Questions and Answers for
Subparts F and G of Part 63

Hazardous Organic NESHAP (HON)

This set of questions and answers is intended to illustrate the intent of various provisions in 40 CFR Part 63, subparts F and G. The questions and examples in this document were developed to illustrate key concepts in the rule or address questions frequently received on particular provisions in the rule. The questions and answers in this document are not summaries of actual applicability determinations. Readers can consult the Applicability Determination Index located at the Office of Enforcement's website (http://es.epa.gov/oeca/eptdd/adi.html) for actual applicability determinations.

The following questions and answers are based on the final rule as promulgated on April 22, 1994 and as amended on September 20, 1994, January 27, 1995, April 10, 1995, December 12, 1995, February 29, 1996, and January 17, 1997. The questions and answers are intended for clarification purposes, do not constitute final agency action, and cannot be relied upon to create any rights enforceable by any party. Readers who wish to obtain an official determination should consult the EPA Regional Office which serves the State or territory in which the facility is located.

I. Subpart F

A. Hazardous Air Pollutants

Subject Area: Polycyclic Organic Matter (POM)

Question: The preamble to the January 17, 1997 Federal Register (62 FR 2724) seems to say that all species of POM are reportable under CERCLA section 103. It is my understanding that reporting under CERCLA is required only if the specific species of POM is separately listed in the CERCLA table of reportable quantities. Do the January 17, 1997 amendments to the HON change this?

Answer: As stated in the preamble to the January 17, 1997 amendments to the HON, the HON does not change the CERCLA reporting requirements for POM in any way. The reporting requirements under CERCLA are specified in CERCLA and its regulations, not in the HON. Currently, the CERCLA regulations require reporting only if a specific species of POM is listed on the table of reportable quantities. See 60 FR 30934, column 3 and 60 FR 30935, columns 1 and 3 (June 12, 1995 Federal Register).

The statements in the preamble to the January 17, 1997 amendments to the HON were a response to commenters who argued that listing certain species of POM in table 4 to subpart F (pollutants subject to the heat exchange requirements), would make those substances reportable under CERCLA. As stated in the January 17, 1997 preamble, the HON amendments have no such effect.

B. Definition of Source

Subject Area: What does the source include?

Question: Is the "source," for purposes of the HON, different from the "chemical manufacturing process unit (CMPU)"?

Answer: The "source" is intended to be much broader than a single CMPU. If there are several CMPUs at a major source, each of which separately meets all three of the criteria in section 63.100(b)(1) through (b)(3), then certain components of all those CMPUs, plus wastewater and residuals from all those CMPUs, would together constitute the "source."

Question: According to section 63.100(b), subparts F, G and H apply only to CMPUs that meet certain criteria. Wastewater, and its conveyance and treatment systems, are not part of the CMPU. In fact, a stream does not become "wastewater" until it is discarded and thus leaves the CMPU. Consequently, how can wastewater be regulated under subparts F, G and H?

Answer: Although section 63.100(b) may seem not to include wastewater, section

63.100 (e) clearly states that waste management units are within the "source" to which subpart F applies. Waste management units are defined in section 63.101 as the equipment, structure(s), and/or devices used to convey, store, treat, or dispose of wastewater streams and/or residuals. Therefore, wastewater is not excluded from coverage under subparts F, G and H by section 63.100(b).

Subject Area: Equipment Assignment Provisions -- Section 63.100 (g) through (i)

Question: What is the difference between an item of equipment that is "dedicated to" a chemical manufacturing process unit (CMPU), and an item of equipment whose "predominant use" is by that CMPU?

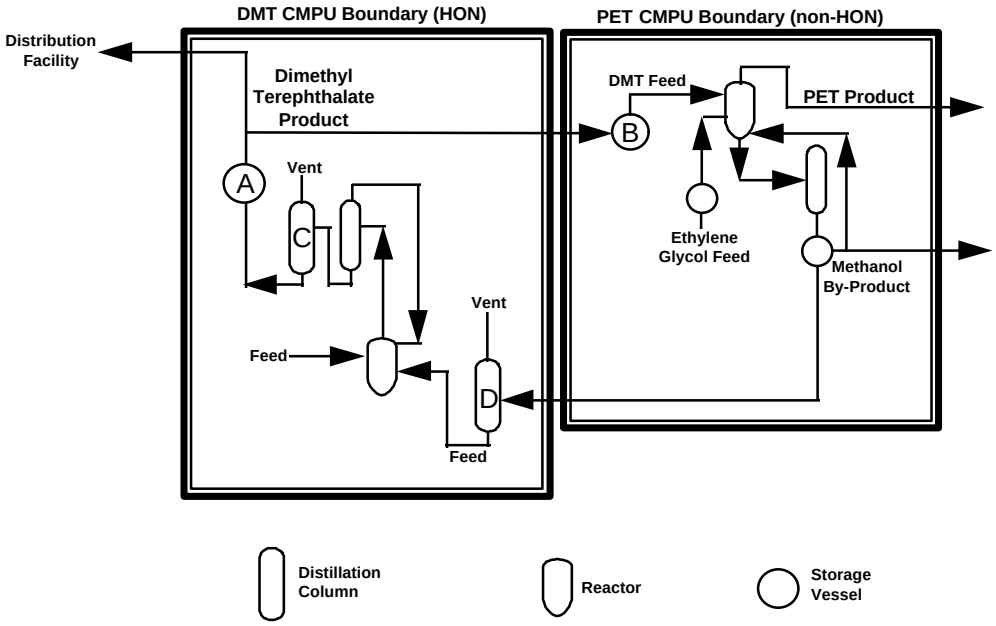
Answer: If an item of equipment exists only to serve one CMPU, it is "dedicated" to that CMPU. If the item of equipment exists to serve two or more CMPUs, then a "predominant use" must be determined. There are two logical tests that may be used, to determine whether an item of equipment is dedicated to a CMPU.

As a first, quick "screening" test, look at all the inputs to, and all the outputs from, that item of equipment. If all the inputs are from a single CMPU, and all the outputs are to that same CMPU, this is the easiest example of an item of equipment being "dedicated" to a CMPU.

For those items of equipment that do not pass the first test (i.e., one or more inputs or outputs cross the boundary to another CMPU), the second step is to examine the totality of the circumstances, asking which CMPU(s) actually need that equipment in order to function as a CMPU. Another way to think of it is, if a certain CMPU did not exist, would the item of equipment still be where it is, doing what it does? If the item of equipment exists to serve only one CMPU, it is dedicated to that CMPU. If the item of equipment exists to serve multiple CMPUs, then you must determine the predominant use. Examples will be provided, in other questions and answers in this document, to further clarify how to decide whether an item of equipment is dedicated to a CMPU.

Question: In the diagram below, how can I tell whether to assign storage vessel "A" to the DMT chemical manufacturing process unit (CMPU), the PET CMPU, or the distribution facility? I am having trouble deciding which is the predominant use.

INTEGRATED CMPUs
Primary Intended Products:
Polyethylene Terephthalate (PET)
Dimethyl Terephthalate (DMT)



Answer: In this case, you do not need to look for the predominant use because the product storage vessel is "dedicated" to the DMT CMPU. According to section 63.100(g)(1) of subpart F, if a storage vessel is dedicated to a CMPU, it must be assigned to that CMPU. Section 63.100(g)(2) specifies that you should only look for the "predominant" use if the storage vessel is not dedicated to a single CMPU.

In the diagram above, all the inputs into storage vessel "A" come from the DMT CMPU. The outputs go to two places: a distribution facility, and the PET CMPU. However, the distribution facility is not a CMPU; it does not manufacture or process chemicals, but merely holds them for distribution. The PET CMPU has its own storage vessel (vessel "B") to receive incoming raw material from the DMT CMPU. This means that the PET CMPU is not using storage vessel "A," for purposes of subparts F and G. Since the PET CMPU is not using storage vessel "A," and since the distribution facility is not a CMPU, there is only one CMPU (the DMT CMPU) which uses this storage vessel. That means the storage vessel is dedicated to the DMT CMPU, and would be assigned to the DMT CMPU.

You would need to determine the predominant use if, for example, the PET CMPU did not have its own storage vessel to receive material from the DMT CMPU. In that case, both CMPUs would be using storage vessel "A." According to section 63.100(g)(2)(i)(A), the on-site CMPU with the greatest input to the storage vessel would have the predominant use. Since all inputs to the storage vessel come from the on-site DMT CMPU, that CMPU would have the predominant use.

Question: In the diagram above, how can I tell whether to assign the vent on distillation column "C" to the DMT chemical manufacturing process unit (CMPU) or the PET CMPU?

Answer: Distillation column "C" is dedicated to the DMT CMPU, because all inputs to the column come from that CMPU and all outputs from the column go to that CMPU. Therefore, the distillation column must be assigned to the DMT CMPU.

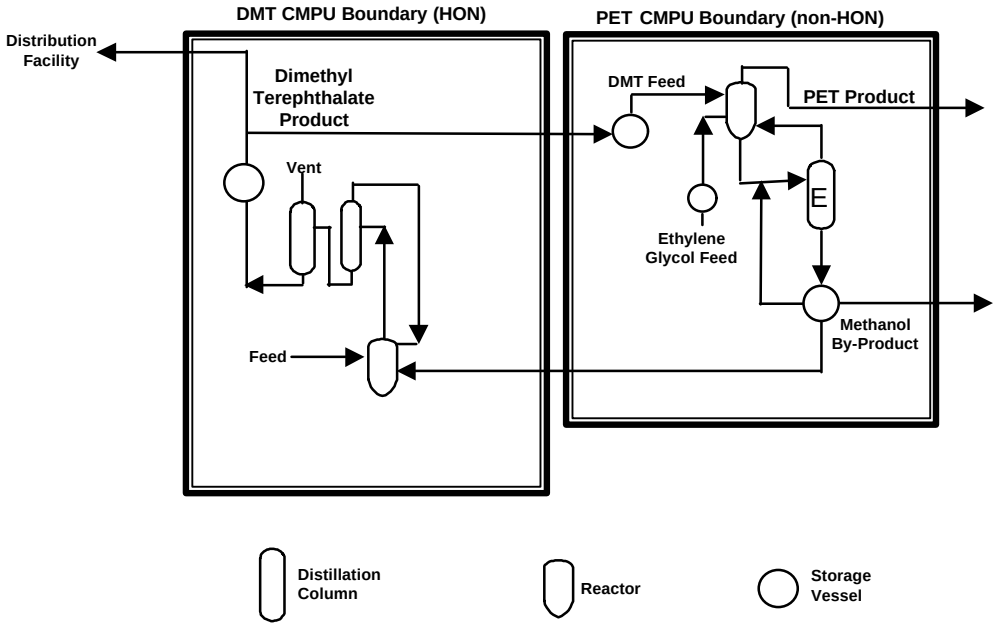
Question: In the diagram above, how can I tell whether to assign the vent on distillation column "D" to the DMT chemical manufacturing process unit (CMPU) or the PET CMPU? I am having trouble deciding which is the predominant use. The distillation column purifies a methanol stream from the PET CMPU. The PET CMPU produces a grade of byproduct methanol that is marketable in commerce for many uses. However, the DMT process has higher purity requirements. Our options are to buy higher-purity methanol from an outside supplier, or distill methanol from the PET process to a higher standard of purity. This distillation column was included in the design of the DMT process, and the funding for its construction was included in the DMT capital authorization. Instrumentation on the distillation column is connected to sensors and controls in the DMT process control room, and DMT personnel operate the distillation column. The column is physically located together with other equipment at the DMT CMPU, and is physically separate from equipment at the PET CMPU. However, some producers of methanol

do have final purification steps that result in a high-purity methanol that our DMT process could use. Therefore, it seems possible that the distillation column might be considered a final step in the manufacture of methanol by the PET CMPU.

Answer: Under the facts presented, distillation column "D" is dedicated to the DMT CMPU. Therefore, you should not determine the predominant use; you should simply assign the distillation column to the DMT CMPU. A principal factor, in deciding that the distillation column is dedicated to the DMT CMPU, is that DMT personnel operate the distillation column from the DMT control room. It is also significant that the distillation column was built as a part of the DMT process, as part of the same capital project, and that the distillation column is physically located at the DMT CMPU, rather than at the PET CMPU. Finally, it is significant that the methanol produced by the PET CMPU is independently marketable without the need for purification by the distillation column. Based on all these factors, it appears that the distillation column is not needed by, and is not a part of, the PET CMPU. Rather, the distillation column is exclusively needed by, used by, and a part of, the DMT CMPU. Thus, it is dedicated to the DMT CMPU.

The answer could change, but would not necessarily change, if there were differences from the facts outlined in the question. For example, if a distillation column is not physically located with other portions of a CMPU, it may still be dedicated to that CMPU if other facts show that the distillation column exists to serve the needs of only that CMPU. The question provides the "best case" fact situation, and other situations would have to be evaluated on their own merits. For questions on applicability or assignments of equipment, readers may consult the permitting authority or the Regional Office of EPA which serves the State or territory in which the facility operates.

INTEGRATED CMPUs
Primary Intended Products:
Polyethylene Terephthalate (PET)
Dimethyl Terephthalate (DMT)



Question: In the diagram above, to which CMPU should I assign distillation column E? This column purifies a methanol byproduct stream from the PET CMPU, to get the purity up to commercial standards for sale. After storage, some of the methanol goes to the DMT CMPU, which can use standard commercial-grade methanol, but cannot use methanol of a lower purity. Other quantities go off-site for commercial sale. Many of our customers could not use methanol of a lower purity, and most (if not all) of our customers would expect this grade of purity in any commercial methanol product.

Answer: Distillation column "E" is dedicated to, and should be assigned to, the PET CMPU. The PET CMPU needs this column in order to make a marketable grade of methanol, so that the stream can be sold. If the PET CMPU were gone, the DMT CMPU would not build its own distillation column, because (a) the CMPU would have to buy methanol from other sources, and (b) any commercial-grade methanol would serve that CMPU's needs. Therefore, the distillation column serves only the PET CMPU.

The distillation unit would still be assigned to the PET CMPU, even if we assumed that the distillation unit served both CMPU's. This is because applicability would then be determined by the predominant use, according to section 63.100 (i)(2). Section 63.100 (i)(2)(i) specifies that the CMPU at the site which provides the greatest input to the distillation unit has the predominant use. In this case, the only CMPU (at the site) sending material to distillation column E is the PET CMPU.

C. Records and Reports

Subject Area: Records Retention Requirements

Question: Does section 63.103 (c)(1) of the HON always require me to have records retrievable within 2 hours of an EPA request?

Answer: No. The rule requires that the records must be readily accessible, but the two-hour time limit applies only if you choose to keep the most recent records (i.e., records less than six months old) off-site. Section 63.103 (c)(1) of subpart F specifies the general recordkeeping requirements. That section requires that records be kept for five years. However, there is a distinction between the most recent six months of records, and the next four and one-half years of records. According to section 63.103 (c)(1), there are two independent options for the most recent six months of records. One option is to keep those records on-site. No specific time limit is stated for retrieving these records if they are kept on-site, although they must be readily accessible. The other option is to keep these records off-site. In that case, they must be retrievable by computer or other means that provides access within two hours after a request. Records that are more than six months old (but less than five years old) may be kept on-site or off-site. No specific time limit is stated for retrieval, although the records must be readily

accessible.

D. Miscellaneous

Subject Area: Start-up, shutdown, and malfunctions

Question: In section 63.102(a)(1), there are two examples of situations where a malfunction in one part of a CMPU would not affect equipment elsewhere in the CMPU. According to those examples, an overpressure in the reactor area will not affect control of emissions from a storage vessel, and the degassing of a storage vessel will not affect control of emissions from a process vent. We can think of situations where the examples might not be correct. For example, suppose that a storage vessel and a reactor vent to the same control device. If an overpressure in the reactor area requires immediate shutdown of the reactor, the reduced flow to the control device may force the monitored parameters outside their approved range. Further, the overpressure may have damaged the control device, requiring that it be shut down for repairs.

Answer: The examples are not exhaustive. There may be rare instances where, due to unique configurations of equipment within a CMPU, either or both examples may not apply. The examples were included in section 63.102 (a)(1) to illustrate the point that equipment or operations that are unaffected by a start-up, shutdown, or malfunction are still required to comply during this period.

II. Subpart G

A. Overlap Provisions and General Standard -- Sections 63.110 through 63.112

Subject Area: Benzene Waste NESHAP overlap with HON wastewater

Question: In the August 26, 1998 proposed revisions to the HON, EPA described the proposed amendment to section 63.110 (e)(1) as allowing some consolidation of the inspection, monitoring, recordkeeping, and reporting requirements of the Benzene Waste NESHAP (40 CFR part 61, subpart FF) and the HON wastewater provisions. [See 61 FR 43708] The amended requirements in section 63.110 (e)(1)(i) and (ii) only address control requirements for wastewater streams subject to control under either of these two rules, and do not address the applicability of annual reporting requirements of the Benzene Waste NESHAP for the facility, as a whole, such as those in section 61.357 (b) or (c). Did EPA intend to consolidate only the inspection, monitoring, recordkeeping, and reporting requirements for wastewater streams subject to control under these two rules, and not to consolidate other reports and records required by the Benzene Waste NESHAP?

Answer: The amendments address only wastewater streams. The amendments do not

alter other obligations under the Benzene Waste NESHAP. The purpose of the change was to reduce the complexity of managing programs at facilities with wastewater streams subject to control requirements of either the HON or the Benzene Waste NESHAP. The EPA believes that the language in section 63.110 (e)(1) does not alter the general requirements under the Benzene Waste NESHAP because the paragraph is addressing compliance requirements for the individual wastewater streams and not for the facility as a whole. The overlap provisions for wastewater do not address general compliance obligations that apply to the source.

B. Process Vent Provisions -- Sections 63.113 through 63.119

Subject Area: Control Device Requirements

Question: Our site uses a catalytic incinerator to control process vent emissions. The catalytic incinerator was built before proposal of the HON, and it cannot meet the HON's standard of 98% organic HAP removal, or reduction to a concentration of 20 ppmv. May we continue using the catalytic incinerator, supplemented by other devices?

Answer: Yes, under some circumstances. The catalytic incinerator is a "combustion device," and thus, a "control device," for purposes of subpart G. The EPA would expect any well-designed new combustion device (constructed since proposal of subpart G) to be able to reduce organic HAP by 98%, or to a concentration of 20 ppmv. However, EPA recognizes that some combustion devices installed before proposal of the HON may need the assistance of additional control devices to meet this standard. Subpart G allows any combination of control devices. Please note that combustion devices and recapture devices are "control devices," but a recovery device is not a "control device" for purposes of the Process Vent requirements of subpart G. Recovery devices may be used in combination with a catalytic incinerator to meet the 20 ppmv concentration limit, but may not be used to achieve the 98% removal standard except as described in section 63.113(a)(2)(ii).

Subject Area: TRE Index Value Determinations

Question: We have three HON distillation units whose vent streams are all routed to the same scrubber. Materials recovered by the scrubber are recycled to the process, so the scrubber meets the definition of a recovery device. The characteristics of the three distillation vent streams at the *inlet* to the scrubber would make them Group 2 vents (i.e., TRE index value greater than 1). This scrubber also receives non-HON gas streams, including some batch reactor vents. The batch reactor vents have a great deal more HAP than the vent streams from the HON distillation units, so that the characteristics of the outlet stream from the scrubber are determined almost entirely by the batch reactor vents. As a result, the characteristics of the combined gas stream at the *outlet* of the scrubber would meet the characteristics of a HON Group 1 process vent (i.e., TRE index value less than 1). We have made plans to route the combined vent stream exiting the scrubber to a combustion device, in order to achieve better control of the batch reactor vents. However, practical considerations do not allow installation of the combustion device by the HON

compliance date.

Section 63.115(a) of subpart G says to determine the TRE index value after the last recovery device. Section 63.113(a) says additional recovery or control must be employed if the TRE index value, determined after the last recovery device, is less than 1. Thus, if we read the HON very literally, it seems that we may have only two options, both of which are undesirable. Our first option is to disconnect the three HON distillation vent streams from the scrubber and discharge them, uncontrolled, to the air. Then they would be Group 2 process vents and no further control would be required, because the TRE index value would be greater than 1. This could be done quickly and easily, at little expense. However, this is not the environmentally preferable approach, and we would rather not do it. Or, as a second option, we could install an additional recovery device or control device after the scrubber. However, as noted above, this could not be accomplished by the HON compliance date. It also seems illogical that our decision to protect the environment more than the law requires, should result in additional control requirements. At the present time, due to practical considerations, if we had to choose between these two options, we would be forced to disconnect the three HON distillation vent streams from the scrubber and discharge them to the air.

We believe that the HON was not designed considering this situation and is therefore ambiguous. We suspect that, when EPA said to determine the TRE index value after the last recovery device and to install additional recovery or control if the index value is less than 1, the Agency did not mean to include the situation described above. Rather, sections 63.115(a) and 63.113(a) of subpart G are probably intended to address situations where the process vents already would have had a TRE index value less than 1 *before* they entered the recovery device, or situations where the recovery device is managing a HON Group 1 stream of some sort, in addition to the Group 2 streams. Therefore, we would appreciate EPA's confirmation that the HON does not require additional control of the stream leaving the scrubber (recovery device).

Answer: In development of the process vent provisions, EPA assumed that TRE values would only increase as additional recovery devices were applied. The EPA did not intend to penalize voluntary decisions to route a Group 2 process vent to an additional recovery device for further removal of organic HAP. Section 63.113(a) of subpart G is not intended to apply to the gaseous emission stream leaving a recovery device, where (a) process vents whose TRE index value, without further recovery of organic HAP, would be greater than 1 are voluntarily routed to that recovery device, and (b) no other emission streams entering the recovery device are required to be controlled under the HON, and (c) the TRE index value after the recovery device is less than 1 due to other emission streams that are not subject to HON control requirements.

The EPA has developed and is developing other MACT emission standards under 40 CFR part 63 for control of organic HAP emissions from a variety of source categories. Eventually, non-HON emission streams entering the recovery device may be subject to emission control requirements under one or more of these other standards. This may result in a requirement to implement further recovery or control of organic HAP emissions, for the gaseous emission stream

leaving the recovery device. However, to avoid unintended effects from the existing language, the EPA expects to propose a rule amendment in the near future. The anticipated rule changes would provide the owner or operator the option to determine the characteristics (flow rate, total organic HAP concentration, and TRE index value) for each HON stream or combination of HON streams at a representative point as near as practical to, but before, the point at which it is combined with non-HON streams.

Subject Area: Monitoring Requirements

Question: I have a combustion device followed by two scrubbers in series that remove halogens and hydrogen halides. One of these scrubbers is a water scrubber that produces hydrochloric acid as an effluent. The pH of the acid stream will not vary (it will typically be less than or equal to 1), even if the concentration of acid changes substantially. Thus, monitoring the pH of the acid stream would not reliably indicate proper operation of the water scrubber. The other scrubber is a caustic scrubber that achieves a target pH. Inadequate performance of the water scrubber would be expected to affect the pH of the effluent from the caustic scrubber, and thus be detected. Alternatively, in some cases the caustic scrubber could handle the increased input of hydrogen chloride during inadequate performance of the water scrubber, and in that case, the pH of the effluent from the caustic scrubber would reliably indicate proper performance of the two-scrubber system. Under section 63.114 (a)(4)(i) of subpart G, am I required to install a pH monitoring device for the effluent from each scrubber, or only for the caustic scrubber?

Answer: Section 63.114 (a)(4)(i) does not explicitly address the question of required monitoring for combinations of two or more scrubbers operating in series. Under the circumstances described above, it would be consistent with EPA's intent that a pH monitor could be used only for the effluent from the caustic scrubber, which is the last scrubber in the series. It is recommended that owners or operators of sources who wish to monitor other parameters or who wish to clarify the monitoring obligation for scrubbers in series contact the permitting authority or the EPA Regional Office for the State or territory in which the facility is located for an official determination.

C. Process Wastewater Provisions -- Section 63.132 through 63.147

Subject Area: Section 63.135 -- Containers

Question: If an improper work practice or a control equipment failure is detected for a "container" subject to the wastewater provisions of subpart G, 40 CFR §63.135, is it permissible to take the container out of service or destroy it, rather than making repairs?

Answer: Yes. The term "repair" is not defined in subpart G. However, the intent of the provision is to fix the defective item of equipment or replace it with a nondefective item of

equipment. There is a related term "first attempt at repair" which is defined in section 63.111 as "to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere." Thus, EPA intends that when repairs are completed, the leakage of organic material to the atmosphere will cease. Properly destroying a container (i.e., destruction in a manner that avoids uncontrolled emissions), or taking the container out of organic HAP service, will stop the leakage of organic HAP to the atmosphere. Thus, these actions constitute "repair" within the intent of section 63.135(f).

Subject Area: Section 63.136 -- Individual Drain Systems

Question: In the wastewater provisions of subpart G, several sections refer to wastewater streams or emissions that are conveyed by hard-piping. Does conveyance by hard-piping include situations where, between two lengths of pipe, there is a junction box?

Answer: No. Conveyance by hard-piping means all hard-piping. If the conveyance is partly by hard-piping and partly by other means (even if the emissions of the other constituents are suppressed in compliance with the requirements of section 63.136), then the owner or operator may not claim that the conveyance is by hard-piping.

Question: According to section 63.136(e)(2)(ii) of subpart G, I am allowed to vent a junction box to atmosphere if it is operated with a constant wastewater level. Nothing is ever perfectly constant. What must I do to comply with this provision?

Answer: The level of liquid in the junction box must not fluctuate more than slightly over time, in order to avoid a “piston effect” that drives organic HAP vapors out of the junction box. For example, if the level is as nearly constant as a sensor-triggered pump can reasonably achieve, that will be sufficient even though the pump may not be running constantly. As an extreme opposite example, you would not be allowed to activate the pump only when the junction box is almost full, unless that is the designated level which will be maintained. Please recall that water seals are required, and the vent pipe must meet specific length and diameter limits specified in section 63.136 (e)(2)(ii)(A), which are at least 90 centimeters in length and no greater than 10.2 centimeters (4 inches) in nominal inside diameter.

Subject Area: Section 63.145 -- Test Methods and Procedures to Determine Compliance

Question: Why does section 63.145(b) say some concentrations may be *multiplied* by Fm factors, and other concentrations may be *divided* by Fm factors?

Answer: The wastewater provisions of subpart G are based on chemical concentrations

determined according to Method 305. Method 305 measures the concentration of the compounds of concern with an adjustment for the volatility of the compound. However, other analytical methods measure the actual concentration of the compound of concern in water and therefore tend to give higher numbers than Method 305 (i.e., other methods do not adjust for volatility). The EPA considers it appropriate to adjust measurements determined by other methods, in order to obtain a concentration equivalent to what Method 305 would have shown. Multiplying by the Fm factor (a number less than 1) will accomplish that. In contrast, if you determine the concentrations initially by using Method 305, it would be inappropriate to adjust the numbers for HON compliance, because Method 305 is the Method on which the HON thresholds were based. Consequently, section 63.145 (b) does not allow you to *multiply* those numbers by the Fm factors. However, you may wish to *divide* those numbers by the Fm factors under some circumstances, as will be explained below.

Question: Why might I want to *multiply* a concentration (derived by a method other than Method 305) by a compound-specific Fm factor?

Answer: As explained in the preceding response, compound-specific Fm factors are used to adjust for volatility of the compound. You may wish to use this option allowed under section 63.145 (b) in situations where concentration measurements obtained using a method other than Method 305 show that a wastewater stream is a Group 1 wastewater stream. If the measured concentration is adjusted by the compound-specific Fm factor, the concentration for the stream may decrease below the regulatory threshold and the stream would then be classified as a Group 2 wastewater stream.

Question: Why might I want to *divide* a concentration determined by Method 305 by a compound-specific Fm factor?

Answer: You would make this adjustment in situations where you need a concentration estimate that is more reflective of the actual concentration in the wastewater stream. Such adjustments are required in cases where it is necessary to know the mass of organics in the wastewater stream; see section 63.145 (c)(1) or section 63.145 (d)(1) for examples of such a requirement.