the high benzene emissions could result in high levels of risk to the exposed population. Our intent in allowing offsite waste treatment was that the offsite facility would achieve a level of emission control equivalent to the level of control that would have been achieved onsite under the rule. In addition, there are no benzene-specific effluent limitations or performance standards; consequently, this option has no value or practical application, and in addition, could result in significant benzene emissions. For these reasons, we propose amending the rule to delete §61.348(d)(4).

For the 6 Mg/yr benzene quantity compliance option, we are proposing that the benzene quantity determination be made as we described above for the 2 Mg/yr exemption to more accurately reflect the actual operations at a facility during the year for which it is determined. A more accurate and realistic procedure for making the benzene quantity determination for a given year would be to use the actual waste quantities for that year as we are proposing.

We are clarifying that organic waste streams (i.e., those with a water content of 10 percent or less) should not be included under the 6 Mg/yr benzene quantity option if they have a benzene concentration of less than 10 ppmw.

Our intent was not to require control of organic waste streams with less than 10 ppmw benzene, as we stated in the original proposal preamble (58 FR 3085). The combination of low benzene concentration, small waste quantities, and the low volatility of benzene in organic wastes compared to the volatility of benzene in aqueous wastes indicate that these organic wastes have a low emission potential for benzene. These wastes are usually managed in a manner to recover and recycle the organic material, and in the event they were ever added to or managed with aqueous wastes (e.g., in a wastewater treatment system), the resulting mixture would be subject to the control and treatment requirements in the rule. Consequently, we are proposing to clarify that wastes with 10 percent or less water (organic wastes) and a benzene concentration less than 10 ppmw are not included in the calculation of benzene quantity for the 6 Mg/yr benzene quantity compliance option.

We are proposing clarifications related to the waste streams to be included in determining the 6 Mg/yr benzene quantity and where the determination is made. The rule states that the benzene in wastes entering an enhanced biodegradation unit are not counted toward the 6 Mg/yr if the benzene concentration is less than 10 ppmw and all

prior waste management units managing the wastes were in compliance with the rule's requirements for those management units. The second part of this provision results in making the 6 Mg/yr benzene quantity option essentially useless if even only one uncontrolled waste stream enters the enhanced biodegradation unit because all benzene entering the unit would then be counted toward the 6 Mg/yr. This was not our intent when we developed the compliance option. Consequently, we are proposing to delete the requirement in §63.355(k)(4)(ii) that all prior waste management units must be controlled according to the rule in order to exclude the benzene quantity in a waste stream entering the biodegradation unit from the 6 Mg/yr determination.

We are also clarifying our intent with respect to the reference to §61.348(a) in the determination of the 6 Mg/yr benzene quantity in paragraphs §61.355(k)(1) and (2). Our intent was to require that the determination be made either at the POG or at the outlet of waste management units that are controlled for air emissions according to the requirements of §§61.343 through 61.347, including waste management units that are also treatment devices. We included the reference to §61.348(a) to make clear that waste treatment devices were included in the list of waste

management units controlled for air emissions. However, we agree that the reference to §61.348(a) is confusing because the 6 Mg/yr option does not require treatment to the levels specified in §61.348(a). Therefore, we are eliminating the reference to §61.348(a) in these paragraphs and are clarifying that waste treatment devices are included by adding "or treats" to the phrase "as applicable to the waste management unit that manages or treats the waste" when referencing the air emission control requirements of §§61.343 through 61.347.

We are proposing changes to the monitoring requirements for the 6 Mg/yr compliance option. We propose that the benzene concentration of each waste stream entering an enhanced biodegradation unit be determined at least monthly to ensure it is less than 10 ppmw. These monitoring requirements are important to ensure that the units are properly designed and operated and that the performance requirements are met on a continuing basis. Consequently, we are proposing to revise the rule to apply the inlet monitoring requirements to provide assurance that benzene emissions are controlled in the manner and to the degree that they should be under that option.

We are proposing to correct an inadvertent omission in the notification requirements for the 6 Mg/yr benzene

quantity option when the owner or operator chooses to comply with the requirements for certain waste streams by transferring the wastes offsite to another facility for treatment. For this compliance option, the rule currently does not require a notice to be included with each offsite waste shipment stating that the waste contains benzene and must be managed and treated in accordance with the rule's provisions. Although the benzene quantity in the waste transferred offsite is included in the 6 Mg/yr allowance, the receiving facility needs to be informed that the waste contains benzene and may contribute to the receiving facility's TAB determination. Such a notification is required for all other instances when transfer offsite for treatment is used to comply with the rule. We are proposing to clarify that facilities using the 6 Mg/yr benzene quantity option must include this notice with each offsite waste shipment when using offsite treatment of the waste to meet the requirements of the rule.

3. Proposed Clarifications to the Monitoring Provisions

Since the rule was promulgated, carbon canisters have been widely used as control devices to meet certain rule requirements. Monitoring frequency and carbon replacement requirements in the rule are based on the design carbon replacement interval or maximum design flow rate. Several

commenters have pointed out that the emission sources that use the carbon canisters can have wide variations in their emission characteristics; consequently, historical information based on the actual application of the canisters at a specific emission source is much more reliable than a theoretical design calculation. In particular, historical data provide a much better prediction of the carbon replacement interval than would a design calculation. We agree and propose to revise the rule to allow the use of historical data from actual operating experience rather than design data for determining the carbon replacement interval and monitoring frequency.

We are proposing clarifications that define breakthrough and how soon the carbon must be replaced after breakthrough based on requirements that have been applied to such control systems at many facilities managing benzene wastes. We propose that breakthrough occurs when a concentration equal to or greater than 50 ppmw organic compounds or 5 ppmw benzene is detected at the outlet of the carbon canister, or for dual canisters operated in series, at the outlet of the first canister. We are also proposing that after breakthrough occurs, the carbon must be replaced within 8 hours of the detection of breakthrough

for canisters of 55 gallons or less and within 24 hours of the detection of a breakthrough for canisters greater than 55 gallons.

Many facilities have installed two carbon canisters in series and monitor the outlet concentration from the first canister. This approach ensures that there is adequate time to replace spent carbon before breakthrough occurs on the second canister, and it eliminates emissions during the time following breakthrough until the carbon is replaced. We are proposing a monitoring option for two carbon canisters in series to provide flexibility for this method of operation and to be consistent with monitoring requirements already applied to these dual canisters. The proposed option would allow monitoring the concentration in the exhaust vent stream from the first canister in the series but before the second canister on a monthly basis or at intervals no greater than 20 percent of the carbon replacement interval for a single canister system, whichever is more frequent. If the owner or operator chooses to monitor a canister system for benzene and detects between 1 ppm and 5 ppm benzene between the primary and secondary canisters, the option would then require monitoring for breakthrough (at 5 ppm benzene) between the primary and secondary carbon canisters weekly or at

intervals no greater than 20 percent of the carbon replacement interval for a single canister system, whichever is more frequent. In lieu of replacing the primary canister within the specified time frame, the owner or operator with dual canisters in series would be allowed to elect to monitor the outlet of the secondary canister beginning on the day the breakthrough between the primary and secondary canister is identified and each calendar day thereafter. This daily monitoring would continue until the primary canister is replaced. If the constituent being monitored (either benzene or organic compounds) is detected at the outlet of the secondary canister during this period of daily monitoring, both canisters would have to be replaced within 8 hours of the detection of breakthrough.

We have received comments and questions related to vacuum trucks, which are subject to the requirements for containers, and specifically the requirement for no detectable emissions for covered openings. The covered openings for vacuum trucks are insignificant sources of emissions, and the monitoring to show no detectable emissions can be burdensome. In addition, the exhaust from the vacuum vent when the vacuum truck is operating is a much more significant source of emissions; however, the rule does not require control of the vented exhaust because

there is no practical demonstrated control device. We are proposing to exempt vacuum trucks from the requirement for no detectable emissions from covered openings. We are also requesting public comment and additional information on this exemption and potential emission controls for vacuum trucks.

4. Impacts of the Proposed Clarifications

We evaluated the potential impacts of the various proposed rules changes and concluded that some changes would result in a small increase in the monitoring and reporting burden for a few facilities and some would result in a large decrease in the burden for a few facilities. We estimate there will not be an overall increase in burden but instead an overall decrease, and there will not be any significant cost impact on any individual facility. EPA requests comment on our analysis of the burden of the proposed revisions to the BWON as they apply to petroleum refineries as well as to all other affected source categories (e.g., chemical manufacturing plants, coke by-product recovery plants, and hazardous waste treatment, storage, and disposal facilities.