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NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) FOR THE POLYETHER POLYOLS MANUFACTURING INDUSTRY:

SUMMARY OF PUBLIC COMMENTS AND RESPONSES

U.S. Environmental Protection Agency
Region 5, Library (PL-12J)
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ENVIRONMENTAL PROTECTION AGENCY

National Emission Standards for Hazardous Air Pollutants for the
Polyether Polyols Manufacturing Industry–
Background Information for Promulgated Standards

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U. S. Environmental Protection Agency
Research Triangle Park, NC 27711

(Date)

1 The final National Emission Standards for Hazardous Air Pollutants (NESHAP) will regulate emissions of hazardous air pollutants from polyether polyols manufacturing operations. Only those operations that are part of major sources under section 112(d) of the Clean Air Act as amended in 1990 will be regulated.

2 Copies of this document have been sent to the following Federal Departments: Labor, health and Human Services, Defense, Transportation, Agriculture, Commerce, interior, and Energy; the national Science Foundation; and the Council on environmental Quality; members of the State and Territorial Air Pollution program Administrators; the Association of Local Air Pollution Control Officials; EPA Regional Administrators; and other interested parties.

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1.0 SUMMARY

1.1 BACKGROUND

On September 4, 1997 (62 FR 46804), the United States Environmental Protection Agency proposed National Emission Standards for Hazardous Air Pollutants (NESHAP) for Polyether Polyols Production under Section 112(d) of the Act.

Public comments were requested on the proposed standard and comment letters were received from industry representatives and governmental entities. A total of 13 comment letters were received. Table 1-1 presents a listing of all persons that submitted written comments, their affiliation, and their docket item number. A public hearing was not requested.

The written comments that were submitted on the proposed rule have been summarized, and responses to the comments are included in the following sections. This summary of comments and responses serves as the basis for revisions made to the NESHAP between proposal and promulgation.

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Air Docket A-96-38 Item Number	Commenter and affiliation
IV-D-01	T.A. Threet, Counsel, The Dow Chemical Company, Midland, MI
IV-D-02	M. Wax, Deputy Director, The Institute of Clean Air Companies, Washington, D.C.
IV-D-03	J.P. Keigher, Responsible Care Manager, Olin Chemicals Group, Brandenburg, KY
IV-D-04	D.W. Gustafson, EH&S Regulatory Management; T.A. Threet, Legal, The Dow Chemical Company, Midland, MI
IV-D-05	M.A. Healey, Director, Federal Environment and Transportation Issues, The Society of the Plastics Industry, Inc., Washington, D.C.
IV-D-06	M. Manning, Corporate Ecology & Safety, BASF Corporation, Enka, NC
IV-D-07	J.C. Hovious, Assistant Director, Environmental Affairs, Union Carbide Corporation, Danbury, CT
IV-D-08	M.L. Mullins, Vice President, Regulatory Affairs, Chemical Manufacturers Association, Arlington, VA
IV-D-09	J.A. Dege, Jr., Manager - Air Programs, DuPont SHE Excellence Center, Wilmington, DE
IV-D-10	D.C. Boyle, Director, Environmental, Health and Safety, ARCO Chemical Company
IV-D-11	D.C. Boyle, Director, Environmental, Health & Safety, ARCO Chemical Company, Newtown Square, PA
IV-G-01	C.F. Johnston, Environmental Manager, ICI Chemicals & Polymers, New Castle, DE
IV-G-02	J.C. Hovious, Assistant Director, Environmental Affairs, Union Carbide Corp, Supplemental Comments, Danbury, CT

1.2 SIGNIFICANT CHANGES SINCE PROPOSAL

In response to comments received on the proposed standards, several changes have been made to the final rule. A summary of the substantive changes made since the proposal in response to comments is provided in the following sections. Additional information on the final rule is contained in the docket for this rule (Docket A-96-38).

1.2.1 Primary Product Determination

One commenter expressed confusion over aspects of the primary product determination in the proposed rule, particularly the provision that specified how a non-PMPU could become a PMPU after the initial determination based on actual production. The EPA agreed that this portion of the proposed primary product provisions needed clarification. In fact, the EPA conducted an overall review of the proposed primary product provisions, and concluded that several structural and clarifying changes were needed. In addition, the EPA noted some potential situations that could occur that were not addressed in the proposed provisions.

The specific concern raised by the commenter was addressed by clearly stipulating how owners or operators of non-PMPUs are to determine whether they have become subject to the rule after the initial primary product determination. The final rule specifies that non-PMPUs that have produced polyether polyols in the past five years are to annually re-determine the primary product using actual production values. The rule also specifies how a non-PMPU process unit is to determine the primary product if it has not produced polyether polyols in the past five years, but plans to produce polyether polyols in the future.

The proposed provisions required that initial primary product determination be based on a five-year prediction of anticipated production by the owner or operator. The EPA is aware that, in some instances, the owner or operator may not be able to make such a prediction. Clarifications and/or revisions were made to the primary product provisions to address this situation. First, in the initial determination, the time frame

for which production must be anticipated for new process units was changed to one year. Also, provisions were added for owners or operators that cannot determine the primary product based on anticipated five-year (or one-year) production. In such situations, the process unit is designated as a PMPU and is subject to the existing source provisions of subpart PPP, if polyether polyols have been produced in an existing process unit for 5 percent or greater of the time since September 4, 1997. For new process units, if polyether polyols will be produced at any time during the first year of production, then the unit is a PMPU and subject to the new source provisions of subpart PPP.

In addition to the provisions discussed above that specify how non-PMPUs are to determine if they become PMPUs and subject to subpart PPP, the EPA has also clarified and expanded the provisions that specify how the PMPU designation can be removed from a process unit. The first case, which is retained from the proposed rule, is where production of polyether polyols ceases and the owner or operator does not anticipate the production of polyether polyols in the future. Also, the EPA has added provisions that specify procedures for a primary product re-evaluation based on actual production. If an owner or operator of a PMPU finds that another product has been produced for a greater amount of time than polyether polyols over a specified time period (previous five years or since beginning the production of polyether polyols), then the PMPU designation would be removed provided that production of the "new" primary product must make the process unit subject to another part 63 NESHAP. If the new primary product is not subject to another part 63 NESHAP and polyether polyols continue to be produced, the process unit continues to be classified as a PMPU and continues to be subject to subpart PPP.

The EPA has also added provisions addressing the determination of the primary product in situations where two or more products are produced simultaneously. Also, clarifications were made in the reporting and recordkeeping requirements associated with the primary product determination.

1.2.2 Definition of "Polyether Polyol"

In the proposed rule a "Polyether Polyol" was defined as "a compound formed through the polymerization of ethylene oxide (EO) or propylene oxide (PO) or other cyclic ethers with compounds having one or more reactive hydrogens (i.e., a hydrogen atom bonded to nitrogen, oxygen, phosphorus, sulfur, etc.) to form polyethers. This definition excludes materials regulated under the HON, such as glycols and glycol ethers."

One commenter requested that EPA revise the definition of "polyether polyol" to clarify that the production of typical alkanolamines, which lack repeating ether units, is not regulated under subpart PPP. Another commenter explained that hydroxy ethyl cellulose is formed through the reaction of EO on cellulose polymer molecules. This commenter requested that the EPA clarify whether hydroxy ethyl cellulose manufacturing is included or excluded from the definition of "polyether polyol."

The EPA has revised the definition of "polyether polyol" in the final rule addressing both these issues by excluding the production of hydroxy ethyl cellulose and by specifying that a polyether must have more than two ether bonds.

1.2.3 The Definition of a "Process Vent"

The definition of "process vent" in the proposed rule did not include any cutoffs based on the flow or HAP concentration of the process vent. One commenter was concerned that the definition of "process vent" did not have a *de minimis* cutoff, as does the definition of "process vent" in the HON. The cutoff suggested by the commenter (0.005 weight-percent total organic HAP) has been incorporated into the final definition of a process vent, for process vent from continuous unit operations. This decision was based on the fact that the EPA considers it to be impractical to impose requirements for process vent streams with such low HAP concentrations (less than 0.005 weight percent organic HAP). For similar reasons, a de minimis cutoff for process vents from batch unit operations was also added in the final rule. In the Polymers and Resins I and IV NESHAP, the batch process vent definition contains a de minimis cutoff of 225

kg/yr uncontrolled HAP emissions. The EPA believes that this level is also an appropriate de minimis level for process vents from batch unit operations in the polyether polyols industry.

1.2.4 Start-up and Shutdown Definitions

One commenter noted that the definitions of "start-up" and "shutdown" in the proposed rule were not parallel. The definitions were revised in the final rule.

1.2.5 A Concentration Limit as an Alternative Epoxide Process Vent Emission Limit for New Sources

The proposed rule did not include a concentration limit as an alternative epoxide process vent emission limit for new sources. The preamble to the proposed rule solicited comments on this subject, to which four commenters responded. All four recommended a 20 ppmv alternative concentration limit. The commenters indicated that the preambles for the New Source Performance Standard for VOC Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations (40 CFR 60, subpart NNN), and the HON (40 CFR 63, subpart G) provided rationales for a 20 ppmv limitation that also are applicable to the polyether polyols rule.

In subpart NNN's preamble (48 FR 48932, October 21, 1983), the EPA stated that the outlet concentration of 20 ppmv was established based on kinetic calculations of incinerators. It was demonstrated that, at a given temperature and residence time, a stream with a low inlet concentration could not demonstrate an outlet concentration below 20 ppmv. In the preamble to the proposed amendments to the HON (61 FR 43698, August 26, 1996), the EPA expanded the application of this lower bound concentration performance standard to control/recovery devices other than incinerators. In the HON preamble, the EPA explained that recovery devices are designed to typically reduce emissions to the same outlet concentration level given a relatively wide range of inlet concentrations. When the inlet concentration is substantially below the design maximum leading conditions (and begins to approach the residual level in the outlet stream) the recovery device efficiency will decrease.

Therefore, the final rule contains an alternative concentration limit of 20 ppmv, which is measured at the outlet of the combustion, recovery, or recapture device. This alternative provides owners or operators of affected sources with the ability to comply with the standard when the inlet concentration to the combustion, recovery, or recapture device drops below the point where optimum control efficiency can be achieved, and when it is not feasible to require optimum percent reduction levels to be met. This rationale for allowing the 20 ppmv alternative is applicable for both new and existing sources, even though the new source percent reduction limitation is more stringent than the existing source percent reduction limitation. Therefore, the final rule allows this alternative for both new and existing sources.

Another commenter advocated that the alternative 20 ppmv concentration limit should apply more broadly to process vents that do not utilize a combustion, recovery, or recapture device to reduce epoxide emissions. The examples provided by the commenter included vents from equipment practicing a very long extended cookout or vents from equipment where the epoxide content is very low and emissions are very small.

The EPA understands that the outlet concentration after extended cookout (ECO) may be as low as that after a combustion, recovery, or recapture device. However, this is not based on technological limitations of ECO, as is the basis for the 20 ppmv concentration limit for combustion, recovery, and recapture devices. Therefore, the EPA believes that allowing the 20 ppmv concentration limit for ECO is not appropriate.

Further, the EPA does not believe that it is appropriate to use this alternative concentration requirement as a de minimis cutoff for vents where the epoxide content is very low and emissions are very small. The EPA believes that the HAP concentration and emission de minimis cutoffs in definition of the process vent (discussed above in Section 1.2.3) adequately address these vents.

Finally, the proposed existing source concentration limit was 20 ppmv of total epoxides. Other rules, such as the HON, allow the option of determining outlet concentration limits on a TOC basis. In many instances in the polyether polyols industry, all the TOC in the emission stream will be epoxides, making the TOC and epoxide concentration equivalent. In fact, if there were other TOC in the stream, compliance with a 20 ppmv TOC limit would mean that the epoxide concentration would necessarily be less than 20 ppmv. For these reasons, the EPA believes that having the alternative concentration limits based on total epoxides or TOC is appropriate for this rule. As discussed later in Section 1.2.11, the EPA decided to allow Method 25A (which is designed to measure TOC) to determine compliance with the alternative concentration limits.

1.2.6 Flares as a Reference Control Technology

Two commenters requested that the EPA allow flares as a reference control technology for process vents at existing and new sources. The EPA agreed with the commenters that flares are an acceptable reference control technology for situations where the required organic HAP emission reduction is 98 percent or less. The final rule was revised to allow flares as a reference control technology for epoxide process vent emissions at existing sources, for Group 1 nonepoxide HAP process vent emissions at new and existing sources, and for nonepoxide HAP process vent emissions from catalyst extraction at new and existing sources. However, the data presented by the commenters do not support a destruction efficiency of 99.9 percent for flares combusting EO and PO, which is the equivalent percent reduction efficiency for the epoxide process vent limitation for new sources. Therefore, the EPA cannot allow flares as a reference control technology for epoxide process vent emissions at new sources.

1.2.7 Group Determination on an Individual Process Vent Basis for Nonepoxide Emissions from Making or Altering the Product

At proposal, the rule required "group" determinations (to determine whether control is required) for nonepoxide process

vent emissions from making or modifying the product be made for the combination of all the associated process vents in the PMPU. Two commenters raised the point that the equations and other criteria for deciding whether a vent is Group 1 or Group 2 were based on cost-effectiveness decisions of controlling individual process vents, and were borrowed from other rules that apply them on an individual vent basis. The commenters requested that owners or operators have the option of making the group determinations for nonepoxide process vents on a vent-by-vent basis, rather than being required to do the group determination for the combination of all process vents.

The EPA agrees with the statement that the Group 1 criteria is essentially a cost-effectiveness decision. The EPA also agrees that the group determination criteria in subpart PPP were borrowed from other MACT standards, specifically the HON (for process vents from continuous unit operations) and Polymers and Resins I and IV (for process vents from batch unit operations). Finally, the EPA recognizes that in all three of the rules cited above, the group determination has been applied to individual process vents.

The EPA agrees that the total resource effectiveness (TRE) index approach was developed for, and has been applied to, individual vents. The EPA further agrees that applying the TRE approach to the combination of process vents from continuous unit operations in a PMPU is not appropriate without conducting an analysis to validate the equations for the combination of vents, or to develop new equations. Rather than take this approach, the EPA decided to apply the Group 1 criteria for process vents from continuous unit operations that use nonepoxide organic HAP to make or modify the product to individual process vents.

For process vents from batch unit operations that use nonepoxide organic HAP to make or modify the product, the Group 1 equations are the same equations employed in the Polymers and Resins I and IV MACT standards (40 CFR 63, subparts U and JJJ, respectively). The EPA agrees with the commenters that in the polymers and resins standards, the Group criteria are applied to

individual vents. However, unlike the TRE for process vents from continuous unit operations, the group determination approach that is used in subparts U, JJJ, and PPP, was originally developed to be used for either individual vents or the combination of vents. The original source of the batch vent group determination approach is the EPA document "Control of Volatile Organic Compound Emissions From Batch Processes - Alternative Control Techniques Information Document" (EPA-453/R-94-020), i.e., the Batch ACT. On page 7-5 of this document, the EPA states "The control option requirements presented in Chapter 6 apply to (1) individual batch VOC process vents to which the annual mass emissions and average flowrate cutoffs are applied directly, and (2) aggregated VOC process vents for which a singular annual mass emission total and average flowrate cutoff value is calculated and for which the option is applied across an aggregate of sources." Therefore, for process vents from batch unit operations, the EPA disagrees with the statements that the group determination equations are being used "in a totally different context" and that there is no supporting rationale for using them. The final rule retains the requirement that the Group criteria be applied to the nonepoxide organic HAP emissions from the combination of process vents from batch unit operations associated with the use of nonepoxide organic HAP to make or modify the product.

1.2.8 Possibility of Dual Controls for Nonepoxide HAPs for Making or Modifying the Product

The proposed rule required group determinations the nonepoxide HAP process vent emissions from making or modifying the product. One commenter pointed out that the proposed rule was not clear about when and where to make this group determination. The commenter also noted that a process vent that uses a control technique for epoxides only (e.g., a scrubber or ECO) would require a second control technique for the nonepoxide HAP emissions.

The EPA considered the commenter's points and the options suggested by the commenter. The final rule requires that the

group determination for nonepoxide HAP emissions be made after the stream has been controlled for the epoxide emissions. The EPA believes that this approach addresses the situation regarding the possibility of dual control. If the epoxide control device also reduces nonepoxide emissions, then that control would impact whether the vent (or group of batch vents) is Group 1. Therefore, control of nonepoxide emissions along with the epoxides will impact whether controls are required at all. If the vent (or group of vents) still has sufficient nonepoxide organic HAP emissions after the epoxide control device to satisfy the Group 1 criteria, the EPA does not believe it is unreasonable to require an additional control device to achieve the specified percent reduction of the nonepoxide emissions.

1.2.9 Worst-Case Testing Requirements

The proposed rule required that performance tests for process vents be conducted during worst-case operating conditions for the process. Four commenters requested that this requirement be deleted from the rule.

Worst-case testing requirements were not deleted from the final rule, but were revised. The EPA's reason for requiring compliance testing under worst case conditions is so that the reduction efficiency of the control device is documented under the most challenging conditions for that control device, especially since commenters noted how difficult it is to represent a typical venting episode. The phrase "worst-case" in the proposed rule referred to the operating conditions of the process (or PMPU). The worst-case testing requirement has been revised to require testing during the worst-case conditions with respect to the combustion, recovery, or recapture (i.e., control) device.

Presumably, the control device should function as well or better under conditions that are not as challenging. By revising the rule to require testing during the worst-case conditions with respect to the control device, continuous monitoring of operating parameters established during the test provides a reasonable

measure of continuous compliance with the efficiency requirement under all conditions.

The commenters asserted that there is no obvious technological difference that would require a different approach to performance testing in this rule as from other regulations have allowed performance tests during representative operating conditions. The EPA disagrees with the commenters' rationale. The EPA believes that there are obvious technological differences from the polyether polyols industry to industries previously regulated (particularly SOCMI type industries) since polyether polyols are produced on a batch basis. There is much more variance in the process vent parameters (i.e., flow and concentration) for process vent streams from batch unit operations, compared to process vents from continuous unit operations. In fact, this point was stressed by commenters. The EPA believes that it is more appropriate to compare the requirements of this rule with other rules that also regulate industries that operate on a batch basis. For this rule the EPA not only compared the worst-case testing conditions with other rules regulating batch processes, but adopted similar language to that which is used in the Pharmaceutical Production NESHAP (40 CFR 63, subpart GGG).

The EPA would like to clarify a misconception related to these worst-case testing provisions. It is not the intent that production schedules be significantly altered, or that impractical scenarios be created for testing that would never occur in actual production. In other words, the EPA intends that testing be conducted for the worst-case situation that can reasonably be expected to occur during normal production. In order to clarify this intent, the EPA has added language in §63.1438, the general testing section of the rule. This new language specifies that absolute worst case testing conditions does not include situations that could cause damage to equipment, situations that necessitate that the owner or operator make product that does not meet an existing specification for sale to

a customer, or situations that necessitate that the owner or operator make product in excess of demand.

The added language in §63.1438 also specifies the time period in which the worst-case conditions are to be determined. This time period is either the 6-month period that ends 2 months before the Notification of Compliance Status is due, or the 6-month period that begins 3 months before the performance test and ends 3 months after the performance test. By limiting the worst-case conditions to one of these 6-month periods, the rule eliminates the need for an owner or operator to consider endless possible production scenarios, and allows them to focus on those production scenarios in the 6-month period selected by the owner or operator.

In conclusion, the EPA believes that requiring that performance tests for process vents from batch unit operations during absolute worst-case conditions is necessary to ensure that the emission limitations in the rule are achieved. The EPA also believes that, with the modifications to the rule made after proposal, that the worst case provisions are reasonable and workable for the polyether polyols industry.

1.2.10 Engineering Calculations as an Alternative to Performance Testing

Three commenters voiced concern over the feasibility, accuracy, expense, and safety of measuring emissions from process vents from batch unit operations. The commenters stated that a performance test on these short duration, variable vents is likely to be very inaccurate and potentially dangerous. Two of the commenters recommended that a material balance based on common engineering calculations should be allowed in the final rule as a compliance demonstration option. The commenters stated that engineering calculations would provide a more accurate, less costly, and significantly safer means to verify compliance.

The EPA recognizes that there are issues related to the feasibility, accuracy, and expense of testing process vents from batch unit operations. The EPA would refer readers to Section 7.3 of EPA's "Control of Volatile Organic Compound Emissions from

Batch Processes - Alternative Control Techniques Information Document" EPA-453/R-94-020 for a detailed discussion of these issues. However, the EPA does believe that accurate emission tests can be conducted for these process vents.

One reason that the EPA has historically required performance testing for control devices that reduce emissions from process vents, when engineering analyses is allowed for other emission sources (such as storage vessels), is that emissions from process vents are typically significantly larger than those from other emission sources. When emissions are larger, the EPA believes that it is important that the effectiveness of the control device be accurately determined by a performance test.

Given that the magnitude of the emissions was a part of the basis for requiring performance tests, the EPA believes that it is reasonable to allow an alternative to performance testing for a process vent control device if emissions being routed to the device are comparable to the emissions that would be vented to control devices for other emission sources for which performance tests are not required. Therefore, the EPA decided that engineering assessments could be allowed in lieu of performance testing for "small" control devices that reduce HAP emissions from process vents. For the Pharmaceutical Production NESHAP, the EPA also determined that it was appropriate to allow engineering calculations as an alternative to performance testing for small control devices, where a small control device is defined as one with uncontrolled annual HAP emissions of less than 10 tons per year. The EPA believes that this level of uncontrolled emissions is also appropriate to define a small control device for the polyether polyols industry. Therefore, the final rule allows the use of a design evaluation instead of a performance test if the control device receives less than 10 tons per year uncontrolled emissions from one or more PMPUs.

The exemption from performance testing for small control devices discussed above should help to alleviate some of the concerns raised by the commenters. Many of the concerns related

to the feasibility, accuracy, and expense of testing these batch vents are due to the short duration, variable nature of batch venting episodes. The EPA believes that if a control device receives more than 10 tons per year of uncontrolled HAP emissions, it is likely that the vent streams being routed to the device are of longer duration and less variable, thus making it easier to conduct the performance test.

However, the EPA also recognizes that the small control device exemption will not totally eliminate the concerns raised by the commenters. Therefore, the EPA made other changes to the testing requirements to address potential problems related to the testing of batch process vents, which are briefly discussed below.

Since batch emission episodes can be less than one hour, the rule was changed to specify that test runs be conducted for the complete duration of the batch venting episode or one hour, whichever is less. Other references to one-hour periods were also removed.

The proposed rule required the use of Method 1 or 1A to select sampling sites. Commenters claimed that, in many instances, neither method would be appropriate for the batch vent streams. The rule was restructured by separating the paragraph addressing the use of Method 1 or 1A for sample or velocity traverses from the paragraphs specifying the sampling site location. In other words, if the owner or operator conducts a sample or velocity traverse, the final rule requires that Method 1 or 1A be used. However, it does not require that these methods be used to select sampling sites.

With regard to the safety issue, the final rule states that, in cases where it is imperative to limit any leakage of emissions into the work atmosphere, a sampling port with a double seal should be installed so that the probe can be inserted and removed without any leakage of exhaust gas into the work atmosphere. Further, the final rule requires that permanent sampling ports be installed at the inlet to the control device during a period when it is most convenient (or least disruptive) to shut the process

down (e.g., during a scheduled maintenance outage). In addition to these specific requirements, a general requirement was added that allows owners or operators to eliminate potential testing scenarios if the test could create a situation which could cause plant or testing personnel to be subject to unsafe conditions.

In conclusion, the EPA acknowledges that issues exist with regard to the testing of emissions from batch process units. Changes have been made to the final rule to address these issues. However, the Agency maintains that numerous other industries that utilize batch processes are regulated by MACT standards, and are able to conduct performance tests. The EPA believes that the commenters did not provide sufficient rationale why the polyether polyols industry presents unique testing problems that are not present in these other industries that utilize batch processes. Therefore, the final rule requires that control devices that receive more than 10 tons per year of uncontrolled organic HAP emissions conduct tests to demonstrate control device performance.

1.2.11 Revisions to the Test Method Requirement for Control Efficiency Determination

The proposed rule required Test Method 18, or any other method or data that has been validated according to Method 301 for control efficiency determinations. Three commenters noted that this requirement was inconsistent with the test methods used by the facility whose data established the new source MACT floor for epoxide process vent emissions (Method 25A was used). These commenters discussed the expense of Method 301 validation, and noted that the proposed rule relied on Method 25A in other parts of the rule (for wastewater), and that other rules (such as the Polymers and Resins IV rule) allowed Method 25A without Method 301 validation.

The EPA agrees that allowing of the use of Method 25A would provide more flexibility, and potentially provide the opportunity for less costly testing. However, the EPA believes that Method 25A should be used only after an accurate response factor has been determined. The importance of calibrating a flame

ionization detector (FID) reading obtained using Method 25A with respect to a certain compound (adjustment by response factor) depends on how the Method will be used to demonstrate compliance with the standard. In general, the EPA believes that an accurate response factor is necessary in cases where Method 25A is used to demonstrate control efficiency across a device where the composition of the stream may change, or in situations where multiple components, including non-HAP VOCs, are present. Because the relative proportion of organic compounds may change across the control device, appropriate response factors are needed to accurately quantify TOC at the inlet and outlet of a control device. In addition, the EPA believes that owners and operators should have the opportunity to demonstrate compliance at the outlet of a control device by measuring 20 ppmv TOC or less. Therefore, the final rule does allow the use of Method 25A under certain conditions. The following describes the choices of test methods allowed in the final rule: (1) Method 18 to determine HAP concentration in any control device efficiency determination; (2) Method 25 to determine total gaseous nonmethane organic concentration for control efficiency determinations in combustion devices; (3) Method 25A to determine the HAP or TOC concentration for control device efficiency determinations under the conditions specified in Method 25 of appendix A of part 60 for direct measurement of an effluent with a flame ionization detector, or in demonstrating compliance with the 20 ppmv TOC outlet standard.

1.2.12 Flexibility of the Determination of a Site-specific Onset of Extended Cookout

The proposed rule defined the onset of the extended cookout (ECO) as the point when the epoxide concentration in the liquid is equal to 25 percent of the concentration of epoxide in the liquid at the end of the epoxide feed. In addition to using this "default" definition of the ECO onset, the proposed rule allowed owners and operators the option of defining the onset of the ECO for their specific process, at a point other than when the reactor epoxide partial pressure equals 25 percent of the reactor

partial pressure at the end of the epoxide feed. The factors in setting a site-specific ECO onset were the profit variable margin (the difference between variable costs (raw materials and energy) of the product) and the cost of the raw material. One commenter objected to allowing the establishment of a site-specific ECO onset based on economics, stating that economics can be subjective, making it easy to demonstrate a 98-percent emission reduction.

A late submittal from one commenter refuted the first commenter's argument that the onset of ECO is subjective, stating that one of the pieces of economic information, the price of the raw material, comes from the Chemical Market Reporter. However, the other variable in defining the onset of ECO, the product variable margin and the selling price, was the variable that provoked the original commenter's concern. In fact, the commenter providing the late comment stated that the product variable margin has "a much stronger correlation between product profitability and the economic onset of ECO."

Due to the subjectivity of the product variable margin, and the strong correlation between the product variable margin and the ECO onset, the EPA agreed with the first commenter. Therefore, the EPA revised the final rule, and the determination of a site-specific ECO onset is not allowed.

1.2.13 Parameter Monitoring Excursion Definitions

In reviewing the sections associated with parameter monitoring excursions as a result of public comments, the EPA decided to restructure and expand these provisions in order to simplify and clarify these provisions in subpart PPP.

Basically, there are two ways an excursion can occur. The first is if the average parameter value measured is above a maximum, or below a minimum, established value. The second is if insufficient monitoring data are collected. The proposed rule had a definition of an excursion for each of these situations. However, the EPA realized that the proposed definitions of excursions were not well suited to emission points where

intermittent venting episodes occur, such as storage vessels that vent only when being filled and process vents from batch unit operations. Therefore, paragraphs were added to the final rule to define excursions for these situations.

Also, the EPA realized that while excursions for owners or operators using extended cookout to comply with the epoxide emission limitations were defined in the extended cookout section of the rule, a reference to those definitions was needed in the parameter monitoring levels and excursions section (§63.1438). Therefore, another paragraph was added referring to the excursion definitions for ECO.

With regard to calculating averages, §63.1439(d)(7) of the final rule specifies that monitoring data collected during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments; start-ups; shutdowns; malfunctions; and periods of non-operation of the affected source that result in the cessation of emissions to which the monitoring applies are not to be included when calculating any average.

Language has also been added to §63.1438(f) to clarify when monitoring data are insufficient. An excursion due to insufficient monitoring data occurs if measured values are unavailable for a specified percentage of time the control device is in operation. First, the rule now clairifies the situations that cause measured values to be unavailable: monitoring system breakdowns, repairs, calibration checks, or zero (low-level) and high-level adjustments. Second, the final rule clarifies that periods of start-ups; shutdowns; malfunctions; and periods of non-operation of the affected source that result in the cessation of emissions to which the monitoring applies are not to be included in defining the period of control device operation.

Finally, commenters requested that the EPA clarify the appropriate use of parameter monitoring data for enforcement purposes. Paragraph §63.1438(e) of the final rule has been rewritten to add specificity regarding what the owner or operator is out of compliance with when an excursion occurs (that is not

an excused excursion). If an organic monitoring device is used to monitor HAP or TOC concentration at the outlet of a recovery or recapture device, the final rule clarifies that each excursion where the daily average value of monitored parameters is above the maximum, or below the minimum established parameter level, represents a violation of the emission limit. Similarly, an excursion where the daily average temperature is above the maximum established temperature for a condenser represents a violation of the emission limit. Other excursions where average values are above the maximum, or below the minimum established parameters represent violations of the operating limit, rather than violations of the emission limit. Also, excursions due to insufficient monitoring data are violations of the operating limit.

1.2.14 Start-up, Shutdown, and Malfunction Plan

The proposed rule required that monitoring data be collected during periods of SSM. Commenters requested that the EPA allow a provision for ceasing to collect monitoring data at a particular control device if operating that monitoring device during periods of SSM would damage the monitoring device. The EPA revised the final rule to allow the owner or operator to cease collecting monitoring data if the owner or operator has illustrated that the monitoring device would be damaged or destroyed if it were not shut down during the SSM period. Such a provision must be included in the Start-up, Shutdown, and Malfunction Plan. Getting such a provision in the Start-up, Shutdown, and Malfunction Plan is accomplished by submitting a request, and rationale defending the request, in the Precompliance Report or in a supplement to the Precompliance Report.

2.0 SUMMARY OF PUBLIC COMMENTS AND RESPONSES

A total of twelve letters commenting on the proposed standards and the supplementary information document (SID) for the proposed standards were received. A public hearing was not requested and, therefore, none was held. A list of the commenters, their affiliations, and the EPA docket number assigned to their correspondence is given in Table 2-1.

For the purpose of orderly presentation, the comments have been categorized under the following topics:

Applicability
Compliance and Relationship to Other Rules
Definitions
Process Vents Control Requirements
Extended Cookout as a Control Option
Process Vent Monitoring Requirements
Group Determination for Nonepoxide HAP Emissions
Emission Factor
Storage Vessel
Wastewater
Equipment Leak Provisions
Testing Requirements
Parametric Monitoring
General Recordkeeping and Reporting
Editorial Comments
Legal Considerations

In the comment summaries and responses contained in the following sections, when a change to specific rule language is discussed, the new language is represented by <u>underlining</u>, while the text that the commenter recommended removing or the EPA has decided to remove is represented in ~~strikeout~~ font.

2.1 APPLICABILITY

2.1.1 PMPUs Without Organic HAP

Comment: Three commenters (IV-D-04, IV-D-05, and IV-D-07) stated that PMPUs that do not use or manufacture any organic HAP should comply with 63.1420(b)(1) or (b)(2), not (b)(1) and (b)(2). The equivalent of (b)(2) originated in the HON as a settlement provision. According to the commenters, its intent is to provide an alternative to (b)(1), so that if an owner or operator (some years after the compliance date) cannot find the original documentation that a process is exempt, this does not result in civil or criminal penalties for noncompliance with a recordkeeping requirement even though the process really does qualify for the exemption. According to the commenters, this approach also allows facilities to reduce the recordkeeping burdens by choosing not to keep records perpetually, so long as they accept the duty to demonstrate exemption on demand.

Response: The EPA agrees that §63.1420(b) should allow owners or operators at PMPU's without organic HAP to comply with **either** §63.1420(b)(1) or §63.1420(b)(2), and the EPA has made the suggested changes.

Comment: One commenter (IV-D-05) supported the exclusion of PMPUs without organic HAP from applicability to the rule. To clarify when a facility may qualify as not manufacturing or using an organic HAP, the commenter recommended adding a new sentence after the first sentence in §63.1420(b), as follows:

"A facility does not use or manufacture organic HAP if (a) a HAP is used for reasons other than making the product, such as, but not limited to, occasional cleaning of parts, or in paint that is applied to components of the facility, or (b) a HAP is produced as a trace impurity."

Commenter (IV-D-09) suggested that the phrase "or contains organic HAP as impurities only" be added for clarity so that §63.1420(b) would read: "The owner or operator of a PMPU that is part of an affected source, as defined in paragraph (a) of this

section, that does not use or manufacture any organic HAP, or contains organic HAP as impurities only, shall comply with paragraphs (b)(1) and (b)(2) of this section...." The commenter stated that this change would also be consistent with §63.1420(c)(8), which exempts "Vessels and equipment storing and/or handling material that contains no organic HAP or organic HAP as impurities only."

Response: The EPA does not feel that the new sentence that the commenter requested adding to §63.1420(b) is necessary. The EPA believes that the requirement to retain information to document the basis for the determination that the PMPU does not use any organic HAP, in §63.1420(b)(1), will verify to enforcement personnel that even when a PMPU uses HAP in cleaning supplies, or produces a product that contains a HAP as a trace impurity, the PMPU still fulfills the category of "PMPUs without organic HAP." Further, the EPA agrees with Commenter IV-D-09's suggestion to clarify §63.1420(b) by addressing the fact that HAP may be present as impurities only; however, the wording suggested by the commenter is not consistent with the section. Therefore, the EPA revised §63.1420(b) in the final rule to read as follows:

> "(b) PMPUs without organic HAP. The owner or operator of a PMPU that is part of an affected source, as defined in paragraph (a) of this section, but that does not use or manufacture any organic HAP shall comply with the requirements of either paragraph (b)(1) ~~and~~or (b)(2) of this section. Such a PMPU is not subject to any other provisions of this subpart and the owner or operator is not required to comply with the provisions of subpart A of this part. Products or raw material(s) containing organic HAP as impurities only are not considered organic HAP for the purposes of this paragraph."

2.1.2 Definition of Affected Source

Comment: One commenter (IV-D-05) stated that §63.1420 (a)(2), (a)(3), and (a)(4)(i) refer to emission points and equipment "associated with each group" of PMPUs in an affected source. This implies there could be more than one group.

Instead, the commenter suggested this section should read "associated with the group" of PMPUs in an affected source. There is only one group, and only one affected source, at a site. Therefore, the commenter recommended changing the text in §63.1420(a)(2) as follows:

"*Emission points and equipment*. The affected source also includes the emission points and equipment specified in paragraphs (a)(2)(i) through (a)(2)(iv) ~~(vi)~~ of this section that are associated with the ~~each~~ group of polyether polyol manufacturing process units (PMPU) making up an affected source, as defined in §63.1423."

The commenter requested that similar changes also be made in §63.1420(a)(3) and (a)(4)(i).

Response: The EPA agreed with the commenter, and has replaced the term "each group" with the term "the group," throughout §63.1420(a). In addition, to clarify that the equipment that was listed in §63.1420(a)(2) at proposal is part of the affected source, but separate from the PMPU, the list proposed under §63.1420(a)(2) has been moved to §63.1420(a)(4), the other subparagraphs in §63.1420(a) have been re-lettered accordingly, and, in the final rule, these paragraphs refer to "the group of one or more PMPU and associated equipment, as listed in paragraph (a)(4) of this section," instead of just referring to the "group of one or more PMPU," as was done at proposal.

As a point of clarification, the commenter is incorrect in their assertion that there can only be one affected source at a plant site. Under most circumstances, this would be the case. However, consider a situation where a new PMPU with potential HAP emissions greater than 10/25 tons per year is added to a plant site that already had an existing source consisting of a group of PMPUs. In accordance with §63.1420(g), the newly added PMPU would be a new affected source. Therefore, there would be two affected sources at the plant site, a new affected source and an existing affected source.

2.1.3 Processes Exempted from Affected Sources

Comment: One commenter (IV-D-05) requested that EPA delete the words "separate entities and" in §63.1420(d)(2). According to the commenter, they are not necessary, and they are potentially inaccurate. The term "entity" is typically interpreted as meaning a separate company, which the commenter believes was not the EPA's intent.

Response: The EPA agrees with this comment and has deleted the words as suggested. In the final rule, §63.1420(d)(2) reads "...(TSDF) requiring a permit under 40 CFR part 270 that are ~~separate entities and~~ not part of a PMPU...."

Comment: One commenter (IV-D-05) stated that §63.1420(d)(3) exempts reactions and processing that occur "after the manufacture of polyether polyol products." The commenter agrees that once the basic chemical reaction has occurred that produces the polyol, further reaction to form derivatives should be exempt. However, one possible interpretation of this section is that a polyether polyol "product" does not exist until after some of these additional steps have occurred. Therefore, for clarity, the commenter recommended changing these provisions as follows: "reactions or processing that occur after the ~~manufacture of polyether polyol products~~ epoxide polymerization is complete and after any catalyst removal step is complete."

Response: At proposal, §63.1420(d)(3) exempted "reactions or processing that occur after the manufacture of polyether polyol products." The commenter's suggested language is preferable, since it omits the use of the word "product." This eliminates the possible interpretation that a polyether polyol "product" does not exist until after some of the additional steps have occurred. However, there may be more than one catalyst removal step; therefore, the final rule reads "reactions or processing that occur after the ~~manufacture of polyether polyol products~~

epoxide polymerization is complete and after all catalyst removal steps are complete."

2.1.4 Necessity of Primary Product Redetermination

Comment: One commenter (IV-D-04) requested that EPA clarify whether redetermination of the primary product is mandatory or optional in §63.1420(e)(4)(i) of the proposed rule. The commenter currently interprets this paragraph as allowing, but not requiring, a redetermination of the primary product.

Response: The EPA agreed that the portion of the primary product provisions cited by the commenter needed clarification. In fact, the EPA conducted an overall review of the proposed primary product provisions, and concluded that several structural and clarifying changes were needed. In addition, the EPA noted some potential situations that could occur that were not addressed in the proposed provisions. The portions of the final rule that address the commenter's specific concern are discussed below, followed by a general summary of other changes to the primary product determination provisions.

With regard to the specific concern cited by the commenter, specifies procedures for a required annual applicability determination (beginning five years after the promulgation of the final rule) for non-PMPU's that have produced a polyether polyol product at any time in the preceding 5-year period or since the date that the unit began production of any product, whichever is shorter. The method for performing this annual applicability determination requires the owner or operator to calculate the percentage of total operating time each product was produced during the applicable time period. If a polyether polyol product was the product with the highest percentage of total operating time over that period, then the flexible operation unit is designated as a PMPU.

If a process unit has not produced any polyether polyol in the previous five-year period, but the owner or operator

anticipates that their non-PMPU will begin manufacturing a polyether polyol product in the near future, the provisions in paragraph 63.1420(e)(4) in the final rule apply. This provision basically requires the owner or operator to redetermine the primary product for the process unit based on their prediction on the anticipated production for the five years (or one year, for new process units) following the date that production of a polyether polyol will be initiated.

The proposed provisions required that the initial primary product determination be based on a five-year prediction of anticipated production by the owner or operator. The EPA was made aware that, in some instances, the owner or operator may not be able to make such a prediction. Clarifications and/or revisions were made to the primary product provisions to address this situation. First, in the initial determination, the time frame for which production must be anticipated for new process units was changed to one year. Also, provisions were added for owners or operators that cannot determine the primary product based on anticipated 5-year (or 1-year) production. First, the process unit is not a PMPU if the owner or operator cannot determine the primary product, but can determine that the primary product is not polyether polyol. If the owner or operator cannot determine a primary product, and cannot determine that polyether polyol is not the primary product, then the process unit is designated as a PMPU and subject to the existing source provisions of subpart PPP if polyether polyols have been produced in an existing process unit for 5 percent or greater of the time since September 4, 1997. The EPA believes that if production is so uncertain that an owner or operator cannot determine the primary product based on future production, the fact that polyether polyols have been produced in the unit since proposal of the rule for even a small amount of time is sufficient basis for having the process unit be subject to subpart PPP. For new process units, if polyether polyols will be produced at any time

during the first year of production, then the unit is a PMPU and subject to the new source provisions of subpart PPP.

In addition to the provisions discussed above that specify how non-PMPUs are to determine if they become PMPUs and subject to subpart PPP, the EPA has also clarified and expanded the provisions that specify how the PMPU designation can be removed from a process unit. The first case, which is retained from the proposed rule, is where production of polyether polyols ceases and the owner or operator does not anticipate the production of polyether polyols in the future. Also, the EPA has added provisions that specify procedures for a primary product re-evaluation based on actual production. If an owner or operator of a PMPU finds that another product has been produced for a greater amount of time than polyether polyols over a specified time period (previous five years or since beginning the production of polyether polyols), then the PMPU designation would possibly be removed. The stipulation is that production of the "new" primary product must make the process unit subject to another part 63 NESHAP. If the new primary product is not subject to another part 63 NESHAP and polyether polyols continue to be produced, the process unit continues to be classified as a PMPU and continues to be subject to subpart PPP.

The EPA has also added provisions addressing the determination of the primary product in situations where two or more products are produced simultaneously. Also, clarifications were made in the reporting and recordkeeping requirements associated with the primary product determination.

Comment: Two commenters (IV-D-04, IV-D-05) stated that §63.1420(e)(4)(ii) of the proposed rule applies "if a process unit meets the criteria of paragraph (e)(4)(i)...." However, Commenter IV-D-04 maintained that it is literally impossible for any individual process unit to meet all of the criteria of paragraph (e)(4)(i), because that paragraph has two opposite kinds of criteria. It has criteria for process units that are subject to the rule, and criteria for process units that are not

subject to the rule. So, in order to meet "the criteria" of paragraph (e)(4)(i), a process unit would have to be both subject to the rule, and not subject to the rule. To clarify this situation, the commenters recommended changing the text of paragraph (e)(4)(ii) as follows:

"If a process unit ~~meets the criteria of paragraph (e)(4)(i) of this section~~is subject to this subpart,..."

Response: As mentioned in the response to the previous comment, the EPA has largely re-written and re-structured §63.1420(e), to resolve problems such as the one pointed out by the commenters (IV-D-04 and IV-D-05). The paragraph referred to by the commenters [§63.1420(e)(4)(ii)] no longer contains the language that the commenters were concerned about, and conflicts such as the one mentioned by the commenters should not occur in the final version of §63.1420(e).

2.1.5 Primary Product Determination and Applicability

Comment: One commenter (IV-D-05) maintained that the sentence in §63.1420(e) that reads "Paragraphs (e)(3) through (e)(4) of this section describe whether or not a process unit is subject to this subpart" is inaccurate. The commenter stated that the referenced paragraphs merely describe the relevance of the primary product determination to whether or not a process unit is subject to this subpart. Therefore, for clarity, the commenter recommended changing this sentence, as follows:

"A process unit may be subject to the requirements of this subpart if it meets the criteria of paragraphs~~Paragraphs (e)(3) through~~ (e)(4) or (e)(5) of this section~~ describe whether or not a process unit is subject to this subpart~~."

Response: As discussed earlier, the EPA has re-structured §63.1420(e), and the language that the commenter objected to no longer exists in the final rule. The language in the final version of §63.1420(e) is much more explicit about the roles of

the different sub-paragraphs under §63.1420(e) than the proposed version was, and should cause no similar confusion.

2.1.6 Primary Product Determination for Non-Flexible Operation Units

Comment: One commenter (IV-D-05) requested that a paragraph be added between §§63.1420(e)(1) and (e)(2), telling how to determine the primary product if (a) the unit is not a flexible operation unit, and (b) the unit produces two or more products. According to the commenter, the HON and similar rules have such a provision. There is simply no way to tell what the primary product is if a non-flexible operation unit has two or more "product" streams simultaneously. Therefore, the commenter recommended making this provision consistent with the HON rule (§63.100(d)(1) and (2)) by inserting the following new subsection and renumbering the subsequent clauses accordingly:

"(e)(2) If a process unit is not designed and operated as a flexible operation unit and the unit produces more than one intended product, the product with the greatest annual design capacity on a mass basis represents the primary product of the process unit."

Response: The EPA agrees that §63.1420(e) needed to include a provision for process units that are not flexible operation units but that produce two or more products simultaneously. Under the newly re-structured §63.1420(e), §63.1420(e)(1)(ii) provides provisions addressing such a situation. Although the commenter's recommended change was not incorporated exactly as suggested, the EPA believes that the changes to §63.1420(e) will alleviate the commenter's concern.

2.1.7 Applicability for Flexible Operation Units

Comment: One commenter (IV-D-07) referred to the provisions in §63.1420 and §63.1423 of the proposed rule which flexible operation units must use to determine whether they are covered by the rule. The commenter requested that EPA provide the option in

the final rule for flexible operation units that do not technically qualify as PMPUs to be able to "opt in" to the rule if it makes administrative sense to the owner/operator to do so. For example, the commenter might prefer to "opt in" to subpart PPP rather than be subject to a future MACT standard such as the Miscellaneous Organic NESHAP (MON), so as to have only one standard to meet in the administrative unit. The commenter added that the flexible operation unit concept is workable and should be retained.

Response: The EPA appreciates the commenter's desire to be subject to only one MACT standard; however, the change requested by the commenter (where a flexible operation unit that is not a PMPU, could opt into the Polyether Polyols NESHAP because the non-PMPU flexible operation unit is in the same "administrative unit" as the facility's other PMPUs) is not being granted. While the EPA recognizes that the owner/operator would benefit from greater ease of compliance, it is the EPA's position that an affected source should be defined by the products that it makes, and not solely by the products made near it. Defining the affected source solely based on the owner or operator's choice of standards would allow a source that might otherwise be subject to a more stringent rule to "opt in" to subpart PPP. However, in the final rule, provisions have been added [e.g., §63.1420(e)(10)(iii)] that ensure that a source that is no longer making a polyether polyol as its primary product will not be subject to subpart PPP as well as to another MACT standard at the same time.

2.1.8 Requirements for Flexible Operation Units when Producing Non-polyether Polyols

Comment: One commenter (IV-D-07) expressed concern that the proposed rule could be interpreted as requiring installation of additional controls for periods when the flexible operation unit is producing a product other than the primary product and believes that clarification is needed to confirm that this is not

a valid interpretation. In order to clarify the compliance concern, the commenter suggested that the following sentence be added as a new §63.1420(e)(7)(iv):

"So long as the owner or operator of a flexible operating unit is able to demonstrate compliance during the production of the primary product, then no additional control device, recovery device, and/or recapture device is required to be installed (to otherwise demonstrate compliance) for periods when the flexible operating unit is producing a product other than the primary product."

The commenter stressed that similar wording was added in the HON (§63.103(b)(6)).

Response: The EPA clearly did not consider the option that flexible unit operations could be required to install additional controls for periods when the flexible operation unit is producing a product other than the primary product. The addition suggested by the commenter has no effect other than to warrant against this possibility. Therefore, the sentence was added as a new paragraph under §63.1420(e)(5), as §63.1420(e)(5)(iii), rather than at §63.1420(e)(7)(iv) as the commenter suggested, due to the general restructuring of §63.1420(e). The language has been edited slightly from that suggested by the commenter. The new language in §63.1420(e)(5)(iii) reads:

> (iii) So long as the owner or operator of a flexible operation unit is able to demonstrate compliance with this subpart during the production of polyether polyols, then no additional combustion device, recovery device, and/or recapture device is required to be installed (to otherwise demonstrate compliance) for periods when the flexible operation unit is producing a product other than a polyether polyol. However, while a product other than polyether polyol is being produced, the owner or operator shall continue to operate any existing combustion, recovery, and/or recapture devices that are required for compliance during production of the primary product. If extended cookout (ECO) is the control technique chosen for epoxide emission reduction, then ECO or a control technique providing an equivalent reduction in epoxide emissions should continue to be used for epoxide emission reduction, if the non-polyether polyol being produced uses epoxide

monomers. If ECO is used, the parameter monitored for ECO shall be averaged for all product classes produced. The ECO for non-polyether polyol production shall be performed so that the averaged parameter is maintained when the ECO is used as a control technique during the production of nonpolyether polyols.

2.1.9 NonPMPUs that Produce Polyether Polyols

Comment: One commenter (IV-D-05) expressed concern that the last sentence in §63.1420(e)(6) imposes a recordkeeping requirement on all processes that are determined not to be PMPUs. The commenter suggested two changes to ease the burden on sources that are not intended to be covered by the rule. First, this sentence should apply only to processes that produce some polyether polyol product. For example, a source should not have to keep records proving that a dedicated chlorine plant, magnesium plant, or methyl cellulose plant is not a PMPU. Second, there should be two options: keep records, or document, on demand, that the process is not a PMPU. That way, if a facility does not have the records available many years later, but the process really is not a PMPU, there is no violation. The commenter believed these changes would be consistent with EPA's intent. Therefore, the commenter recommended changing the text as follows:

"For a process unit that produces some polyether polyol but ~~If~~ the primary product of that process unit is determined to be something other than a polyether polyol product, the owner or operator shall retain information, data, and analysis used to document the basis for the determination that the primary product is not a polyether polyol product or must be able to document that the process unit is not a PMPU."

Response: The suggestion that the owner or operator of a process unit dedicated to the production of a product other than a polyether polyol would have to maintain records is a misinterpretation of proposed §63.1420(e)(6), since that paragraph addressed flexible operation units, not dedicated

operation units. In the final rule, a flexible operation unit is defined as a process unit that manufactures different chemical products in addition to polyether polyols, by periodically alternating raw materials fed to the process unit or operating conditions at the process unit.

The commenter's second request was that owners or operators of flexible operation units with a primary product that is not a polyether polyol have the option of keeping records documenting the fact that the process unit is not a PMPU, or of providing such documentation "on demand," to the Administrator, if requested to do so. The EPA agrees that this is a reasonable request, and has incorporated this type of provision into the restructured §63.1420(e), which appears in the final rule. The proposed paragraph §63.1420(e)(6) no longer exists, and §63.1420(e)(8) in the final rule provides the "document on demand" option that the commenter requested.

2.1.10 Changes or Additions to Plant Sites

Comment: One commenter (IV-D-07) stated that §63.1420(g)(1)(i)(D) indicates that if a new PMPU is added to a site where a polyether polyol is not currently produced as the primary product of an affected source (and the plant site is a major source either before or after the addition), the unit will be subject to new source MACT regardless of the emissions from the new unit. The commenter claimed that this was an arbitrary criterion for first time addition of a PMPU to an integrated complex and it removes substantial pollution prevention incentive to keep new units under the 10/25 criteria and makes no sense from a policy standpoint. The commenter suggested that this paragraph be deleted in the final rule.

Response: The EPA disagrees with the statement that the proposed provisions related to the first-time addition of a PMPU to a plant site are arbitrary. Rather, these provisions are consistent with the Clean Air Act and the General Provisions of part 63 (40 CFR part 63, subpart A). In the Clean Air Act, a new

source is defined as "a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations under this section establishing an emission standard applicable to such source." The definition in the General Provisions mirrors the Clean Air Act definition, except that it uses the term "affected source" rather than "stationary source."

If, after September 4, 1997 (proposal date of subpart PPP), a PMPU is constructed at a major source plant site where no PMPUs previously existed, then the new PMPU cannot be considered to be "an addition" to an "existing" affected source, since there was no "existing affected source" at the facility. The criteria for whether or not one or more newly added PMPUs constitute a "new affected source" relies on whether or not the plant site is a "major source" (before or after the addition of the PMPU). However, if the plant was not a major source (i.e., was an area source) before the addition of the one or more PMPUs, and is still not a major source after the addition of the PMPU(s), it remains exempt from the requirements of this rule, as an area source.

These provisions have not changed since proposal, although the intent of the requirements has been clarified in this final rule. The EPA believes that these provisions are both reasonable and consistent with the intent of the Clean Air Act and the General Provisions to part 63.

Comment: One commenter (IV-D-07) maintained that the entire affected source should not be subject to new source MACT if reconstructed. The impact of the proposed wording in §63.1420(g)(2)(i) is that if a PMPU in a location makes a substantial investment to modernize such that reconstruction is triggered, other PMPUs at the location would be required to install new source MACT, even though they are not undergoing changes. The commenter suggested that the HON approach be used under subpart PPP to avoid this impact. The wording used in the HON (§63.100(l)(2)) states that "If any change is made to a

chemical manufacturing process unit subject to this subpart, the change shall be subject to the requirements of a new source in subparts F, G, and H of this part...."

Response: The impact that the commenter objected to (i.e., that all PMPUs in the affected source become subject to the new source MACT) is the intended impact of the provisions of §63.1420(g)(2)(i). If activity at an existing affected source constitutes reconstruction, the existing source becomes a new source by definition. Reconstruction is triggered when the cost of a modernization project exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new affected source. In subpart PPP, the EPA defined the "affected source" as all process units that produce polyether polyols as their primary product at a plant site, along with all waste management units, maintenance wastewater, heat exchange systems, and equipment used to comply with subpart PPP that are associated with the PMPUs. Therefore, the EPA expects that it would have to be a substantial modernization for the cost to exceed the cost of 50 percent of the entire affected source.

To address the commenter's example, assume that there are four PMPUs at a plant site. By definition, the group of four PMPUs, along with the associated equipment, make up an existing affected source. If an investment was made to modernize one PMPU, that investment would need to exceed the cost of constructing four new PMPUs comparable to those at the site to trigger reconstruction. The EPA believes that it is unlikely that the modernization of one PMPU would ever cost more than 50 percent of the construction of four new comparable PMPUs. Therefore, all four PMPUs would remain an existing affected source. If, however, the cost of that modernization did exceed 50 percent of the cost of four new PMPUs, the EPA believes that it is reasonable, and in fact consistent with the intent of the definition of reconstruction, for the entire affected source to be subject to the new source requirements in subpart PPP.

Comment: One commenter (IV-D-05) maintained that if "reconstruction" causes "the entire affected source" to become a new affected source, then the rule should at least clarify that "the entire affected source" is the capital base for deciding whether a reconstruction has occurred. To clarify when a modification is considered reconstruction such that the process unit becomes subject to this subpart, the commenter recommended changing the text in §63.1420(g)(2)(i) as follows:

> "(i) If any process change is made or emission point is added to an existing affected source, the entire affected source shall be a new affected source and shall be subject to the requirements for a new affected source in this subpart upon initial start-up or by [insert date of promulgation], whichever is later, if the process change or addition meets the criteria specified in paragraphs (g)(2)(i)(A) through (g)(2)(i)(B) of this section:
>
> (A) It is a process change or addition that meets the definition of reconstruction in §63.2 of subpart A. For purposes of determining whether the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct an entire affected source, the equivalent capital cost shall be the entire potentially affected source; and ..."

Response: The commenter's requested change to paragraph 63.1420(g)(2)(i) clarifies the EPA's intent at proposal, which was to be consistent with the fact that the definition of reconstruction is based on the entire potentially affected new source. The EPA has changed added the sentence requested by the commenter (with minor edits) to §63.1420(g)(2)(i)(A) in the final rule.

2.1.11 Applicability of this subpart except during periods of start-up, shutdown, malfunction, or non-operation

Comment: One commenter (IV-D-04) requested that EPA add the words "to the extent practical" in §63.1420(h)(3) of the final rule. These words were added in the HON as part of a litigation settlement amendment. Their intended purpose is to clarify the extent to which emissions must be minimized in certain unusual

situations where the standard's "normal" requirements do not apply. If the words are not added, there will be uncertainty as to what degree of emission reduction must be achieved.

Response: The EPA agrees with this comment, and the phrase "to the extent practical" has been added to §63.1420(h)(4) in the final rule [which replaces proposed paragraph §63.1420(h)(3)]. The additional language is consistent with the HON [§63.102(a)(4)] as well as with the proposed amendments to the Polymers and Resins I and IV NESHAP [§63.480(j)(4) and §63.1310(j)(4), respectively.]

2.1.12 Storage Tank Predominant Use

Comment: One commenter (IV-D-04) suggested that EPA limit the applicability of §63.1420(f)(8) of the proposed rule, which requires industry to redetermine storage vessel ownership if something happens that could reasonably change the predominant use of the storage vessel. The commenter stated that this assumes that the original ownership was based on "predominant use," rather than being based on "dedicated to a single process unit" or some other basis. It also assumes that possible future changes in predominant use were not already taken into account in the original ownership determination. The commenter stated that either of these assumptions could be false and cited two examples to support the claim. The commenter requested that EPA revise §63.1420(f)(8) as follows:

"(8) If a storage vessel has been assigned to a process unit that is not a PMPU on the basis of predominant use under (f)(3) of this section, and there is a change in the utilization of the storage vessel that could reasonably be expected to change the predominant use, the owner or operator shall redetermine to which process unit the storage vessel belongs by reperforming the procedures specified in paragraphs (f)(2) through (f)(7) of this section, as appropriate."

Response: The EPA agrees with the commenter that the proposed criteria for when a storage vessel ownership redetermination is required [in §63.1420(f)(8)] should be more

specific. However, the EPA does not believe that the language suggested by the commenter is the most appropriate solution. In consideration of this issue, the EPA reexamined the circumstances under which it is necessary to reevaluate storage vessel ownership. The EPA concluded that it is not necessary to require a storage vessel ownership redetermination unless the storage vessel has begun receiving material from (or sending material to) a process unit that was not included in the initial determination, or has ceased to receive material from (or send material to) a process unit that was included in the initial determination. Therefore, the proposed §63.1420(f)(8) has been replaced with the following paragraph:

> (8) If ~~there is a change in the utilization of~~ the storage vessel ~~that could reasonably be expected to change the predominant use,~~ begins receiving material from (or sending material to) a process unit that was not included in the initial determination, or ceases to receive material from (or send material to) a process unit that was included in the initial determination, the owner or operator shall ~~redetermine to which process unit the storage vessel belongs by performing the procedures specified in paragraphs (f)(2) through (f)(7) of this section, as appropriate~~ reevaluate the applicability of this subpart to that storage vessel.

2.1.13 §63.1420(e)(5)(ii)

Comment: For clarity, one commenter (IV-D-05) recommended changing paragraph 63.1420(e)(5)(ii) to read:

"Alternatively, ~~each~~ the owner or operator shall determine the applicability of the provisions of this subpart (e.g., Group status) to each emission point ...Based on these findings, the owner or operator shall comply with the ~~applicable~~ requirements~~,~~ that apply at any time based on emission point characteristics at that time, as appropriate, regardless of what product is being produced...."

Response: The first two suggested revisions are ones the EPA has agreed to in response to other comments, and will certainly generalize to paragraph 63.1420(e)(5)(ii) as well. The last revision that the commenter suggested is somewhat awkward, and could possibly be misinterpreted. The wording "based on

emission point characteristics at that time" could be construed as meaning that the applicability status could change depending on that day's emissions. Further, the first part of the suggested revision, "requirements that apply at any time," is unnecessary since "any time" is such a nebulous term, and since the requirements have monthly compliance demonstration requirements to prove that they are being met (at any time). Therefore, the first two suggested revisions were incorporated into the final rule; however, the third suggested revision was not made.

2.1.14 Section 63.1420(c)(1) and (c)(8) Appear to be Duplicative

Comment: One commenter (IV-D-05) stated that paragraphs (c)(1) and (c)(8) in §63.1420 appear to duplicate one another. If this is the case, the commenter recommended replacing paragraph (c)(1) with (c)(8), as follows, and renumbering the subsequent paragraphs (c)(9) through (12):

"(1) Vessels and equipment storing and/or handling material that contains no organic HAP or organic HAP as impurities only~~Equipment that does not contain organic HAP and is located at a PMPU that is part of an affected source~~."

Response: The EPA agrees that there is confusing overlap between paragraphs §63.1420(c)(1) and (c)(8). However, the EPA does not believe that the change suggested by the commenter accurately communicates the intent of the two paragraphs. Paragraph §63.1420(c)(8) of the final rule has been revised to the following:

"(8) Vessels ~~and equipment storing~~ that store and/or handle ~~handling~~ material that contains no organic HAP or organic HAP as impurities only."

2.2 COMPLIANCE AND RELATIONSHIP TO OTHER RULES

2.2.1 Time Periods

Comment: Two commenters (IV-D-04, IV-D-05) requested that a paragraph similar to §63.100(k)(9) in subpart F of the HON be

added to §63.1422 as paragraph(k). Commenter IV-D-04 provided the following wording:

"All terms in this subpart that define a period of time for completion of required tasks (e.g., daily, weekly, monthly, quarterly, annual), unless specified otherwise in the section or subsection that imposes the requirement, refer to the standard calendar periods." Commenter IV-D-05 suggested adding: "..., unless altered by mutual agreement between the owner or operator and the Administrator in accordance with §63.1422(k)."

Commenter IV-D-04 maintained that this paragraph is important for the following reasons: (1) it ends the questions about whether a month means 30 rolling days, and what to do if a month has more or less days than that; (2) it eliminates the need for a large number of definitions; and (3) it avoids having irreconcilable conflicts with the HON, which would arise if this rule defined time periods differently than the HON.

Response: The EPA agrees that a paragraph based on §63.100(k)(9) in subpart F of the HON was needed in the Polyether Polyols NESHAP. The EPA has added language to what is §63.1422(l) in the final rule, mirroring the language found in §63.100(k)(9) in subpart F of the HON. In addition, the EPA has added the condition "..., unless altered by mutual agreement between the owner or operator and the Administrator in accordance with paragraph (l)(1) of this section," to the end of §63.1422(l) in the final rule.

2.2.2 Changes to the General Provisions

Comment: One commenter (IV-D-04) suggested that additional notice and comment rulemaking would be necessary if EPA makes future changes in the General Provisions that apply to this rule. The commenter referred to the following statement in the proposal preamble (62 FR 46812, col. 2): "If this subpart is promulgated subsequent to the promulgation of the amendments to the General Provisions, the amended General Provisions will be incorporated into this subpart." The commenter stated that, according to the

CAA's administrative procedures requirements, any amendment of the polyether polyols rule (such as changing General Provisions that are incorporated into the rule by reference) would require rulemaking.

Response: It is important that owners and operators realize that provisions in subpart PPP that cross-reference the HON, the General Provisions, or any other regulation, refer to the most recent, promulgated versions of those rules. When such rules are amended, the EPA will provide an opportunity for comment on the effect that such changes will have on standards that cross-reference these rules. The EPA believes that this practice meets the requirements of the Clean Air Act.

2.2.3 Cross-references with Other Subparts

Comment: One commenter (IV-D-04) requested that EPA address the overlap between the proposed rule and other MACT standards for wastewater and/or heat exchange systems. In many instances, the waste management units and heat exchangers that serve PMPUs may already be subject to another MACT standard (generally the HON) by the compliance date for this rule. There should be no need to comply with each rule separately (duplicating the reporting and recordkeeping requirements) when the substantive requirements are essentially the same. Therefore, the commenter suggested specific regulatory language that would address overlap between subpart PPP and other MACT standards for wastewater and/or heat exchange systems.

Response: The EPA agrees that it is appropriate to add a paragraph at §63.1422(k) to address instances in which requirements from other regulations overlap for the same heat exchange system(s) or waste management unit(s) that are subject to subpart PPP. The language in §63.1422(k) in the final rule states that owners and operators of affected sources that share heat exchange systems with sources that are subject to subpart F of part 63 or any other subpart of part 63 that references the

heat exchange system requirements in §63.104 in subpart F (e.g., subpart U) will be considered to be in compliance with subpart PPP for heat exchange systems, if the shared heat exchange systems are in compliance with the heat exchange system requirements in that other subpart. Similarly, owners and operators of affected sources that share waste management units with sources that are subject to subpart G of part 63 or any other subpart of part 63 that references the waste management unit requirements in §63.132 through §63.147 of subpart G will be considered to be in compliance with subpart PPP for the shared waste management unit, if the shared waste management unit is in compliance with the waste management unit requirements in that other subpart. This change was made to ensure that owners and operators are not subject to multiple sets of monitoring, recordkeeping, or reporting requirements for the same equipment due to the type of regulatory overlap that the commenter described.

Comment: One commenter (IV-D-07) referred to §63.1422(j) of the proposed rule, which discusses overlap with other regulatory requirements, including RCRA. The commenter requested that the provision be explicitly extended to "hazardous waste tanks" regulated under 264 Subpart CC and 265 Subpart CC. The subject hazardous waste tank emission controls include options other than combustion and recovery devices; for example, pressure tanks and certain types of pressure relief devices for low-vapor pressure tanks are allowed. The commenter asserted that duplicative monitoring, recordkeeping and reporting requirements should not be imposed for these systems.

Response: Section 63.1422(j) addresses overlap with other regulations for monitoring, recordkeeping or reporting with respect to combustion devices, recovery devices, or recapture devices. The subjects of the monitoring, recordkeeping, and reporting requirements in this paragraph are the combustion, recovery or recapture devices, and not the source of the emission

control. Therefore, a specific provision for the hazardous waste tanks regulated under 40 CFR part 264 subpart AA or CC and 40 CFR part 265 subpart AA or CC is not appropriate. Further, the requirements in 40 CFR part 264 subpart AA or CC and 40 CFR part 265 subpart AA or CC are already specifically cited in §63.1422(j).

2.2.4 Interfacing with Title V Operating Permit

Comment: One commenter (IV-D-07) expressed concern that the interface between this proposed rule and the Title V Operating Permits program is not well defined and will result in inadvertent compliance issues. For example, in a number of sections of the proposal, reference is made to the need to incorporate certain items into the operating permit or permit application. Then in §63.1439(e)(8), the information to be included in the application is limited to the information listed in §63.1439(e)(4). The commenter suggested that EPA conduct a search of the final rule to identify all interfaces with Operating Permits and include an inclusive listing in the final rule.

Response: It is not the EPA's intent to incorporate all of the Title V Operating Permit requirements into subpart PPP. The owner or operator will always need to consult Title V in order to determine all of the Operating Permit requirements that pertain to a particular affected source, because Title V requirements are site specific. Subpart PPP simply allows some information to be submitted in either the Operating Permit application or the Notification of Compliance Status, and allows the owner or operator to choose between submitting special requests (e.g., for permission to use alternative monitoring parameters or controls) in the Precompliance Report or in the Operating Permit application. Information that is submitted in the Operating Permit application will, once approved, become part of the affected source's Title V Operating Permit. Therefore, the EPA has not included an "inclusive listing" in the final rule of all

interfaces with Operating Permits or operating permit applications, particularly because the requirements in subpart PPP related to Operating Permits or Operating Permit applications are provided as alternatives to submitting information in other reports. However, the EPA has made every effort to clarify this distinction in the final rule.

2.2.5 Complexity of the Proposed Rule

Comment: Two commenters (IV-D-02, IV-D-03) expressed concern regarding the complexity of the proposed rule and stated that it would be costly for polyether polyol manufacturers to interpret and comply with the rule, and for permitting authorities to administer it. Commenter IV-D-03 stated that the rule was unnecessarily complex due to frequent references to the HON and the Polymer and Resins I and IV NESHAP. The commenter recommended that the cited references to the HON and to the Polymer and Resins NESHAP be replaced by the appropriate regulatory language in the Polyether Polyols final rule.

Response: The EPA realizes that the Polyether Polyols Production NESHAP is relatively complex. The development of this rule began with a preliminary maximum achievable control technology (PMACT) partnership between the EPA and industry representatives. During the roundtable PMACT discussions, industry representatives requested unique emission limits for three of the emission sources: epoxide emissions from polymerization; non-epoxide emissions from polymerization; and non-epoxide emissions from catalyst extraction. This NESHAP introduces extended cookout (ECO) as a new control option for process vents. The explanation of how to measure and monitor the effectiveness of this new control option contributes further to the complexity of this rule. The EPA has attempted to keep the rule brief by cross-referencing sections of the HON or subpart U that apply to this rule. However, the EPA realizes that making the rule shorter through cross-referencing other subparts of part 63 makes the rule more complicated. The EPA believes that cross-

referencing other part 63 subparts is necessary in subpart PPP to ensure that the source is subject to consistent requirements across all the rules that cite other part 63 subparts.

2.3 DEFINITIONS

2.3.1 Annual Average Concentration

Comment: One commenter (IV-D-05) stated that the definition of "annual average concentration" should not reference subpart G if the chemical lists (Table 8 and/or Table 9 compounds) differ in this rule. To clarify, the commenter recommended revising the text, as follows:

"Annual average concentration, as used in conjunction with the wastewater provisions, means the flow-weighted annual average concentration and is determined by the procedures in §63.144(b) of subpart G, except as provided in §63.1433(a)(2)."

Response: The addition requested by the commenter cites §63.1433(a)(2), which in turn lists all the exceptions in applicability to §63.132 through §63.149. The EPA agrees that this revision clarifies the meaning of this definition, and has added the phrase that the commenter suggested to this definition in the final rule.

2.3.2 Batch Cycle

Comment: One commenter (IV-D-05) claimed that the term "batch cycle" does not match industry usage. To avoid confusion, the commenter recommended changing the defined term to "batch unit operation cycle."

Response: The definition of the term "batch cycle" clearly states that the batch cycle means the steps that occur in a batch unit operation. The rule then defines a batch unit operation. The EPA does not think that the phrase "batch cycle" differs significantly from "batch unit operation cycle," and so has decided not to revise the phrase.

2.3.3 Cross-referencing of Definitions from Other Rules

Comment: One commenter (IV-D-04) stated that the EPA should not just refer to the HON or the Group I Polymers and Resins rule for definitions that need different chemical lists, equations, or calculations in this rule. The commenter requested that additional clarifications be made in this regard in the following areas:

(1) The definition of "in organic hazardous air pollutant service" is borrowed from the HON, subpart H, which is appropriate. However, EPA should clarify that the PEPO definition of organic HAP applies.

(2) The definitions of "process wastewater" and "process wastewater stream" are borrowed from the HON, subpart G, which is appropriate. However, these defined terms ultimately depend on whether something is "wastewater." Since the HON and this rule each have a different definition of "wastewater," EPA should clarify which one applies.

(3) The definition of "total resource effectiveness (TRE) index value" is borrowed from the HON. However, the TRE definition relies on a TRE equation, and the equation was written to derive an appropriate cost-effectiveness cutoff for control of individual process vents. In contrast, this rule requires determination of the TRE index value for combinations of process vents. Ideally, EPA should allow an option to conduct TRE determinations on each individual process vent. However, if the concept of combinations of process vents is retained, EPA should revise the TRE equation (and hence, the definition).

(4) The definitions of "combination of process vents that are Group 1" and "Combination of process vents that are Group 2" require use of §63.115 of the HON for TRE calculations, and section 63.499(b) of subpart U for annual average flow calculations. Both the HON and subpart U were written for individual process vents, not for combinations of process vents. It seems unlikely that the same methods of calculation would work appropriately in both contexts. Another commenter (IV-D-05) expressed the same concern.

(5) The definition of "maintenance wastewater" relies on subpart F of the HON, with some exceptions. The exceptions apparently do not include chemical lists. The commenter believed that the polyether polyols chemical lists would apply instead of the HON chemical lists and requested that the definition of Maintenance wastewater in the final rule be clarified accordingly.

(6) The definition of "maximum true vapor pressure" relies on subpart G of the HON, with some exceptions. The exceptions do not include chemical lists. The commenter asked if that was intentional and requested that the definition in the final rule be revised to clarify that the polyether polyols chemical lists apply.

(7) The definition of "residual" in the proposed rule is confusing. It says that, instead of using the HON terminology "Table 9 compounds," it uses the phrase "organic HAP listed in Table 9 of subpart G." The commenter questioned this and stated that if EPA really does intend to keep referring to the HON Table 9 but with different words than the HON uses, then EPA should explain what the change is intended to accomplish. Contrarily, if EPA intended to refer to a polyether polyols table, then the definition should be revised accordingly.

Response: (1) and (2): The EPA agrees that clarification is needed. In the case of clarifying the definition of "in organic hazardous air pollutant service", "process wastewater," and "process wastewater stream," the EPA believes that it would be clearer and simpler to copy the definitions from the HON into subpart PPP. Therefore, the final rule contains definitions for these three terms.

(3): As discussed in section 2.4.4 of this document, the EPA has revised the rule such that the TRE equation is not applied to aggregated streams. Therefore, the TRE equation applies only to individual process vent streams (as in the HON), and the final rule continues to reference the HON definition for "Total resource effectiveness (TRE) index value".

(4): The concerns raised by these commenters regarding the combination of process vents for the group determination is addressed in section 2.4.4 of this document. To summarize, the EPA agreed with the commenters regarding the group determination for process vents from continuous unit operations that are associated with the use of a nonepoxide organic HAP to make or modify the product, and the final rule requires that these group determinations be conducted on an individual vent basis. However, the final rule continues to require that the group status of process vents from batch unit operations be determined for the combination of process vents associated with the use of a nonepoxide organic HAP to make or modify the product.

The change noted above necessitated a change in the proposed definitions of "combination of process vents that are Group 1" and "combination of process vents that are Group 2." These proposed definitions, which addressed both process vents from continuous unit operations and process vents from batch unit operations, were no longer appropriate for the final rule. Therefore, the EPA defined separate terms for Group 1 and Group 2 process vents from continuous and batch unit operations.

The new terms used for process vents from batch unit operations, which are provided below (as they appear in the final rule), are "Group 1 combination of batch process vents" and "Group 2 combination of batch process vents."

> Group 1 combination of batch process vents means a collection of process vents in a PMPU from batch unit operations that are associated with the use of a nonepoxide organic HAP to make or modify the product that meet all of the following conditions:
>
> (1) Has annual nonepoxide organic HAP emissions, determined in accordance with §63.1428(b), of 11,800 kg/yr or greater, and
>
> (2) Has a cutoff flow rate, determined in accordance with §63.1428(e), that is greater than or equal to the annual average flow rate, determined in accordance with §63.1428(d).
>
> Group 2 combination of batch process vents means a collection of process vents in a PMPU from batch unit operations that are associated with the use of a nonepoxide organic HAP to make or modify the product

that is not classified as a Group 1 combination of batch process vents.

In the proposed rule, the relationship of the batch vent portion of the definition of the "Combination of process vents that are Group 1" to the provisions in §63.1428(f) was confusing. The 11,800 kg/yr annual nonepoxide organic HAP emissions cutoff was not included in the definition, and the comparison of the cutoff flow rate to the annual average flow rate was included in both places. In order to clarify this situation, the definition of "Group 1 combination of batch process vents" shown above includes all criteria. This change in the final rule made §63.1428(f) redundant with this definition. Therefore, the proposed provisions in §63.1428(f) have been removed, and, in the final rule, paragraph §63.1428(f) is reserved.

For process vents from continuous unit operations that are associated with the use of a nonepoxide organic HAP to make or modify the product, the terms in the final rule are "Group 1 continuous process vent" and "Group 2 continuous process vent." In addition to changing the basis for this group determination to an individual vent basis, the final rule also incorporates other criteria not included in the proposed definition. The HON definition of a Group 1 process vent includes three criteria: flow rate, organic HAP concentration, and TRE index value. The EPA intended for the proposed definition to mirror the HON definition, but failed to include the flow rate and organic HAP concentration criteria. Therefore, the final rule defines a Group 1 continuous process vent as follows.

> Group 1 continuous process vent means a process vent from a continuous unit operation that is associated with the use of a nonepoxide organic HAP to make or modify the product that meets all of the following conditions:
>
> (1) Has a flow rate greater than or equal to 0.005 standard cubic meter per minute,
>
> (2) Has a total organic HAP concentration greater than or equal to 50 parts per million by volume, and
>
> (3) Has a total resource effectiveness value, calculated in accordance with §63.1428(h)(1), less than or equal to 1.0.

(5) and (6): The HON definitions of "maintenance wastewater" and "maximum true vapor pressure" do not include references to chemical lists, so the EPA does not understand why there would be confusion regarding which chemical lists to use. However, the EPA has made a small edit to the definition of "maintenance wastewater," to clarify that the generation of wastewater from the routine rinsing or washing of equipment in batch operation between batches is not considered to be "maintenance wastewater," for the purposes of subpart PPP.

(7): The phrase "organic HAP listed in Table 9 of subpart G" means the same thing as the HON's language "Table 9 compounds." The EPA made this distinction so that the language in the Polyether Polyol's phrase would be consistent with the language in the rest of the rule. The reason that the EPA is referring to Table 9 in subpart G is that Table 9 in subpart G plays an instrumental part in the wastewater provisions in the HON, which subpart PPP cross-references.

2.3.4 Epoxide

Comment: One commenter (IV-D-04) maintained that the definition of "epoxide" is needlessly broad and complex. The commenter declared there are only two epoxides, for purposes of this rule, and each has a name. The commenter recommended the following revised definition: "Epoxide means ethylene oxide and/or propylene oxide."

Another commenter (IV-D-05) also recommended shortening the definition of "epoxide," similarly as follows:

"Epoxide means ethylene oxide and propylene oxide for purposes of this subpart."

Response: The EPA has reviewed the current definition of epoxide and the revisions suggested by the commenters. The EPA does not agree that the definition of epoxide would benefit from a revision. Due to the fact that other epoxides are used to make polyether polyols, the definition of "epoxide" cannot be limited to EO and PO.

2.3.5 Extended Cookout

Comment: One commenter (IV-D-05) claimed that to conform with industry usage, the definition of "extended cookout" should be revised as follows:

> Extended Cookout means a control technique that reduces the amount of unreacted EO and/or PO (epoxides) in the reactor. This is accomplished by allowing the product to react for a longer time period, thereby having less unreacted epoxides and reducing epoxides emissions that may have otherwise ~~been emitted~~ occurred.

Response: The EPA appreciates the comment, and has modified the definition of "extended cookout" in the final rule, accordingly.

2.3.6 Impurity

Comment: Two commenters (IV-D-05, IV-D-07) claimed that since the provisions for process vents apply to all process vents in the process, the definition of "impurity" should be changed to reflect that low epoxide levels which remain in the product are indeed impurities. Commenter (IV-D-05) stated that the existing HON definition is inadequate in this regard and the incorporation of the subpart F definition should be deleted in this section. Both commenters suggested that the following definition be pulled into subpart PPP from the HON, with the following revisions:

"Impurity means a substance that is produced coincidentally with the primary product, or is present in a raw material, or is a residual raw material that remains with the product after production. An impurity does not serve a useful purpose in the use of the primary product and is not isolated." Commenter (IV-D-07) noted that this revised definition is consistent with the concept of extended cookout in §63.1427 and informal guidance provided to sources subject to the HON.

Response: There is a fundamental difference between an impurity and unreacted HAP-reactant. The unreacted HAP-reactant is a primary source of emissions from polyether polyols

production. The EPA does not consider it appropriate to classify unreacted reactants as impurities. Therefore, the final rule continues to cross-reference the HON definition in §63.101.

2.3.7 Make or Modify the Product

Comment: One commenter (IV-D-05) claimed that, for clarity, the definition of the phrase "make or modify the product" should be revised as follows:

"Make or modify the product means to produce the polyether polyol by polymerization of epoxides or other cyclic ethers with compounds having one or more reactive hydrogens, and to add any preservatives, ~~/~~antioxidants or diluents in order to maintain the quality of the finished products before shipping. Making and modifying the product for this rule does not include grafting, polymerizing the polyol, or ~~modifying~~ reacting it with ~~compounds~~ components other than EO or PO.

Response: The EPA appreciates the comment and has made the revisions requested. However, the revised definition lists additives parenthetically. The definition in the final rule reads as follows:

> "Make or modify the product means to produce the polyether polyol by polymerization of ~~with~~ epoxides or other cyclic ethers with compounds having one or more reactive hydrogens, and to ~~add any preservatives/antioxidants~~ incorporate additives (e.g., preservatives, antioxidants or diluents) in order to maintain the quality of the finished products before shipping. Making and modifying the product for this rule ~~regulation~~ does not include grafting, polymerizing the polyol, or ~~modifying~~ reacting it with compounds other than EO or PO."

2.3.8 Non-epoxide HAP

Comment: One commenter (IV-D-05) stated that the phrase "non-epoxide HAP," which appeared in the May 1997 draft rule that was distributed for review, has been deleted from the definitions section of subpart PPP (§63.1423). The May 1997 draft of the rule based the Group 1/Group 2 determination solely on non-epoxide HAP emissions. According to the commenter, omitting the

term seems to include the epoxide emissions in the Group 1/Group 2 evaluation, which is a significant change. Section 63.1428, which defines the Group 1/Group 2 evaluation, does not use the epoxide emissions to determine the classification of the vent.

Response: Section 63.1428 is entitled "Process vent requirements for group determination of PMPUs using a nonepoxide organic HAP to make or modify the product." The EPA did not intend to create any confusion over the fact that the group determination described in §63.1428(f) was based on nonepoxide organic HAP emissions. The commenters are mistaken about the phrase "non-epoxide HAP" appearing in the definition section of the May 1997 version of the proposed rule. In the May 1997 version of the proposed rule the term "nonepoxide organic HAP" was used throughout the rule, but never defined. The EPA does not find it necessary to define this term since "epoxide" is defined and "organic HAP" is defined. Furthermore, as described earlier in this document, §63.1428(f) has been reserved in the final rule, and the definitions of "Group 1 combination of batch process vents" and "Group 2 combination of batch process vents" (in §63.1423) now contain all of the criteria for the group determination, including the fact that only nonepoxide organic HAP are used in the group determination.

2.3.9 Organic HAP

Comment: Three commenters (IV-D-04, IV-D-05, IV-D-07) expressed serious concern about the clause "or has been or will be reported under any Federal or State program, such as EPCRA section 311, 312, or 313 or Title V" in the definition of "organic hazardous air pollutant" and requested that it be deleted from the definition. One commenter (IV-D-04) posed several questions regarding future reports of chemicals: (1) how can they know what chemicals will be reported in the future; (2) how far into the future must they predict; and (3) if they make a mistake in future predictions, does that mean they retroactively

have 25 years of violations for not considering that chemical an organic HAP?

The commenter added that they could probably tell what chemicals have been reported under the specific reporting laws mentioned. However, they could not figure out everything that has been reported under the vast number of other laws that might be included in this definition. The commenter concluded that they would probably have some difficulty excluding <u>any</u> law and gave examples, which included OSHA, TSCA, and State requirements.

In addition, commenter IV-D-07 requested that the definition be restricted such that glycol ethers that have low volatility will not be included in the definition of Organic Hazardous Air Pollutant. The commenter produces a number of products and intermediates which technically meet the wide CAAA definition of "glycol ethers." The commenter suggested that the limited listing of glycol ethers used in Table 4 or 9 of the HON would be an appropriate sub-list for inclusion as HAPs under subpart PPP.

Commenter IV-D-05 suggested the following language:

"Organic hazardous air pollutant(s) (organic HAP) means one or more of the chemicals listed in Table 4 of this subpart or any other chemical which~~:~~

~~(1) Is~~ <u>is</u> knowingly introduced into the manufacturing process other than as an impurity, ~~or has been or will be reported under any Federal or State program, such as EPCRA section 311, 312, or 313 or Title V;~~ and

~~(2) Is~~ <u>is</u> listed in Table 2 of subpart F~~ of this part~~."

<u>Response</u>: The EPA has amended the definition of "organic hazardous air pollutant." The definition that appears in the final rule states that only chemicals listed in Table 4 of subpart PPP, or chemicals listed in Table 2 of subpart F, that are "knowingly produced or introduced" into the manufacturing process constitute organic HAP for the purposes of subpart PPP.

However, with regard to the comment that requested that low volatility glycol ethers be exempted from the definition of organic HAP (or that a limited listing of glycol ethers, such as

that used in table 4 and table 9 of subpart G, be used), table 4 and table 9 in subpart G both apply to the wastewater provisions in subpart G, which subpart PPP directly references. Therefore, the EPA has decided that, with regard to wastewater, the "limited listing" that the commenter mentions (in tables 4 and 9 of subpart G) is applicable, while a limited listing of glycol ethers for the other provisions in this subpart would be inappropriate for subpart PPP.

2.3.10 Override Definitions

Comment: One commenter (IV-D-04) expressed concern about paragraph (c) in §63.1423 of the Definitions section. This paragraph addresses what to do if a referenced subpart of the HON uses a term that is defined in the HON, in the proposed rule, or both. The commenter believed that the introductory sentences of §63.1423(b) addressed this and thus there is no need for proposed §63.1423(c). Also, paragraph (c) leaves a number of other scenarios unexplained. The following are two of four examples cited by the commenter where doubt is created by the use of paragraph (c): the HON uses a term that is defined in the General Provisions, and (1) the term is not otherwise defined in the HON or in the proposed rule, and neither the HON nor the proposed rule expressly borrows the General Provisions definition; or (2) the HON does not expressly borrow that definition from the General Provisions, but the proposed rule does. The commenter requested that EPA eliminate the doubt and confusion by deleting paragraph (c) in §63.1423.

Response: The EPA agrees with the commenter, and has removed §63.1423(c) from the final rule. The EPA decided that §63.1423(b) was sufficiently clear regarding which definition should be used with regard to the subpart PPP requirements.

2.3.11 PMPU

Comment: One commenter (IV-D-05) stated that the definition of polyether polyol manufacturing processes (PMPU) uses the term

"polyether polyol product," which is not defined. For clarity, the commenter recommended changing the text to read:

"... means ~~a collection of equipment assembled and connected by process pipes or ducts, used to process raw materials and to~~ systems that are associated with the manufacture of ~~a~~ polyether polyol ~~product as its primary product~~."

Response: The definition of a PMPU in the proposed rule read: "polyether polyol manufacturing process unit (PMPU) means a collection of equipment assembled and connected by process pipes or ducts, used to process raw materials and to manufacture a polyether polyol product as its primary product." The commenter correctly pointed out that the term "polyether polyol product" was not defined. Therefore, the definition of "polyether polyol manufacturing process unit" (PMPU) has been modified by deleting the word "product" from the end of the phrase "polyether polyol product", instead of by using the commenter's suggested language. The language suggested by the commenter was not used because the word "system" is not defined in the rule.

2.3.12 Polyether Polyol

Comment: One commenter (IV-D-04) requested that EPA revise the definition of "polyether polyol" to clarify that the production of typical alkanolamines is not regulated under subpart PPP. The commenter stated that the proposed definition was worded broadly enough that it might be misinterpreted to include alkanolamines. One alkanolamine (diethanolamine) is a HAP; however, its production is regulated under the HON. The commenter presented reasons why it does not believe that the EPA intended to regulate alkanolamines under subpart PPP. However, in the case where a manufacturer further reacts an alkanolamine until it possesses repeating ether units, the end result is a polyether polyol derivative of an amine. The commenter believed that, due to the batch nature of these processes and the chemical structure of the derivative, these products should be considered

polyether polyols. However, they are a small exception and are not typical of alkanolamines. Typical alkanolamines lack repeating ether units, which are the hallmark of polyether polyols. Therefore, the commenter urged EPA to add the following sentence to the end of the definition of "polyether polyol" to clarify that the production of typical alkanolamines is not regulated under this rule:

"Polyether polyols do not include alkanolamines, in which nitrogen is intentionally attached directly to the carbon of an alkyl alcohol, unless the alkanolamine is further reacted to form a molecule with more than three repeating ether units."

Response: The EPA agrees that the proposed definition of "polyether polyol" needed some clarification. In the final rule, "polyethers" are described parenthetically (in the definition of "polyether polyol" as "compounds with two or more ether bonds".

The EPA believes that explaining what is meant by the term "polyether" eliminates the possibility of owners or operators interpreting alkanolamines as being part of the polyether polyol source category. Therefore, the EPA did not add the sentence suggested by the commenter to the final rule, but did revise the final rule in a manner that should resolve the commenter's concern.

Comment: One commenter (IV-D-07) owns and operates a hydroxy ethyl cellulose manufacturing facility. Hydroxy ethyl cellulose is formed through the reaction of ethylene oxide with multiple reactive hydrogen sites (actually hydroxyl sites) on cellulose polymer molecules. According to the commenter, some standard references classify hydroxy ethyl as a "polyether ether." Previous indications were that this type of manufacturing would not be covered under this rule. For purposes of applicability, the commenter requested that EPA clarify whether hydroxy ethyl cellulose manufacturing is included or excluded from the definition of a polyether polyol.

Response: The EPA did not intend to make hydroxy ethyl cellulose manufacturing facilities subject to the polyether polyols rule, due to the cellulose component of the product. Therefore, to rule out the likelihood that others might consider the production of hydroxy ethyls to be subject to subpart PPP, the EPA has revised the definition of "polyether polyol" in the final rule, clarifying that the production of hydroxy ethyls is not subject to subpart PPP. The revised definition of "polyether polyol in the final rule reads:

> Polyether polyol means a compound formed through the polymerization of ethylene oxide (EO) or propylene oxide (PO) or other cyclic ethers with compounds having one or more reactive hydrogens (i.e., a hydrogen atom bonded to nitrogen, oxygen, phosphorus, sulfur, etc.) to form polyethers (i.e., compounds with two or more ether bonds). This definition of "polyether polyol" excludes hydroxy ethyl cellulose and materials regulated under the HON, such as glycols and glycol ethers.

2.3.13 Pressure Decay Curve

Comment: One commenter (IV-D-05) asserted that the term "pressure decay curve" is used in the rule without definition. According to the commenter, this is not a common technical term. Therefore, the commenter suggested adding a definition, as follows:

"Pressure decay curve is the graph of the reactor pressure versus time from the point when epoxide feed is stopped until the reactor pressure is constant, indicating that most of the epoxide has reacted out of the vapor and liquid phases. This curve must be determined with no leaks or vents from the reactor. The pressure decay curves for products that may have different starting and finishing pressures may be compared by graphically determining the time when the pressure has fallen to half the total pressure drop:

Phalf=(Pinital-Pfinal)/2 Equation x"

Response: The commenter was correct that the term "pressure decay curve" was not defined in the definition section of the rule. The EPA agrees with the definition presented by the

commenter, except for the last sentence. The last sentence, which gives a reference point for comparison with other pressure decay curves, is not germane to the definition of a pressure decay curve for this rule. Therefore, the last sentence was not included in the definition in the final rule. However, the last sentence is important in determining a point of comparison between two different pressure decay curves, and this concept was incorporated under §63.1427(h) in the final rule.

2.3.14 Process

Comment: One commenter (IV-D-05) recommended deleting the definition of "process" for two reasons. First, the word "process" by itself does not appear to be a significant regulatory term in this proposed rule. Second, the definition could cause confusion. For example, the definition says a "process" makes a polyether polyol. Yet, companies have a "process" to make HON products, or to make epoxy products, etc. Similarly, the definition says a "process" may consist of one or more unit operations. In contrast, a "process unit" (such as a HON "chemical manufacturing process unit" or a PMPU for this rule) consists of **two** or more unit operations. If a "process" is not coextensive with a "process unit," what is it? Moreover, the definition says a "process" includes "all or a combination of" various processing steps, "or other activity, operation, manufacture, or treatment" which are used to produce a polyether polyol. Apparently, then, there could be multiple "processes" in a "process unit." As a result of this, there is no way to tell what a "process" is or how to tell where one process ends and another begins. Therefore, for clarity, the commenter recommended deleting the definition of "process" because it is adequate to use this term as part of other defined terms.

Response: The EPA agrees with the commenter that the word "process" by itself is not a significant regulatory term. Further the EPA agrees that the definition of "process" in the

proposed rule is confusing. For these two reasons the EPA deleted the definition of "process" from the final rule.

2.3.15 Process Condenser

Comment: One commenter (IV-D-05) claimed that the definition of "process condenser" is not necessary because the term is not used in the rule. Therefore, the commenter recommended deleting the definition.

Response: The commenter is correct; the term "process condenser" does not appear in the rule. Therefore, the term "process condenser" has been deleted from the definition section of the final rule.

2.3.16 Process Vent

Comment: One commenter (IV-D-07) requested that the provisions for process vents from operations that handle materials with HAP "as impurities only" be clarified. For example, in one of their company's units which practices ECO as a control technology, subsequent unit operations which provide product treatment manage product containing small quantities of residual epoxide, which the commenter claimed to be an impurity at this point in the PMPU. The operation has about 15 emission points and none of them are tied together into a manifold; to do so would be very difficult and quite expensive. The commenter noted that the proposal exempts these emission points from the process vent control requirements under §63.1420(c)(8). However, the commenter was concerned about the requirements in §63.1425 to manage emissions from the combination of all process vents. Therefore, the commenter requested that the final rule include a clear provision to exempt process vents from equipment handling HAP only as impurities, to address these situations. According to the commenter, similar provisions are included in the HON, Polymers and Resins I and IV, and other standards. The commenter suggested that the last sentence of the definition of process vent be modified as follows: "Process vents exclude pressure

relief valve discharges, gaseous streams routed to a fuel gas system(s), vents from equipment that contain no organic HAP or organic HAP only as impurities, and leaks from equipment regulated under §63.1434."

The commenter also noted that the definition of impurity will also have to be changed to fully accomplish this objective.

Response: Although the EPA has not taken the commenter's advice, insofar as editing the definitions of "impurity" and "process vent," the EPA has added the following sentence to the end of the definition of "process vent," which should alleviate the commenter's concern about the status of post-control unit operations:

> "A gaseous emission stream is no longer considered to be a process vent after the stream has been controlled and monitored in accordance with the applicable provisions of this subpart."

Comment: One commenter (IV-D-05) was concerned that the definition of "process vent" does not have a *de minimis* cutoff, as does the definition of "process vent" in the HON. Also, the commenter pointed out that, under this rule, a process vent may originate from any unit operation, rather than from only specified unit operations as in the HON, and that, unlike the HON, this rule seems to say that the point at which a process vent exists (and, thus, presumably where one would expect to have to determine its characteristics) is where the stream leaves the unit operation. To be consistent with the HON, the commenter recommended deleting the definition and replacing it with the following definition:

"Process vent means a gas stream containing greater than 0.005 weight-percent total organic HAP that is discharged during operation of the PMPU. Process vents are gas streams that are discharged to the atmosphere (with or without passing through a control device) either directly or after passing through one or more recovery devices. Process vents exclude relief valve

discharges, gaseous streams routed to a full gas system(s), and leaks from equipment regulated under §63.1434."

Response: The cutoff suggested by the commenter (0.005 weight-percent total organic HAP) has been incorporated into the final definition of a process vent, for process vent from continuous unit operations. This decision was based on the fact that the EPA considers it to be impractical to impose requirements for process vent streams with such low HAP concentrations (less than 0.005 weight percent organic HAP). For similar reasons, a de minimis cutoff for process vents from batch unit operations was also added in the final rule. In the Polymers and Resins I and IV NESHAP, the batch process vent definition contains a de minimis cutoff of 225 kg/yr uncontrolled HAP emissions. The EPA believes that this level is also an appropriate de minimis level for process vents from batch unit operations in the polyether polyols industry. The revised definition of process vents in the final rule reads as follows:

> Process vent means a point of emission from a unit operation having a gaseous ~~emission~~ stream that is discharged to the atmosphere either directly or after passing through one or more combustion, recovery, or recapture devices. A process vent from a continuous unit operation is a gaseous emission stream containing more than 0.005 weight-percent total organic HAP. A process vent from a batch unit operation is a gaseous emission stream containing more than 225 kilograms per year of organic HAP emissions. Unit operations that may have process vents are condensers, distillation units, reactors, or other unit operations within the PMPU. ~~Process vents are points of emission from a unit operation having a gaseous stream that is discharged to the atmosphere either directly or after passing through one or more combustion, recovery, or recapture devices.~~ Process vents exclude pressure relief valve discharges, gaseous streams routed to a fuel gas system(s), and leaks from equipment regulated under §63.1434. A gaseous emission stream is no longer considered to be a process vent after the stream has been controlled and monitored in accordance with the applicable provisions of this subpart.

2.3.17 Product Class

Comment: One commenter (IV-D-07) suggested that the definition of "product class" be modified to allow products with similar or faster pressure decay curves to be included in the same product class. The net result of this change would be to allow sources to include more products in a product class with no increase in emissions. As a result, the commenter stated that fewer alternate scenarios and compliance tests would be required.

Another commenter (IV-D-05) stated that the definition of "product class" is incomplete and makes little sense unless the reader already knows what is implied. The commenter recommended revising the definition, as follows:

"Product class means a group of polyether polyols with a similar pressure decay curve ~~representing the decline in pressure versus time.~~ that are manufactured within a given set of operating conditions..."

Response: The EPA modified the definition of "product class" to include products with similar or faster pressure decay curves, as requested by commenter IV-D-07. This change will allow sources to include more products in a product class with no resulting increase in emissions. The EPA has decided that Commenter IV-D-05's suggested revisions to the definition of "product class" add clarity to the definition, and has incorporated those revisions into the final rule. The definition of "product class" in the final rule reads:

> Product class means a group of polyether polyols with a similar pressure decay curve (or faster pressure decay curves) that are manufactured within a given set of operating conditions representing the decline in pressure versus time. All products within a product class shall ~~will~~ have an essentially similar pressure decay ~~decline~~ curve, and operate within a given set of operating conditions. These operating conditions are: a minimum reaction temperature; the number of -OH groups in the polyol; a minimum catalyst concentration; the type of catalyst (e.g., self-catalyzed, base catalyst, or acid catalyst); the epoxide ratio, or a range for that ratio~~,~~; and~~,~~ the reaction conditions of the system (e.g., the size of the reactor, or the size of the batch).

2.3.18 Purification

Comment: One commenter (IV-D-07) requested that a definition be added for the term "purification." The commenter stated that the proposed rule implied, but did not explicitly state, that product purification is part of the PMPU process. As an alternative, the commenter suggested that the definition of "PMPU" could be modified by adding the words "and purify" to the first sentence after the word "manufacture" in the final rule.

Response: The EPA agrees that purification of the product was implied, but not directly stated, as being part of the PMPU in the proposed rule. In the final rule, the EPA has revised the third sentence in the definition of "PMPU," so that it states that the collection of equipment "includes purification systems, reactors and their associated product separators and recovery devices...."

2.3.19 Recovery Device

Comment: Two commenters (IV-D-04, IV-D-05) asserted that the definition of "recovery device" in the proposed rule should be revised to be the same as the definition in the HON. Instead of saying that recapture devices are considered to be recovery devices "for the purpose of" monitoring, recordkeeping and reporting requirements (as the HON does), the proposed definition stated that recapture devices were considered to be recovery devices "when" the rule required compliance with monitoring, recordkeeping and recording (should be "reporting") requirements. The word "when" referred to time, and not purpose. The commenters requested that the last sentence be changed to match the HON. Once revised, the definition would read, "For purposes of the monitoring, recordkeeping, or reporting requirements of this subpart, recapture devices are considered recovery devices," rather than "When...."

Also, the proposed definition states that reflux condensers are part of the reactor unit operation. Commenter IV-D-04 believed that a reflux condenser on a distillation unit should be

considered part of the distillation unit operation, instead of the reactor unit operation. The commenter recommended that the EPA consider revising this part of the definition to simply say that reflux condensers are part of "a unit operation in the process unit."

Response: The definition of "recovery device" is different for the Polyether Polyols NESHAP than for the HON because the HON covers continuous processes, while the Polyether Polyols NESHAP includes both batch and continuous processes. However, the EPA agrees that the definition of "recovery device" in the Polyether Polyols NESHAP should use the wording from the HON, so that "when" is replaced with "for the purpose of." This change has been made in the final rule.

The EPA agrees with Commenter IV-D-04's comment that reflux condensers are not necessarily part of a reactor unit operation, and has revised the definition of "recovery device" accordingly.

2.3.20 "Start-up" and "Shutdown"

Comment: One commenter (IV-D-05) was concerned about the fact that the definitions of "start-up" and "shutdown" in the proposed rule were not parallel. The commenter stated that, in the HON, considerable care was taken to make the definitions of those two terms parallel, and that the same care is needed in subpart PPP. The definition of "start-up" draws several distinctions between batch and continuous processes, or unit operations. The definition of "shutdown" does not draw those distinctions. Thus, some equipment could be started up, but not shut down, or vice-versa. The commenter stated that if these distinctions are appropriate, they should be in both definitions, worded identically.

In addition, Commenter IV-D-05 stated that the proposed definition of "start-up" correctly mentioned an affected source, a PMPU, a unit operation, "or" equipment required or used for compliance, while the definition of "shutdown" mentions an affected source, a PMPU, a unit operation, "including" equipment

required or used for compliance. The commenter saw no reason why these two definitions should use the words "or" and "including" differently, and stated that the word "including" in the proposed definition of "shutdown" raises a problem. This wording implies that the only type of "compliance" equipment that counts, for the purposes of a "shutdown," would be compliance equipment included in a unit operation. However, the commenter pointed out that compliance equipment is seldom included in a unit operation. Instead, it is typically "add-on" equipment, rather than part of the process. Thus, according to the commenter, under the proposed definition, almost no compliance equipment could ever have a "shutdown," although it might have occasional "start-ups."

Response: The EPA agrees with the commenter, and, in the final rule the definitions of "start-up" and shutdown" read as follows:

> Shutdown means for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair, the cessation of operation of an affected source, a PMPU within an affected source, a waste management unit or ~~a~~ unit operation within an affected source, ~~including~~ equipment required or used to comply with this subpart, or the emptying or degassing of a storage vessel. Shutdown does not include the normal periods between batch cycles. For continuous unit operations, shutdown includes transitional conditions due to changes in product for flexible operation units. For batch unit operations, shutdown does not include transitional conditions due to changes in product for flexible operation units. For purposes of the wastewater provisions, shutdown does not include the routine rinsing or washing of equipment between batch cycles.
>
> Start-up means the setting into operation of an affected source, a PMPU within the affected source, a waste management unit or ~~a~~ unit operation within an affected source, ~~or~~ equipment required or used to comply with this subpart, or a storage vessel after emptying and degassing. For all processes, start-up includes initial start-up and operation solely for testing equipment. Start-up does not include the recharging of batch unit operations. For continuous unit operations, start-up includes transitional conditions due to changes in product for flexible operation units. For batch unit operations, start-up does not include transitional conditions due to changes in product for flexible operation units.

2.3.21 Storage Vessel

Comment: Commenters IV-D-04 and IV-D-05 stated that the following clause (highlighted) in the definition of "storage vessel" is unnecessary, and that it causes problems and should be deleted from the definition: "Storage vessel means a tank or other vessel that is used to store liquids that contain one or more organic HAP and that has been assigned, according to the procedures in §63.1420(f), to a PMPU that is subject to this subpart." According to the definition, nothing can be a storage vessel until it is assigned to a PMPU. In addition, because it is not a "storage vessel," it cannot be assigned to a process unit under §63.1420(f). The commenter presented examples as to why this clause is problematic.

Commenter IV-D-05 also recommended adding subparagraph (7) as follows:

(7) Storage vessels assigned to another process unit regulated under another subpart of Part 63.

Response: The EPA agrees with commenters IV-D-04 and IV-D-05 on this point. The definition of "storage vessel" in subpart PPP has been revised in the final rule as suggested (except that the "p" in "part" is not capitalized).

2.3.22 Unit Operation

Comment: One commenter (IV-D-04) recommended that the definition of "unit operation" in the proposed rule be revised to say "distillation units" instead of "distillation columns." This change was made in the HON because the unit operation may include more than just a "column." Additionally, there may be other equipment (such as a reflux condenser) that is part of the same unit operation, even though it is not a "column."

Response: The EPA agrees that subpart F of the HON and subpart PPP should be consistent in how they define a "unit operation." Subpart PPP has been changed to reflect the change made via the HON amendments, as the commenter requested.

2.4 PROCESS VENT CONTROL REQUIREMENTS

2.4.1 3 Percent Oxygen Correction

Comment: One commenter (IV-D-02) disagreed with the proposed rule's requirements for sources to demonstrate compliance with outlet concentration limits in §63.1425(b)(1)(i) and (b)(2)(ii) and §63.1426(c)(3) at a 3 percent reference oxygen level. While 3 percent oxygen is an appropriate reference level for boilers, the commenter claimed it is not a reasonable requirement for thermal and catalytic oxidizers, which typically run at around 20 percent oxygen. The effect of using a 3 percent oxygen level is to make the standard excessively stringent for those sources using thermal and catalytic oxidizers. The commenter suggested that the rule allow the use of a higher reference oxygen level for these and similar technologies.

Response: The EPA is aware of situations where the 3 percent oxygen correction is not appropriate. However, the commenter did not provide sufficient rationale or information to support the claim that this cutoff was not appropriate for the polyether polyols industry. The EPA discussed this issue with polyether polyols producers, and found that they did not share the concern raised by the commenter. Therefore, no change was made in the final rule in response to this comment.

Comment: Five commenters (IV-D-03, IV-D-04, IV-D-05, IV-D-07, IV-D-08) maintained that the new source MACT floor of 99.9 percent for epoxide emissions from process vents is not appropriate. The commenters recommended that the EPA establish a separate category for facilities that are like the facility that was used to set the new source MACT standard (i.e., Facility M).

The commenters elaborated that Facility M is not similar to other sources in the source category because:

(a) its method of operation is substantially different from the typical facility, resulting in significantly different uncontrolled emissions;

(b) it has a polyether polyols production capacity many times higher than that of other sources, and;

(c) it has two incinerators.

In regard to their claim that Facility M's method of operation is substantially different from a typical polyether polyols production facility, the commenters stated that the Agency already has adequate data to evaluate how differences in venting may affect the emissions profile of a facility in this source category. According to the commenters, great differences in emissions are associated with whether a facility operates with a closed reactor that is vented only at the end of the epoxide feed (i.e., closed-vent), or with one that is continually or periodically vented during the epoxide feed (i.e., open-vent). The commenters stated that existing data available to the EPA demonstrate that Facility M is unlike other facilities in the source category in that it emits significantly more epoxide to the control devices on an essentially continuous basis.

In addition, one of the commenters (IV-D-07) pointed out that the high levels of uncontrolled emissions occurring during the vented mode of operation creates a significant difference between the ability to demonstrate very high levels of reduction in the control device at vented and non-vented sources. Commenter IV-D-05 presented both a hypothetical and actual comparison of emissions profiles from facilities that operate in a closed-vent mode versus a similar facility venting in an open-vented mode. The hypothetical case compared PO emissions, both controlled and uncontrolled (after a water-cooled condenser) for two reactor systems with the same physical parameters. Results indicated that uncontrolled emissions from the vented facility were 27 times greater than those from the nonvented facility; however, controlled emissions (assuming 99.9 percent control for the vented facility and 98 percent for the non-vented facility) were 94.5 and 84.7 lb/yr for the vented and nonvented facilities, respectively. For the actual facility comparison, the commenter compared the uncontrolled emission estimates of Facility M with those from Facility I, which were reported to be similar sources.

The commenter calculated uncontrolled emissions for Facility M from Facility M's test report, by using the emission rates reported during the test, and scaling these rates to 100-percent capacity, with the assumption that both incinerators present at Facility M were operating at 100-percent capacity at the same time. The emission rate from Facility I were provided by a representative of the corporation that owns Facility I, with updated control efficiency and emissions estimates from those originally submitted to the EPA for the MACT floor analysis for 1993. For the actual facility comparison, the uncontrolled emissions from the vented facility were 17 times greater than those from the nonvented facility, whereas controlled emissions for the vented facility were 989 lb/yr and those for the nonvented facility were 1,160 lb/yr. The commenter stated that these analyses "confirmed the hypothesis that less effective control gives equivalent emissions for nonvented reactors."

Further, commenter IV-D-07 provided a comparison of two facilities owned by the corporation that the commenter represents. The commenter explained that both facilities have "similarly sized units." The commenter explained that the vented reactor produces high molecular weight polyethylene glycols and is equipped with a refrigerated condenser, and the nonvented reactor produces a lower molecular weight polyethylene glycol. The annual uncontrolled emissions were 860 lb/yr for the vented reactor and 390 lb/yr for the nonvented reactor. The commenter concluded that the "design considerations and emissions differ significantly for vented and non-vented systems."

Commenter IV-D-05 stated that explanations of the need to subcategorize Facility M based on size and the presence of two incinerators was explained in detail before proposal. Commenter IV-D-03 noted that the production capacity for Facility M is five times larger than the average source cited in Table 2 of the Supplementary Information Document for Proposed Standards (EPA-453/R-97-010c, May 1997). Further, commenter IV-D-05 noted that Facility M is unlike other facilities in the source category

because Facility M had two incinerators, compared to other facilities that did not have any incinerators.

Response: The EPA disagrees with the statement that, at proposal, information was available to the Agency to demonstrate that Facility M is unlike other facilities in the source category with regard to the method of operation. Prior to proposal, an extensive amount of information was provided to the EPA related to the mode of operation at Facility M. However, while this information made the EPA quite knowledgeable regarding Facility M's mode of operation, only two of the other facilities in the database provided any information regarding their mode of operation. Without information about the majority of the other facilities, it was impossible for the EPA to evaluate the uniqueness of the mode of operation at Facility M prior to proposal. At proposal (62 FR 46815), the EPA requested specific information (including information on the mode of operation) from polyether polyol facilities to allow the evaluation of whether a subcategory was appropriate.

In response to this request, commenters presented three comparisons of uncontrolled and controlled epoxide emissions for vented and nonvented facilities. The EPA appreciated these comparisons. However, several inconsistencies and assumptions were identified that caused the Agency to conclude that these comparisons do not, independently, provide a sufficient basis for subcategorizing the polyether polyols source category into vented and nonvented subcategories. Some of EPA's concerns with these comparisons are discussed below.

First, the hypothetical analysis assumed that a water-cooled condenser was used at the reactor vent. The EPA believes that the use of more efficient refrigerated condensers, which would result in considerably lower uncontrolled emissions, is more representative of practice in the industry.

With regard to the comparison of the actual facilities, Facility I and Facility M, the EPA found that the epoxide emission estimates used for Facility M in the commenter's

comparison were drastically different from the emission data that were directly submitted to the EPA by representatives of Facility M. Also, the emission data from Facility I had been updated from the data originally submitted during an EPA plant site visit to that facility. The estimates provided in the comments were lower than the original estimates due to process improvements at the facility (that were not related to the method of operation). The EPA conducted a similar comparison of the uncontrolled epoxide emissions at these same two facilities using the data originally submitted to the EPA by the two companies. The results were not in accordance with those presented by the commenter. In fact, the uncontrolled emission factor for Facility I was higher than Facility M's factor. Clearly, the analysis of the data available to the Agency does not support this commenter's analysis.

The actual facility analysis conducted by commenter IV-D-07 stated that their analysis consisted of two facilities owned by the commenter that were "similarly sized units." However, the EPA found that the production capacity for the nonvented reactor was larger than that for the vented reactor, and the emissions were not adjusted accordingly.

Given these and other inconsistencies in the facility comparisons provided by commenters, the EPA could not conclude that subcategorization was necessary, based solely on these comparisons. No commenters submitted the facility-specific data that were requested in the proposal preamble. Therefore, even if the examples provided by the commenters had led to the conclusion that subcategorization was warranted, the EPA did not have sufficient facility information to allow a complete subcategorization evaluation.

However, the Agency still wanted to attempt to address the commenters' concerns on this issue. Given the lack of data provided by the industry prior to proposal and during the public comment period, the EPA conducted a brief telephone survey to inquire specifically about the mode of operation at polyether polyol production facilities. Representatives from all the

facilities in the process vent data base were called and asked to describe their method of venting during epoxide feed. Of the facilities for which the EPA was able to collect mode-of-venting data, 24 percent (including Facility M) reported venting during the epoxide feed step, and 76 percent reported that their facilities did not vent during the epoxide feed step. Therefore, the EPA concluded that the manner of operation of facility M was not unique to the source category, as claimed by the commenters.

The EPA sought to determine whether the different venting modes during epoxide feed resulted in "differences in the amount and pattern of emissions and the achievable degree of emission reduction," (Memorandum, from Seaman, J.C., EC/R Incorporated to Svendsgaard, D, EPA/OCG. January 15, 1999. Documentation of the Calculation of Uncontrolled Emission Factors. Docket Item: IV-B-01). The EPA determined that a facility's uncontrolled emission factor (mass emissions per mass of polyol product produced) was the best method of comparison, and calculated such a factor for each facility for which sufficient information was available. For the "vented" facilities, the median uncontrolled emission factor was 0.17 (lb HAP emissions per 1000 lb of product). The data points were considered to have too varied a distribution, with two orders of magnitude making up the difference between the highest and lowest emission factor, for the mean value to be an adequate representation of central tendency. For the "nonvented" facilities the median uncontrolled emission factor was 1.09. The commenters asserted that uncontrolled epoxide emissions at vented facilities are considerably higher than those at nonvented facilities. However, the results of the EPA's analysis, based on the best information available, clearly do not support this assertion, since the median uncontrolled emission factor calculated for nonvented facilities is over six times *higher* than the median uncontrolled emission factor for vented facilities.

In conclusion, based on all of the information available to the Agency, the EPA was unable to determine a different emission trend between the vented and nonvented groups from the data made available to the Agency between proposal and promulgation.

Therefore, the EPA did not subcategorize the industry based on the method of operation.

The commenters' second rationale to support their claim that Facility M is not a similar source was that the production capacity at Facility M is many times that of other sources in the source category. Subcategories, or subsets of similar emission sources within a source category, may be defined if technical differences in emissions characteristics, processes, control device applicability, or opportunities for pollution prevention exist within the source category (Federal Register, Vol. 57, No. 137, Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990). The EPA does not believe that the fact that Facility M has a larger production capacity satisfies any of these criteria. Further, since one facility in the process vent database has a capacity that is 83 percent of Facility M's capacity, the EPA also disagrees that the production capacity is unique.

The third argument given by the commenters to support the claim that Facility M is not similar to the other affected sources, was that Facility M has two incinerators, and that no other sources have incinerators. The EPA disagrees with the commenters' claim that Facility M is the only source with an incinerator, since there is another facility in the database that also uses incineration. Further, the fact that a source has a better control than all other facilities in the source category through the use of one or more incinerators is not a sufficient basis for asserting that the source should be subcategorized. The purpose of MACT is to ensure that regulated sources meet the control standards achieved by the best performing sources in the category. Subcategorization on the basis of the control technology utilized would undermine the very concept of MACT.

In addition to the evaluation of the individual points raised by commenters, the EPA also considered whether these characteristics of Facility M collectively form a basis for subcategorization. The EPA concluded that, based on the facility-specific process, emissions, and emissions control

information provided to the Agency by the polyether polyol industry, a separate subcategory should not be created solely for Facility M.

Comment: Three commenters (IV-D-04, IV-D-05, IV-D-08) requested that the combustion efficiency be set at 98-percent, with a 20 ppmv concentration cutoff, for new sources for this source category, to be consistent with the policy established for other MACT standards as well as with data furnished to the EPA. The commenters referred to other MACT standards, including the HON, where the EPA has exercised such discretion. They stated that the EPA had selected the 98-percent or less efficiency level in some of the other source categories despite individual test results indicating that greater than 98-percent reduction could be achieved under specific test conditions. One commenter (IV-D-08) noted that the EPA (in the HON) has required new source controls for chemical industry process vents to meet a 98-percent emission reduction, recognizing that a 99.9-percent control efficiency was not achievable for these industries (see HON BID, Section 12, page 2). One commenter (IV-D-03) asserted that the overall expected emission reduction from a new source MACT of 99.9-percent, as opposed to 98-percent, would be trivial, even if uniformly applied to all sources nationwide.

Response: The EPA disagrees with the commenters' statement that the EPA has an "established policy" that the combustion efficiency be set at 98-percent. The EPA has no such policy, even though previous rules may have established 98-percent destruction efficiency as the standard, along with a 20 ppmv alternative. However, more important than a precedent set by previous rules, was the test data provided by the facility used to set the MACT floor level of control for epoxide emissions from new sources, Facility M, and the permit conditions with which the facility must comply. The EPA has a responsibility to scrutinize the test and permit data, and use it in setting a standard, whenever possible. Therefore, the EPA could not simply go by the

precedent set on other rules since the EPA had test data and permit conditions from Facility M that could not be ignored. Further, the test data provided by Facility M were calibrated to the predominant epoxide in the vent stream, and EO and PO were the overwhelmingly predominant HAP in the process vent stream. This situation is unlike the HON. Since the HON regulated such a large number of HAP, even if an individual facility had a tested and reported destruction efficiency greater than 98 percent, this destruction efficiency could not be generalized to all the HAP regulated by the HON, due to the large variety of flammability characteristics of the HAP at HON facilities. The EPA could not address the commenters' statement regarding information the EPA had available to set the MACT floors in "other MACT standards," since the commenter did not make specific references.

Comment: Two commenters (IV-D-03, IV-D-07) explained that the combustion technology utilized by Facility M results in an increase in criteria pollutants (CO_2 and NO_x), which were not included in EPA's MACT floor analysis, while alternative control technologies, such as scrubber or extended cookout, would be expected to cause significantly lower NO_x emissions. Additionally, the commenters claimed that the EPA has failed to account for potential process safety considerations associated with the combustion of EO, noting that explosions at a number of facilities that use or produce EO have already prompted the EPA to delay enforcement of the December 6, 1994 air toxics rule for EO sterilization facilities. Commenter IV-D-07 added that the EPA should encourage standards that can be met using non-combustion control strategies (achieving 98-percent reduction).

Response: The EPA is aware that incineration has secondary criteria pollutant emissions. However, MACT floor decisions are based on the reduction of HAP emissions, and cannot be based primarily on their secondary impacts. The EPA is aware that the use of incineration, resulting in an increase in sulfur dioxide emissions, which may trigger Prevention of Significant

Deterioration(PSD) and/or New Source Review (NSR). The EPA has addressed this issue in previous NESHAP, by referring to a July 1, 1994 guidance memorandum issued by the EPA (available on the Technology Transfer Network; see "Pollution Control Projects (PCP) and New Source Review (NSR) Applicability" from John S. Seitz, Director, OAQPS to EPA Regional Air Division Directors). In this memorandum the EPA provided guidance for permitting authorities on their ability to approve PCP exemptions (from PSD review and major NSR) for source categories other than electric utilities that use add-on controls and fuel switches to less polluting fuels. In the July 1, 1994 guidance memorandum, the EPA specifically identified the combustion of organic toxic pollutants as an example of an add-on control that could be considered a PCP and an appropriate candidate for a case-by-case exclusion from major NSR. The EPA is alert to potential NSR conflicts, and feels that this memorandum will alleviate most NSR/PSD review concerns. In the event that it will not, the EPA will attempt to create implementation flexibility on a case-by-case basis.

The EPA does consider secondary impacts such as water pollution, energy costs, costs to control, and emission of air pollutants other than the 188 HAP in developing a MACT standard. The estimated secondary impacts are presented in the proposal SID. Further, the safety issues of incineration of epoxides were adequately addressed at Facility M and the other facility in the database that has incineration. Therefore, the EPA did not find these reasons to be sufficient to justify eliminating Facility M's data from the determination of the MACT floor for new sources based on the fact that Facility M uses incineration.

Comment: Two commenters (IV-D-05, IV-D-08) maintained that data from Facility M do not support the new source standard because the Agency used State permit information and corresponding performance test reports for Facility M. They claimed that these data were submitted to the State agency to demonstrate compliance with permit emission limitations for VOCs,

not HAPs, and to document that the incinerators were meeting the required VOC destruction efficiency. They noted that there are several significant inconsistences between the test reports and the proposed standards (these inconsistencies were discussed in more detail under section 2.1.6, Test methods and procedures). The commenters concluded that Facility M itself has not demonstrated that it is able to meet the proposed rule's epoxide emission limits, noting that the rule requires Method 301 validation of Method 25A and Facility M did not perform validation by Method 301.

Response: The EPA disagrees with the commenters' statement that the data from Facility M do not support the new source standard because the performance test was conducted to determine VOC destruction efficiency instead of epoxide, and the permit conditions are for VOC. The primary pollutant in the stream was PO, and this is the pollutant for which Method 18 at the inlet of the incinerator, and Method 25A at the outlet of the incinerator, were calibrated. Therefore, even though the test and permit cite VOC destruction efficiency, it is clear that it is the destruction of PO that was tested and regulated at Facility M.

The commenters' concerns about inconsistencies between the test reports and the proposed standards are discussed in section 2.1.6 of this document. In summary, the performance test performed by Facility M is consistent with the performance test requirements in the final rule.

Comment: Two commenters (IV-D-04, IV-D-05) requested that the EPA clarify that, in all instances, two or more devices in combination may be used to meet an emission limitation. For example, commenter IV-D-04 stated that Facility M has two incinerators, and there may be other facilities that use a combination of control devices or recovery devices to achieve emission limitations. Both commenters requested that the EPA clarify, both in §63.1431(e) and in the preamble for the final rule, that combinations of devices are permissible. The

commenters also recommended the following revision in §63.1431(e) and the first sentence in §63.1431(e)(1):

"(e) Compliance with the epoxide emission factor limitation through the use of extended cookout in conjunction with ~~a~~ one or more combustion, recovery, and/or recapture devices. (1) The owner or operator shall notify the Agency of the intent to use extended cookout in conjunction with ~~a~~ one or more combustion, recovery, and/or recapture devices to comply ...."

Response: The Agency intended to allow for multiple control techniques in series, and has amended §63.1431(e) as recommended by the commenters.

2.4.2 A Concentration Limit as an Alternative Process Vent Emission Limit

Comment: In response to EPA's request for comments on the determination of an alternative concentration limit for new source process vents (§63.1425(b)(1)(ii)), four commenters (IV-D-03, IV-D-05, IV-D-07, IV-D-08) recommended a 20-ppm cutoff concentration limit. Two commenters (IV-D-03 and IV-D-05) agreed that there was ample data available to EPA to support this limit. One commenter (IV-D-03) referred to HON stack emission test data submitted to EPA Region IV and an attached emissions summary table taken from the test report, which they believed supported their claim. The commenter noted, however, that these data were generated to demonstrate HON compliance for a continuous process, which may not be equivalent to the expected performance of a batch process to be regulated under the Polyether Polyols Production NESHAP.

Commenter IV-D-05 pointed to the HON compliance trials as proof that the 20-ppmv concentration limit used in the HON is a conservative value as an alternative to the new source MACT standard and should be adopted in this standard, regardless of whether a 98 or 99.9-percent efficiency limit is established. This commenter noted that a 20-ppmv cutoff is recognized as appropriate in other MACT standards, and in most NSPS standards

that apply to process vents from the chemical industry. Because most facilities in this source category use batch processes, the commenter asserted that a lower concentration cutoff will be difficult to develop, demonstrate compliance with, and enforce in a practical manner.

Commenter IV-D-07 supported the comments of commenter IV-D-05, and added that from a source owner/operator perspective, compliance with the 20-ppmv criteria is significantly simpler to demonstrate than compliance with the 98-percent reduction, since only the outlet from the control device needs to be tested to demonstrate compliance with the 20-ppmv criteria. In addition, the compliance difficulties that might result from owners and operators comparing two measured numbers would be eliminated, and problems in sampling and analyzing highly variable streams from batch process vents containing significant concentrations of epoxides would be eliminated, by allowing the 20 ppmv cutoff concentration limit.

The commenter (IV-D-07) also provided another reason to support an alternative concentration limit of 20-ppmv for new sources. In the Boiler and Industrial Furnace Interim rules, EPA has established a precedent where a 20-ppmv hydrocarbon limit is used as a compliance limit for certain systems required to comply with a destruction efficiency greater than 99.9 percent. The commenter concluded that a 20-ppmv concentration limit is an acceptable control level for both combustion facilities and uncontrolled and non-combustion control devices, and that it is justified for both new and existing sources.

One commenter (IV-D-08) supported the reasons above to maintain a 20-ppmv concentration cutoff, and added that the EPA has previously stated that 20 ppmv is the lowest outlet concentration of total organic compounds achievable by combustion of low organic concentrations (reference was made by the commenter to the preamble to the NSPS for subpart NNN).

In addition, this commenter cited the following reasons for not establishing a concentration limit of 1 ppmv for new source process vents:

(1) A concentration limit of 1 ppmv may not be achievable by combustion over the long compliance duration required by the rule;

(2) A concentration limit of 1 ppmv would be closer to the analytical detection limit, and have greater uncertainty would be associated with the analytical results than there would be with a concentration limit of 20 ppmv.

Response: The Agency agrees with Commenter IV-D-08's statement that the EPA previously stated that 20 ppmv is the lowest outlet concentration of total organic compounds achievable by combustion of low organic concentrations (an inlet concentration of 2000 ppmv), referencing the preamble to the proposed NSPS for Air Oxidation Unit Process (48 FR 48932, October 21, 1983). As stated in subpart NNN's preamble, the outlet concentration of 20 ppmv was established based on kinetic calculations of incinerators. It was demonstrated that, at a given temperature and residence time, a stream with a low inlet concentration (approximately 2000 ppmv) could not demonstrate an outlet concentration below 20 ppmv. Further, in the preamble to the proposed amendments to the HON (61 FR 43698, August 26, 1996), the EPA expanded the application of this lower bound concentration performance standard to control/recovery devices other than incinerators. The HON's preamble explained that recovery devices are designed to typically reduce emissions to the same outlet concentration level given a relatively wide range of inlet concentrations. When the inlet concentration is substantially below the design maximum leading conditions (and begins to approach the residual level in the outlet stream) the recovery device efficiency will decrease. Therefore, the final rule contains an alternative concentration limit of 20 ppmv for both new and existing sources.

At proposal, the existing source concentration limit was 20 ppmv of total epoxides. In evaluating the new source limitation, the EPA considered whether this limitation should be "total epoxides or TOC." Other rules, such as the HON, allowed the

option of determining outlet concentration limits on a TOC basis. Since the EPA desired to allow Method 25A (which is designed to measure TOC) to determine compliance with this concentration limit, and since other standards allowed the option of compliance on a TOC basis, the concentration limits in the final rule for new and existing sources are 20 ppmv total epoxides or TOC.

Comment: One commenter (IV-D-07) advocated that the alternative 20-ppmv concentration limit should apply more broadly to process vents without controls. For example, there might be vents from equipment practicing a very long extended cookout or vents from equipment where the epoxide content is very low and emissions are very small. The commenter noted a variety of precedents in MACT standards (particularly the HON) applying to chemical industry sources, to support the concept of making the limit broadly applicable.

Response: First, the commenter is incorrect in stating that the HON allows a 20-ppmv concentration limit for process vents that do not control. Paragraph §63.113(a) in the HON specifies the control devices and recovery devices that are permissible for achieving the 20-ppmv concentration limit.

The 20 ppmv outlet concentration limit recognizes that there is a lower outlet concentration boundary, below which combustion, recapture and control devices cannot achieve when the inlet to the device is below approximately 2000 ppmv. The EPA understands that the outlet concentration after extended cookout may be as low as that after a combustion, recovery, or recapture device. However, this is not based on technological limitations of ECO, as is the basis for the 20 ppmv concentration limit for combustion, recovery, and recapture devices. Therefore, the EPA believes that allowing the 20 ppmv concentration limit for ECO is not appropriate.

Further, the EPA does not believe that it is appropriate to use this alternative concentration requirement as a de minimis cutoff for vents where the epoxide content is very low and

emissions are very small. The EPA believes that the HAP concentration and emission de minimis cutoffs in definition of the process vent (discussed above in Section 1.2.3) adequately address these vents.

2.4.3 Basis for Outlet Concentration Testing as an Alternative Process Vent Limit

Comment: One commenter (IV-D-05) strongly supported the level for existing sources and the use of alternative cutoff levels in §63.1425(b)(2)(ii). However, the commenter noted that the word "average" in §63.1425(b)(2)(ii), which was between "outlet" and "concentration" in a draft version of the proposed rule that was shared with industry, has been deleted. This is a significant change for batch processes. According to the commenter, a 20-ppmv average outlet concentration is a much different limit than a 20-ppmv maximum outlet concentration. When a reactor is vented down, the initial concentration will be high, decreasing as the venting continues. The overall vent in a given situation may well meet the 20-ppmv average, but be significantly above this limit for a short portion of the venting period. Also, the commenter noted that §63.1425(b)(2)(ii) unlike §63.1425(b)(2)(i), does not include "process vents." Since this paragraph is in a section dealing with process vents, the commenter believed that it was the EPA's intent to include them in this paragraph. Therefore, the commenter recommended revising the text, as follows:

"Maintain an average outlet concentration for process vents of total epoxides...."

Response: The word "average" between "outlet" and "concentration" was deleted in the proposed rule from a draft shared with the public because the term was inappropriate at that location. Initial compliance is determined by the procedures specified in §63.1426(c)(3), which in turn cites Method 18. For process vents from continuous unit operations Method 18 is conducted for 3, 1-hour runs; for process vents from batch unit

operations Method 18 is conducted during worst-case conditions. The term "average" comes into play in relation to continuous compliance. For continuous compliance, a daily average must be maintained. This daily average can be determined using either CEMS data or parametric monitoring data. Further, the word "average" was not used in any of the other subsections of §63.1425(b)(1) or (2), for the same reason.

2.4.4 Group Determination for Nonepoxide HAP Process Vent Emissions on a Vent-by-Vent Basis

Comment: Three commenters (IV-D-04, IV-D-05, and IV-D-08) requested that owners or operators have the option of making the group determinations for nonepoxide process vents on a vent-by-vent basis, rather than being required to do the group determination for the combination of all process vents. The commenters maintained that the distinction between Group 1 vents (requiring control) and Group 2 vents (not requiring control) is essentially a cost-effectiveness decision borrowed, in this rule, from previous MACT standards such as the HON. However, all previous MACT standards that have required Group determinations for process vents have specified that the determinations be conducted on individual vents. According to the commenters, the EPA appears to be borrowing those same equations and criteria, and employing them in a totally different context, without making the adjustments that would be necessary for that context. One of the commenters also noted that there was no supporting rationale, and lacks legal justification for setting the MACT floor level of control more stringent than any other MACT standard that previously used these Group Determination equations. Commenter IV-D-08 maintained that the proposed rule sets a dangerous precedent for future MACT standards that might impact the chemical industry.

These commenters also expressed the following specific objections to this approach.

(1) Commenter IV-D-08 stated that the use of an aggregated vent approach implies that all process vents in a unit are

manifolded to a common control device. The commenter reported safety and construction concerns if this were the case.

(2) Commenter IV-D-04 asserted that Group determinations for combinations of process vents would be excessively biased toward finding vents to be Group 1. For example, a threshold flow rate of 0.005 standard cubic meters per minute may be realistic for deciding the cost-effectiveness of controlling an individual process vent, but it would be virtually impossible to find any process unit having such a low flow rate for the combination of all its process vents.

(3) Commenter IV-D-8 expressed concern that the proposed rule does not provide for appropriate batch process applicability cutoffs, such as annual emission limits and cutoff flow.

(4) Commenter IV-D-04 claimed that by using the combination of process vent Group determination approach, the EPA would provide a disincentive to the very type of emission reduction efforts which, in previous rules such as the HON, were a desired outcome. For example, under the HON an owner or operator is allowed to make process changes that increase the TRE index value. However, the proposed rule provides no incentive for making beneficial changes to a single process vent unless there is a realistic chance to get the TRE index value into Group 2 for the combination of all process vents. The commenter stated that there is virtually no chance that a process change could make the entire combination of vents Group 2.

In order to address these concerns, the commenters made several suggestions. Commenter IV-D-04 suggested that the EPA either validate the "borrowed" equations and criteria in the context of combined process vents, or develop and validate entirely new equations and criteria, in order to allow Group determinations to be established based on "combinations" of process vents. Commenter IV-D-05 suggested that the EPA simply allow owners and operators to conduct group determinations on a vent-by-vent basis.

Response: The EPA agrees with the statement that the Group 1 criteria is essentially a cost-effectiveness decision. The EPA also agrees that the criteria in subpart PPP were borrowed from other MACT standards, specifically the HON (for process vents from continuous unit operations) and Polymers and Resins I and IV (for process vents from batch unit operations).

The EPA agrees that the TRE index approach was developed for, and has been applied on, individual vents. Therefore, the EPA further agrees that in order to apply the TRE approach to the combination of process vents from continuous unit operations in a PMPU is not appropriate without conducting an analysis to validate the equations for the combination of vents, or to develop new equations. Rather than take this approach, the EPA decided to apply the Group 1 criteria for process vents from continuous unit operations that use nonepoxide organic HAP to make or modify the product to individual process vents.

For process vents from batch unit operations that use nonepoxide organic HAP to make or modify the product, the Group 1 equations are the same equations employed in the Polymers and Resins I and IV MACT standards (40 CFR 63, subparts U and JJJ, respectively). The EPA agrees with the commenters that in the polymers and resins standards, the Group criteria are applied to individual vents. However, unlike the TRE for process vents from continuous unit operations, the group determination approach that is used in subparts U, JJJ, and PPP, was originally developed to be used for either individual vents or the combination of vents.

The original source of the batch vent group determination approach is the EPA document "Control of Volatile Organic Compound Emissions From Batch Processes - Alternative Control Techniques Information Document" (EPA-453/R-94-020), i.e., the Batch ACT. On page 7-5 of this document, the EPA states "The control option requirements presented in Chapter 6 apply to (1) individual batch VOC process vents to which the annual mass emissions and average flowrate cutoffs are applied directly, and (2) aggregated VOC process vents for which a singular annual mass emission total and average flowrate cutoff value is calculated

and for which the option is applied across an aggregate of sources." Therefore, for process vents from batch unit operations, the EPA disagrees with the statements that the group determination equations are being used "in a totally different context" and that there is no supporting rationale for using them. The final rule retains the requirement that the Group criteria be applied to the nonepoxide organic HAP emissions from the combination of process vents from batch unit operations associated with the use of nonepoxide organic HAP to make or modify the product.

With regard to the specific concerns raised by the commenters, the EPA does not agree that applying the group criteria to the combination of process vents in a PMPU implies that all process vents are manifolded together. The EPA clearly recognizes that not all process vents are manifolded together, and that there could be safety and construction concerns with doing so. Applying the group criteria to the combination of vents means that the decision whether to control process vents in the PMPU is based on the characteristics of all process vents. If the combination of process vents is determined to be Group 1, the EPA believes the rule provides considerable flexibility to the owner or operator in how to achieve the specified emission reduction for emissions from all process vents. There is no requirement that any process vents be combined.

The examples provided in second and fourth concerns are specific to the Group 1 criteria for process vents from continuous unit operations. As noted earlier, the EPA has changed the final rule so that the group criteria for these vents is applied on an individual vent basis. Therefore, the examples should no longer be of concern.

With regard to the third concern, the commenter indicated that the proposed rule did not include "appropriate batch process applicability cutoffs, such as annual emission limits and cutoff flow." At §63.1428(c), the proposed rule did have an annual emission limit cutoff of 11,800 kilograms per year. Therefore, if total nonepoxide organic HAP emissions from all

process vents from batch unit operations that use nonepoxide organic HAP to make or modify the product were less than 11,800 kilograms per year, the combination of process vents would be Group 2. The proposed rule also contained the concept of a "cutoff flow rate" at §63.1428(e). The cutoff flow rate is calculated from the annual nonepoxide organic HAP emissions, and compared to the actual flow rate. In addition to these "cutoffs," which are retained in the final rule, the EPA has clarified, in the definition of process vent, that process vents from batch unit operations must have annual organic HAP emissions of 250 kilograms per year or greater.

In conclusion, the EPA agrees with the commenters that the group determination for process vents from continuous unit operations that use nonepoxide organic HAP to make or modify the product should be made on an individual vent basis, and has modified the final rule accordingly. However, the EPA disagrees that the group determination for process vents from batch unit operations that use nonepoxide organic HAP to make or modify the product should be on an individual vent basis. The final rule requires that this group determination be made on the combination of all batch vents in the PMPU.

Comment: One commenter (IV-D-04) stated that the proposed rule's requirement for separate Group determinations for continuous process vents and batch process vents is inconsistent with the real-life scenario in which the two types of vents are ducted together. Criteria such as HAP concentrations, flow rates, etc. can be determined on a vent-by-vent basis, but the commenter is unsure how to determine them for a combination of batch and continuous vents, and the proposed rule does not explain how to do this. The solution suggested by Commenter IV-D-05 involved revising §63.1424(b) as follows:

> "(b) When emissions of different kinds (i.e., emissions from process vents subject to §63.1425 through §63.1430, storage vessels subject to §63.1432, process wastewater, and/or in-process equipment subject to §63.149 of subpart G) are combined, and at least one of the emission streams would

require control according to the applicable provision (e.g., is Group 1, or where applicable, belongs to a combination of process vents that is Group 1) in the absence of combination with other emission streams, the owner or operator shall comply with the requirements of either paragraph (b)(1) or (b)(2) of this section."

Response: The EPA agrees that the final rule needed more specific requirements for streams that have been ducted together or otherwise combined. However, the commenter's suggested rule language and their actual comment referred to two different situations. The comment cited concerns with how to conduct the group determination for combined streams, but the paragraph that the commenter suggested language for, §63.1424(b), specified how to control combined streams. The EPA made changes to address these concerns in both of these instances.

As requested by the commenter, the final provisions in §63.1424(b) state how to comply for combined streams from different types of emission points; however, the EPA selected a more straightforward approach. Paragraph §63.1424(b) of the final rule states that when emission streams are combined, the owner or operator has the option to comply with the individual requirements for each type of emission stream in the combined stream, or to comply with the most stringent requirement for any stream in the combined stream.

In order to provide guidance regarding Group determinations in combined streams, the EPA found it necessary to add new requirements, as §63.1428(i). Paragraph §63.1428(i) specifies that the Group determination for a stream containing a combination of process vents from batch unit operations and process vents from continuous unit operation, both associated with the use of a nonepoxide organic HAP to make or modify the product, shall be determined as for any other process vent from a continuous unit operation, except that the TRE must be calculated when nonepoxide organic HAP emissions are being generated by the batch unit operation that feeds into the combined stream.

In making this change to the final rule, the EPA also realized that clarification was needed with regard to when the

owner or operator should collect the information needed to make a Group determination for uncombined process vents from batch unit operations, or from continuous unit operations, as well. As a result, §63.1428(a) has been revised to state that if the owner or operator is using a combustion, recovery, or recapture device to reduce epoxide emissions from process vents from batch unit operations, then the location at which the annual uncontrolled nonepoxide organic HAP emissions and annual average flow rate are determined must be at the exit of the combustion, recovery, or recapture device.

In addition, §63.1428(h)(1) has been revised to provide specifications regarding where the owner or operator must conduct the TRE index value determination. This location is after the last nonepoxide recovery device, if the owner or operator uses one or more nonepoxide recovery devices after all control techniques to reduce epoxide emissions; at the exit of at the exit of the combustion, recovery, or recapture device, if the owner or operator does not use a nonepoxide recovery device after a combustion, recovery, or recapture device to reduce epoxide emissions; or at the exit from the continuous unit operation, if the owner or operator does not use a nonepoxide recovery device after extended cookout to reduce epoxide emissions. The TRE index value is one of the factors that determines the Group status of a process vent from a continuous unit operation, according to the final definition of Group 1 continuous process vent in §63.1423.

2.4.5 Relationship to Polymers and Resins I Changes

Comment: One commenter (IV-D-04) noted that the proposed requirements for batch process vents were borrowed from the Group 1 Polymers and Resins standard, which is in litigation. Therefore, the commenter requested that, when the result of the Polymers and Resins Group 1 litigation is final, the EPA take additional public comments on the concept of incorporating any changes to that rule into this rule.

Response: The EPA agrees with the commenter, and the preamble for the proposed amendments to the Group 1 Polymers and Resins NESHAP (64 FR 11560, March 9, 1999) requested comments on the concept of applying the amended batch requirements automatically to other subparts that reference the Group 1 Polymers and Resins NESHAP.

2.4.6 Group Redetermination

Comment: One commenter (IV-D-04) maintained that reducing production capacity or production rate should not trigger mandatory redetermination of process vent Group status, as proposed. The commenter stated that decreasing the production rate or production capacity would not be expected to move process vents from Group 2 to Group 1, since typically emissions decrease with decreases in production. Therefore, the commenter suggested that §63.1428(g)(1) and (h)(2) be revised as follows:

> "Examples of process changes include, but are not limited to, increases ~~changes~~ in production capacity~~,~~ or production rate, changes in feedstock type~~,~~ or catalyst type~~,~~ or ...."

Response: The EPA agrees with the commenter, and has incorporated the suggested changes into the final rule.

2.4.7 Non-epoxide versus Epoxide Process Vent Emission Limits

Comment: One commenter (IV-D-05) stated that, in the process vent control requirements of §63.1425(a), it is not clear whether emissions of epoxides would be subject to one emission limit or two. The first emission limit is specifically for epoxide emissions. The second emission limit is for "organic HAP emissions resulting from the use of nonepoxide organic HAP (in addition to epoxides) to make or modify the polyether polyol product." Since epoxides are organic HAP, it appears that they may be included in the term "organic HAP emissions" in the second emission limit. The commenter thought that the EPA intended for the first emission limit to cover epoxides, and for the second emission limit to apply only to non-epoxide organic HAP. To make

this clear, the commenter recommends revising the text, as follows:

> "...paragraph (c) of this section contains limitations for nonepoxide organic HAP emissions resulting from the use of nonepoxide organic HAP (in addition to epoxides) to make or modify the polyether polyol product;..."

Response: The Agency agrees that the proposed language was confusing, and has made the suggested change to the final rule.

2.4.8 Alternative Emission Factor

Comment: One commenter (IV-D-05) supported the inclusion of an alternative emissions factor as proposed by the EPA for process vents from new and existing sources. However, the commenter urged the EPA to clarify [in §63.1425(b)] that owners and operators may choose to demonstrate compliance by meeting the appropriate control efficiency, by maintaining outlet concentrations on individual process vents, or by maintaining the PMPU-wide emission factor. The commenter pointed out that the emission factor in §63.1425(b)(1)(iii) and (b)(2)(iii) is not expressly limited to process vents, and instead is "PMPU-wide," which could be mistaken to include equipment leaks, such as minor emissions from flanges or valves, plus any emissions from wastewater, storage vessels, etc. Since these PMPU-wide emission factor limits are meant to apply to process vent emissions, the commenter suggested minor changes to §63.1425(b)(1)(iii) and (b)(2)(iii) to clarify their intent, as follows:

(1) ***

(iii) Maintain an ~~a PMPU-wide~~ emission factor of no greater than 4.43 X 10-3 kilogram epoxide emissions per megagram of product for all process vents in the PMPU.

* * * * *

(2)***

(iii) Maintain an ~~a PMPU-wide~~ emission factor of no greater than 1.69 X 10-2 kilogram epoxide emissions per megagram of product for all process vents in the PMPU."

Another commenter (IV-D-07) also requested that these paragraphs be clarified, for the same reasons presented above.

This commenter's suggested revision to these paragraphs was slightly different:

"Maintain a PMPU-wide emission factor <u>for process vents</u> of no greater than...."

<u>Response</u>: The Agency agrees with the commenters, and has changed §63.1425(b) in accordance with Commenter IV-D-05's suggestions. However, please note that proposed §63.1425(b)(2)(iii) is §63.1425(b)(2)(iv) in the final rule.

2.4.9 <u>Batch/Continuous Process Units versus Batch/Continuous Unit Operations</u>

<u>Comment</u>: To be consistent with the definitions provided in §63.1423(b), one commenter (IV-D-05) recommended changing the terms in §63.1425(b) as follows: "... batch ~~process~~ unit operation" and "continuous ~~process~~ unit operation."

<u>Response</u>: The EPA agrees that "batch process unit operation" and "continuous process unit operation" were redundant terms, and that the word "process" was not necessary in those phrases. The Agency appreciates the comment and has revised these phrases in the final rule, as suggested by the commenter.

2.4.10 <u>Controls for New Source Process Vent Emission Limits</u>

<u>Comment</u>: One commenter (IV-D-05) stated that it is not clear in the proposed rule that new sources may use extended cookout as a mechanism to meet the epoxide emission limits, and, therefore, the commenter recommended that a sentence be added at the end of §63.1425(b)(1) as follows:

"<u>Extended cookout may be used to meet any of these standards.</u>"

<u>Response</u>: The extended cookout control options are contained in §63.1427. The Agency does not think that it is appropriate to single out extended cookout in §63.1425(b)(1), as suggested by the commenter.

2.4.11 Calculation Methods for Emissions from Batch Operation Units

Comment: One commenter (IV-D-07) noted that, in order to verify compliance with the emission factor limits for process vents, the owner or operator is required to calculate annual epoxide emissions and divide the emissions by the annual polyether polyol production rate. Emissions from batch operations are calculated based on the procedures in §63.488(b)(1) through (b)(7) of subpart U. The commenter requested that the EPA, in order to avoid duplicative work and duplicate data sets for the same emission points, make it easy for facility owner/operators to use the alternative engineering assessments contained in §63.488(b)(6) of subpart U to estimate emissions. That is, §63.488(b)(6)(ii)(B) of subpart U should specifically state that other methods of estimating emissions, such as those used for past permit applications, emission inventories, or SARA 313 reports, may be used as part of the "any other means" mentioned in §63.488(b)(6)(ii)(B).

Response: The EPA does not consider it necessary to clarify the meaning of the phrase "any other means." However, under the proposed amendments to subpart U, the promulgated requirements found in §63.488(b)(6)(ii)(B) have been removed, and greater latitude is offered to owners and operators by allowing them an open-ended ability to "request approval" to use engineering assessment (including the use of previous test results, as long as the previous test was conducted under conditions that are representative of current operating conditions), via proposed §63.488(b)(6)(i)(C). This proposed amendment, if promulgated, should reduce the amount of "duplicative" work for owners and operators, which should appease the commenter's concern (as stated above). Further, the EPA is seeking comments on the impact of the proposed subpart U amendments on polyether polyol facilities in the notice announcing these proposed amendments.

2.4.12 Continuous Unit Operations Group Determinations

Comment: One commenter (IV-D-05) stated that the regulatory text in §63.1428(h) does not provide a flow rate or concentration cutoff (these are included in the Group 1 process vent definition of subpart G) and refers only to §63.115(d) of the HON, which addresses the determination of the TRE index value. Further, the proposed rule is not consistent with the proposed preamble (62 FR 46810) because it does not completely state how to make the Group 1 determination for continuous processes. The commenter recommended revising this section to include appropriate language.

Response: The Agency agrees that, as proposed, subpart PPP was unclear about flow rate and concentration cutoffs, for the purpose of determining whether or not a "combination of process vents" was Group 1. Since proposal, the EPA revised the Group determination for process vents from continuous unit operations, so that the group determination is conducted on an individual vent basis (see Section 2.4.4 of this document). Therefore, the definition of "combination of process vents that are Group 1" was revised to pertain only to process vents from batch unit operations. In the proposed rule, the EPA intended to include flow rate and concentration cutoffs in this definition and in the definitions of "process vents," and "combination of process vents that are Group 2." Therefore, the final rule includes these cutoffs. However, the EPA did not feel that a revision was necessary in §63.1428(h), in order to address the commenter's concern.

2.4.13 Summing the Values

Comment: One commenter (IV-D-04) requested that the EPA clarify what "summing the values" means in §63.1428(h)(1). This section in the proposed rule describes how to determine the Group status of "combinations" of continuous process vents by using standard HON "TRE" calculation procedures, except for the following difference: "summing the values in the individual

process vent streams." This could be interpreted either of two ways: summing the stream data (such as concentrations and flow rates), or summing the TRE index values. The commenter believed the former was intended.

Response: This comment is no longer relevant since the EPA decided to conduct Group determinations on an individual stream basis for process vents from continuous unit operations (see Section 2.4.4 of this document).

2.4.14 Flares as a Reference Control Technology for Existing and New Sources

Comment: Two commenters (IV-D-05 and IV-D-07) requested that flares be allowed as a reference control technology for existing and new source process vents. Commenter IV-D-05 stated that the proposed rule (§63.1425(b)(2)(i)) does not specifically allow the use of a flare as a control technology, as has been done in all other standards impacting SOCMI type sources. However, according to the commenter, the provisions of §63.1426(a) that require owners or operators who use a flare to comply with the provisions of §63.11(b), in conjunction with the exception from the requirement to demonstrate the control efficiency, provide what is essentially a reference control technology approach for existing sources. The commenter also noted that in §63.1426(a), in order to use only a flare to comply with the new source epoxide standard for process vents in §63.1425(b)(1)(i), the owner/operator must submit a request in accordance with §63.6(g). The commenter concluded that the issue seems to be whether the destruction of epoxides in flares is significantly different from that in other control devices, particularly in setting the new source MACT floor level of control.

Commenter IV-D-07 provided three attachments (test data and general descriptions of flare use and destruction efficiency) generated by the EPA and other key regulatory agencies, which is at least equal in quality to the information available for new sources in the MACT data base. Based on these data, the

commenter requested that the final rule adopt flares as a reference control technology for both existing and new sources, and the commenter suggested revisions to §63.1425(b)(1) and (b)(2), accordingly. The commenter added that allowing flares to be used as a reference control technology would result in a much simpler compliance demonstration, with greatly simplified monitoring, recordkeeping, and reporting burdens. In the event that the EPA declines to adopt the flare as an alternative control technology for new sources, the commenter noted that the language of §63.1426(e)(2)(i) would need to be changed to refer to §63.1426(a), since §63.1426(a) allows the owner or operator to attribute more than 98-percent control efficiency to a flare (potentially), if a §63.6(g) request is made (where alternative control devices are approved). Another commenter (IV-D-05) claimed that new sources should not have to make complicated demonstrations that compliance is achieved, and thus the commenter recommended revising §63.1426(a) by deleting the second sentence.

Response: The EPA agrees that flares should be listed as a reference control technology in §63.1425(b)(2)(i), for existing sources, for three reasons. The primary reason for adopting flares as a reference control technology for existing sources is because the EPA believes that flares, when operated properly, effectively meet the emission limit. Additionally, a precedent has been set in other rules to allow flares as a reference control technology. Thirdly, this revision to the rule would simplify the compliance demonstration and reduce the monitoring, recordkeeping, and reporting requirements. Therefore, the EPA has added this option to §63.1425(b)(2)(i). The EPA applied this same rationale to Group 1 vents for making or modifying the product and for process vents from catalyst extraction, and added flares as a reference control technology for existing and new sources with those emission points.

However, the EPA does not agree with the commenters suggestion that flares should be listed as a reference control

technology for all new sources. Commenter IV-D-07 provided data from three reports stating that a flare can achieve a destruction efficiency of 99.5 percent for epoxides. These data do not support equivalence with the 99.9 percent destruction efficiency new source requirement for EO and PO.

However, the EPA does agree with Commenter IV-D-07's request that the language of §63.1426(e)(2)(i) be revised to allow for the fact that flares may have been assigned a control efficiency greater than 98 percent, if approval was previously granted by the EPA in accordance with §63.6(g) of the General Provisions.

2.4.15 Use of Multiple Compliance Methods

Comment: One commenter (IV-D-07) requested that the EPA establish that source owners/operators can mix and match appropriate compliance methods for epoxide emissions. For example, under §63.1425(b)(2), if a PMPU has more than one vent, the commenter wanted to know if it is possible to control some vents to 98-percent reduction efficiency by extended cookout and to control others to <20 ppmv using a recovery, recapture, or combustion device. The commenter stated that this allowance in the final rule could be accomplished by rewording §63.1425(b)(2) to require compliance with (i) and/or (ii), or (iii).

Response: First, the EPA would like to clarify that the emission limit for an aggregated control efficiency allows for some process vents within a PMPU to be controlled to different levels, or some process vents to go uncontrolled, as long as the overall control efficiency for emissions from all the process vents within the PMPU equals 98 percent (for existing sources). So, for these instances, there is flexibility for controls within a PMPU.

Specifically though, the commenter is asking about complying with different emission limitation formats for different process vents within a PMPU. The EPA has considered the commenter's request and has decided that the owner or operator can use either the emission reduction format or the concentration cutoff within

the same PMPU. The EPA is not allowing the emission factor format for this provision of multiple emission reduction formats, because the emission factor format sets a maximum allowable amount of emissions for process vents in the PMPU.

2.4.16 Uses and Emission Point Locations of Nonepoxides

Comment: One commenter (IV-D-07) stated that, in addition to the examples of uses that the EPA included in the preamble (such as use of a nonepoxide HAP as an initiator, catalyst, or a reaction solvent), nonepoxide HAP may be used as a viscosity adjuster in or downstream of the reactor, or to provide special properties to the final product. The commenter asserted that, contrary to the EPA's apparent understanding that all process vents are manifolded or otherwise connected (Supplementary Information Document (SID), page 20 of April 25, 1997 letter on estimated impacts), these vents may and do emit at different points in the process.

Response: This comment presented the idea that nonepoxide HAP process vent emission points exist downstream from the reactor, and that these emission points are probably not manifolded to the process vents from the reactor. The owner or operator is required to perform a group determination on these emission points. As discussed previously, the EPA has decided that group determinations for process vents from continuous unit operations will be made on an individual vent basis. Therefore, this should not cause a problem for group determinations for process vents from continuous unit operations downstream of the reactor.

For process vent emissions from batch unit operations, the EPA is maintaining the requirement that group determinations be made on an aggregated vent basis. As stated earlier, even though the group determination is made on an aggregated vent basis, the facility is not required to physically combine the downstream process vent streams to the reactor vent streams for purposes of emissions control.

2.4.17 Possibility of Dual Controls For Nonepoxide HAPs from Making or Modifying the Product

Comment: One commenter (IV-D-07) referred to the proposal preamble statement that a process vent from which nonepoxide HAP are emitted may also be subject to the epoxide emission reduction requirements, and noted that this is only true in the event that such a vent originates at a point in the process where it contains epoxide and requires control. The commenter also noted that the EPA's assertion in the proposal preamble (that if a combustion, recovery, or recapture device is used to reduce epoxide emissions from the vent, then that same device would also reduce the emissions of the nonepoxide HAP) is only correct if the vents are, or reasonably can be, combined, and if the device is effective for the nonepoxide HAP in question. For instance, the commenter stated that scrubbers may not be effective for some nonepoxide HAP materials used to make or modify the product. The commenter continued by stating that if extended cookout is the control technique utilized by the facility to reduce epoxide emissions, then the nonepoxide HAP emissions would not be affected (unless they were initiators or possibly catalysts) and would need to be addressed separately (indicating a possible requirement for dual controls).

The commenter offered three options for alternate approaches to those suggested by the EPA for addressing process vent emissions of nonepoxide HAP from making or modifying the product, to resolve the possible dual control requirement problem:

Option 1: Require a group determination for only nonepoxide HAP emissions that are not controlled along with epoxide emissions. The commenter believes that this option offers a workable approach, so long as the triggers selected and emission reductions required are consistent with section 112 requirements.

Option 2: Require all HAP emissions (epoxide and nonepoxide) from making or modifying the product to be reduced by the amount specified in the proposed rule for epoxide emissions. The commenter did not encourage the EPA to choose this option. The commenter claimed that in order to justify this approach, the

EPA must consider that the floor for nonepoxide emission reductions is much less than the floor for epoxide emission reductions, and then must justify an emission reduction requirement above the MACT floor. The commenter believed that this demonstration would be very difficult for the EPA to make, since not all controls in the floor are effective in reducing nonepoxide HAP emissions, and since floors of zero and 39-percent reduction were found for existing and new sources.

Option 3: The commenter mentioned the option of eliminating the group determination provisions for nonepoxide HAP emitting and requiring a specified percent emission reduction from all vents above a "de minimis" nonepoxide HAP level. The commenter concluded that the "de minimis" option, as proposed, is not defined well enough for full comment. However, the commenter noted that the standard for Polymers and Resins I, subpart U, provides precedent for a de minimis level threshold of 225 kg/yr/vent emissions as part of the definition for a batch front-end process vent.

The commenter suggested, as an alternate option, that the EPA focus the final rule on epoxide and catalyst recovery emissions only, because nonepoxide HAP process emissions from making or modifying the product are insignificant, even if uncontrolled.

Response: The EPA considered the commenter's points and the options suggested by the commenter. The final rule requires that the group determination for nonepoxide HAP emissions be made after the stream has been controlled for the epoxide emissions (commenter's option 1). The EPA believes that this approach addresses the situation regarding the possibility of dual control. If the epoxide control device also reduces nonepoxide emissions, then that control would impact whether the vent (or group of batch vents) is Group 1. Therefore, control of nonepoxide emissions along with the epoxides will impact whether controls are required at all. If the vent (or group of vents) still has sufficient nonepoxide organic HAP emissions after the

epoxide control device to satisfy the Group 1 criteria, the EPA does not believe it is unreasonable to require an additional control device to achieve the specified percent reduction of the nonepoxide emissions.

Therefore, using the example given by the commenter (of a scrubber controlling epoxide emissions), the TRE index or the Batch ACT equation would be applied to the stream at the outlet of the scrubber. Likewise, if ECO is used as the control option, the Batch ACT equations (assuming that ECO is applicable for batch unit operations only) would be applied to the stream after the ECO is completed.

2.4.18 Clarification of "Schedule for Compliance"

Comment: One commenter (IV-D-05) requested that the EPA confirm, perhaps in the preamble, that a "schedule for compliance" (as used in §63.1425(f)(7)(i)(B) and (f)(7)(ii)(B), §63.1430(i)(2) and elsewhere in the rule) is not the same thing as a "compliance schedule" in the General Provisions. Two commenters (IV-D-04, IV-D-05) requested that the EPA change the term "compliance schedule" in §63.1439(e)(6)(iii)(D)(1), and in various other locations in the rule, to say "schedule for compliance." This will avoid use of a term (compliance schedule) from subpart A, which is under litigation.

Response: Because the Notification of Compliance Status is the report in which compliance (or non-compliance) is ultimately documented, the EPA decided that it was not necessary for owners or operators of affected sources to submit a compliance schedule, or a "schedule for compliance". For this reason, the terms "compliance schedule" and "schedule for compliance" have been removed throughout the final rule (including in §63.1423, §63.1425(f)(7)(i)(B), §63.1425(f)(7)(ii)(B), §63.1425(f)(7)(iii)(B), §63.1425(f)(7)(iv)(B), §63.1430(i)(2), §63.1439(e)(6)(iii)(D)(1), §63.1439(e)(6)(iii)(D)(2), and the title of §63.1422), and all requirements to report information in a "compliance schedule" or "schedule for compliance" have been

removed. In particular, the owner or operator is no longer required to submit a schedule for compliance with the applicable provisions after process changes. However, please note that this final rule does not override other regulations that might require compliance schedules (e.g., Title V requirements, NSPS, or RACT standards).

2.4.19 THE PMPU Exemption from Reporting

Comment: One commenter (IV-D-05) claimed that §63.1425(f)(7)(ii),(iii) and (iv) under the "Requirements for process vents at PMPUs that produce polyether polyol products using tetrahydrofuran" should not require the submission of a report if there is some other basis for exemption, such as a flow rate below 0.005 scmm for paragraph (ii) or (iv), or a HAP concentration less than 50 ppmv for paragraph (iii). Therefore, the commenter recommended revising the text as follows:

> "(ii) Whenever a process change, as defined in §63.115(e) of subpart G, is made that causes a Group 2 process vent with a TRE greater than 4.0 to become a Group 2 process vent with a TRE less than 4.0, the owner or operator shall submit a report within 180 days after the process change is made or the information regarding the process change is known to the owner or operator unless the flow rate is less than 0.005 scmm. This report may be included in the next Periodic Report. The following information shall be submitted..."
>
> "(iii) Whenever a process change, as defined in §63.115(e) of subpart G, is made that causes a Group 2 process vent with a flow rate less than 0.005 standard cubic meter per minute (scmm) to become a Group 2 process vent with a flow rate of 0.005 scmm or greater, and a TRE index value less than or equal to 4.0, the owner or operator shall submit a report within 180 days after the process change is made or the information regarding the process change is known to the owner or operator unless the organic HAP concentration is less than 50 ppmv. This report may be included in the next Periodic Report. The following information shall be submitted..."
>
> "(iv) Whenever a process change, as defined in §63.115(e) of subpart G, is made that causes a Group 2 process vent with an organic HAP concentration less than 50 parts per million by volume (ppmv) to become a Group 2 process vent with an organic HAP concentration of 50 ppmv or greater and a TRE index value less than 4.0, the owner or operator shall submit a report within 180 days after the

process change is made or the information regarding the process change is known to the owner or operator unless the flow rate is less than 0.005 scmm. This report may be included in the next Periodic Report. The following information shall be submitted..."

Response: The EPA agrees with the commenter, and the changes suggested have been incorporated into the final rule. The EPA also incorporated these changes into paragraphs §63.1430(j)(1) through (3) of the final rule, which contain similar reporting provisions for Group 2 continuous process vents associated with making or modifying the product.

2.4.20 Clarification to Condenser Identity

Comment: One commenter (IV-D-04) requested that the EPA clarify whether all condensers are equal. Section 63.1426(c)(1)(i)(A)(1) provides that the inlet sampling site must be at the exit from the continuous unit operation "before any recovery devices." The commenter asked about reflux condensers. Reflux condensers fit the definition of "recovery device," but they are considered to be part of the process unit (either the reactor or distillation unit). The commenter questioned whether the inlet sampling site should be before, or after, reflux condensers. Another commenter (IV-D-05) claimed that the word "at" seems to allow only one location, while the word "before" seems to allow more than one location. For clarity, the commenter recommended that the phrases in §63.1426(c)(1)(i)(A)(1), (c)(1)(i)(B), (d)(2), and (d)(3)(i)(A) be changed to read "at or after the exit from the ... before any recovery device."

Response: The reflux condenser is considered to be part of the unit operation to which it belongs (be that a condenser or reactor), and is not a recovery device. To clarify this in the final rule, the EPA has redefined "recovery device" as follows:

"Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value),

use, reuse, or for sale for fuel value, use, or reuse. Reflux condensers are not recovery devices. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers (except reflux condensers~~, because they are part of the reactor unit operation~~), oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin film evaporation units. ~~When this subpart requires compliance with~~ For the purposes of the monitoring, recordkeeping, or ~~recording~~ reporting requirements of this subpart, recapture devices are considered to be recovery devices."

As stated in the definition of recovery device, a reflux condenser is not a recovery device. Therefore, the inlet sampling site is after the reflux condenser, and before the control or recovery device. The EPA agrees with Commenter IV-D-05's suggestion to use the word "after" in the context of "after the exit from the...before any recovery device." However, the EPA feels having both "at" and "after" is not necessary. Therefore, the EPA revised the appropriate phrases in §63.1426(c)(1)(i)(A)(1), (c)(1)(i)(B)(1), (d)(2), and (d)(3)(i) in the final rule, accordingly.

2.4.21 Small Combustion Device Performance Testing

Comment: One commenter (IV-D-05) noted that §§63.1426(c)(1)(i)(C), (C)(4)(iv), and §63.1430(b)(2)(iv) describe how to collect samples during performance tests on boilers or process heaters with a design capacity of less than 44 megawatts. The commenter recommended revising the text as follows:

"If a process vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts and is not otherwise exempt from performance testing under this subpart, selection of the location of the inlet sampling sites shall ensure the measurement of total organic HAP or TOC (minus methane and ethane) concentrations in all process vent streams and primary and secondary fuels introduced into the boiler or process heater."

Response: The EPA does not believe that the language suggested by the commenter adds clarity to the exemption, since a control device may be exempt based on its design capacity or for other reasons. Further, the recommended addition has not been added to the final rule because a process vent is not subject to performance testing (only a control device can be subject to or exempt from performance testing). For these reasons, the EPA did not incorporate the additional language requested by the commenter.

2.4.22 Concentration Compliance

Comment: One commenter (IV-D-05) recommended removing "in lb." as the unit of measure from §63.1426(c)(3)(i)(B)(1) and (2) and §63.1426(c)(3)(i)(C). The commenter stated that these provisions should use the percentage without needlessly specifying the unit of measure. In addition, the commenter claimed that the first sentence in §63.1426(c)(3)(i)(B)(1) and (2) were incomplete. Therefore, the commenter requested revising the text.

Response: The Agency agrees that the phrase "in lb." was not necessary for a percentage, and has deleted it from §63.1426(c)(3)(i)(B)(1). However, this same change was not made in §63.1426(c)(3)(i)(B)(2) or in §63.1426(c)(3)(i)(C), because there is no percent in these paragraphs and the "lb/hr" is needed. The EPA agrees with the commenter's claim that the first sentence in §63.1426(c)(3)(i)(B)(1) and (2) were incomplete. This grammatical error was corrected when these sections were replaced with the new "worst case" language.

2.4.23 "Organic HAP" versus "HAP of Concern"

Comment: One commenter (IV-D-04) supported the use of the phrase "HAP of concern" in §63.1426. However, there are several places in that section where the EPA mentions "organic HAP" without saying "of the HAP of concern." This could be misunderstood to mean that every organic HAP species must be

considered, whether or not the species is relevant to the regulatory provisions with which industry is demonstrating compliance. Therefore, the commenter requested that the EPA use the phrase "of the HAP of concern" consistently when "organic HAP" is mentioned in §63.1426, unless there is a specific reason not to.

Response: The EPA appreciates the commenter's support of the phrase "HAP of concern," and has made an effort to be sure that this phrase was used in the final rule, where necessary. However, in many instances in §63.1426, it was **not** appropriate to follow the term "organic HAP" with the phrase "of the HAP of concern," because the term "organic HAP" is used as a modifier for another term (such as "percent reduction efficiency"), so the EPA disagreed with the commenter about using the phrase "organic HAP of the HAP of concern" universally throughout §63.1426. One instance in which the EPA made a change in keeping with the commenter's suggestion, however, was in §63.1426(c)(3)(i)(A), where it was in fact appropriate to follow the term "HAP" with the phrase "of the HAP of concern," because clarification was necessary in that paragraph.

2.4.24 Rename "Product" as "Reactor Liquid"

Comment: One commenter (IV-D-05) stated that §63.1427(h)(1)(iii) and (h)(2)(iii) refer only to direct measurement of epoxide concentration in the reactor liquid at the end of ECO. Changing "reactor liquid" to "product" would allow a producer to drop the product from the reactor and sample it in a tank rather than forcing them to sample it in the reactor itself. This will improve reactor utilization, allowing prompt emptying of the batch (so another may be started), and will not affect the accuracy of the epoxide sample, since the reaction essentially stops once the product is cooled. Therefore, the commenter recommended revising these paragraphs to use the term "product" in place of the term "reactor liquid."

Response: The commenters want to sample the mixture as, or after it leaves the reactor. The EPA has added language to the final rule [in §63.1427(h)(1)(iii) and (h)(2)(iii)] explaining when/where the sample may be taken. The EPA considers this to be a more appropriate solution to the comment than using the term "product" instead of the term "reactor liquid," since "product" was already defined in the proposed rule. Further, the EPA has added the definition of reactor liquid to the final rule and defined it as follows:

> "Reactor liquid means the compound or material made in the reactor, even though the substance may be transferred to another vessel. This material may require further modifications before becoming a final product, in which case the reactor liquid is classified as an "intermediate." This material may be complete at this stage, in which case the reactor liquid is classified as a "product."

2.4.25 §63.1425(e)(1)(i)

Comment: For clarity and to avoid unnecessary repetition, one commenter (IV-D-05) recommended revising the text in §63.1425(e)(1)(i), as follows:

"If an owner or operator chooses to comply with the control efficiency provisions in paragraph (b)(1)(i) or (b)(2)(i) of this section, the owner or operator shall ~~comply with the provisions of paragraph (b)(1)(i) or (b)(2)(i) of this section by determining~~ determine the epoxide emissions before and after control."

Response: The EPA agrees with the commenter that §63.1425(e)(1)(i) needs more clarity. The proposed §63.1425(e)(1)(i) could have been interpreted to mean that performing the determination of the controlled and uncontrolled emissions would be equivalent to complying with §63.1425(b)(1)(i) or (b)(2)(i), and this would have been an incorrect interpretation. Further, the EPA agrees that, as proposed, §63.1425(e) was redundant with many of the requirements in §63.1425(b) through (d). Therefore, the EPA has "reserved" §63.1425(e) in the final rule, and the appropriate process vent control requirements are now contained in §63.1425(b) through (d) only, as appropriate.

2.5 EXTENDED COOKOUT AS A CONTROL OPTION

2.5.1 In Support of the Inclusion of ECO

Comment: Five commenters (IV-D-03, IV-D-04, IV-D-05, IV-D-07, IV-D-10) fully supported the proposed rule's inclusion of the concept of "extended cookout (ECO)," as a pollution prevention technique. One commenter (IV-D-10) noted that their company had worked closely with the EPA to define the calculation procedures to demonstrate that equivalent epoxide emission reductions that can be obtained using ECO compared to conventional control technology.

Response: The Agency appreciates the commenter's support.

2.5.2 ECO Compliance Demonstration

Comment: One commenter (IV-D-04) noted that the proposed rule would require ECO to reduce emissions by 98 percent; however, the rule does not seem to require the owner or operator to demonstrate that a 98-percent emission reduction (or any other level of emission reduction) is actually being achieved. In a follow-up telephone conference with the commenter (Docket Item IV-E-1), the commenter explained that his first impression of this requirement was that it was not objective enough, in comparison with other rules. However, when the commenter reviewed the section again, he realized that the rule provided adequate steps for demonstrating compliance with the rule.

Further, commenter IV-G-02 submitted a late comment after reading Commenter IV-D-04's comment, in which Commenter IV-G-02 disagreed with the above comment and stated that a demonstration of the percentage emission reduction achieved by ECO is specifically required in §63.1427(a).

Response: The EPA agrees with Commenter IV-G-02's late comment, which stated that a demonstration of the percentage emission reduction achieved by ECO is specifically required in §63.1427(a). However, the word "demonstrate" is not specifically

stated in §63.1427(a); therefore, the EPA decided to revise the language in the final rule as follows:

> "(a) Owners or operators of affected sources that produce polyether polyol ~~products~~ using epoxides, and that are using ECO ~~extended cookout (ECO)~~ as a control technique to reduce epoxide emissions in order to comply with percent emission reduction requirements in §63.1425(b)(1)(i) or (b)(2)(ii) shall demonstrate that the specified percent emission reduction is achieved by determining ~~determine~~ the batch cycle percent epoxide emission reduction for each product class in accordance with the provisions of paragraphs (b) through (g) of this section...."

2.5.3 Flexibility of the Determination of a Site-specific Onset of ECO

Comment: Three commenters (IV-D-04, IV-D-05 and IV-D-07) supported defining the onset of ECO as the point in time when the combined unreacted epoxide concentration in the reactor liquid is equal to 25 percent of the concentration of epoxides at the end of the epoxide feed. However, there was disagreement over whether site-specific ECO onset determination should be allowed in the final rule.

Commenter IV-D-05 supported the proposed provisions that allowed individual producers the opportunity to provide their own economic justification for the onset of ECO, and noted that the mechanism for a request for a site-specific ECO onset was the Precompliance Report, which is required to be submitted one year before the compliance date. However, the commenter stated that an owner or operator should be allowed the opportunity to change the onset point. They recommended that the opportunity to establish a different ECO onset point should not be limited to the precompliance stage.

Commenter IV-D-07 added that an individual producer should have the ability to prove a different starting point based on that producer's economics. The commenter noted that the proposed default definition of the onset of ECO was based on average conditions, and that a producer may well have very different economics from those presented in the model calculations. The commenter maintained that the ability to request an alternative

definition is appropriate and necessary. The commenter also added that the mechanism provided in §63.1427(c)(3) for an alternate determination, and the reference to Item II-B-7 of the docket contained in the proposal preamble, are appropriate. However, this commenter expressed concern that the basis referenced in the proposal preamble will be lost over time, and suggested that this reference be included in the actual rule at §63.1427(c), or, at the very least, that the reference be included in the preamble to the final rule.

In contrast, Commenter IV-D-04 was concerned that there was too much flexibility in the requirements describing how to establish the onset of ECO on a site-specific basis. The commenter cautioned that selecting the onset based on the economics of polyether polyol production has the potential for being misused. The commenter explained in the comment that the operator may select an earlier onset of ECO, making it easy to demonstrate a 98-percent emission reduction and to justify this ECO onset on the basis of economic factors. The commenter cautioned that economics can be very subjective. The commenter also cautioned that, in contrast to demonstrations of compliance with other control devices, the determination of the onset of ECO does not have standardized procedures. The commenter did state that they had confidence in the default value for the onset of ECO.

Further, the commenter pointed out that requiring an emission reduction of 98 percent for ECO might still allow emissions to exceed the applicable emission factors described in §63.1425(b)(1) or (b)(2). As assurance that the ECO provisions are used appropriately, the commenter requested that EPA require that owners and operators using ECO with an onset other than the default onset listed in the rule comply with the applicable emission factor in §63.1425(b)(1) or (b)(2) and not have the option of using the 98 percent emission reduction for demonstrating compliance with the rule. According to the commenter, this will serve two purposes: (1) it will assure that

ECO achieves substantial "real" emission reductions; and (2) it will provide for a compliance demonstration for ECO.

Commenter IV-G-02 submitted comments in response to the issues raised by Commenter IV-D-04. This commenter pointed out that the economic evaluation which was accepted by the EPA and that formed the basis for the default ECO onset is very simple. Provisions for investment in the unit or many other significant costs that should be considered for true profitability were not used in the analysis. The evaluation was simple and conservative to avoid any significant debate over cost issues that producers would be reluctant to divulge for competitive reasons or that would be difficult for regulators to verify from outside sources. The commenter believed that not allowing the site-specific ECO onset would provide a disincentive to producers who elect to use ECO as a control technology.

In response to Commenter IV-D-04's concern over site-specific onset, Commenter IV-G-02 stated that establishing a site-specific onset is not arbitrarily selected by the owner or operator. The owner or operator must submit a request for an alternative ECO onset, and this alternative must be approved by the Administrator. The commenter points out that this is a typical EPA "alternative standard-getting" process used in many Regulatory settings. The commenter also points out that the data required to be provided by the owner or operator for a site-specific alternative ECO onset request are readily available.

In response to Commenter IV-D-04's request that the EPA require ECO to achieve the applicable emission factor, Commenter IV-G-02 stated that there is not need to "safeguard" ECO reductions by requiring compliance with an emission factor. This would remove one of the compliance options for these sources and provide a potential competitive advantage for sources using an add-on control technique. The commenter stressed that sources that use ECO should not have to pay a penalty by complying with a different standard that those who have elected to use manufacturing methods which emit greater quantities of epoxide to an add-on control device.

Response: First, the EPA agrees with Commenter IV-G-02 that sources using ECO should not be restricted to achieving compliance with the applicable emission factor. In the final rule, owners or operators using ECO may comply by using either the applicable percent reduction or the applicable emission factor.

However, the EPA also recognizes the concern raised by commenter IV-D-04 that changing the ECO onset, and thus the point for determining the uncontrolled emissions, could significantly impact the percent reduction achieved by the ECO. The EPA also shares the concern that economics can be very subjective, although the EPA agrees with the Commenter IV-G-02 that the proposed criteria for a site-specific request would not allow the arbitrary selection of an alternative ECO onset.

However, the EPA disagrees with the statement by Commenter IV-G-02 that the approval of a site-specific onset by the Administrator would represent a "typical" EPA alternative process used in many regulatory settings. The Agency does routinely evaluate alternative control technologies and their equivalency to the control technologies or levels specified in regulations. Typical evaluations may involve economics, with respect to the cost of the technology in relation to the corresponding emission reduction (i.e., the cost effectiveness). However, these decisions are made in assessing alternative requirements for categories and/or subcategories of sources, and are not made for individual sources. In reassessing the appropriateness of a site-specific onset option, the EPA concluded that the subjective nature of the option could result in different levels of control between facilities in the same subcategory. That result would be inconsistent with the concept of MACT. Therefore, in the final rule, the EPA has removed the option of requesting and establishing a site-specific ECO onset point.

2.5.4 ECO Requirements for Monitoring

Comment: One commenter (IV-D-04) requested that the EPA specify in the final rule appropriate compliance demonstration

requirements, monitoring requirements, bypass requirements, parameter level requirements, etc., for emission control devices that are used to supplement ECO. According to the commenter, these requirements appear to be missing in the proposed rule. The commenter also suggested that the EPA review the entire rule to insure that all requirements apply appropriately to all control devices, regardless of whether those devices are used with (or without) ECO.

Commenter (IV-G-02) provided comments after the end of the comment period, in response to Commenter IV-D-04's input. Commenter IV-G-02 did not see any "gap" in the requirements for ECO demonstrations, monitoring, etc. This commenter interpreted §63.1427 as providing for compliance demonstrations, monitoring, etc. for the ECO portion of the compliance alternative, and believed that §63.1427 clearly refers the source owner or operator to other portions of the rule for demonstrations and monitoring for using other control devices.

Response: The Agency called Commenter IV-D-04 on April 23, 1998 (See Docket Item IV-E-2). The commenter explained that compliance demonstration requirements, monitoring requirements, bypass requirements, and parameter level requirements are given for ECO, but not for those emission control devices that are used to supplement ECO. The final rule includes compliance demonstration requirements, monitoring requirements, bypass requirements, and parameter level requirements for those emission control devices that are used to supplement ECO. The following language was added to §63.1427(a):

> "If additional control devices are used to further reduce the HAP emissions from a process vent already controlled by ECO, then the owner or operator shall also comply with the testing, monitoring, recordkeeping, and reporting requirements associated with the additional control device, as specified in §§63.1426, 63.1429, and 63.1430, respectively."

2.5.5 Accuracy "Buffer" for ECO Emissions Calculations

Comment: One commenter (IV-D-07) recommended that guidance on an acceptable accuracy range be added to the provisions in §63.1427(a)(2), which requires measurement of the percent reduction for each product to verify the accuracy of the estimation method selected, in order to resolve conflicts when measurements and calculations are not exactly equal. The commenter suggested that kinetic models are likely to be accurate to within +/- 10 percent, for typical situations. The commenter noted that this request is valid only if engineering calculations are not allowed as requested in a previous comment (Section 2.12.8) or if a compliance test is conducted for ECO. The commenter recommended that §63.1427(a)(2) be modified as follows:

> "The owner or operator may determine the batch cycle percent epoxide reduction by directly measuring the concentration of the unreacted epoxide, or by using process knowledge, reaction kinetics, and engineering knowledge. If the owner or operator elects to use any methods other than direct measurement, the percent reduction must be determined by direct measurement for one product for each PMPU to verify the accuracy of the estimation method selected. The alternate method of estimating the concentration of unreacted epoxide is acceptable if it is within +/- 25 percent of the result of direct measurement."

Response: The Agency agrees with the concept of needing an "accuracy buffer," but, does not believe that 25 percent is an appropriate value. The EPA believes that 10 percent is a more reasonable buffer to allow use of the calculations without adjustment. For situations where the difference between the calculation and the measurement is between 10 and 25 percent, the calculated values may be used, but need to be adjusted. The EPA revised the text suggested by the commenter and incorporated it into §63.1427(a)(2) in the final rule, as follows:

> (2) The owner or operator may determine the batch cycle percent epoxide emission reduction by directly measuring the concentration of the unreacted epoxide, or by using process knowledge, reaction kinetics, and engineering knowledge, in accordance with paragraph (a)(2)(i) of this section.

(i) If the owner or operator elects to use any method other than direct measurement, the ~~percent reduction must~~ epoxide concentration shall be determined by direct measurement for one product ~~for each PMPU to verify the accuracy of the estimation method selected~~ from each product class and compared with the epoxide concentration determined using the selected estimation method, with the exception noted in paragraph (a)(2)(ii) of this section. If the difference between the directly determined epoxide concentration and the calculated epoxide concentration is less than 25 percent, then the selected estimation method will be considered to be an acceptable alternative to direct measurement for that class.

(ii) If uncontrolled epoxide emissions prior to the end of the ECO are less than 10 tons per year (9.1 megagrams per year), the owner or operator is not required to perform the direct measurement required in paragraph (a)(2)(i) of this section. Uncontrolled epoxide emissions prior to the end of the ECO shall be determined by the procedures in paragraph (d)(1) of this section.

The proposed rule contained an error in the second sentence in §63.1427(a)(2). That sentence should have read; "If the owner or operator elects to use any methods other than direct measurement for one product for each ~~PMPU~~ product class to verify the accuracy of the estimation method selected." The EPA intended that the comparison of the engineering calculations to the direct measurement be conducted on a product class basis, since each product class behaves differently.

2.5.6 Clarification of the Definition of "Emissions" in ECO Destruction Efficiency Calculation

Comment: One commenter (IV-D-04) cited three locations in §63.1427(c) that use the word "emissions," but the intended meaning of the word is unclear: (1) "the uncontrolled emissions for the batch cycle;" (2) "the epoxide emissions prior to the onset of the ECO;" and (3) "the epoxide emissions at the onset of the ECO." The commenter requested clarification of the word "emissions" in these cases. In the first case, the commenter was unsure whether "emissions" meant the emissions that would occur if there were no ECO, or emissions that remain after ECO and are either sent to a control device, or released (without "control" after ECO) to the air. In the second and third instances, the

commenter was unsure about whether "emissions" meant actual emissions that really occur, or emissions that would have occurred if there were no ECO. Commenter IV-D-05 suggested replacing the language in the second case with the following language: "...calculate the uncontrolled epoxide emissions...calculating the epoxide emissions, if any, prior to the onset of the ECO."

As a rebuttal to Commenter IV-D-04's comment, another Commenter (IV-G-02) stated that Equation 7 in §63.1427(c)(1) describes how to calculate "the uncontrolled emissions for the batch cycle." These are the calculated epoxide emissions that would occur in the absence of ECO if the reactor were opened at the time that ECO commenced plus any epoxide emissions that actually occur prior to that time.

Commenter (IV-G-02) also stated that the "epoxide emissions prior to the onset of the ECO" are those emissions that actually occur from process vents (for example, those that occur as a result of initial reactor charge). The commenter added that the method for calculating these emissions is specified in §63.1426(d) in conjunction with the definition of "Epoxide" in §63.1423(b).

Commenter (IV-G-02) noted that the "epoxide emissions at the onset of the ECO" are described in §63.1427(c) and are calculated according to §63.1427(b). These are the emissions that would occur from the reactor contents if there were no ECO. They are calculated as 25 percent of the reactor epoxide contents unless the owner/operator justifies an alternate starting point. Commenter (IV-G-02) ended by saying that the relation between uncontrolled epoxide emissions and the epoxide emissions at the onset of ECO is described in Equation 7.

Response: The Agency defines ECO as a control option; therefore, uncontrolled emissions are emissions that would have occurred had there not been an ECO. This definition is in accord with the interpretation offered by Commenter IV-G-02. Further, the "epoxide emissions at the onset of the ECO" that the Agency

is referring to are any actual emissions that occur before the beginning of the ECO, which is again in agreement with Commenter IV-G-02's interpretation. Therefore, no changes have been made to the final rule as a result of Commenter IV-D-07's concern.

2.5.7 First Order for Epoxide Reactions

Comment: One commenter (IV-D-07) responded to the EPA's request for documentation to support or refute the first order reaction rate equation used in the ECO calculation (62 FR 46814). The commenter has developed proprietary reaction models based on extensive laboratory and commercial plant operation data, but this information is not public information. However, they included a copy of a paper on reaction kinetics by K. Nagase and Y. Sakaguchi, which was presented at the 12th annual meeting of the Japanese Chemical Society, April 1959, which the commenter considered to be a good source of information. The commenter noted that their proprietary models do use a first order reaction rate with respect to epoxide concentration to describe the reaction.

Response: The Agency appreciates this input and has retained the assumption that the polyol production reaction is first order with respect to the epoxide.

2.5.8 Update of Product Class List

Comment: One commenter (IV-D-04) stated that in situations where a change in operating conditions causes a product to move from one product class to another, §63.1427(l)(3)(i)(A) requires industry to "update the list of products for the product class," and then §63.1427(l)(3)(i)(B) requires submission of a report updating the list for "the product class." The commenter requested that these sections be revised so that the owner or operator knows which updated list of products within a product class to update: the class that this product has just left, or the class that this product has just entered, or both lists.

Commenter IV-D-05 requested the following change to the text in §63.1427(l)(3)(i)(B), as follows:

> "Within 180 days of the change in operating conditions for the polyether polyol product, the owner or operator shall submit a report updating the product list originally submitted for the product class. This information may be submitted along with the next Periodic Report."

Response: The EPA agrees that the proposed rule did not make it clear which product lists need to be updated when operating conditions cause a product to move from one product class to another. The EPA has revised what was §63.1427(l)(3)(i)(B), which is §63.1427(m)(3)(i)(B) in the final rule, to read as follows:

> "Within 180 days after ~~of~~ the change in operating conditions for the polyether polyol product, the owner or operator shall submit a report updating the product lists ~~originally~~ previously submitted for the product class. This information may be submitted along with the next Periodic Report."

2.5.9 Product Class Definition

Comment: One commenter (IV-D-07) requested the following technical correction in proposed §63.1427(i)(1)(i)(E):

"The group product classification should depend on EO/PO ratio at the end of the batch, not the ratio during the batch."

Further, Commenter IV-D-05 commented that he understood that the concentration in §63.1427(i)(1)(iv) is to be determined at the "onset of the ECO" rather than at the "end of the onset of ECO." Therefore, the commenter recommended revising the text accordingly.

Response: In the proposed rule, §63.1427(i)(1)(i)(E) did not specify when in the batch the EO/PO ratio should be determined. The EPA believes that the time in the batch at which the EO/PO ratio is to be determined should be specified, and proposed §63.1427(i)(1)(i)(E) (§63.1427(j)(1)(i)(E) in the final rule) has been revised to specify that this ratio shall be determined at the end of the epoxide feed, because, according to some

commenters (docket item no. IV-G-10), the EO/PO ratio changes during a batch, but has leveled out by the time that extended cookout begins. Further, §63.1427(j)(1)(iv) in the final rule has been revised as requested by commenter IV-D-05.

2.5.10 Pressure Measurements

Comment: One commenter (IV-D-05) referred to §63.1427(g), which requires the calibration of pressure measurement devices "in accordance with manufacturer's recommendations." The commenter claimed that this has the unintended effect of transferring the setting of enforceable regulatory standards to third parties. In addition, some manufacturer's recommendations may be inappropriate for purposes of this rule. Therefore, the commenter recommended revising the text using language adopted into the amended HON, as did §63.1429(a) at proposal.

Response: Since the Agency has determined that the language used in the HON and §63.1430(a) is also appropriate in §63.1427(g), the final rule has incorporated similar language into §63.1427(g), as follows:

> "(g) Determination of pressure. The owner or operator shall determine the total pressure of the system using standard pressure measurement devices calibrated ~~in accordance with~~ according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately."

2.5.11 ECO Recordkeeping

Comment: One commenter (IV-D-05) asserted that in §63.1427(i)(1)(i)(C) it makes no sense to include the number of -OH groups in the catalyst feed. The metal ion is the active species for these reactions, not the base. In addition, some of these reactions may be self catalyzed or acid catalyzed, and there will be no -OH groups in these systems. The appropriate measure should be the number of -OH groups (or, better, the number of reactive sites) in the starting material that is being

reacted with the epoxide. Therefore, the commenter recommended revising the text, as follows:

"(i) Operating conditions of the product class, including
(A) Pressure ~~decline~~ decay curve
(B) Minimum reaction temperature
(C) Number of -OH groups in the ~~catalyst feed~~ raw material
(D) Minimum catalyst concentration
(E) The EO/PO ratio
(F) Reaction conditions, including the size of the reactor or batch"

Response: The EPA agrees that the term "raw material" is a better description of where the reactive hydrogens are than the phrase "catalyst feed," and has made the suggested change to what was §63.1427(i)(1)(i)(C), and is §63.1427(j)(1)(i)(C) in the final rule. Further, in §63.1427(j)(1)(i)(C), the EPA has replaced the term "number of -OH groups in the catalyst feed" with the term "number of reactive hydrogens in the raw material," because the phrase "reactive hydrogens" is consistent with the terminology used in the definition of polyether polyols. Also, as discussed in an earlier response in this section, §63.1427(j)(1)(i)(E) has been revised to specify that the EO/PO ratio shall be determined at the end of the epoxide feed.

2.6 MONITORING REQUIREMENTS FOR PROCESS VENTS

2.6.1 Monitoring Requirement Exemptions for the Process Vent Requirements

Comment: One commenter (IV-D-05) stated that, according to §63.1422(j), if the unit is otherwise exempt from performance tests because it complies with another law, such as the Resource Conservation and Recovery Act (RCRA) requirements, the owner or operator will comply with the monitoring requirements of that law. To clarify that §63.1429(a)(3) does not impose requirements on equipment otherwise exempt from testing, the commenter recommended adding the following wording to §63.1429(a)(3), such that it reads:

"(3) Where a boiler or process heater of less than 44 megawatts design heat input capacity and not otherwise

exempt from performance testing under this subpart, is used...."

Response: The EPA does not, in subpart PPP, exempt a boiler from performance testing because it complies with another law. Section 63.1422(j) allows the owner or operator the choice of whether to comply with the monitoring, recordkeeping and reporting requirements of this rule or the RCRA rule, if both apply. Therefore, the EPA believes the suggested change is inappropriate, and has not made that change in the final rule.

2.6.2 Scrubber Monitoring Requirements

Comment: Three commenters (IV-D-03, IV-D-05, IV-D-07) referred to §63.1429(a)(4) of the proposed rule which specifies scrubbing liquid temperature and specific gravity as appropriate monitoring parameters. The commenters stated that specific gravity is not an appropriate parameter for "once through" scrubber systems and should be deleted. It was recommended that scrubbing liquid flow rate, which is a key parameter for most scrubber systems, be added to this section in the final rule. Two other commenters (IV-D-05, IV-D-07) agreed, and also suggested monitoring pH, if the scrubber is an assisted scrubber.

Response: The Agency realizes that the scrubbers operated at the polyether polyol production facilities are once-through scrubbers, which are similar to those added after combustion devices to reduce emissions of halogens. Therefore, the final rule requires the same monitoring parameter requirements as for halogen reduction scrubbers in the HON. Specifically, in the HON [§63.114(a)(4)(i) and (ii)], a pH monitoring device to monitor the pH of the scrubber effluent and a flow meter are required to be used for scrubbers used with an incinerator, boiler, or process heater in the case of halogenated vent streams.
In the final rule, §63.1429(a)(4) reads:

"(4) Where an absorber is used, a scrubbing liquid flow rate meter or a pressure ~~temperature~~ monitoring device ~~and a specific gravity monitoring device are required, each~~

~~equipped with a continuous recorder~~ is required and should be equipped with a continuous recorder. If an acid or base absorbent is used, a pH monitoring device to monitor scrubber effluent is also required. If two or more absorbers in series are used, a scrubbing liquid flow rate meter, or a pressure monitoring device, equipped with a continuous recorder, is required for each absorber in the series. An owner or operator may submit a request to instead install the scrubbing liquid flow rate meter, or a pressure monitoring device, equipped with a continuous recorder, on only the final absorber in a series, in accordance with the alternative parameter monitoring reporting requirements in §63.1439(f).

2.6.3 Monitoring of Multiple Absorbers

Comment: One commenter (IV-D-05) maintained that §63.1429(a)(4) does not indicate how monitoring is to be performed where two or more absorbers are used, and requested that EPA clarify this provision.

Response: In general, the EPA believes that if multiple scrubbers are used in series to achieve the required percent efficiency, then it is important that the performance of each scrubber be monitored. However, the EPA recognizes that there could be circumstances where monitoring only one scrubber would be adequate. Under this circumstance, the EPA believes that a request for alternative monitoring can be submitted in accordance with §63.1439(f). The following language was added in §63.1429(a)(4):

"If two or more absorbers in series are used, a scrubbing liquid flow rate meter, or a pressure monitoring device, equipped with a continuous recorder, is required for each absorber in the series. An owner or operator may submit a request to instead install the scrubbing liquid flow rate meter, or a pressure monitoring device, equipped with a continuous recorder, on only the final absorber in a series, in accordance with §63.1439(f)."

2.6.4 Alternative to §63.1429(a)(7)

Comment: One commenter (IV-D-05) claimed that, in §63.1429(a)(7), an organic monitor with a continuous recorder should be acceptable as an alternative to §63.1429(a)(1) and

(a)(3) through (a)(6). This commenter recommended revising the text in §63.1429(a)(7) as follows:

"(7) As an alternate to paragraphs ~~(b)(4) through (b)(6)~~ (a)(1) and (a)(3) through (a)(6) of this section, the owner or operator may install an organic monitoring device equipped with a continuous recorder."

Response: The proposed rule allowed the monitoring of organic compound concentration as an alternative to monitoring operating parameters for absorbers, condensers, and carbon adsorbers (as was required in paragraphs (a)(4), (5), and (6)). The commenter is requesting that the monitoring of organic compound concentration also be allowed as an alternative to monitoring operating parameters for incinerators and boilers or process heaters (paragraphs (a)(1) and (3)). The EPA agrees with the commenter that an organic monitor with a continuous recorder could be an acceptable alternative to §63.1429(a)(1) and (3) through (6) in some instances. However, the commenter did not provide sufficient data or rationale on the monitoring of organic compounds at the exit of combustion devices to convince the EPA that such an alternative should be generally allowed in the final rule. However, the EPA believes that organic compound concentration monitors can be used on a site-specific basis. Owners or operators wishing to monitor organic compound concentration may submit a request to monitor these parameters in accordance with the alternative monitoring parameters provisions in §63.1439(f).

The EPA appreciates the commenter's pointing out the cross-referencing error in the proposed rule. The cross-referencing error was corrected in the final rule.

2.6.5 Flow Indicator Specifications

Comment: Two commenters (IV-D-04, IV-D-05) requested that the EPA delete the provisions of §63.1429(c)(3), which implied that computer monitoring of a bypass line damper or valve position [§63.1429(c)(3)] was different than operating a flow indicator [§63.1429(c)(1)]. In addition, one commenter (IV-D-04)

recommended deleting two other paragraphs (or portions thereof) that relate to §63.1429(c)(3) because, once §63.1429(c)(3) was deleted, they would have no meaning:

(1) In §63.1430(d)(4), delete the words "or where computer monitoring of the bypass damper or valve is used to comply with §63.1429(c)(3)."

(2) Delete paragraph 63.1430(d)(4)(ii).

Response: The EPA removed the proposed paragraph 63.1429(c)(3). The EPA believed that §63.1429(c)(1) and (2) were sufficient for specifying the monitoring requirements associated with bypass lines, since the definition of a flow indicator in subpart G includes computer monitoring. The other changes mentioned by commenter IV-D-04 have also been made in the final rule, as a result of the removal of §63.1429(c)(3), in order to eliminate references to that paragraph which no longer exists in the final rule.

2.7 GROUP DETERMINATION FOR NONEPOXIDE HAP EMISSIONS

2.7.1 Group Determination Records When the TRE Index is Between 1.0 and 4.0

Comment: One commenter (IV-D-04) referred to §63.1428(h)(2)(ii), which requires a report if the TRE index value after a process change is between 1.0 and 4.0. According to the commenter, this seems to presume that, before the process change, the TRE index value was greater than 4.0. Instead of presuming it, the section should be specific. The commenter claimed that industry should not have to submit a report if the TRE index value was already between 1.0 and 4.0 before the process change, and the value is still in that range after the process change. The commenter suggested the following revisions to §63.1428(h)(2)(ii):

"(ii) Where the recalculated TRE index value is less than or equal to 1.0, or where the TRE index value before the process change was greater than 4.0 and the recalculated TRE index value

is less than or equal to 4.0 but greater than 1.0, the owner or operator shall submit a report ...."

Response: The Agency agrees with the commenter's revision and has incorporated it into the final rule.

2.8 PROCESS VENT RECORDKEEPING AND REPORTING REQUIREMENTS

2.8.1 "Up-to-date" Process Vent Records

Comment: One commenter (IV-D-05) stated that §63.1430(b) and §63.1430(f)(5) require records to be kept "up-to-date," but stated that this term has no meaning for one-time records and is unnecessary for recurring records, since owners or operators are already required to obtain and retain each record when the time arises. Therefore, the commenter is recommending that this term be deleted.

Response: The EPA has removed the phrase "up-to-date" from these recordkeeping requirements in the final rule, because that phrase did not actually state the frequency with which records were to be "up-dated." The EPA feels that the proposed regulatory text, minus the phrase "up-to-date", is sufficient to convey the EPA's intent, which was that the owner or operator keep these records current.

2.8.2 Flares Compliance Demonstration

Comment: Two commenters (IV-D-04, IV-D-05) expressed concern that §§63.1430(b)(1)(ii) and (b)(1)(iii) imply that a compliance demonstration for flares is required by §63.11(b) of subpart A. They maintained that they have searched §63.11(b) very carefully and cannot find anything in that section that specifically requires a compliance demonstration. Therefore, the commenters requested that, if EPA wants a compliance demonstration for flares, that the requirement be included in the final rule, specifying what elements are included in the demonstration and what the deadline is.

Response: At proposal, subpart PPP referred to §63.11(b) for determining compliance with the flare requirements. However, as the commenters have pointed out, §63.11(b) does not actually require a compliance demonstration. To remedy this situation, in the final rule the EPA has added a requirement to perform the compliance demonstration for flares to §63.1437(c). Appropriate changes have also been made in §63.1430(b)(1)(iii) and other parts of the rule, to replace the HON reference to §63.11(b) with a reference to the provisions in §63.1437(c).

In the final rule, the EPA has added §63.1437(c) to make it clear that a compliance demonstration for flares must be conducted using the provisions found in §63.11(b). Specifically, the owner or operator is required to (1) conduct a visible emission test, (2) determine the net heating value of the gas being combusted, and (3) determine the exit velocity. In each case, the provisions specify that these parameters be determined in accordance with specific paragraphs in §63.11. Section 63.1437(c) also specifies that an owner or operator is not required to conduct a performance test to determine percent emission reductions or outlet organic HAP or TOC concentrations for flares. In addition, the final regulatory language specifies that a previously conducted flare compliance demonstration may be used to demonstrate compliance for the purposes of subpart PPP, provided that no deliberate process changes have been made since the compliance demonstration, or that the results of the compliance demonstration reliably demonstrate compliance despite process changes.

2.8.3 Records for Start-ups, Shutdowns, Malfunctions, and Periods of Non-operation

Comment: Two commenters (IV-D-04, IV-D-05) maintained that §63.1430(d)(2)(i) borrows some, but not all, of the relevant HON amendments, and it should be revised to address start-ups, shutdowns, malfunctions, and periods of non-operation of a relevant portion of the process. Additionally, it should refer to cessation of the monitored emissions, rather than emissions

generally. While it may be appropriate to record all data, the commenters asserted that averages should exclude periods of system start-up, shutdown, breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments. To be consistent with the HON, the commenters recommended changing the text. Commenter IV-D-05 provided revised wording and commenter IV-D-04 supported the text suggested by commenter IV-D-05.

Response: The EPA agreed that §63.1430(d)(2)(i) should apply to "specific portions" of processes, and has amended the language in §63.1430(d)(2)(i) accordingly. In addition, the EPA has added a provision stating that monitoring data collected during periods of start-up, shutdown, or malfunction are not to be included in the daily average. The EPA does not agree with the commenters that this paragraph should depend only on the cessation of "monitored emissions," rather than on the cessation of all emissions.

2.8.4 Records Related to Group Determination

Comment: One commenter (IV-D-05) supported not having to develop unnecessary information in order to determine Group status. Sources should have the discretion to designate individual vents as Group 1 and skip the determination process. To reflect the EPA's intent in this regard, the commenter recommended that a new sentence be added at the end of §63.1430(e)(1) as follows:

"The owner or operator may elect Group 1 status for process vents without making a Group 1/Group 2 determination. In such event, no determination records are required."

Response: It is the EPA's intent to allow sources to designate individual vents as Group 1 and skip the group determination process. Since the commenter did not think that §63.1430(e)(1) was clear enough in allowing for this option, the Agency has added the modified version of the sentence that the commenter suggested to the final rule, as follows:

"The owner or operator may elect Group 1 status for process vents without making a Group 1/Group 2 determination. In such event, none of the records specified in this paragraph (e) are required."

2.8.5 Recordkeeping Exemption

Comment: One commenter (IV-D-05) stated that §63.1430(e)(1)(vi) and (e)(2) do not require certain records if batch vents are in compliance with §63.1425(c)(1) (aggregate 90 percent HAP reduction) and the relevant compliance device is operating at all times. This means that, if a source ever fails to get 90 percent, or if the device ever goes "down," there would be a violation not only for failing to meet the 90 percent limit but also for not having certain records that the source was previously exempt from having to retain. Therefore, the commenter recommended revising the text by adding a new sentence at the end of each of §63.1430(e)(1)(vi) and (e)(2), as follows:

"(vi) ...This subparagraph (vi) applies even if the affected source temporarily fails to meet the requirements of §63.1425(c)(1) or the device does not function temporarily."

"(2) This paragraph (2) applies even if the affected source temporarily fails to meet the requirements of §63.1425(c)(1) or the device does not function temporarily."

Response: The EPA understands the commenter's concern about being held liable for a double violation under the situation described above. However, the EPA felt that the suggested language was too vague (e.g., "temporarily" is not defined, and no time frame is specified). The final rule resolves this problem by replacing the phrase "[the] process vent is in compliance with §63.1425(c)(1)" with the phrase "is subject to §63.1425(c)(1)," in §63.1430(e)(1)(vi). This change will prevent the owner or operator from being in a double penalty situation, while still offering the group determination recordkeeping exemption to the owner or operator who is subject to §63.1425(c)(1) or (c)(3). A similar change has been made to the language in §63.1430(e)(2), such that the revised language appears as follows:

(2) *Process vents from continuous unit operations~~Vents from Continuous Unit Operations~~.* ~~Each~~The owner or operator of an affected source that uses nonepoxide organic HAP to make or modify~~ a polyether polyol~~ the product in continuous unit operations shall keep records regarding the measurements and calculations performed to determine the TRE index value of ~~the combined~~ each process vent stream. The owner ~~Owners~~ or operator~~s~~ of ~~combined streams~~ Group 1 continuous process vents that are ~~in compliance with~~subject to the ~~Group 1~~ requirements of §63.1425(c)(3) is ~~are~~ not required to keep these records.

2.8.6 Process Change Resulting in a Change in the TRE

Comment: One commenter (IV-D-05) requested that sources be exempted from the reporting requirements of §63.1430(k) if there is some other basis for exemption, such as a flow rate below 0.005 scmm or a HAP concentration less than 50 ppmv. Therefore, the commenter recommended adding the following new paragraph at §63.1430(k). Proposed §63.1430(k) would then become §63.1430(l). §63.1430(k) would read:

(k) The owner or operator is not required to submit a report of a process change if one of the conditions listed in paragraphs (k)(1) through (k)(4) of this section is met.

(1) The process change does not meet the definition of a process change in subpart G; or

(2) The vent stream flow rate is recalculated according to subpart G and the recalculated value is less than 0.005 standard cubic meter per minute, or

(3) The organic HAP concentration of the vent stream is recalculated according to subpart G and the recalculated value is less than 50 parts per million by volume, or

(4) The TRE index value is recalculated according to subpart G and the recalculated value is greater than 4.0.

Response: The EPA does not believe that the "exemptions" cited by the commenter, (i.e., flow rate below 0.005 scmm or a HAP concentration less than 50 ppmv) are appropriate for §63.1430(k) as proposed. Since proposal this section was renumbered §63.1430(j), where the owner or operator is subject to the process vent reporting and recordkeeping requirements in §63.1430 when a process change has occurred that causes a Group 2 continuous process vent with a TRE greater than 4.0 to become Group 2 with a TRE less than 4.0. By definition (see §63.1423) a Group 2 process vent from continuous unit operations is defined

as "...not classified as a Group 1 continuous process vent," and a Group 1 continuous process vent is defined as "(1) has a flow rate greater than or equal to 0.005 standard cubic meters per minute, and (2) has a total organic HAP concentration greater than or equal to 50 parts per million by volume, and (3) has a total resource effectiveness index value, calculated in accordance with §63.1428(h)(1), less than or equal to 1.0." The exemptions cited by the commenter define the process vent as being Group 2 and are not needed in §63.1430(j). Therefore, §63.1430(j) of the final rule does not include the revisions suggested by the commenter.

2.9 EMISSION FACTOR

2.9.1 Emission Factor Plan

Comment: One commenter (IV-D-05) requested, for purposes of clarity, that §63.1431(b)(1) be revised to refer to the use of a combustion, recovery, or recapture device "without ECO," and that §63.1431(b)(2) be revised to refer to the use of ECO "without a combustion, recovery, or recapture device," since §63.1431(b)(3) provides requirements for when both ECO and a combustion, recovery, or recapture device are used.

Response: The EPA has made this distinction in the final rule.

Comment: One commenter (IV-D-05) recommended, for purposes of clarity, that the provisions of §63.1431(c)(2) be revised to include the phrase "unless exempted by the provisions of this subpart" as follows:

"The owner or operator shall conduct a performance test in accordance with §63.1426 to determine the epoxide control efficiency of the combustion, recovery, or recapture device unless exempted by the provisions of this subpart...."

Response: Section 63.1426 lists the exemptions that apply, so by citing §63.1426, the exemptions are also cited. Therefore,

the EPA does not find it necessary to make the requested revision to §63.1431(c)(2).

2.10 STORAGE VESSEL

2.10.1 Storage Vessel Provisions

Comment: One commenter (IV-D-05) referred to the language in §63.1432(e), (f), and (h), which says that certain HON language should be "replaced with" other language. For clarity, the commenter requested that the text be changed to state that the referenced language "applies," instead of saying that it "replaces" language in the HON.

Response: The EPA appreciates the commenter's input, and has changed the referenced language in accordance with the commenter's suggestions, in the final rule.

2.10.2 Previous Performance Testing of Storage Vessel Control Device

Comment: Two commenters (IV-D-04 and IV-D-05) supported the provisions in §63.1432(g) that state that if a storage vessel has a control device that has been performance-tested for other reasons, the prior performance test would satisfy the storage vessel requirements of this rule. However, Commenter IV-D-04 stated that the provisions are unclear in the following two areas, and should be clarified:

(1) The text mentions control devices that are used to comply with "§63.1425 through (sic.) §63.1433," which is impossible. For one thing, the range of §63.1425 through §63.1433 includes §63.1432, which is where the storage vessel provisions are located. A control device on a storage vessel cannot "also" be used for storage vessel compliance. Also, it is unlikely that any single control device would be used simultaneously for the entire range of sections from §63.1425 through §63.1433. The commenter believed that the EPA meant to say that, if the control device had already been performance-

tested under any one of those sections, no further demonstration is required.

(2) The provisions accept only performance tests "required by" specified sections of the rule. However, those sections do not always "require" performance tests; sometimes they "allow" performance tests, such as when a test that is conducted to comply with other regulations promulgated by the EPA is allowed to be used. If the control device has been performance-tested under some NSPS or NESHAP using the same reference methods, and if the results are still reliable, the commenter claimed that the previously conducted performance test should be acceptable.

Response: The EPA agrees with the commenters on both of these points, and has made changes to §63.1432(g), accordingly. The regulatory language in the final rule reads as follows:

> (g) ~~Each~~The owner or operator of an affected source shall comply with this paragraph instead of §63.120(d)(1)(ii)~~ of subpart G~~ for the purposes of this subpart. If the combustion, recovery, or recapture device used to comply with §63.119(e) is also used to comply with any of the requirements found in §§63.1425 through 63.1431 and/or §63.1433, the performance test required in or accepted by~~ for~~ §§63.1425 through 63.1431 and/or §63.1433 is acceptable for demonstrating compliance with §63.119(e)~~ of subpart G~~, for the purposes of this subpart. The owner or operator will not be required to prepare a design evaluation for the combustion, recovery, or recapture device as described in §63.120(d)(1)(i)~~ of subpart G~~, if the performance test meets the criteria specified in paragraphs (g)(1) and (g)(2) of this section.

2.11 WASTEWATER PROVISIONS

2.11.1 Wastewater Cross-Referencing with the HON

Comment: One commenter (IV-D-07) asserted that the cross-references provided in §63.1433 of the proposed rule are very complex, make compliance difficult, and might cause inadvertent violations. The commenter urged the EPA to develop a comprehensive set of requirements for this section of the rule.

Response: In the final rule, the EPA has maintained the cross-references to the HON wastewater provisions. The EPA recognizes that a complex system of cross-referencing can be confusing to the owner or operator. However, the EPA considers the benefit to industry [which is derived from the fact that a company producing products subject to several rules (e.g., the HON, subpart JJJ, and subpart U) can rely on the fact that their wastewater equipment will be subject to the same basic control requirements] to outweigh the negative effects that this structure might have on those same owners or operators. This is particularly important in consideration of the fact that wastewater may originate at process units producing several different products, and yet be combined into an individual stream prior to treatment. Each NESHAP should spell out the specific requirements for such a wastewater stream, but the owner or operator's job will be simplified if the basic control requirements applying to wastewater streams from the different types of process units are the same, or at least very similar. In addition, the EPA has received positive feedback regarding this strategy for dealing with process wastewater from other industry representatives.

2.11.2 Definition of Wastewater in the Basis and Purpose for Proposed Standards

Comment: One commenter (IV-D-07) requested that the EPA clarify one statement that was made in section 2.5.3, Wastewater Operation, of the Basis and Purpose for Proposed Standards (Document no. EPA-453/R-97-010a, May 1997). The commenter claimed that one statement in that section omitted an important part of the wording from the definition of wastewater that was included in subparts F and G (the wastewater model for this rule), that wastewater exists after it is discarded, not after it exits a piece of equipment. Furthermore, the commenter maintained that a wastewater stream is considered to be discarded after it exits the last recovery device in a PMPU. The commenter requested that the EPA clarify in its response to comments

document that wastewater exists after it is discarded from the PMPU.

Response: The commenter is correct, and the EPA would like to make note of the fact that the definition of "wastewater" in subpart PPP continues to mirror the definition of "wastewater" in §63.111 of the HON, which contains the concept of the fluid having been "discarded" from a process unit. The "discard" concept is fundamental in determining which fluids exiting the PMPU are subject to the wastewater provisions in §63.1433. In addition, in the final rule the definition of "wastewater" has been corrected to refer to Table 4 of subpart PPP (instead of Table 5, which it incorrectly referenced at proposal).

2.11.3 Classification of Wastewater Receiving Facilities

Comment: Three commenters (IV-D-04, IV-D-05, IV-D-07) requested that the EPA clarify that when facilities use the HON's third-party wastewater treatment provisions, the receiving facility does not become subject to the Off-Site Waste and Recovery Operations MACT rule (subpart DD). One commenter (IV-D-04) claimed that there is a disconnect between the proposed rule and subpart DD, because subpart DD's exemption mentions only the HON, not other rules that make slight changes to the HON (such as different compliance dates, slight changes in definitions, and different chemical lists). Therefore, the commenter recommended adding a paragraph (d) to §63.1433 as follows:

> (d) The owner or operator of a facility which receives a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream, for treatment pursuant to §63.132(g) of subpart G as referenced in paragraph (a) of this section, is subject to the requirements of §63.132(g) with the differences identified in this section, and is not subject to subpart DD of this part with respect to that material.

Response: The EPA agrees that this clarification needed to be added to the final rule. The final rule contains language very similar to that suggest by the commenters, in

§63.1433(a)(20), with the exception that the cross references are omitted. The new language reads as follows:

> (20) The owner or operator of a facility which receives a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream, for treatment pursuant to §63.132(g) is subject to the requirements of §63.132(g), with the differences identified in this section, and is not subject to subpart DD of this part, with respect to the received material.

2.11.4 Clarifying the Definition of Residuals

Comment: One commenter (IV-D-04) requested that the EPA clarify that residuals are not process wastewater. The commenter referenced the proposal preamble (62 FR 46810, col. 3), which stated that one example of a process wastewater stream is "residuals recovered from waste management units." The commenter considered this statement problematic because a residual is not a process wastewater stream and not every residual is regulated. The commenter asserted that the regulations should only apply to residuals from Group 1 process wastewater streams; residuals from Group 2 streams should not be regulated.

Response: The Agency agrees with this commenter. The preamble to the final rule clarifies that residuals recovered from waste management units do not necessarily constitute an example of process wastewater.

2.11.5 Wastewater Control Options

Comment: One commenter (IV-D-04) requested that the EPA clarify that, for an individual emission point, emission suppression does not always require the combination of a cover, an enclosure, and a closed-vent system to a control device. This is the commenter's interpretation of the following statement in the proposal preamble (62 FR 46811, col. 2): "Suppression of emissions from the point of determination to the treatment device will be achieved by using covers and enclosures and closed-vent systems to collect organic HAP vapors from the wastewater and convey them to treatment devices."

Response: The commenter is correct, in that individual emission points do not require a cover and an enclosure and a closed-vent system to a control device. The final preamble states that individual emission points require a control device, or a seal/cover/enclosure that may be routed to a control device, depending on the source.

2.11.6 "Inprocess" Aqueous Streams Should not be Identified as Wastewater Streams

Comment: One commenter (IV-D-04) claimed that there is a mismatch in §63.1433(a) and §63.1433(a)(10). Section 63.1433(a) refers to "each process wastewater stream" and requires compliance with HON §63.132 through §63.149. However, §63.149 does not deal with process wastewater streams, it deals with certain in-process aqueous streams in open equipment. The commenter asserted that nothing is wastewater until it leaves the process. Similarly, §63.1433(a)(10) says certain definitions apply whenever HON §63.132 through §63.149 refer to a Group 1 wastewater stream or to a Group 2 wastewater stream. However, §63.149 applies to certain in-process (non-wastewater) aqueous streams in open equipment. The commenter recommended that §63.1433(a) and (a)(10) be revised as follows:

> "(a) For each process wastewater stream originating at an affected source, the owner or operator shall comply with the requirements of §63.132 through §63.14~~9~~7 of subpart G, with the differences noted in paragraphs (a)(1) through (a)(19), and (b) and (c) of this section, for the purposes of this subpart. The owner or operator shall comply with the requirements of §63.149 of subpart G, with the differences noted in paragraphs (a)(1), (a)(2), (a)(7), (a)(8), (a)(11) and (a)(12) of this section, for equipment meeting the criteria of §63.149 of subpart G as modified by those differences."
>
> "(10) Whenever §63.132 through ~~§63.149~~ §63.147 of subpart G refer to a Group 1 wastewater stream or a Group 2 wastewater stream, the definitions of the terms contained in §63.1423 shall apply, for the purposes of this subpart."

Response: The EPA agrees with the general concept behind commenter IV-D-04's comment. However, the EPA does not feel that it is necessary to list each paragraph that corresponds to either

wastewater streams or "in process" equipment, as the commenter suggested. Instead, the EPA has added language clarifying that the owner or operator must comply with the requirements in §63.148 for leak inspection provisions, and with the requirements of §63.149 for equipment that is subject to §63.149. The final rule also clarifies that the owner or operator must comply with the requirements in §63.105(a) for maintenance wastewater. The EPA has also made the distinction between the §63.132 through §63.147 requirements and the §63.149 requirements, as the commenter requested.

2.11.7 Selection of Compounds Subject to the Wastewater Provisions

Comment: One commenter (IV-D-07) supported regulating wastewater for only the list of organic HAP in Table 4 of Subpart PPP; however, the commenter requested that the EPA establish a Henry's Law Constant "de minimis" value and delete non-volatile organic HAP, such as methanol, from Table 4 as it applies to the wastewater provisions. The commenter stated that EPA has deleted other organic HAP from lists of regulated organic HAP under the wastewater provisions in the HON and other rules, based on the insignificant potential of those organic HAP to volatilize from wastewater, and based on the knowledge that those organic HAP are highly biologically degradable. The commenter noted that a "de minimis" value of 1.8×10^{-6} atm m^3/gmole fraction at 25 °C was used in the HON. The commenter provided examples of chemicals that have been deleted from the list of regulated organic HAP under the HON or other rules, including diethanolamine, ethylene glycol, and formaldehyde. The commenter stated that comments submitted by the pharmaceutical industry on the proposed MACT standard affecting their industry showed that methanol has a higher function of biological degradation than that estimated by the EPA. The commenter recommended that the EPA (1) reevaluate the emissions estimates and significance of the Table 4 organic HAPs to volatilize from wastewater, (2) determine those organic HAP that should be excluded because of their high degree of

biological degradation, and (3) delete the organic HAP meeting those two criteria from the list of regulated organic HAP in Table 4.

Response: The commenter incorrectly stated that the compounds in table 4 of subpart PPP are subject to the wastewater provisions. As stated in §63.1433(a)(2), when subpart G (the HON wastewater provisions in subpart PPP) refers to table 9 or table 36, the owner or operator is only required to consider organic HAP listed in table 9 or table 36 of subpart G that are also listed in table 4 (actually, the proposed rule stated "table 5," which was a typographical error) of this subpart. In other words, only compounds that are both on Table 4 of subpart PPP and on Table 9 of subpart G are subject to the wastewater provisions. By doing this, the EPA has eliminated (from the wastewater provisions) those organic HAP that were eliminated from the HON tables due to their low volatility. Therefore, the EPA did not find it necessary to delete any compounds from table 4 of the final rule.

2.11.8 Wastewater Nationwide Baseline Emissions Estimate: Steam Jet System's Condensate Estimate

Comment: One commenter (IV-D-07) questioned the data and wastewater emission estimates in the Supplementary Information Document (SID) for the national baseline emissions, and stated, in particular, that the EPA had overestimated the nationwide emissions from wastewater from polyether polyols production. The commenter cited two issues related to the data presented in Table 9 of the April 29, 1996 memorandum (Docket Item II-B-5), regarding nationwide baseline emissions.

First, the commenter stated that the "average organic HAP concentration" of 70,000 ppmv of PO is inconsistent with the commenter's operating and engineering experience of steam jet ejector systems, and noted that the volatile organic HAP concentration in steam condensate tends to be in the range of 10 to 500 ppmv. The commenter noted that the memorandum in the

docket (II-B-5) was unclear about whether the data gathered from "vacuum systems" to determine the average concentration of organic HAP were from a single stream, or from a combination of several streams. The commenter recommended that the EPA gather more accurate information on steam jet system's condensate, and base the estimate on an adequate representation of the systems.

The commenter's second concern was whether the EPA had relied on one data point to inappropriately extrapolate emissions from the model stream to nationwide emissions. The commenter also noted that the nationwide emissions from this one model stream accounted for 68 percent of wastewater emissions, and 42 percent of the total nationwide emissions from polyether polyols production.

Response: The commenter's first concern was that the PO concentration in the vacuum system model stream (70,000 ppmv) was inconsistent with the commenter's knowledge of the industry, which would indicate that the PO concentration in these streams is in the range of 10 tp 500 ppmv. It is the EPA's understanding that the commenter's experience has been with vacuum systems with low HAP concentrations, which were not included in the EPA's database. Data provided by industry in responses to the questionnaire were used to create the database. The questionnaire stated that it applied to HAP emission sources generated by polyether polyol production processes, except for: (1) wastewater streams with an annual average flow rate less than 0.1 gallons per minute, or a total HAP content less than 10 ppmv, or (2) waste with a total HAP content less than 10 ppmv or a generation rate less than 220 pounds per month. Therefore, the concentrations reported in response to the EPA/SPI questionnaire were only for the more concentrated streams. The EPA took this bias into account when estimating nationwide baseline emissions, by multiplying the percentage of facilities with more concentrated wastewater streams (58 percent) by the emissions from the model stream and the estimated number of facilities in the nation. The concentration, of 79,000 ppmv, cited in the

memorandum (Docket Item II-B-5) was based on actual data provided from 7 facilities' responses to the wastewater section of the EPA/SPI questionnaire. Therefore, the EPA believes that the PO concentration (70,000 ppmv) in the vacuum system wastewater model streams is representative.

2.11.9 Wastewater Nationwide Baseline Emissions Estimate: The Fraction Emitted Factors Used

Comment: One commenter (IV-D-07) voiced two concerns over the fraction emitted (Fe) factors used to determine an emission estimate. The commenter's first concern was that it was unclear if an "average" Fe was used or if the Fe specific to each chemical was applied to each specific organic HAP identified in the wastewater stream. The commenter's second concern was that the EPA did not update the fraction emitted factors (Fe) from those used in the HON Table 34. Therefore, the commenter requested that the EPA determine the emissions for each specific organic HAP to which subpart PPP applies, before averaging the Fe factors, or averaging the organic HAP concentrations, and that the EPA update the Fe factor to reflect these new calculations.

Response: In response to the commenter's question, for each model wastewater stream, an emission rate was calculated for the seven facilities in the database, from which weighted average emission rate, flow rate and concentrations were calculated. An individual Fe (from Table 34 of the HON) was assigned to each model wastewater stream, corresponding to the predominant organic HAP identified for that model wastewater stream (i.e., toluene with an Fe of 0.8, EO with an Fe of 0.5, and PO with an Fe 0.6). No revisions were made to the model wastewater streams, the calculations, or the baseline nationwide wastewater emissions, because these emission estimates used the Fe's from table 34 of the HON, which has not been amended since promulgation of the HON on April 22, 1994, and which the EPA considers to be consistent with current organic HAP information.

2.11.10 Inclusion of Biological Treatment as Wastewater Control Option

Comment: One commenter (IV-D-07) noted that the EPA had recently (at the time that the commenter's statement was made) proposed changes for wastewater compliance provisions using biological treatment under the HON. After the HON was promulgated, the commenter requested that the EPA allow industry representatives to comment on how the final changes to the HON rule would affect subpart PPP.

Response: The EPA did propose clarifications to the HON on August 22, 1997 (62 FR 44608). These proposed clarifications, which are slated to go final in the near future, dealt with a very narrow portion of the HON wastewater provisions. In particular, the EPA proposed to revise the definition of "enhanced biological treatment systems or enhanced biological treatment processes," in order to clarify the meaning of the term, and it proposed to revise appendix C of part 63 to reflect the clarification of the definition of "enhanced biological treatment systems or enhanced biological treatment processes." The EPA involved industry representatives in the revision of the definition of "enhanced biological treatment systems or enhanced biological treatment processes," and the promulgated clarification will incorporate public comments on the proposed clarification, as necessary. For these reasons, the EPA does not believe that it is necessary to request further comments on how those changes to the HON wastewater provisions might affect owners and operators of polyether polyols affected sources. The EPA would, however, like to clarify (here and in the preamble to the final rule) that the provisions of subpart PPP that cross-reference the HON or any other regulation refer to the most recent, promulgated versions of those rules, and that commenters are encouraged to provide comments on any future proposed changes to those rules cross-referenced in subpart PPP, with regard to how those proposed changes might affect subpart PPP sources.

2.11.11 PEPO Chemical List Versus HON's Table 8

Comment: Commenter IV-D-04 noted that §63.1433(b) should have a "heading," to call attention to the fact that it contains the requirements for maintenance wastewater, and noted that §63.1433(b) mentions only one difference from the HON. That difference was that owners and operators of polyether polyols affected sources should use the proposed polyether polyols rule's definition of "organic HAP," instead of the HON definition of that term. However, according to the commenter, other differences from the HON should be listed, such as the fact that maintenance wastewater is a subset of "wastewater," and "wastewater" has criteria that depend on chemical lists. Therefore, the commenter requested that the EPA clarify that, for the purposes of subpart PPP, the PEPO chemical list (Table 4) applies, rather than HON Table 8 and/or Table 9 chemicals, and also that PEPO focuses only on a subset of HON Table 9 chemicals, while Table 8 in the HON does not apply to polyether polyols affected sources.

Response: The EPA agrees that there is a need for further clarification in §63.1433(b), through the use of a "heading," and with regard to how the maintenance wastewater requirements in §63.105 of subpart F apply to polyether polyols affected sources. Therefore, in the final rule, §63.1433(b) is amended to read as follows:

> (b) Maintenance wastewater. The owner or operator of each affected source shall comply with the requirements for maintenance wastewater in §63.105 of subpart F, ~~except that when~~ with the exceptions noted in paragraphs (b)(1), (2), and (3) of this section.
>
> (1) When the HON wastewater provisions in §63.105(a) refer~~s~~ to "organic HAPs," the definition of "organic HAP" in §63.1423 shall apply, for the purposes of this subpart.
>
> (2) When the term "maintenance wastewater" is used in §63.105, the definition of "maintenance wastewater" in §63.1423 shall apply, for the purposes of this subpart.
>
> (3) When the term "wastewater" is used in §63.105, the definition of "wastewater" in §63.1423 shall apply, for the purposes of this subpart.

2.12 EQUIPMENT LEAK PROVISIONS

2.12.1 Method 21 for Equipment Leak Detection

Comment: One commenter (IV-D-04) maintained that the statement in the proposal preamble (62 FR 46812, col. 2) that "The equipment leak standards require the use of Method 21 of Appendix A of part 60 to detect leaks" is not quite correct. The commenter stated that the equipment leak standards require compliance with subpart H, which requires a slightly modified version of Method 21, and anyone using Method 21 in its unmodified state might not comply with subpart H.

Response: The EPA agrees with the commenter. The proposal preamble incorrectly stated that the HON requires the use of Method 21, without mentioning that the detection instrument response factor criteria in section 3.1.2(a) of Method 21 must be for the average composition of the process fluid, instead of for each individual VOC in the stream. The EPA apologizes for this oversight in the proposal preamble, and wishes to clarify that all of the equipment leak standards in subpart H apply to polyether polyols affected sources, with the exceptions noted in §63.1434.

2.12.2 "Delay of Repair" Example in the Preamble

Comment: One commenter (IV-D-04) questioned the fourth example given in the proposal preamble (62 FR 46812, col. 1) for situations where "delay of repair" may be allowed. The example seems to say that single seals have better performance, and that the EPA is replacing them with less desirable dual seals. The commenter believed the opposite would be more accurate.

Response: The EPA agrees that the fourth example could be misleading: the confusion results from the apparent omission of a phrase from example number four. The fourth example of an acceptable delay of repair beyond the required period should have read "When equipment is being replaced by equipment with better

leak performance, such as when a pump with single mechanical seals is being replaced with a pump with dual mechanical seals."

2.12.3 Cost-Effective Alternatives to the HON LDAR

Comment: One commenter (IV-D-08) urged the EPA to consider more cost effective alternatives to the HON leak detection and repair program (LDAR) in this and future MACT rules. The commenter had previously submitted material to the EPA, demonstrating that the initial leak rate assumptions in the HON considerably overestimate actual leak rates in many instances. Since cost effectiveness assumptions of the HON LDAR program are based in part on initial leak rate estimates, the commenter is concerned that the HON LDAR requirements do not represent the most effective method of achieving reductions from fugitive sources.

Response: The EPA appreciates the comment, but would like to point out that the MACT floor level of control for subpart PPP was determined to be the HON level of control. Because the cost effectiveness of this level of control is not relevant in setting the MACT floor level of control, the EPA did not consider all methods of achieving reductions from fugitive sources. Further, the EPA would like to point the commenter to §63.177(e) of part G, which address obtaining approval from the Administrator to utilize alternative means of emission limitations for equipment leaks.

2.12.4 De minimis Equipment Count

Comment: One commenter (IV-D-09) has provided an analysis to EPA that they believe shows that it is not cost-effective to do equipment leak survey programs for less than 100 components, unless a source has other facilities on site which can offset the cost of purchasing a monitoring device.

Response: The EPA evaluated the cost effectiveness of performing the HON level of LDAR to a facility with 100 equipment

components, for facilities with and without monitors on-site. The documentation is provided in docket item number IV-B-01. The cost-effectiveness values ranged from $2,900 to $3,300 for facilities that previously controlled to the CTG level of control, and ranged from $3,000 to 3,500 for facilities that were uncontrolled. The EPA concluded that controlling facilities with 100 equipment components is cost effective, and made no revisions to the rule.

2.12.5 Applicability of Subpart I

Comment: One commenter (IV-D-05) maintained that §63.1434(c) should discuss "resetting the clock" for sources in a quality Improvement Program (QIP) under subpart I, as do other part 63 rules.

Response: The EPA agrees, and has incorporated language that parallels that used in other part 63 rules, by adding the following sentence to the end of §63.1434(c):

> "However, sources subject to 40 CFR part 63, subpart I that have elected to comply through a quality improvement program, as specified in §63.175 or §63.176 or both of subpart H, may elect to continue these programs without interruption as a means of complying with this subpart. In other words, becoming subject to this subpart does not restart or reset the "compliance clock" as it relates to reduced burden earned through a quality improvement program."

2.12.6 Inclusion of Phase-in Option

Comment: One commenter (IV-D-05) stated that §63.1434 does not address the phase-in issue, and that failure to address this issue created a compliance problem in the implementation of subpart U, which resulted in a subsequent change to that rule. To avoid a similar problem in this rule, the commenter suggested adding language similar to newly proposed §63.502(m) from subpart U as §63.1434(h), as follows:

(h) The owner or operator of each affected source shall substitute the phrase "the provisions of subparts F, I, or PPP of this part" for both the phrases "the provisions of subparts F or I of this part" and the phrase "the provisions of subpart F or I

of this part" throughout §63.163 and §63.168, for the purposes of this subpart. In addition, the owner or operator of each affected source shall substitute the phrase "subparts F, I, and PPP" for the phrase "subparts F and I" in §63.174(c)(2)(iii), for the purposes of this subpart.

Response: The EPA agrees that the suggested text would clarify how the requirements in subpart H of the HON apply to owners and operators of polyether polyols production affected sources. A slightly modified version of the suggested text has been added as §63.1434(h), as the commenter requested.

2.12.7 Exemption for Heat Exchanger Units not Using HAP

Comment: One commenter (IV-D-05) requested that §63.1435(a) be revised to exempt PMPUs that do not produce or use any organic HAPs. This commenter also requested that §63.1435(b), in both parts of the sentence where it occurs, be modified as follows: "...the term 'polyether polyols manufacturing process unit, except those that do not manufacture or use any organic HAP,' shall apply for purposes of this subpart."

Response: The EPA agrees with the intent of the commenter's suggestion, but finds it simpler and more accurate to refer back to the exemption in §63.1420(b), for PMPU without organic HAP. Therefore, in the final rule §63.1435(b) has been revised so that the last sentence reads:

> "Further, when the phrase "a chemical manufacturing process unit meeting the conditions of §63.100(b)(1) through ~~(b)~~(3) of this subpart, except for chemical manufacturing process units meeting the condition specified in §63.100(c) of this subpart" is used in §63.104(a) ~~of subpart F~~, the term ~~"polyether polyols manufacturing process unit~~ PMPU, except for PMPUs meeting the conditions specified in §63.1420(b)" shall apply for the purposes of this subpart."

2.13 TESTING

2.13.1 Consistency Between the Test Method Required in the Proposed Rule and the Test Method Used to Establish the New Source Process Vent MACT Floor

Comment: One commenter (IV-D-04) stated that the EPA has proposed a 99.9 percent emission reduction for new sources based on a performance test for Facility M. However, the proposed rule also requires performance tests using Method 18. According to the commenter, the performance test for Facility M did not rely entirely on Method 18. Method 18 was used at the inlet, but Method 25A was used at the outlet. The proposed rule seems to say that Method 25A may not be used, unless it is validated under Method 301. Thus, the commenter interpreted that Facility M has not conducted an acceptable performance test to be used as the basis for the proposed standard. The commenter maintained that if the performance test already conducted for Facility M was good enough to be the basis for the rule, it should be good enough to satisfy the performance testing requirements of the rule. The commenter requested that the EPA clarify that Facility M is not required to conduct another performance test.

Response: As discussed in the next response, the EPA has revised the test methods allowed in the final rule. Based on the review of the test report for Facility M's test, the EPA believes that the test was conducted in accordance with the revised testing procedures. However, paragraph §63.1426(b)(3) of the final rule contains an exemption from performance testing for process vents based on the use of previous tests. Whether Facility M would be required to conduct another performance test would ultimately depend on whether the conditions of §63.1426(b)(3) are met.

2.13.2 Use of Method 25A Without Method 301 Validation

Comment: Three commenters (IV-D-04, IV-D-05, IV-D-08) requested that the EPA clarify that owners or operators may use Method 25A without the need for validation under Method 301.

According to §63.1437(b), any analytical method, other than Method 18, used for performance tests would have to be validated according to the protocol in Method 301. Two of the commenters (IV-D-04, IV-D-05) presented the following reasons why Method 301 validation should not be required if the owners or operators uses Method 25A for the performance test.

1. In establishing MACT for new sources, the EPA relied on a performance test for Facility M, which used Method 25A on the outlet emissions. If the EPA found the data from Method 25A sufficiently credible and valid to make those data the basis for the rule, then the EPA cannot now say Method 25A is insufficiently credible for use in performance tests.

2. Validation under Method 301 is incredibly and needlessly burdensome. One commenter noted that they have been validating analytical methods for years, without Method 301, quickly and inexpensively. In contrast, validation under the Method 301 protocol is so burdensome and time-consuming as to be nearly impossible.

3. The proposed rule relied on Method 25A in other contexts. For example, §63.1433(a)(19) specified conditions under which Method 25A may be used, as an alternative to Method 18, for wastewater. If Method 25A is appropriate for wastewater, it should be appropriate for performance tests.

4. Commenter (IV-D-05) noted that Method 25A is allowed in the Polymers and Resins IV rule without validation through Method 301. This commenter recommended revising §63.1426(c)(3) and (c)(4) to allow the use of Method 25A without Method 301 validation.

One commenter (IV-D-08) requested that if the EPA keeps the validation requirement, then the "abbreviated" version of Method 301 that was allowed in the HON wastewater provisions should also be allowed under subpart PPP.

Response: The EPA agrees that allowing of the use of Method 25A would provide more flexibility, and potentially provide the opportunity for less costly testing. However, the EPA believes

that Method 25A should be used only after an accurate response factor has been determined. The importance of calibrating a flame ionization detector (FID) reading obtained using Method 25A with respect to a certain compound (adjustment by response factor) depends on how the Method will be used to demonstrate compliance with the standard. In general, the EPA believes that an accurate response factor is necessary in cases where Method 25A is used to demonstrate control efficiency across a device where the composition of the stream may change, or in situations where multiple components, including non-HAP VOC, are present. Because the relative proportion of organic compounds may change across the control device, appropriate response factors are needed to accurately quantify TOC at the inlet and outlet of a control device. In addition, the EPA believes that owners and operators should have the opportunity to demonstrate compliance at the outlet of a control device by measuring 20 ppmv TOC or less. Therefore, the final rule does allow the use of Method 25A under certain conditions. The following describes the choices of test methods allowed in the final rule: (1) Method 18 (40 CFR part 60, appendix A) to determine HAP concentration in any control device efficiency determination; (2) Method 25 (40 CFR part 60, appendix A) to determine total gaseous nonmethane organic concentration for control efficiency determinations in combustion devices; (3) Method 25A (40 CFR part 60, appendix A) to determine the HAP or TOC concentration for control device efficiency determinations under the conditions specified in Method 25 (40 CFR part 60, appendix A) for direct measurement of an effluent with a flame ionization detector, or in demonstrating compliance with the 20 ppmv TOC outlet standard. As an alternative, any other method or data that have been validated according to the applicable procedures in Method 301 (40 CFR part 63, appendix A) may be used.

2.13.3 Allow any Testing to Demonstrate Compliance

Comment: One commenter (IV-D-06) referred to §63.1426(b)(3), which allows for an exception to the performance test

requirements if testing was previously conducted for determining compliance with a regulation promulgated by EPA. The commenter requested that this provision be amended to allow the use of any representative testing conducted using methods specified in this standard, and not just the use of compliance testing conducted for compliance with promulgated EPA regulations. The commenter pointed that the cost per facility for retesting is approximately $100,000.

Response: The EPA has agreed to grant the commenter's request. If the facility used the appropriate standardized EPA method, the EPA agrees that it should not matter whether the method was used to determine compliance with a regulation already promulgated by the EPA or for some other purpose. Therefore, the provision has been revised to allow the use of any representative testing conducted using methods specified in this standard. The revision does include a 5-year limit on the age of the test report, along with assurances that the process is still operating under similar conditions as those that it was operating under during the test. Further, the original test would need to have monitored operating parameters that could be used to comply with the parametric monitoring requirements in subpart PPP.

2.13.4 Notice for Rescheduling of a Test

Comment: One commenter (IV-D-05) recommended, for consistency with other rules, that the text in §63.1437(a)(4) be changed to add the following sentence: "If the owner or operator reschedules the test for any reason, it must provide the Administrator 7 days' notice."

Response: The EPA has added language to §63.1437(a)(4) in the final rule, in order to specify that the owner or operator needs to give the Administrator at least 7 days notice (prior to the originally scheduled performance test) if a performance test needs to be rescheduled. The changes to this paragraph also allow the performance test to be rescheduled by mutual agreement

between the Administrator and the owner or operator, if necessary.

2.13.5 Engineering Calculations for Worst-case Requirements

Comment: One commenter (IV-D-03) recommended that engineering calculations be allowed to establish "worst case" parameter monitoring requirements when conducted in association with an EPA approved stack test.

Response: The use of engineering calculations, coupled with an EPA-approved stack test, to establish parametric monitoring requirements was already allowed in the proposed rule. The proposed language in §63.1438(a) was very explicit about which procedures (i.e., those contained in §63.1438(b), (c), or (d)) were permissible under varying circumstances. Specifically, §63.1438(b) and (c) could be used by owners or operators to set their parameter monitoring levels for a combustion, recovery, or recapture device, if a performance test was required by subpart PPP for that device. At proposal, it was not clear that §63.1438(b) [and only §63.1438(b)] applied to owners or operators desiring to set their parameter monitoring levels based exclusively on parameter values determined during the performance test. This has been clarified in §63.1438(b) in the final rule.

As §63.1438(c) read at proposal (and continues to read), parameter monitoring levels established under this paragraph are to be based on the parameter values measured during a performance test, supplemented by engineering assessments and (or) manufacturer's recommendations. In addition, §63.1438(b), (c), or (d) may be used by owners or operators to set their parameter monitoring levels for a combustion, recovery, or recapture device, if a performance test is not required by this subpart for that device. As §63.1438(d) read at proposal (and continues to read), parameter monitoring levels may be established, under this paragraph, based solely on engineering assessments and/or manufacturer's recommendations.

However, in reviewing these requirements, the EPA did notice one discrepancy in the proposed version of §63.1438(a), which needed correcting in the final rule. At proposal, §63.1438(a) required that owners or operators using §63.1438(c) or (d) to establish their parameter monitoring levels submit the information specified in "§63.506(e)(3)(vii)" for review and approval, as part of the Precompliance Report. This reference to a reporting requirement in subpart U of part 63 was a mistake, which has been remedied in the final rule. The correct reference is to §63.1439(e)(4)(viii) in the final rule, which has been added to that section and lists the following information to be submitted in the Precompliance Report: (1) identification of which procedure (i.e., §63.1438(c) or (d)) is to be used; and (2) a description of how the parameter monitoring level is to be established, using those procedures.

The request to use §63.1438(c) or (d) for the establishment of parameter monitoring levels is subject to review and approval (or disapproval) by the Administrator; however, as the final rule states in §63.1439(e)(4)(i), unless the Administrator objects to a request submitted in the Precompliance Report within 45 days after its receipt, the request shall be deemed approved. This means that the amount of time that the owner or operator would have to wait for a response to the request to use §63.1438(c) or (d) is limited to a maximum of 45 days.

2.13.6 Daily Averages versus Compliance

Comment: One commenter (IV-D-04) noted that §63.1438(a)(1) requires that the daily average value of monitored parameters be kept within the established limit, which the commenter believes is generally appropriate. However, the commenter gave some examples of situations where the daily average value may be outside the established limit without this being a noncompliance concern. The commenter requested that §63.1438(a)(1) be amended to require that industry keep the daily average value within the established limit "except as otherwise provided in this subpart."

In addition, the commenter interpreted §63.1438(a)(1) to mean that the owner or operator is allowed to operate with a daily average parameter value "at or above" the minimum, or "at or below" the maximum. Therefore, it was requested that paragraph (a)(1) be revised to reflect this interpretation as follows:

(1) The owner or operator shall operate control and recovery devices such that the daily average value of monitored parameters remains at or above the minimum established level, or remains at or below the maximum established level, except as otherwise provided in this subpart.

Response: The EPA agrees with the commenter, and has added the language requested by the commenter to §63.1438(a)(1).

2.13.7 Method 1 or 1A

Comment: One commenter (IV-D-04) noted that §63.1426(c)(1) requires the use of Method 1 or 1A of 40 CFR part 60, Appendix A, as appropriate, to select sampling sites. However, the commenter claimed that, in many instances, neither method would be appropriate. Method 1 is only for pipes or stacks with a diameter of 12 inches or more, and it cannot be used when flow is cyclonic or swirling or when there is a flow disturbance within specified distances from the sampling site. Method 1A can be used for smaller diameter pipes, but is only for particulate matter sampling. Therefore, the commenter concluded that neither method will be appropriate for determining sampling sites.

Response: First, the rule was restructured by separating the paragraph addressing the use of Method 1 or 1A for sample or velocity traverses from the paragraphs specifying the sampling site location. In other words, if the owner or operator conducts a sample or velocity traverse, the final rule requires that Method 1 or 1A be used. However, it does not require that these methods be used to select sampling sites. Second, the EPA has decided to add text that states that references to particulate matter in Method 1A do not apply for the purposes of subpart PPP.

Because Method 1A can be used for smaller diameter pipes, it does not have the problem that would exist if only Method 1 could be used (since Method 1 is only for stacks or pipes that are greater than 12 inches in diameter). By saying that "references to particulate matter in Method 1A do not apply for the purposes of this subpart," in §63.1426(c)(4)(i) of the final rule (test method requirements), the EPA is making sure that owners and operators can use Method 1A to select a sampling site.

2.13.8 Engineering Calculations as an Alternative Compliance Demonstration to Performance Testing

Comment: Three commenters (IV-D-05, IV-D-07, IV-D-08) stated that industry representatives are concerned with the feasibility, accuracy, and safety of taking sample emissions from process vents in batch unit operations. The commenters stated that a performance test on these short duration, variable vents is likely to be very inaccurate and potentially dangerous as well. Therefore, Commenters IV-D-07 and IV-D-08 suggested that a material balance based on common engineering calculations, which the commenter felt would provide a more accurate, less costly, and significantly safer means to verify compliance, should be included in the final rule as a compliance demonstration option. Commenter IV-D-05 said engineering calculations or other alternatives, such as pilot plant data or manufacturer's recommendations, should be permitted for compliance testing. Commenter IV-D-05 reasoned that otherwise, demonstration of emission reduction efficiency based on testing will be extremely burdensome to the owners or operators of PMPUs that are designed for multi-product operation and that employ a batch process with very short venting times (the most typical processes, according to the commenter). Commenter IV-D-05 recommended revisions in §63.1426 through §63.1428, §63.1431, and §63.1438 to clarify that these other alternatives are available to affected sources to demonstrate compliance.

Response: The EPA recognizes that there are issues related to the feasibility, accuracy, and expense of testing process vents from batch unit operations. The EPA would refer readers to Section 7.3 of EPA's "Control of Volatile Organic Compound Emissions from Batch Processes - Alternative Control Techniques Information Document" EPA-453/R-94-020 for a detailed discussion of these issues. However, the EPA does believe that accurate emission tests can be conducted for these process vents.

One reason that the EPA has historically required performance testing for control devices that reduce emissions from process vents, when engineering analyses is allowed for other emission sources (such as storage vessels), is that emissions from process vents are typically significantly larger than those from other emission sources. When emissions are larger, the EPA believes that it is important that the effectiveness of the control device be accurately determined by a performance test.

Given that the magnitude of the emissions was a part of the basis for requiring performance tests, the EPA believes that it is reasonable to allow an alternative to performance testing for a process vent control device if emissions being routed to the device are comparable to the emissions that would be vented to control devices for other emission sources for which performance tests are not required. Therefore, the EPA decided that engineering assessments could be allowed in lieu of performance testing for "small" control devices that reduce HAP emissions from process vents. For the Pharmaceutical Production NESHAP, the EPA also determined that it was appropriate to allow engineering calculations as an alternative to performance testing for small control devices, where a small control device is defined as one with uncontrolled annual HAP emissions of less than 10 tons per year. The EPA believes that this level of uncontrolled emissions is also appropriate to define a small control device for the polyether polyols industry. Therefore, the final rule allows the use of a design evaluation instead of a performance test if the

control device receives less than 10 tons per year uncontrolled emissions from one or more PMPUs.

The exemption from performance testing for small control devices discussed above should help to alleviate some of the concerns raised by the commenters. Many of the concerns related to the feasibility, accuracy, and expense of testing these batch vents are due to the short duration, variable nature of batch venting episodes. The EPA believes that if a control device receives more than 10 tons per year of uncontrolled HAP emissions, it is likely that the vent streams being routed to the device are of longer duration and less variable, thus making it easier to conduct the performance test.

However, the EPA also recognizes that the small control device exemption will not totally eliminate the concerns raised by the commenters. Therefore, the EPA made other changes to the testing requirements to address potential problems related to the testing of batch process vents, which are briefly discussed below.

Since batch emission episodes can be less than one hour, the rule was changed to specify that test runs be conducted for the complete duration of the batch venting episode or one hour, whichever is less. Other references to one-hour periods were also removed.

The changes discussed in the previous comment relating to the use of Method 1 or 1A to select sampling sites were also made.

With regard to the safety issue, the final rule states that, in cases where it is imperative to limit any leakage of emissions into the work atmosphere, a sampling port with a double seal should be installed so that the probe can be inserted and removed without any leakage of exhaust gas into the work atmosphere. Further, the final rule requires that permanent sampling ports be installed at the inlet to the control device during a period when it is most convenient (or least disruptive) to shut the process down (e.g., during a scheduled maintenance outage). In addition to these specific requirements, a general requirement was added

that allows owners or operators to eliminate potential testing scenarios if the test could create a situation which could cause plant or testing personnel to be subject to unsafe conditions.

In conclusion, the EPA acknowledges that issues exist with regard to the testing of emissions from batch process units. Changes have been made to the final rule to address these issues. However, the Agency maintains that numerous other industries that utilize batch processes are regulated by MACT standards, and are able to conduct performance tests. The EPA believes that the commenters did not provide sufficient rationale why the polyether polyols industry presents unique testing problems that are not present in these other industries that utilize batch processes. Therefore, the final rule requires that control devices that receive more than 10 tons per year of uncontrolled organic HAP emissions conduct tests to demonstrate control device performance.

Comment: Commenter IV-D-07 requested that, at a minimum, the EPA should provide better technical guidance before making flow measurement mandatory for these variable, and potentially high organic content, vent streams. The commenter stated that a performance test on these short duration, variable vents is likely to be very inaccurate and discussed the safety concerns as well.

Response: The EPA feels that the technical guidance for measuring flow measurements are sufficient, and did not provide additional guidance in the final rule.

2.13.9 Request for Exemption from Testing Multiple Similar Controls

Comment: One commenter (IV-D-03) maintained that although many of the facilities in the EPA's polyether polyol database may use a single control device for process vent emission control, this is not necessarily true for all current or future facilities. For example, the commenter's facility operates

several separate control devices within a PMPU which have similar designs and operating rates. They may also operate separate PMPU's which have similar control system designs and operating rates. They requested that engineering calculations be permitted in lieu of testing where it can be demonstrated that the process vents are similar sources, and the commenter suggested adding this exception to §63.1426(b) in the final rule.

Response: The EPA does allow engineering calculations in the case of a control technique that receives less than 10 tons per year uncontrolled emissions (see Section 2.12.8). However, for control techniques receiving more than 10 tons per year of HAP emissions, the EPA requires performance testing, regardless of whether there are separate, similar control devices on-site. The EPA believes that the application of this cutoff, as well as the allowances for direct measurement of condenser exhaust gas temperature, have decreased the testing burden associated with the rule and contends that such large control devices should be tested.

2.13.10 Worst-Case Testing

Comment: Four commenters (IV-D-04, IV-D-05, IV-D-06 and IV-D-08) expressed concern that the proposed rule requires that performance tests for process vents be conducted during worst-case operating conditions for the process. The commenters requested that this requirement be deleted from the rule for the following reasons:

1. Commenter IV-D-04 stated that there is no definition of "worst-case" conditions for the process. The EPA has provided criteria for determining worst-case emission episodes from batch process vents, but no criteria for determining worst-case operating conditions for the process. The commenter maintained that owners or operators will have to guess what the phrase means, and they will have inconsistent interpretations.

2. Two commenters (IV-D-04, IV-D-06) noted that many companies have large, integrated manufacturing sites where a

control device may be shared by more than one process. In those cases, the validity of the performance tests depends not so much on the operating conditions of "the process" (the PMPU), but on the operating conditions for the control device.

3. Commenter IV-D-06 explained that batch reactor vents to the control device are typically at low flow rates and of short duration, making testing of such derived "worst case" episodes difficult, if not impossible. Commenter IV-D-08 added that these measurements may be technically unfeasible.

4. Commenter IV-D-04 pointed out that other regulations for continuous processes have allowed performance tests during representative operating conditions, and there is no obvious technological difference that would require a different approach to performance testing in this rule.

5. Commenter IV-D-04 stated that performance tests always have a deadline. The commenter was concerned that, if the industry must achieve "worst-case operating conditions" for a specific process during that deadline, then they would have to change the production rate for the PMPU. This would cause problems, because the production rate would otherwise be dictated by demand for the product of that PMPU. Commenter IV-D-06 also noted that, in batch operations, staging such a scenario would result in additional manpower cost and the manufacturing of products for which a market demand may not exist.

6. Commenter IV-D-04 noted that, in most cases, the organic HAP reduction efficiency of a control device is fairly stable across a wide range of HAP concentrations. Since control devices are designed to have some excess capacity, operating any single process unit at its worst-case rate, rather than a representative rate, would not be expected to make any significant difference in the performance of the control device.

7. Two Commenters (IV-D-06 and IV-D-08) indicated that, due to process design limitations, monitoring of these "worst-case" scenarios could result in unsafe operating conditions.

For these reasons, the commenters encouraged EPA to revise §63.1437(a)(1) to delete the clause "except that performance

tests shall be conducted during worst case operating conditions for the process."

Response: Worst-case testing requirements were not deleted from the final rule, but were revised. The EPA's reason for requiring compliance testing under worst case conditions is so that the reduction efficiency of the control device is documented under the most challenging conditions for that control device, especially since commenters noted how difficult it is to represent a typical venting episode. The phrase "worst-case" in the proposed rule referred to the operating conditions of the process (or PMPU). The worst-case testing requirement has been revised to require testing during the worst-case conditions with respect to the combustion, recovery, or recapture (i.e., control) device.

Presumably, the control device should function as well or better under conditions that are not as challenging. By revising the rule to require testing during the worst-case conditions with respect to the control device, continuous monitoring of operating parameters established during the test provides a reasonable measure of continuous compliance with the efficiency requirement under all conditions.

The commenters asserted that there is no obvious technological difference that would require a different approach to performance testing in this rule as from other regulations have allowed performance tests during representative operating conditions. The EPA disagrees with the commenters' rationale. The EPA believes that there are obvious technological differences from the polyether polyols industry to industries previously regulated (particularly SOCMI type industries) since polyether polyols are produced on a batch basis. There is much more variance in the process vent parameters (i.e., flow and concentration) for process vent streams from batch unit operations, compared to process vents from continuous unit operations. In fact, this point was stressed by commenters. The EPA believes that it is more appropriate to compare the

requirements of this rule with other rules that also regulate industries that operate on a batch basis. For this rule the EPA not only compared the worst-case testing conditions with other rules regulating batch processes, but adopted similar language to that which is used in the Pharmaceutical Production NESHAP (40 CFR 63, subpart GGG).

The EPA would like to clarify a misconception related to these worst-case testing provisions. It is not the intent that production schedules be significantly altered, or that impractical scenarios be created for testing that would never occur in actual production. In other words, the EPA intends that testing be conducted for the worst-case situation that can reasonably be expected to occur during normal production. In order to clarify this intent, the EPA has added language in §63.1438, the general testing section of the rule. This new language specifies that absolute worst case testing conditions does not include situations that could cause damage to equipment, situations that necessitate that the owner or operator make product that does not meet an existing specification for sale to a customer, or situations that necessitate that the owner or operator make product in excess of demand.

The added language in §63.1438 also specifies the time period in which the worst-case conditions are to be determined. This time period is either the 6-month period that ends 2 months before the Notification of Compliance Status is due, or the 6-month period that begins 3 months before the performance test and ends 3 months after the performance test. By limiting the worst-case conditions to one of these 6-month periods, the rule eliminates the need for an owner or operator to consider endless possible production scenarios, and allows them to focus on those production scenarios in the 6-month period selected by the owner or operator.

In conclusion, the EPA believes that requiring that performance tests for process vents from batch unit operations during absolute worst-case conditions is necessary to ensure that the emission limitations in the rule are achieved. The EPA also

believes that, with the modifications to the rule made after proposal, that the worst case provisions are reasonable and workable for the polyether polyols industry.

Comment: One commenter (IV-D-04) maintained that if EPA keeps the concept of "worst-case" scenarios, that the EPA should clarify that a "simulated" scenario, as described in §63.1426(c)(3)(i)(B)(4), involves modeling or calculations, rather than actual production. It was suggested that someone might interpret "simulated" to mean that industry must produce an artificial worst-case scenario by actually running all its production units at top capacity simultaneously, which would not be practical. The commenter requested that EPA clarify this point by adding a parenthetical phrase, "(i.e., modeling or calculations)" to §63.1426(c)(3)(i)(B)(4). It was also suggested that EPA clarify that "worst-case" is limited to the maximum production allowed in a State or Federal permit or regulation.

Response: The EPA agrees with the commenter that, at proposal, the concept of "worst-case" scenarios was not clear. The EPA has clarified the requirements in the final rule.

The EPA did not incorporate the specific language requested by the commenter (i.e., modeling or calculations). However, the EPA believes that the changes discussed in response to the previous comment address the concerns raised by this commenter.

Finally, the commenter's suggestion that the EPA also include language stating that "worst-case" is limited to what is allowed under State or Federal rules or permits was included in the final rule.

2.13.11 Determination of Emission Profile for Worst-Case Testing

Comment: One commenter (IV-D-05) noted that §63.1426(c)(3)(i)(C) allows "either process knowledge or test data" to be used to determine the emission profile. The commenter recommended that the section be changed to allow both

process knowledge and test data to be used. This paragraph also allows previous test results only if the results are still representative of current conditions. The commenter also recommended that previous test results be allowed if they can readily be adjusted to account for changes in conditions, which will avoid unneeded, costly additional tests. Therefore, for clarity, the commenter recommended that the text be revised accordingly.

Response: Due to the total re-working of the worst-case testing provisions discussed earlier, the paragraph cited by the commenter does not exist in the final rule. Therefore, no changes were made by the EPA in response to this comment.

2.14 PARAMETRIC MONITORING

2.14.1 Operating Permit Requirements

Comment: One commenter (IV-D-05) maintained that the information in §63.1438(a)(2) is too detailed to be included in an operating permit and recommended revising the text to delete "or operating permit" as follows:

> "As specified in §63.1439(e)(6), all established levels, along with their supporting documentation and the definition of an operating day, shall be submitted as part of the Notification of Compliance Status. Once approved, this information shall be incorporated into the affected source's Notification of Compliance Status ~~or operating permit~~."

Response: The EPA has decided to remove the entire last sentence of this paragraph because it is redundant and unnecessary.

2.14.2 Average versus Maximum Value for Monitoring

Comment: One commenter (IV-D-05) maintained that the mandatory parameter limit should not be set at the "average" minimum (or maximum, where appropriate) value from the three test runs. According to the commenter, using an average takes away some legitimate leeway to use a broader parameter range for which

compliance has been demonstrated. Therefore, the commenter recommended revising the text in §63.1438(b)(2) as follows:

(2) *Process vents from continuous unit operations.* During initial compliance testing, the appropriate parameter shall be continuously monitored during the required 1-hour runs for process vents from continuous unit operations. The maximum (or minimum) monitoring levels(s) shall then be ~~established as the average of~~ based on the maximum (or minimum) point value from the three one-hour test runs. ~~The average of the maximum values shall be used when establishing a maximum level, and the average of the minimum values shall be used when establishing a minimum level.~~

Response: The EPA does not agree with this comment. The EPA has reevaluated the parametric monitoring for this rule, as well as other recent NESHAP (namely the Pharmaceutical NESHAP) and has determined that the operating parameter level must be established as the average of the maximum (or minimum) point values obtained during the three one-hour (continuously monitored) test runs. However, if the owner or operator wishes to adjust the parametric levels established during the test runs because the test results indicated a higher control efficiency than is required by the regulation, then the owner or operator has this option. Specifically, provisions in §63.1438(c) and (d) allow the parametric monitoring levels to be adjusted based on engineering assessments.

2.14.3 Compliance Determination

Comment: Two commenters (IV-D-04 and IV-D-05) requested that the EPA clarify the appropriate use of parameter monitoring data for enforcement purposes. Commenter IV-D-04 noted that the provisions of paragraph 63.1428(h), which require parameter monitoring data to be used to demonstrate continuous compliance with the emission limit, are inaccurate and unnecessary. Commenter IV-D-05 had similar concerns regarding §63.1427(h). The commenters stated that parameters such as temperatures or pH readings are only surrogates that indicate proper operation of a control device. They do not prove compliance or noncompliance

with an emission standard because they do not measure emissions or emission reductions.

Commenter IV-D-04 claimed that the EPA had a more valid enforcement tool available in §63.1438(a)(1) which requires industry to keep the daily average value of monitored parameters within the approved limit. The commenter recommended that the EPA revise §63.1427(h) to state that parameter monitoring data will be used "to demonstrate continuous compliance with §63.1438(a)(1)." The commenter concluded that EPA could then assess exactly the same penalties, while maintaining a connection with fact.

Commenter IV-D-05 stated that the rule should have a requirement to keep the parameter data within a specified range or limit, and excursions (appropriately defined) should, if not excused, be violations of that operating requirement. Therefore, the commenter recommended revising the text in §63.1427(h), as follows:

> (h) *ECO Monitoring Requirements*. The owner or operator using ECO shall comply with the monitoring requirements of this paragraph to demonstrate continuous compliance with ~~the emission limitation~~ <u>§63.1438(a)(1)</u>. Paragraphs (h)(1) through (h)(3) address monitoring of the ECO.

Similarly, Commenter IV-D-05 also recommended that the text in §63.1438(e)(1) be revised to add the reference for determining compliance, by inserting the phrase "<u>with §63.1438(a)(1)</u>" after the word "compliance." The commenter also requested that §63.1438(e)(2) be revised to add appropriate references as follows:

"Except as provided in paragraph<u>s</u> (e)(3) and (g) of this section, for each excursion, as defined in paragraphs <u>(e)(3) and</u> (f) of this section, the owner or operator shall be deemed out of compliance with ~~the provisions of this subpart~~ <u>§63.1438(a)(1)</u>."

<u>Response</u>: First, the EPA agrees that the proposed language in §63.1429(h) regarding compliance with the emission limitation was not appropriate. However, the EPA does not believe that the

specific reference to §63.1438(a)(1) is appropriate in either §63.1427(h) (Note: the proposed §63.1427(h) is §63.1427(i) in the final rule) or §63.1438(e)(1).

Paragraph §63.1438(a)(1) requires the owner or operator to operate combustion, recovery, and recapture devices so that the daily average value of monitored parameters remains at or above the minimum established parameter level, or remains at or below the maximum established monitoring level.

The EPA maintains that the requirement to maintain the daily average monitored parameter within the established limit is only one aspect of compliance with the monitoring provisions of subpart PPP. In order to comply with the monitoring requirements, the owner or operator must accomplish a number of activities, from the installation of proper monitoring equipment to the establishment of parameter monitoring levels, to the proper operation of the combustion, recovery, or recapture device and monitoring equipment.

For ECO, the owner or operator has similar requirements from the establishment of parameter monitoring levels to ensuring that each batch is accomplished in accordance with the established levels. Therefore, the EPA revised what used to be §63.1427(h) in the proposed rule and is §63.1427(i) in the final rule, to state that owners or operators using ECO "shall comply with the monitoring requirements of this paragraph to demonstrate continuous compliance with this subpart . . . "

While the EPA disagrees with the commenter that the relationship between compliance and paragraph §63.1438(a)(1), the EPA agrees with the argument that exceedances of operating parameters should not be classified as violations of the emission standard.

To assure that control devices used by the owner or operator are properly operated and maintained so that continued compliance with the applicable requirements is accomplished, the EPA has adopted the approach in part 63 standards that monitoring be used as a method for directly determining continuous compliance with the applicable requirements. Further, the Agency is committed to

following this approach whenever appropriate in future rulemakings.

When determining appropriate monitoring options, the EPA considers the availability and feasibility of the following monitoring strategies in a "top-down" fashion: (1) Continuous emission monitors (CEMs) for the actual HAP emitted, (2) CEMS for HAP surrogates, (3) monitoring operating parameters, and (4) work practice standards. In this standard, monitoring of control device operating parameters is considered appropriate for all emission sources. However, the EPA has allowed the option of the continuous monitoring of organic compounds, which could mean monitoring of the actual organic HAP or an organic surrogate.

The EPA believes that if organic compounds are monitored, exceedance of the established value represents a violation of the emission limitation. Similarly, because the exit gas temperature of a condenser is so closely correlated with emissions, the EPA believes that an exceedance of the established condenser temperature should also represent a violation of the emission limit. The EPA agrees with the commenters that exceedance of other monitoring parameters is not necessarily an exceedance of an emission limit.

Paragraph §63.1438(e) of the final rule has been rewritten to add specificity regarding what the owner or operator is out of compliance with when an excursion occurs (that is not an excused excursion). If an organic monitoring device is used to monitor HAP or TOC concentration at the outlet of a recovery or recapture device, the final rule clarifies that each excursion where the daily average value of monitored parameters is above the maximum, or below the minimum established parameter level, represents a violation of the emission limit. Similarly, an excursion where the daily average temperature is above the maximum established temperature for a condenser represents a violation of the emission limit. Other excursions where average values are above the maximum, or below the minimum established parameters represent violations of the operating limit, rather than violations of the emission limit. Also, excursions due to

insufficient monitoring data are violations of the operating limit.

2.14.4 Excursion Provisions for Storage Vessels Exempt from Continuous Monitoring, Process Vents from Batch Unit Operations, and Extended Cookout

Comment: One commenter (IV-D-04) suggested that EPA add provisions in §63.1438 for storage vessels that are not required to conduct continuous monitoring. The commenter noted that not all storage vessels are required to conduct continuous monitoring. The PEPO standard requires a monitoring plan, which must specify what will be monitored and how often. For example, some storage vessels may be monitored only while they are being filled, which could be for 2 hours. Consequently, the concept of a "daily average" parameter value will not apply to those storage vessels. Also, in some cases the monitored value may not be for a "parameter," in the strict sense of the word. The commenter noted that because of the significant differences in emission patterns and controls among different storage vessels, MACT standards do not specify a "one size fits all" approach to monitoring. Therefore, there cannot be a "one size fits all" definition of "excursion," even though §63.1438(f) attempts to do just that. Section 63.1438(f) combines all storage vessels with process vents and says the daily average is the measure of compliance for all of them, which will not work. The commenter recommended that the EPA revise §63.1438(f) so that it refers only to storage vessels required to conduct continuous monitoring. Also, it was recommended that the EPA add a new paragraph "(h)" with appropriate excursion definitions for storage vessels that are not required to conduct continuous monitoring.

Response: The EPA agrees with the commenter that separate monitoring requirements should be established for storage vessels that are required to be continuously monitored and for storage vessels that are not required to be continuously monitored.

However, instead of adding a new paragraph as §63.1438(h), the EPA has renumbered §63.1438(f) so that the proposed language is now (f)(1) and the new paragraph is §63.1438(f)(2). A parenthetical has been added in §63.1438(f)(1) to clarify that the provisions apply to storage vessels where the applicable monitoring plan specifies continuous monitoring.

In addition, consideration of this comment caused the EPA to realize that the proposed excursion definitions related to insufficient monitoring data in §63.1438(f)(2), (f)(3), and (f)(4) were not always suitable for process vents from batch unit operations. For these batch process vents, venting episodes may be less than one hour, which makes the "valid hour of data" concept unworkable. Clearly the EPA did not intend that an excursion occur when the entire emission episode is controlled and monitored in accordance with the rule, but the episode is less than one hour. Therefore, paragraph §63.1438(f)(3) was added to address excursions for process vents from batch unit operations.

Also, excursions were defined in the proposed §63.1427(h)(3) for owners or operators using ECO to comply with the epoxide emission limitations in §63.1425(b). The EPA determined that a reference to those excursion definitions was needed in the parameter monitoring levels and excursions section (§63.1438). Therefore, paragraph §63.1438(f)(4) was added referring to the excursion definitions for ECO in §63.1427(h)(3).

2.14.5 Continuous Monitoring

Comment: One commenter (IV-D-04) strongly supported §63.1438(e) and (f) of the proposed rule. However, proposed §63.1438(e) stated that its subparagraphs only applied to emission points and control or recovery devices for which continuous monitoring was required, and the commenter requested that EPA revise §63.1438(e)(3) so that it would apply regardless of whether continuous monitoring was required. Paragraph §63.1438(e)(3) lists the situations in which no excursion is considered to have occurred, even though parameters strayed

outside of their limits, or data were not collected. According to the commenter, these situations are universal; they apply to any emission point or control or recovery device, regardless of whether continuous monitoring is required. The commenter stated that the equivalent paragraph in the HON (§63.152(c)(2)(ii)(E)) was specifically revised for the same reasons as those cited above. The commenter recommended the following revision to §63.1438(e):

"(e) *Compliance determinations.* The provisions of this paragraph, except (e)(3) of this paragraph, apply only to emission points and control or recovery devices for which continuous monitoring is required under this subpart."

Response: The EPA is in general agreement with the concepts raised by the commenter. However, the EPA decided to more significantly alter the structure of §63.1438(e) and (f), as described below. In the final rule, §63.1438(e) describes "violations" to the rule. As discussed in response to an earlier comment (2.14.3), §63.1438(e) has been revised to address the relationship between excursions and violations.

The EPA has made changes to §63.1438(f) to more clearly provide all of the necessary information about the definition of excursions. First, as discussed above in response to comment in section 2.14.4, excursion definitions were added for storage vessels where the applicable monitoring plan does not specify continuous monitoring, for batch process vents, and for ECO.

Basically, there are two ways an excursion can occur. The first is if the average parameter value measured is above a maximum, or below a minimum, established value. The second is if insufficient monitoring data are collected. The final rule makes clarifications of the data to be used in both of these circumstances.

With regard to calculating averages, §63.1439(d)(7) of the final rule specifies that monitoring data collected during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments; start-

ups; shutdowns; malfunctions; and periods of non-operation of the affected source that result in the cessation of emissions to which the monitoring applies are not to be included when calculating any average.

Language has also been added to §63.1438(f) to clarify when monitoring data are insufficient. An excursion due to insufficient monitoring data occurs if measured values are unavailable for a specified percentage of time the control device is in operation. First, the rule now clarifies the situations that cause measured values to be unavailable: monitoring system breakdowns, repairs, calibration checks, or zero (low-level) and high-level adjustments. Second, the final rule clarifies that periods of start-ups; shutdowns; malfunctions; and periods of non-operation of the affected source that result in the cessation of emissions to which the monitoring applies are not to be included in defining the period of control device operation. The EPA believes that the clarifications discussed above address the commenter's concern over the provisions of the proposed §63.1438(e)(3) applying to all situations, whether or not continuous monitoring is required.

2.14.6 Clarification to Text

Comment: One commenter (IV-D-05) recommended, for clarity, that the text in §63.1438(c) be revised as follows:

"*Establishment of parameter monitoring levels based on performance tests, supplemented by engineering assessments, and/or manufacturer's recommendations*. Parameter monitoring levels established under this paragraph shall be based on the parameter values measured during the performance tests supplemented by engineering assessments and/or manufacturer's recommendations...."

Response: The EPA agrees with the commenter, and has made the suggested change in the final rule.

2.15 GENERAL RECORDKEEPING AND REPORTING

2.15.1 Elimination of Initial Notification

Comment: One commenter (IV-D-05) stated that the Initial Notification in §63.1439(e)(3) should not be required, in order to reduce the regulatory burden, and to be consistent with the Polymers and Resins MACT. The commenter recommended that §63.1439(e)(3) be deleted, the subsequent sections renumbered accordingly, and that the reporting cross-reference in Table 5 be modified. In addition, the commenter recommended that §63.1432(n) and §63.1434(d) be changed accordingly.

Response: The Agency's enforcement personnel and the State representatives involved in this regulatory process consider the Initial Notification requirement in §63.1439(e)(3) a necessary tool for enforcement and compliance purposes. Moreover, completion of the Initial Notification should not take more than a few hours, since the information requested is very basic; i.e., the name and address of the owner or operator; the address (physical location) of the affected source; an identification of the emission points and affected source; and an identification of whether the affected source can achieve compliance by the relevant compliance date. Therefore, the Agency has not made any of the requested changes.

2.15.2 Provide Examples of Emission Points

Comment: One commenter (IV-D-05) maintained that the addition of some examples in §63.1439(e)(3)(i)(C) of the "kinds" of emission points to be identified in the Initial Notification would be helpful.

Response: The emission points subject to this rule and required to be identified in the Initial Notification include the emission points and equipment specified in the definition of affected source under §63.1420(a). Section 63.1420(c) of the rule describes emission points not subject to the provisions of this rule. Since other provisions of the rule describe the

emission points to be regulated, the Agency does not believe it is necessary to provide examples of emission points to be identified in the Initial Notification in §63.1439(e)(3)(i)(C).

2.15.3 Periodic Report

Comment: One commenter (IV-D-05) noted that §63.1434(f) should say the Periodic Reports under subpart H "may" (rather than "shall") be submitted with the Periodic Reports under this rule.

Response: The Agency agrees that the owner or operator has the option to submit the Periodic Reports for equipment leaks as specified in subpart H at the same time as the Periodic Report for this subpart or at another time. The final rule has been changed accordingly.

2.15.4 Include all Records in One Section

Comment: One commenter (IV-D-05) recommended that in order to make the recordkeeping and reporting section (§63.1439) and Table 5 in the proposed rule as useful as possible, the EPA should include all relevant requirements in §63.1439. For example, the ECO recordkeeping requirements are in §63.1427(i) and the reporting requirements are in §63.1427(j), but neither citation appears in Table 5 or in §63.1439. The commenter maintained that with a rule as complex as this, it is especially important that all of the monitoring, recordkeeping, and reporting requirements be included in a single section to ensure that inadvertent non-compliance through failure to prepare a report or maintain a record that is not included in the "Recordkeeping" section or table does not occur.

Another commenter (IV-D-04) was also concerned that the recordkeeping and reporting requirements were scattered throughout the proposed rule, plus various recordkeeping and reporting requirements from the General Provisions. The commenter believed that this approach is very likely to cause inadvertent noncompliance. The commenter recommended that all

recordkeeping and reporting requirements be in one place in the rule. Alternatively, if that cannot be done, the commenter requested that EPA include every recordkeeping and reporting requirement in a single table, with the specific citation to where that requirement is found.

Response: The Agency believes it is more logical to include the specific recordkeeping and reporting requirements related to each emission source type in the applicable sections of the rule because not all facilities have every source type. Therefore, the suggestion to include all recordkeeping and reporting requirements in one place has not been adopted. The Agency, however, has added a table in the final rule for all routine recordkeeping and reporting requirements, including the specific citation in the rule for the requirement, and the due date for the specific report as recommended (as Table 7 of the final rule). The Agency believes that this table will be useful to owners and operators of affected sources in complying with the various reporting requirements of the rule.

2.15.5 Parametric Monitoring During Periods of Start-up, Shutdown or Malfunction

Comment: Three commenters (IV-D-05, IV-D-07 and IV-D-09) provided revised language for §63.1438(e)(3) regarding monitoring during periods of start-up, shutdown, and malfunction (SSM).

One commenter (IV-D-05) maintained that the provisions of §63.1438(e)(3) do not quite follow the revised HON, and that the differences cause problems. For example, the proposed rule text literally says there is no excursion "if the daily average value of a monitored parameter is above the maximum level or below the minimum level established." In other words, there can never be an excursion. This comes about from adding a comma after the word "established" (which was not in the HON). Also, this paragraph (unlike the HON) does not discuss monitoring data collected during start-ups and shutdowns. To be consistent with

the HON, Commenter IV-D-05 recommended deleting the proposed text in §63.1438(e)(3) and replacing it with the following:

> (3) If a monitored parameter is outside its established range or monitoring data are not collected during periods of start-up, shutdown, or malfunction (and the source is operated during such periods in accordance with the source's start-up, shutdown, and malfunction plan as required by §63.6(e)(3) of subpart A), or during periods of non-operation of the PMPU portion thereof (resulting in cessation of the emissions to which the monitoring applies), then the excursion is not a violation and, in cases where continuous monitoring is required, the excursion does not count toward the number of excused excursions for determining compliance.

Another commenter (Commenter IV-D-07) maintained that monitoring records from periods of SSM would not be expected to provide additional information as to whether plans are followed in many cases, nor would they provide the Agency with information regarding the adequacy of the plans. Commenter IV-D-07 provided a few examples to support this claim. Commenter IV-D-07 stated that the proposed rule simply requires that the source collect data for periods when it is not required to comply with the standard resulting in a potential noncompliance status (for not collecting data), with essentially no benefit to the environment. The commenter recommended that this position be dropped in the final rule and that §63.1438(e)(3) of the final rule be revised to conform with the HON as follows:

> (3) If the daily average value of a monitored parameter is above the maximum level or below the minimum level established, or if monitoring data cannot be collected during monitoring device calibration check or monitoring device malfunction, or if monitoring data are not collected during periods of start-up, shutdown, or malfunction, or if monitoring data are not collected during periods of non-operation of the affected source or portion thereof (resulting in cessation of the emissions to which the monitoring applies), but the affected source is operated during the period of start-up, shutdown, or malfunction in accordance with the affected source's Start-up, Shutdown, and Malfunction Plan, then the event shall not be considered a monitoring parameter excursion.

Response: As discussed in section 2.14, the EPA made significant revisions to paragraphs §63.1438(e) and (f). The

paragraph cited by the commenters no longer exists in the final rule. However, the EPA believes that most of the concerns raised by the commenters are addressed in the final rule.

First, §63.1439(d)(7) of the final rule specifies that monitoring data collected during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments; start-ups; shutdowns; malfunctions; and periods of non-operation of the affected source that result in the cessation of emissions to which the monitoring applies are not to be included when calculating any average. This paragraph, which was in the proposed rule, clearly states that monitoring data collected during start-ups, shutdowns, malfunctions, are not to be included in an average. Therefore, the EPA believes that it is unnecessary to additionally state that the exceedance of an average value due to data collected during a start-up, shutdown, or malfunction is not an excursion, when the data collected should not be used to calculate an average.

Also, the EPA has added paragraphs §63.1438(f)(1)(v)(A) through (D) and §63.1438(f)(2)(i)(B), which describe the periods that are not to be included when determining the period of combustion, recovery, or recapture device operation for the purpose of determining whether an excursion has occurred due to insufficient monitoring data. Under these paragraphs, the periods that should be left out when determining the period of combustion, recovery, or recapture device operation include start-ups; shutdowns; malfunctions; and periods of non-operation of the affected source that result in the cessation of emissions to which the monitoring applies.

The EPA does not agree with Commenter IV-D-07's opinion that monitoring during start-ups, shutdowns, and malfunctions results in "essentially no benefit to the environment." It is the EPA's position that requiring monitoring during these periods will provide the EPA with more information concerning whether or not Start-up, Shutdown, and Malfunction Plans were followed, and will provide the EPA with valuable information for assessing the adequacy of a source's Start-up, Shutdown, and Malfunction Plan

for future situations. Therefore, the final rule continues to require that monitoring data be collected during periods of SSM.

Comment: One commenter (IV-D-04) maintained that EPA should not impose a blanket requirement to monitor during start-ups, shutdowns and malfunctions. There should be exceptions to this requirement. For example, the industry cannot keep monitoring if the monitoring device itself has the malfunction. Similarly, it may sometimes be necessary to "valve off" a monitoring device (isolate the device from the monitored stream) in order to keep the device from being damaged. The commenter requested adding a new paragraph, §63.1438(e)(4), to address these instances:

> (4) Failure to collect monitoring data shall not be considered an excursion during periods of monitoring system malfunction, or when the monitoring system must be isolated or otherwise rendered nonoperational in order to prevent damage to the monitoring system.

Also, the commenter recommended that EPA clarify that parameter data gathered during start-ups, shutdowns and malfunctions are excluded from daily averages for the purpose of determining excursions and referred to another commenter's (IV-D-05) suggested revisions to §63.1438(e)(3) to address this.

In addition, the commenter noted that although the rule, §63.1438(e)(3), is clear that once a shutdown is complete and emissions have ceased, monitoring is not required during the ensuing period of non-operation, the preamble was not clear and asked that EPA reaffirm this point.

Further, Commenter (IV-D-09) stated that during the General Provisions litigation, they discussed reasons for needing the provisions for start-up, shutdown, and malfunctions and why modifications were needed. They stated that EPA has agreed to revised language; e.g., depending on flow, concentration, etc., a control device may need to be diverted during start-up, shutdown, or malfunction to prevent explosions, etc. and requested that this language be incorporated into the Polyether Polyols MACT.

Response: The EPA is in general agreement with commenters IV-D-04 and IV-D-09 on these points. As discussed in the previous response, the changes to §63.1438(f) and §63.1439(d)(7) clarify that parameter monitoring data gathered during start-ups, shutdowns, malfunctions, and periods of non-operation of the affected source resulting in cessation of the emissions to which the monitoring applies, are to be excluded from daily averages, and, in fact, all averages computed under subpart PPP or the subparts that it references.

In addition, changes to §63.1439(b)(1) allow owners and operators to "cease" collecting monitoring data from a particular monitor (e.g., by shutting off the monitor, or diverting flow away from it) during a start-up, shutdown, or malfunction if the owner or operator can show that the monitor would be damaged or destroyed as a result of the start-up, shutdown, or malfunction. This provision should satisfy the concerns expressed by commenters IV-D-04 and IV-D-09. Such a provision must be included in the Start-up, Shutdown, and Malfunction Plan. Getting such a provision in the Start-up, Shutdown, and Malfunction Plan requires is accomplished by submitting a request, and rationale defending the request, in the Precompliance Report or in a supplement to the Precompliance Report, as described in the new language in §63.1439(e)(4). If the request is not denied by the Administrator within 45 days after receiving the request, it can then be incorporated into the Start-up, Shutdown, Malfunction Plan.

These changes are meant to strike a balance between the EPA's concern that monitoring data are collected at all relevant times and industry's concern that valuable monitoring equipment could be damaged during a start-up, shutdown, or malfunction. The changes are intended to provide protection for monitoring equipment during those periods, while providing the EPA with assurance that monitoring equipment is not being "shut off" indiscriminately.

Comment: One commenter (IV-D-05) maintained that §63.1439(b)(1)(i)(C), which pertains to continuous monitoring systems records of calibration checks, was not part of the Start-up, Shutdown, and Malfunction plan and should be deleted.

Response: The Agency has not deleted §63.1439(b)(1)(i)(C), as requested by the commenter; however, the regulatory text in that paragraph has been moved to §63.1439(d)(8), because the Agency agrees that it is more of a global recordkeeping requirement than a record specifically associated with the Start-up, Shutdown, Malfunction Plan.

2.15.6 Exclusion of Monitoring Data from Daily Averaging

Comment: Three commenters (IV-D-02, IV-D-04, IV-D-05) claimed that §63.1439(d) should include other situations where monitoring data should not be included in the daily average recorded. For example, data collected during start-ups, shutdowns, malfunctions, and periods of non-operation (of the affected source or a portion thereof), resulting in cessation of the emissions to which the monitoring applies. Commenter IV-D-04 also mentioned "data collected during calibration checks" as another example. According to the commenters, these concepts are captured in the HON, which has a revised paragraph structure for greater clarity. Commenter IV-D-05 recommended, for consistency with the HON, that proposed §63.1439(d)(7) be replaced with the revised wording:

> "Monitoring data recorded during periods ~~of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments~~ identified in paragraphs (d)(7)(i) through (d)(7)(v) of this section shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or ~~combustion, recovery, or recapture~~ control device operation when monitors are not operating.
>
> (i) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments;
>
> (ii) Start-ups
>
> (iii) Shutdowns;
>
> (iv) Malfunctions;

(v) Periods of non-operation of the PMPU (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

Commenter IV-D-04 supported the revised wording.

Response: For consistency with decisions made on other rules [e.g., the HON, §63.152(c)(2)(ii)(C)], the Agency has revised §63.1439(d)(7) as suggested by the commenters to clarify that data recorded during periods of start-up, shutdown, malfunction, etc. should not be included in averages of monitored data, including daily averages.

2.15.7 Retention of Superseded Start-up, Shutdown, and Malfunction Plan

Comment: One commenter (IV-D-05) stated that §63.1439(b)(1) does not say how long a superseded start-up, shutdown, and malfunction plan must be retained. To be consistent with the HON provisions, the commenter recommended revising the text in paragraph (b)(1) to add the following sentence after the fourth sentence:

"... In addition, if the start-up, shutdown, and malfunction plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the start-up, shutdown, and malfunction plan for a period of 5 years after each revision to the plan...."

Response: For purposes of clarification and consistency, the Agency has added the commenter's suggested language into §63.1439(b)(1) of the final rule.

2.15.8 Exclusion to Continuous Recordkeeping Requirements

Comment: Two commenters (IV-D-04 and IV-D-05) stated that §63.1439(d) says that anyone subject to §63.1438 is required to keep continuous records, which may not be true. For example, the owner or operator of a storage vessel (closed-vented to a control device) may be subject to §63.1438 (required to establish parameter levels for the control device) but not be required to keep continuous records. According to one commenter (IV-D-04),

the monitoring plan will specify the type and frequency of required monitoring. Therefore, the commenters suggested revising the text in §63.1439(d) to delete the words "required to comply with §63.1438 and, therefore," in paragraph (d).

Response: The EPA agrees that continuous record keeping is not required for all emission points, and the EPA has revised §63.1439(d) accordingly.

2.15.9 Delete Redundancy in Recordkeeping Requirements

Comment: One commenter (IV-D-05) maintained that the source should not be required to retain records if the daily average value is within the limits and, therefore, the commenter recommended deleting paragraph §63.1439(d)(5). Another commenter (IV-D-04) requested that EPA delete paragraphs §63.1439(d)(4) and (d)(5), which describe records to keep when there are excursions and when there are not excursions, respectively. According to the commenter, they both require exactly the same records. Since there is no difference, and since other portions of the rule already require a record of this information, the commenter maintained that paragraphs (d)(4) and (d)(5) serve no purpose and should be deleted.

Response: The EPA agrees with Commenter IV-D-04 that §63.1439(d)(4) and (5) are redundant with other portions of the rule that already require a record of this information. Therefore, §63.1439(d)(4) and (5) have been "reserved" in the final rule.

2.15.10 Recordkeeping Waiver

Comment: One commenter (IV-D-04) claimed that paragraph §63.1439(d)(9) is inappropriate and should be deleted. It requires that records be kept if industry has obtained a waiver of recordkeeping requirements, which defeats the purpose of having a waiver of recordkeeping requirements. The commenter referred to the General Provisions, subpart A, §63.10(f) (on

which paragraph §63.1439(d)(9) relies), which allows a waiver in any of three circumstances. The commenter maintained that §63.10(f)(5) of subpart A, which provides that a waiver may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator, already provides for any necessary records, and, therefore, paragraph (d)(9) is unnecessary.

Response: The EPA disagrees that §63.1439(d)(9) is unnecessary, but has revised §63.1439(d)(9) to be consistent with §63.10(f)(5). This change is being made as a further measure to reduce the recordkeeping burden imposed by subpart PPP on owners and operators, by overriding, in Table 1 of subpart PPP, §63.10(b)(2) (§63.10(b)(2)(xii) requires the information that was required in the proposed version of §63.1439(d)(9)). In the final rule, §63.1439(d)(9) reads as follows:

> (9) The owner or operator of an affected source granted a waiver of recordkeeping or reporting requirements under the General Provisions' recordkeeping and reporting requirements in §63.10(f) shall maintain the information, if any, specified by the Administrator as a condition of the ~~demonstrating whether an affected source is meeting the requirements for a~~ waiver of recordkeeping or reporting requirements.

2.15.11 "Document on Demand"

Comment: One commenter (IV-D-05) referred to §63.1439(d)(8) which says exempt flexible operation units must "maintain the documentation" required by §63.1420(e)(7). The commenter recommended that this provision be revised to include an option that does not involve constantly maintaining documentation of the unit's exempt status (i.e., allowing the "document on demand" option) and provided the following recommended revised wording:

> (8) For each flexible operation unit in which the primary product is determined to be something other than a polyether polyol product, the owner or operator shall either maintain the documentation specified in §63.1420(e)(7) or be able to document upon request that the primary product is not a polyether polyol."

Response: The EPA agrees and the final rule allows the owner or operator the option of providing documentation on demand, showing that the primary product of a flexible operation unit is not a polyether polyol. Therefore, the proposed requirement under §63.1439(d)(8), referred to by the commenter, has been deleted, and §63.1420(e)(8) now allows the owner or operator of a flexible operation unit with something other than a polyether polyol as its primary product to maintain documentation of that fact or produce documentation on demand.

2.15.12 Notification of Compliance Status

Comment: One commenter (IV-D-05) referred to §63.1439(e)(5)(i) which says to include any other information "required to be included" in the Notification of Compliance Status (NOCS) under a variety of HON sections. The commenter requested that EPA provide a list of the specific data this section requires.

Response: The EPA appreciates the comment. However, the EPA provides different compliance choices, and it would be lengthy and confusing to describe every bit of information for every compliance option in subpart PPP. For example, §63.1439(e)(5)(i) references §63.1422(j) of this rule, which provides for overlap with other regulations for monitoring, recordkeeping, or reporting with respect to combustion devices, recovery devices, or recapture devices. Under these overlap provisions, the owner or operator has compliance choices, but he must notify the Administrator of his choice in the NOCS required by §63.1439(e)(5).

In addition to specific information required in §63.1439(e)(5)(i), this section requires "any other information required to be included" in the NOCS under other sections, as applicable. If any information in the referenced provisions is applicable, then that information must also be included, as appropriate. Therefore, the owner or operator of an affected source must review the referenced provisions and submit any

information that is required to be reported in the NOCS, as applicable.

2.15.13 Addition of a Provision for Reporting Updates

Comment: Two commenters (IV-D-04 and IV-D-05) stated that throughout the proposed rule, there are various places where the EPA says certain information must be submitted in a specific (named) one-time report. However, there are circumstances where the same type of information may need to be submitted later. For example, there may be changes to the process, or additional emission points, etc., which could justify either a new report, or an update to a previous report. The commenter requested that EPA add a provision that specifies how and when to report such information. Commenter (IV-D-05) provided suggested language.

Response: The Agency has considered these comments and agrees that there will be circumstances where certain information already reported may need to be supplemented or updated. Therefore, in order to allow the submittal of such information, the Agency has amended paragraphs 63.1439(e), (e)(1), and (e)(4) as follows:

> (e) *Reporting and notification.* ~~(1)~~ In addition to the reports and notifications required by 40 CFR part 63, subpart ~~subparts A and H of this part~~, as specified in this subpart, the owner or operator of an affected source shall prepare and submit the reports listed in paragraphs (e)(3) through ~~(e)(9)~~(8) of this section, as applicable. All reports required by this subpart, and the schedule for their submittal, are listed in Table 8 of this subpart.
>
> (1) *Violation of reporting requirements.* Owners and operators shall not be in violation of the reporting requirements of this paragraph (e) for failing to submit information required to be included in a specified report if the owner or operator meets the requirements in paragraphs (e)(1)(i) through (iii) of this section. Examples of circumstances where this paragraph may apply include information related to newly-added equipment or emission points, changes in the process, changes in equipment required or utilized for compliance with the requirements of this subpart, or changes in methods or equipment for monitoring, recordkeeping, or reporting.
>
> (i) The information was not known in time for inclusion in the report specified by this subpart.

(ii) The owner or operator has been diligent in obtaining the information.

(iii) The owner or operator submits a report according to the provisions of paragraphs (e)(1)(iii)(A) through (C) of this section.

(A) If this subpart expressly provides for supplements to the report in which the information is required, the owner or operator shall submit the information as a supplement to that report. The information shall be submitted no later than 60 days after it is obtained, unless otherwise specified in this subpart.

(B) If this subpart does not expressly provide for supplements, but the owner or operator must submit a request for revision of an operating permit pursuant to the State operating permit programs in part 70 or the Federal operating permit programs in part 71, due to circumstances to which the information pertains, the owner or operator shall submit the information with the request for revision to the operating permit.

(C) In any case not addressed by paragraph (e)(1)(iii)(A) or (B) of this section, the owner or operator shall submit the information with the first Periodic Report, as required by this subpart, which has a submission deadline at least 60 days after the information is obtained.

In §63.1439(e)(4), paragraph (e)(4)(i) has been amended and a new paragraph ((e)(4)(vii)) has been added in response to comments, as follows:

"(i) *Submittal dates*. The Precompliance Report shall be submitted to the Administrator no later than 12 months prior to the compliance date. Unless the Administrator objects to a request submitted in the Precompliance Report within 45 days after its receipt, the request shall be deemed approved. For new affected sources, the Precompliance Report shall be submitted to the Administrator with the application for approval of construction or reconstruction required in paragraph (b)(2) of this section. Supplements to the Precompliance Report may be submitted as specified in paragraph (e)(4)(vii) of this section."

"(vii) Supplements to the Precompliance Report may be submitted as specified in paragraph (e)(4)(vii)(A) or (e)(4)(vii)(B) of this section. Unless the Administrator objects to a request submitted in a supplement to the Precompliance Report within 45 days after its receipt, the request shall be deemed approved.

(A) Supplements to the Precompliance Report may be submitted to clarify or modify information previously submitted.

(B) Supplements to the Precompliance Report may be submitted to request approval to use alternative monitoring parameters as specified in paragraph (e)(4)(iii) of this

section; to use alternative continuous monitoring and recordkeeping, as specified in paragraph (e)(4)(iv) of this section; to use alternative controls, as specified in paragraph (e)(4)(v) of this section; or to include a provision for ceasing to collect monitoring data during a start-up, shutdown, or malfunction, in the start-up, shutdown, and malfunction plan, when that monitoring equipment would be damaged if it did not cease to collect monitoring data, as specified in paragraph (e)(3)(vi) of this section."

2.15.14 Revise Exemptions from Recordkeeping

Comment: One commenter (IV-D-04) requested that EPA revise §§63.1430(e)(1)(vi) and (e)(2) to avoid unfair double penalties and retroactive violations. Section 63.1430(e)(1)(vi) provides an exemption from certain recordkeeping requirements if batch vents meet two requirements: (1) the batch vents are in compliance with the aggregate 90 percent HAP reduction requirement of §63.1425(c)(1); and (2) the control device is operating at all times. Similarly, §63.1430(e)(2) provides an exemption from recordkeeping if certain continuous process vents are "in compliance with" the Group 1 requirements of §63.1425(c)(3). The commenter cited the example of a facility that was relying on this exemption from recordkeeping, and then (perhaps 10 years later) the control device went "down" or there was an instance of noncompliance with the emission control requirements. This could result in a penalty for failure to meet the required level of control. Also, it appears that the owner or operator would immediately lose the exemption from recordkeeping. For these reasons, the commenter requested that EPA revise these two paragraphs in §63.1430(e) as follows:

"(1)* * *

(vi) If the combination of all process vents from batch unit operations associated with the use of an organic HAP to make or modify a polyether polyol product process vent ~~is in compliance with~~ is subject to §63.1425(c)(1), and the combustion, recovery, or recapture device is ~~operating~~ intended to operate at all times, none of the records in paragraphs (b)(1)(i) through (b)(1)(v) of this section are required.

(2) Process Vents from Continuous Unit Operations. ...Owners or operators of combined streams that are ~~in~~

~~compliance with~~ subject to the Group 1 requirements of §63.1425(c)(3) are not required to keep these records."

Response: The Agency has reviewed the provisions in §§63.1430(e)(1)(vi) and (e)(2) and agrees with the commenter that some clarification is needed to avoid the possibility of double penalties and retroactive violations. The appropriate clarifications have been incorporated into the final rule.

2.15.15 Recordkeeping Retention Revision

Comment: Two commenters (IV-D-04, IV-D-05) expressed concern over the wording in §63.1439(h)(1)(vi)(D) which requires industry to keep certain records for a specified period beginning when the records are "last employed." The commenters requested that this section be revised to base all mandatory retention periods for records on the date when the record was "created," not on the date when the record as last employed. This revision would be consistent with the HON litigation settlement amendments. As an alternative, these provisions could allow owners or operators to send the superseded documents to EPA instead of requiring industry to keep them. Commenter IV-D-05 provided the following wording for §63.1439(h)(1)(vi)(D), which is consistent with the HON litigation amendments.

> "Owners and operators subject to paragraph (h)(1)(vi)(B) of this section shall retain the current description of the monitoring system as long as the description is current, but not less than 5 years from the date it was created ~~last employed~~...."

Response: For purposes of consistency with other rules, the Agency has amended §63.1439(h)(1)(vi)(D) to base retention periods for records on the date when the record was created. Therefore, paragraph (D) has been amended as follows:

> (D) ~~Owners and operators~~ The owner or operator subject to paragraph (h)(1)(vi)(B) of this section shall retain the current description of the monitoring system as long as the description is current~~, but not less than 5 years from the date it was last employed~~. The current description shall, at all times, be retained on-site or be accessible from a central location by computer or other means that provides

access within 2 hours after a request. The owner or operator shall retain ~~the most recent~~ all superseded descriptions for at least ~~until~~ 5 years ~~from~~ after the date ~~it was last employed~~ of their creation. Superseded descriptions shall be retained on-site (or accessible from a central location by computer or other means that provides access within 2 hours after a request) for at least 6 months after their creation. Thereafter, superseded descriptions may be stored off-site."

The vague time frame indicated by the use of the term "last employed" has been replaced with the more concrete date (the date of the document's creation) as requested by the commenter, but the new language is more specific than the HON, in that it requires that all descriptions less than 5 years old be maintained. This ensures that there will always be a record of the past five years, no matter how often the descriptions are replaced.

2.15.16 Exclusion of Equipment Leaks to the Periodic Reporting Requirements

Comment: One commenter (IV-D-04) stated that §63.1439(e)(6)(iii)(D)(2) should not require a report every time a valve or connector is installed and requested that EPA expressly exclude equipment leaks, because it is routine to add new equipment leak points. Therefore, the commenter requested that §63.1439(e)(6)(iii)(D)(2) be revised as follows:

"Notification if one or more emission points (other than equipment leaks), or one or more PMPU is added to an affected source."

Response: The Agency agrees that a report should not be required every time a routine valve or connector is installed. Therefore, the Agency has amended §63.1439(e)(6)(iii)(D)(2) in the final rule, but changed the wording to be consistent with the rest of the rule. Section 63.1439(e)(6)(iii)(D)(2) in the final rule reads:

"Notification if one or more emission points (other than equipment leak components subject to §63.1434), or one or more PMPU is added to an affected source. The owner or operator shall submit the information contained in

paragraphs ~~(e)(6)(iii)(D)(2)(ii)~~ (e)(6)(iii)(D)(2)(i) and (ii) ~~through (e)(6)(iii)(D)(3)(iii)~~ of this section."

2.15.17 Record of Preparation of Standards

Comment: One commenter (IV-D-05) maintained that the "record of preparation of standards," cited in §63.1439(e)(5)(i)(B), should not be required for standards not prepared by the source, such as standards that are obtained from EPA or that are obtained as certified standards.

Response: The Agency agrees that the "record of preparation of standards" should not be required for standards not prepared by the owner or operator of the source. Therefore, §63.1439(e)(5)(i)(B) has been amended to incorporate this change.

2.15.18 Periodic Reports

Comment: One commenter (IV-D-04) stated that §63.1439(e)(6)(ii) requires a certification that the affected source was "in compliance" for the previous 6-month period. The commenter believed that this section requires a certification even if there were compliance exceptions. If so, then the commenter requested that the paragraph be revised to say that.

Commenter IV-D-04 further claimed that §63.1439(e)(6)(i) appears to have the timing backward. Paragraph 63.1439(e)(6)(i) states that, after the first Periodic Report, subsequent reports must cover each "preceding" 6-month period. This seems to be backward. To the commenter, "preceding" means "earlier." So, taken literally, this means the second Periodic Report must cover the 6-month period before the period that was covered in the first Periodic Report and so on. The commenter recommended that, instead of "preceding," the paragraph should use the word "subsequent." Another commenter (IV-D-05) provided the following revision of paragraph §63.1439(e)(6)(ii) for clarity:

> "If none of the compliance exceptions in paragraphs (e)(6)(iii) through (e)(6)(vii) of this section occurred during the 6-month period, the Periodic Report required by paragraph (e)(6)(i) of this section shall be a statement that ~~the affected source was in~~

~~compliance~~ there were no compliance exceptions as described in this paragraph, for the ~~preceding~~ 6-month period and that none of the activities specified in paragraphs (e)(6)(iii) through (e)(6)(vii) of this section occurred."

Commenter IV-D-04 supported edits to this section that were suggested by commenter IV-D-05.

Response: Because §63.1439(e)(6)(viii)(A) discussed reporting requirements for time periods including compliance exceptions, Commenter IV-D-04 is mistaken in thinking that §63.1439(e)(6)(ii) needed to be edited to included periods with compliance exceptions. The purpose of §63.1439(e)(6)(ii) is to minimize the periodic reporting burden on owners or operations with no compliance exceptions. However, the EPA agrees with the commenters that the proposed language in §63.1439(e)(6)(ii) was unclear, both regarding what must be reported, and what time period the report is expected to cover. The EPA agrees that "the affected source was in compliance" should be replaced with the term "there were no compliance exceptions." However, the EPA does not agree that replacing the word "preceding" with the word "subsequent" would correctly express the intent of the paragraph. Rather, the EPA has revised §63.1439(e)(6)(ii) to read as follows:

> "If none of the compliance exceptions in paragraphs (e)(6)(iii) through ~~(e)(6)~~(vii) of this section occurred during the 6-month period, the Periodic Report required by paragraph (e)(6)(i) of this section shall be a statement that ~~the affected source was in compliance~~ there were no compliance exceptions as described in this paragraph, for the ~~preceding~~ 6-month period covered by that report and that none of the activities specified in paragraphs (e)(6)(iii) through ~~(e)(6)~~(vii) of this section occurred during the period covered by that report."

The EPA feels that §63.1439(e)(6)(i) is clear about when Periodic Reports are due, and what time period each covers, and has made no changes to the proposed language for §63.1439(e)(6)(i).

2.15.19 Predominant Use Reporting

Comment: Two commenters (IV-D-04, IV-D-05) requested that §63.1439(e)(6)(vi) be clarified. This section requires a report for any change to the predominant use determination for a storage vessel. The commenters believed that this meant a storage vessel that belongs to the affected source after the change. The commenters requested that the paragraph be revised to clarify the intent, but each had different suggestions. Commenter IV-D-05 suggested the following language, noting that the reference should be to paragraph (f)(8) and not (f)(6):

"The results for each change to a predominant use determination for a storage vessel belonging to an affected source subject to this subpart after the change that is made under §63.1420(f)(8)."

Response: For the purposes of the Periodic Report requirements [§63.1439(e)(6)(vi)], the EPA is interested in any subsequent action that may change the predominant use of a storage vessel. However, the EPA does believe it is appropriate to specify the changes that must be reported. Therefore, the final rule requires that the results for each reevaluation of predominant use of a storage vessel be reported if the vessel begins receiving material from (or sending material to) a process unit that was not included in the initial determination, or if the storage vessel ceases to receive material from (or send material to) a process unit that was included in the initial determination. Also, because the EPA is only interested in changes in the predominant use of the storage vessel, only the paragraphs in §63.1420(f) that apply to changes in predominant use should be referred to in §63.1439(e)(6)(vi). For this reason, the EPA agrees with commenter IV-D-05 about the cross-reference, and has changed the reference in §63.1439(e)(6)(vi) so that it refers to §63.1420(f)(8).

Comment: Commenter IV-D-04 believed that the citations to §63.1420(f)(6) in §§63.1439(e)(5)(v) and (e)(6)(vi) should probably refer to §63.1420(f)(3) and not (f)(6), because

paragraph (f)(3) deals with assigning storage vessels to process units on the basis of predominant use.

Response: Section 63.1439(e)(5)(v) pertains to initial predominant use determination, whereas §63.1439(e)(6)(vi) pertains to a change in predominant use. For these reasons, §63.1439(e)(5)(v) should cite §63.1420(f)(1) through (7), which specify procedures to follow for initial predominant use determination. Further, §63.1439(e)(6)(vi) should cite §63.1420(f)(8), which addresses a change in the utilization of the storage vessel.

2.15.20 Alternative Continuous Monitoring and Recordkeeping

Comment: One commenter (IV-D-04) agreed with §63.1428(g)(3)(ii), which states that if process changes do not result in a change in Group status at a Group 2 process vent from a batch unit operation, no reporting is required. However, the commenter requested that a similar paragraph be added specifying that, if the group status of a Group 2 process vent from a continuous unit operation is unchanged, no report would be required.

Response: The Agency has added a new paragraph as §63.1428(h)(2)(iii), clarifying that if, after the TRE index value recalculation, it is determined that a Group 2 process vent from a continuous unit operation has a TRE index value of 4.0 or greater, no report is required for that Group 2 process vent. However, the EPA is still requiring a report to be submitted if the TRE index value changes from being above 4.0 to less than 4.0 but greater than 1.0, despite the fact that the process vent remains Group 2. Therefore, the requirements in §63.1428(h)(2)(ii) and §63.1430(j) have not been changed based on this comment.

2.15.21 Consolidation of Periodic Reporting

Comment: Two commenters (IV-D-04, IV-D-05) requested that §63.1439(e)(6) be clarified to allow a single Periodic Report instead of three different Periodic Reports for existing and new affected sources, one for the general requirements, one for equipment leaks, and one for heat exchange systems. The commenters suggested adding the following sentence to the end of §63.1439(e)(6) to accomplish this: "All of the information required to be reported in this subsection may be submitted in one report."

Response: The Agency agrees that the reports required under §63.1439(e)(6) may be combined into one report. Therefore, the EPA has added the phrase "as part of the Periodic Report required by this paragraph (e)(6)" to the end of §63.1439(e)(6).

2.15.22 Group Status Change Reporting

Comment: One commenter (IV-D-04) expressed concern about the requirement in §63.1439(e)(6)(iii)(D)(1) to report any process change if "the group status of any emission point changes." This would seem, literally, to require reporting even if the status changed from Group 1 to Group 2. The commenter claimed that reports should be required only if the status changes from Group 2 to Group 1. The commenter requested that this paragraph be revised to say "the group status of any emission point changes from Group 2 to Group 1."

Response: The intent of §63.1439(e)(6)(iii)(D)(1) in the proposed rule was to require reporting only if the status changes from Group 2 to Group 1. However, the EPA would like to remind owners and operators that, until notification is made that a Group 1 emission point has become a Group 2 emission point, the owner or operator will be required to comply with the Group 1 requirements for that emission point. Therefore, to clarify this intent, the Agency has amended the first sentence of paragraph §63.1439(e)(6)(iii)(D)(1) as follows:

"Notification if a process change is made such that the group status of any emission point changes from Group 2 to Group 1. The owner or operator is not required to submit a notification of a process change if that process change caused the group status of an emission point to change from Group 1 to Group 2. However, until the owner or operator notifies the Administrator that the group status of an emission point has changed from Group 1 to Group 2, the owner or operator is required to continue to comply with the Group 1 requirements for that emission point. This notification may be submitted at any time. ~~The information submitted shall include a compliance schedule, as specified in paragraphs (e)(6)(iii)(D)(2)(i) and (e)(6)(iii)(D)(2)(ii)of this section, for emission points that change from Group 2 to Group 1 as specified §63.1420(g)(); or for process vents under the conditions listed in §63.1429(g)(3)(i). This information may be submitted in a separate report, as specified in §63.1430(i).~~

~~(i) The owner or operator shall submit to the Administrator for approval a compliance schedule and a justification for the schedule.~~

~~(ii) The Administrator shall approve the compliance schedule or request changes within 120 days of receipt of the compliance schedule and justification.~~

2.15.23 Excursions

Comment: One commenter (IV-D-04) noted that neither emission points nor process sections have excursions. The commenter stated that only control devices or recovery devices have excursions. Therefore, it was requested that §63.1439(e)(6)(viii) be revised to specify "control devices" or "recovery devices" instead of "emission point" or "process sections." Another commenter (IV-D-05) expressed the same concern and suggested that "control device" be used in lieu of "process section" in §63.1439(e)(6)(viii).

Response: The Agency agrees that neither emission points nor process sections have excursions. Paragraph §63.1439(e)(6)(viii) of the final rule refers to "A control or recovery device for a particular emission point or process section" that has more excursions, as defined in §63.1438(f), than the number of excused excursions allowed under §63.1438(g). In the final rule, §63.1439(e)(6)(viii) also provides more specific

guidelines for when the quarterly reports are due, and what they must contain.

2.15.24 Alternative Continuous Monitoring for Storage Vessels

Comment: One commenter (IV-D-04) requested that §63.1439(f) be clarified to exclude storage vessel monitoring plans. This section establishes a detailed procedure for situations where an owner or operator has been directed to set unique monitoring parameters. According to the commenter, this detailed procedure (apparently borrowed from the HON) was not intended to apply, and is not appropriate, in situations where the rule directs an owner or operator to establish a monitoring plan for storage vessels. The corresponding paragraph of the HON was amended to make that clear, by saying paragraph (f) applies only when specifically referenced. The commenter requested that EPA do likewise in this rule. Another commenter, IV-D-05, recommended revising the provisions to avoid the misimpression that alternative monitoring parameters must be requested for every storage vessel monitoring plan and provided the following revision of paragraph (f):

"The owner or operator who has been directed by any section of this subpart that specifically references this paragraph or any section of another subpart referenced by this subpart that specifically references this paragraph to set unique monitoring parameters...."

Commenter IV-D-04 supported this recommended language change.

Response: The Agency agrees that this detailed procedure was not intended to apply in situations where the rule directs the establishment of a monitoring plan for storage vessels. Therefore, in order to clarify that these provisions apply only when specifically referenced, §63.1439(f) has been amended as follows:

"(f) *Alternative monitoring parameters.* The owner or operator of an affected source who has been directed by any section of this subpart, or any section of another subpart referenced by this subpart, that specifically references

this paragraph to set unique monitoring parameters, or who requests approval to monitor a different parameter than those listed in §63.1432 for storage vessels, §63.142~~6~~7 for ECO, §63.1429 for process vents, or §63.143 ~~of subpart G~~ for process wastewater shall submit the information...."

2.15.25 Cross-referencing in Reduced Recordkeeping

Comment: One commenter (IV-D-04) requested that EPA either add more cross-references, or delete the current cross-references, from §63.1439(h). This section provides that a "reduced recordkeeping" program may be implemented as an alternative to the continuous operating parameter monitoring and recordkeeping requirements in the following three locations: §63.1432 for storage vessels; §63.1429 for process vents; and §63.1433 for wastewater. According to the commenter, the HON (in which the reduced recordkeeping program originated) has a total of ten cross-references to locations where the "normal" operating parameter monitoring and recordkeeping requirements are located. Since the proposed rule is as complex as the HON, the commenter questioned whether the proposed rule omits any necessary cross-references from this paragraph. The commenter suggested that the easiest way to resolve this concern is to revise the first sentence of §63.1439(h) as follows:

> "For any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements in paragraph (h)(1) or (h)(2) of this section as alternatives to the continuous operating parameter monitoring and recordkeeping provisions ~~listed in §63.1432 for storage vessels, §63.1429 for process vents, and §63.1433 for wastewater~~ that would otherwise apply under this subpart...."

Response: The Agency agrees that the proposed language may lack clarity. Therefore, the Agency has revised the first sentence of §63.1439(h) as suggested by the commenter.

2.15.26 Operating Permit Application

Comment: Two commenters (IV-D-04, IV-D-05) stated that §63.1439(e)(8) is unclear. Commenter IV-D-05 claimed that there

are many other things in addition to the information listed in paragraph (e)(4) that must be submitted in an operating permit application and strongly recommended that EPA provide a comprehensive list of the monitoring, recordkeeping, reporting, and operating permit requirements applicable to this rule. Therefore, at a minimum, for clarity, both commenters suggested the following revision:

"(8) *Operating permit application.* An owner or operator who submits an operating permit application instead of a Precompliance Report shall submit the information specified in paragraph (e)(4) of this section, ~~Precompliance Report,~~ as applicable, with the operating permit application."

Response: The Agency recognizes that the information required in an operating permit application goes beyond that specified in §63.1439(e)(4). Therefore, the EPA has revised §63.1439(e)(8) as suggested by the commenters.

2.15.27 Manual Reading

Comment: One commenter (IV-D-05) stated that §63.1439(g)(2)(i) refers to "manual" reading and recording of parameter values, but instead should say "visual" or "sensory."

Response: For clarity, the Agency has substituted the word "visual" for "manual" in §63.1439(g)(2)(i) in the final rule.

2.15.28 "Any Other Information" in Sections 63.1439(e)(5)(i)(B) and 63.1439(e)(6)(iv)(B)

Comment: Two commenters (IV-D-04, IV-D-05) expressed concern over the use of the words "any other information" in §§63.1439(e)(5)(i)(B) and 63.1439(e)(6)(iv)(B), as well as the words "any information" or "any information required" that appear elsewhere in the proposed rule. The commenter stated that compliance with such vaguely worded provisions is impossible and requested that EPA avoid using these words or carefully describe where industry must look for the referenced requirement. Commenter IV-D-05 recommended amending these paragraphs to read:

"... any other information required by the test method to be in the test report."

These two commenters also questioned the need for the words "and any other required information" in the last sentence of §63.1439(e)(5)(i)(A) which reads, "For additional tests performed for the same kind of emission point using the same method, the results and any other required information shall be submitted, but a complete test report is not required." The commenter believed that these words were confusing because they have no idea what "any other required information" means. They requested that EPA delete these words from this paragraph. They maintained that if there is some specific information that EPA wants submitted, this paragraph should either name it, or give the specific citation where it is identified.

Response: The commenter's request that the EPA change "any other information" or "any information" to "any other information required by the test method to be in the test report" clarifies the EPA's intent. This revision was incorporated throughout the final rule, whenever those phrases referring to test methods were used.

2.15.29 §63.1439(g)(3)

Comment: One commenter (IV-D-05) claimed that §63.1439(g)(3), allowing the recording of hourly averages instead of 15-minute data points, is no longer necessary as the regular provisions of the rule allow the same averaging. The commenter therefore recommended deleting subsection (g)(3) and renumbering subsection (g)(4) accordingly.

Response: The EPA agrees with the commenter that it is not necessary to state that hourly averages are allowed in §63.1439(g)(3); however, the EPA chooses to retain this language in the final rule as a clarification. The EPA feels that this clarity is warranted, since many other rules require 15-minute data points in their definition of a continuous recorder.

2.16 EDITORIAL

2.16.1 "The Owner or Operator" Versus "Each Owner or Operator"

Comment: One commenter (IV-D-05) maintained that usually the text requires "the owner or operator" or "an owner or operator" to comply. If "each" owner or operator or "all" owners and operators were required to comply, in cases where there are two or more companies involved (e.g., a joint venture), then the burdens of the rule would be duplicated for no reason. The commenter did not believe that is EPA's intent. The commenter requested EPA to change "each owner or operator" to "the owner or operator" and change "owners and operators" to "the owner or operator" (and change the following verb agreement as appropriate) in the following sections: 63.1420(b); 63.1420(e)(5)(i); 63.1420(e)(5)(ii); 63.1429(a); 63.1430(b); 63.1430(d); 63.1430(e)(1); 63.1430(e)(2); 63.1430(f)(2); 63.1430(f)(3); 63.1430(f)(4); 63.1430(f)(5); 63.1420(g)(1); 63.1439(a); 63.1439(b)(2); 63.1439(e)(3); 63.1439(e)(5); 63.1439(e)(6).

Response: The EPA appreciates the comment, and agrees with the commenter that the EPA did not intend to duplicate the responsibilities of the rule to joint venture partners. Therefore, the EPA has revised the final rule as requested.

2.16.2 Section 63.1420(e)(3)

Comment: One commenter (IV-D-05) recommended deleting the word "considered" from the first sentence in §63.1420(e)(3). According to the commenter, the process either is a PMPU, or is not a PMPU. The commenter also suggested moving the phrase "if the plant site is a major source" from the end of the second sentence to the beginning of that sentence to clarify that the whole sentence applies only to major sources. For grammatical reasons, it was also suggested that the word "is" in the second sentence be deleted.

Response: The EPA appreciates the comments and has made these revisions in the final rule at §63.1420(e)(1)(iv), which was §63.1420(e)(3) at proposal.

2.16.3 Section 63.1420(e)(5)(i)

Comment: One commenter (IV-D-05), for clarity, recommended changing the first sentence in §63.1420(e)(5)(i) to read:

> "... shall determine the applicability of the provisions (e.g., the Group status) for each emission point that is part of that flexible operation unit ...."

The commenter, for clarity, also recommended changing the last sentence in paragraph (i) to read:

"... Based on this finding, the owner or operator shall comply with the applicable standards of this subpart for each emission point, as appropriate, at all times, ~~regardless of what~~ as though the primary product is being produced."

Response: The EPA has rewritten §63.1420(e), and has eliminated §63.1420(e)(5)(i) and the phrases "regardless of what" and "shall determine the applicability of the provisions" from this section of the final rule.

2.16.4 Section 63.1420(e)(5)(iii)

Comment: One commenter (IV-D-05) stated that paragraph 63.1420(e)(5)(iii) states that the owner or operator shall comply "only with either" (b)(1) or (b)(2). That could be interpreted as forbidding compliance with both. The commenter recommended changing the text to delete "only":

"The owner or operator shall comply with either paragraph (b)(1) or (b)(2)...."

Response: The EPA did not intend for §63.1420(e)(5)(iii) to be interpreted as forbidding compliance with both (b)(1) and (b)(2). Therefore, in the final rule [as §63.1420(e)(5)(i)], this language has been clarified to avoid any possible misinterpretation.

2.16.5 Sections 63.1427(h)(1) and (h)(2)

Comment: One commenter(IV-D-05) stated that §63.1427(h)(1) and (h)(2) allow the owner or operator to monitor or establish, respectively, "one" of the parameters in paragraphs (i) through (iii). However, at the end of §63.1427(h)(1)(ii) and (h)(2)(ii) the proposed rule said "and" instead of "or." Therefore, the commenter recommended revising the text in §63.1427(h)(1)(ii) and (2)(ii) to say "or."

Response: The Agency agrees with this comment. However, since there is an "or" at the end of both §63.1427(i)(1)(iii) and (i)(2)(iii) (which were §63.1427(h)(1)(iii) and (h)(2)(iii) at proposal), the word "and" was simply removed at the end of §63.1427(i)(1)(ii) and (i)(2)(ii), in the final rule.

2.16.6 Section 63.1427(1)(iv)

Comment: One commenter (IV-D-05) understood that the concentration in §63.1427(i)(1)(iv) is to be determined at the "onset of the ECO" rather than at the "end of the onset of ECO." Therefore, the commenter recommended revising the text accordingly.

Response: The phrase "end of the onset of ECO" has been corrected in the final rule to use the correct phrase, "onset of ECO".

2.16.7 Section 63.1433(a)(9)

Comment: One commenter (IV-D-05) requested that §63.1433(a)(9) be revised to add "applicable" to read "the applicable compliance dates specified in §63.1422 shall apply...."

Response: The Agency agrees with the commenter's suggestion and has revised the final rule accordingly.

2.16.8 Section 63.1433(b)

Comment: One commenter (IV-D-04) requested that EPA give §63.1433(b) a heading, i.e., "Maintenance wastewater" to call attention to it, because it is brief and could be considered part of the preceding text for process wastewater.

Response: The EPA appreciates the suggestion to provide a title for §63.1433(b) such as "Maintenance wastewater." Therefore, the EPA titled that section as requested and, for consistency, titled §63.1433(a) "Process wastewater."

2.16.9 Section 63.1431(f)(1)

Comment: One commenter (IV-D-05) recommended, for clarity, that the text in §63.1431(f)(1) be revised to delete the word "control" at the end of the second sentence as follows:

> "The owner or operator shall notify the Agency of the intent to comply with the epoxide emission factor limitation in §63.1425(b)(1)(iii) or (b)(2)(iii) without the use of extended cookout or a combustion, recovery, or recapture device. The owner or operator shall prepare an estimate of the annual epoxide emissions ~~control~~."

Response: The Agency agrees with the commenter that the word "control" is inappropriate at the end of this sentence. The Agency has revised the final rule to delete this word.

2.16.10 62 FR 46812, col. 3

Comment: One commenter (IV-D-04) requested that the EPA correct the statement in the proposal preamble (62 FR 46812, col. 3) that referred to the Start-up, Shutdown and Malfunction Plan as a "report" that must be submitted to the Administrator. The commenter noted that the proposed rule, §63.1439(b)(1), accurately considers the start-up, shutdown, and malfunction plan to be a record that must be retained on-site.

Response: The Agency realizes that the reference to the Start-up, Shutdown and Malfunction Plan as a report was incorrect

in the preamble. The preamble for the final rule does not include this erroneous information.

2.16.11 Section 63.1438(b)(3)

Comment: One commenter (IV-D-05), recommended revising §63.1438(b)(3) to be consistent with other parts of the rule where "are" is replaced with "shall be," as follows:

> "*Process vents from batch unit operations.* For process vents from batch unit operations, during initial compliance testing, the appropriate parameter shall be monitored continuously during the entire test period. The monitoring level(s) ~~are~~ shall be those established during the compliance test ~~demonstration~~."

Response: The EPA intended to have consistent language throughout the rule. Therefore, §63.1438(b)(2) of the final rule (which was §63.1438(b)(3) at proposal) was revised as suggested by the commenter.

2.16.12 Heading in §63.1420(c)

Comment: One commenter (IV-D-05) requested that, for purposes of clarity, the EPA change the heading in §63.1420(c) as follows:

> "*Emission points included in the affected source but not subject to the provisions of this subpart.*"

Response: The EPA appreciates the comment, and revised the final rule to add this language to the title.

2.16.13 Section 63.1420(c)(2)

Comment: One commenter (IV-D-05) suggested, for clarity that EPA revise §63.1420(c)(2) as follows:

> "(2) Stormwater managed in ~~from~~ segregated sewers."

Response: The EPA agrees with this revision and has incorporated it into the final rule.

2.16.14 Section 63.1420(d)

Comment: For grammatical reasons, one commenter (IV-D-05) requested that EPA revise §63.1420(d) as follows:

> "...and are exempted from the requirements of both this subpart and ~~from the provisions of~~ subpart A."

Response: The EPA agrees that the commenter's suggested language is grammatically correct. Therefore, the EPA incorporated the commenter's suggested language into the final rule.

2.16.15 Section 63.1420(e)(1)

Comment: One commenter (IV-D-05) stated that the word "only" needs to come after (not before) "manufactures" in §63.1420(e)(1). In the current wording, it could be interpreted to mean that a process unit "only manufactures" one product (instead of manufacturing, processing, and shipping it). It should read "manufactures only" one product. Therefore, for clarity, the commenter recommended changing this sentence as follows:

> "If a process unit ~~only~~ manufactures only one product..."

Response: The EPA agrees that the phrase quoted may be incorrectly interpreted. Therefore, the EPA has changed the language in the final rule to the language suggested by the commenter at §63.1420(e)(1)(i), which was §63.1420(e)(1) at proposal.

2.16.16 Section 63.1422(d)(2)(iv) and (d)(5)

Comment: One commenter (IV-D-04) stated that in §63.1422(d)(2)(iv) and (d)(5), there are bracketed comments saying to insert a date that is a certain amount of time "from" the date of publication of the final rule. The commenter requested that these bracketed words say "after" the date of publication of the final rule, as the commenter believes EPA intended.

Response: In the proposed rule, these bracketed statements were included to show the time frame when compliance would be required. The final rule contains actual dates, so the commenter's concern no longer exists.

2.16.17 Section 63.1420(f)(7)(i)

Comment: One commenter (IV-D-04) requested that "raw materials" in §63.1420(f)(7)(i) be revised to read "raw material."

Response: The commenter's request pointed out the possibility that someone reading the rule could interpret this section to pertain only if the process had more than one raw material. This was not the EPA's intent. Therefore, the EPA revised the final rule as requested by the commenter.

2.16.18 Section 63.1424(a)

Comment: One commenter (IV-D-05) stated that §63.1424(a) refers to paragraph (c) or (d), which do not exist. Therefore, the commenter recommended changing the text as follows:

> "(a) Except as provided in paragraph~~s~~ (b) ~~through (d)~~ of this section ....."

Response: The EPA appreciates the commenter bringing this typographical error to the EPA's attention. Section 63.1424(a) of the final rule was revised to only cite paragraph (b).

2.16.19 Section 63.1425(c)(4)(i)

Comment: One commenter (IV-D-05) maintained that §63.1425(c)(4)(i) references the wrong subsection. The commenter recommended revising the text, to refer to §63.1428(h)(2) instead of §63.1428(h)(4).

Response: The commenter correctly stated that §63.1425(c)(4)(i) should reference §63.1428(h)(2) and not (h)(4).

Therefore, the EPA revised the language in the final rule as suggested.

2.16.20 Section 63.1426(c)

Comment: One commenter (IV-D-05) noted that §63.1426(c) has an "either" in the wrong place. Therefore, the commenter recommended changing the text to read:

> "...may be measured either as ~~either~~ total organic HAP or as TOC minus methane and ethane...."

Response: The EPA agrees and has revised the final rule, putting the word "either" in the position suggested by the commenter.

2.16.21 Section 63.1426(c)(1)(i)(C)(ii), (c)(3)(ii), and (e)(1)

Comment: One commenter (IV-D-07) requested that the following editorial corrections be made in the final rule:

First, §63.1426(c)(1)(ii) has two improper cites:(1) §63.1425(b)(1)(ii) is "reserved" and does not require any ppmv limit; and (2) the reference to §63.1425(b)(2)(iii) should be to §63.1425(b)(2)(ii), which is the correct reference to the ppmv standard.

Second, in §63.1426(c)(3)(ii), "of the HAP of concern" should be "or the HAP of concern".

Third, in §63.1426(e)(1), there is a typo just above equation 6: the word "determination" should be "determined".

Response: The EPA intended to cite §63.1425(b)(1)(ii) as a concentration cutoff limit for new sources. However, at the time of proposal, the EPA had not decided on a value for this concentration limit, and instead simply "reserved" this paragraph. Between proposal and promulgation, the EPA decided on a 20 ppmv limit, which was inserted into §63.1425(b)(1)(ii) of the final rule. Therefore, the EPA disagrees with the commenter's

interpretation of the first citation for a ppmv HAP limit in §63.1426(c)(1)(ii).

However, the commenter correctly stated that the second citation in §63.1426(c)(1)(ii) should be to §63.1425(b)(2)(ii), instead of to §63.1425(b)(2)(iii). Therefore, the EPA revised §63.1426(c)(1)(ii) in the final rule accordingly.

With regard to the commenter's second comment, the EPA disagrees: §63.1426(c)(3)(ii) was intended to say "of the HAP of concern." The phrase "of the HAP of concern" refers to the HAP listed in Table 4 of subpart PPP, which limits the owner or operator to having to take into consideration the concentrations of the 6 HAP listed in that table, rather than having to consider all 188 of the HAP currently listed under §112(b) of the Clean Air Act. With regard to the commenter's third comment, the EPA agrees that the word "determination" in §63.1426(e)(1) should have been "determined," and has made the change suggested by the commenter, in the final rule.

2.16.22 Section 63.1426(e)(1)

Comment: One commenter (IV-D-05) cited §63.1426(e)(1) which requires owners or operators to determine the emission reduction for each group of process vents subject to "the same paragraph" of §63.1425. According to the commenter, this may work for paragraphs (b),(c) and (d), but it will not work for other paragraphs of §63.1425. Therefore, the commenter recommended that §63.1426(e)(1) be revised as follows:

> "The owner or operator shall determine the organic HAP emission reduction for process vents in a PMPU using Equation 6. The organic HAP emission reduction must be determined for each group of process vents subject to the same paragraph (i.e., paragraph (b), (c) or (d)) of §63.1425 of this subpart. For instance, process vents that emit epoxides are subject to paragraph (b) of §63.1425. Therefore, the organic HAP (i.e., epoxide) emission reduction must be determin~~ation~~ed for the group of vents in a PMPU that are subject to this paragraph."

Response: The EPA agrees that some of the citations in the proposed §63.1426(e)(1) were incorrect. Therefore, the revisions suggested by the commenter were incorporated into the final rule.

2.16.23 "Pressure Decline Curve" Versus "Pressure Decay Curve"

Comment: One commenter (IV-D-05) requested, for consistency, changing "pressure decline curve" in §63.1427(i)(1)(i)(A) and (C) to "pressure decay curve," a term that is used elsewhere. The commenter has provided a definition for "pressure decay curve" in §63.1423(b).

Response: The EPA intended to consistently use the term "pressure decay curve." Therefore, the EPA replaced the phrase "pressure decline curve" in §63.1427(j)(1)(i)(A) and (C) (in the final rule) with "pressure decay curve." As discussed in section 23.17 of this document, the same change was made in the definition of "product class."

2.16.24 Section 63.1427(l)(3)(ii)

Comment: One commenter (IV-D-05) recommended, for clarity, revising the text in §63.1427(l)(3)(ii) to read:

> "If the new operating conditions of the polyether polyol product do not conform with the operating characteristics of an existing product class, the owner or operator shall establish a new product class and shall comply with provisions of (l)(3)(i)(A) through (C) of this section."

Response: The EPA inadvertently omitted the word "polyol" from the sentence quoted by the commenter. Therefore, the EPA revised the text in §63.1427(l)(3)(ii) (§63.1427(m)(3)(ii) in the final rule) to insert the word "polyol."

2.16.25 Section 63.1428(c)

Comment: One commenter (IV-D-05) recommended adding the phrase "as selected by the owner or operator" in the first

sentence of §63.1428(c) to avoid ambiguity and for accuracy as follows:

> "If the annual emissions of TOC or nonepoxide organic HAP, as selected by the owner or operator, from the combination of process vents from batch unit operations ...."

Also, the commenter recommended changing the reference in the same sentence from §63.1425(c)(4) to (c)(2) for accuracy.

Response: The EPA agrees with the commenter's first point that a clarifying phrase after the first phrase in §63.1428(c) would avoid ambiguity. However, the EPA does not believe that the phrase "as selected by the owner or operator" is appropriate. Instead, the EPA clarified the first phrase in §63.1428(c) by adding "as applicable." The commenter also recommended changing the reference in the same sentence from §63.1425(c)(4) to (c)(2). The EPA agrees with this recommended change and has incorporated it into the final rule.

2.16.26 Section 63.1435(d)

Comment: One commenter (IV-D-05) suggested that §63.1435(d) be changed to use the word "may" instead of the word "should."

Response: The Agency agrees that "should" is inappropriate but disagrees that "may" is the correct term to use in §63.1435(d). In the final rule, "should" has been replaced with "shall."

2.16.27 Section 63.1439(b)

Comment: One commenter (IV-D-04) requested that two minor errors in §63.1439(b) be corrected:

1. this section requires industry to keep a start-up, shutdown and monitoring plan "onsite," which should be corrected to "on-site" or "on site."

2. this section also requires industry to keep the plan "on record" after it is developed, for a specified amount of time. The commenter suggested deleting the words "on record" because

they add no meaning to the sentence and could be misunderstood. The industry typically keeps their plans on paper or on computer, not "on record."

Response: The EPA agrees with the commenter on both points. The EPA revised "onsite" to "on site." However, the entire sentence containing "on record" has been removed. Therefore, no additional change is needed.

2.16.28 Section 63.1439(e)(6)(iii)(A)

Comment: One commenter (IV-D-05) referred to the provisions of §63.1439(e)(6)(iii)(A), which apply to owners or operators complying with §63.1432 (storage vessels) through §63.1433 (wastewater). The commenter recommended revising this paragraph to delete the references to process vents and heat exchange systems because they do not apply.

Response: The EPA agrees that paragraph 63.1439(e)(6)(iii)(A) does not need references for information required for process vents or heat exchange systems since paragraph 63.1439(e)(6)(iii) refers to periodic reports for storage vessels and wastewater. Therefore, the EPA deleted the references for process vents and heat exchanger systems.

2.16.29 Section 63.1439(e)(6)(iii)(D)(1) and (f)(3)

Comment: One commenter (IV-D-04) pointed out that §63.1439(e)(6)(iii)(D)(1) refers to §63.1429(g)(3)(i), and there is no such section. The last major division in §63.1429 is "(d)."

Also, §63.1439(e)(6)(iii)(D) has a reference to (e)(6)(iii)(D)(4), and there is no such paragraph. They noted that the reference should probably be changed to (e)(6)(iii)(D)(3)

In addition, the commenter noted that the word "recording" on the first line of §63.1439(f)(3) should be "reporting."

Response: Regarding §63.1439(e)(6)(iii)(D)(1), the EPA agrees with the commenter, and deleted the second part of the sentence, which at proposal read "or for process vents under conditions listed in §63.1429(g)(3)(i)." The EPA also agrees with the second comment about the incorrect cross-reference. The EPA changed the final rule to refer to paragraph (e)(6)(iii)(D)(3). Further, the EPA agrees that "recording" should be "reporting" on the first line of §63.1439(f)(3), and the EPA revised the wording accordingly.

2.16.30 Section 63.1426(c)(4)(iv), (c), and (c)(1)(i)(A)

Comment: One commenter (IV-D-04) requested that the following editorial changes be made:

§63.1426(c)(4)(iv): Move "respectively" and place after "total organic HAP."

§63.1426(c): Correct placement of commas as follows:

> "...an owner or operator using a combustion, recovery, or recapture device to comply with an organic HAP percent reduction efficiency requirement in section ~~§~~63.1425~~,~~ (b)(2)(i), (c)(1), (c)(3), or (d), an organic..."

§63.1426(c)(1)(i)(A): The word "vent" should be "vents."

Response: The EPA agrees with all of the commenter's editorial changes, and incorporated them into the final rule.

2.16.31 Equation 9

Comment: Commenter IV-D-05 recommended that Equation 9 for determining the percent epoxide emission reduction for the batch cycle in §63.1427(e)(1) be corrected. The commenter recommended that the EPA revise the numerator, and provided the revised equation.

Response: The EPA agreed with the commenter that Equation 9 needed to be revised. In the final rule, the Equation 9 reads as follows:

$$R_{batchcycle} = \left[\frac{E_{e,\,u} - (E_{e,\,E})\,(1 - \frac{R_{addon,\,i}}{100}) + (E_{e,\,o})\,(1 - \frac{R_{addon,\,j}}{100})}{E_{e,\,u}} \right] * 100$$

2.16.32 Section 63.1425(e)(2)(i)

Comment: Commenter IV-D-05 pointed out that the regulatory language in §63.1425(e)(2)(i) states that continuous processes should be controlled according to §63.1428(b). Paragraph 63.1428(b), however, deals with emissions from batch processes. The only provision in that section for continuous processes is §63.1428(h). The commenter believed that the regulatory citation should be changed to §63.1428(h).

Response: The commenter is correct. However, §63.1425(e) has been reserved in the final rule, and §63.1428(h) is cited at other places in the rule (e.g., the definition of Group 1 continuous process vent and §63.1425(c)), correctly.

2.16.33 Section 63.1425(f)

Comment: For clarity, one commenter (IV-D-05) recommended changing the text in §63.1425(f) as follows:

> "For each process vent in a PMPU that is, or is part of, an affected source and that uses tetrahydrofuran (THF) to produce one or more polyether polyol products...."

Response: The introduction paragraph to the process vent control requirements section, §63.1425(a), states in the last sentence: "The owner~~s~~ or operator of an affected source where polyether polyol products are produced using tetrahydrofuran shall comply with paragraph (f) of this section." Therefore, the EPA believes that the language requested by the commenter is redundant and was not incorporated into the final rule.

2.16.34 Section 63.1429(d)(3)

Comment: One commenter (IV-D-04) requested that §63.1429(d)(3) be clarified. It requires the industry to specify the "times" when an operating day begins and ends. Actually, there are no "times;" there is only a "time." For example, if the operating day runs from midnight to midnight, then "midnight" is the time when one operating day begins and the previous operating day ends. Under the proposed wording of this section, the commenter believed that they would be subject to an enforcement action, with penalties of up to $27,500, if they specify only one time instead of two or more. The commenter recommended that the word "times" be revised either to "time" or to "time(s)."

Response: The EPA agrees with the commenter's request and changed "times" to "time(s)" in the final rule.

2.16.35 Section 63.1439(e)(6)(v)

Comment: One commenter (IV-D-05), for clarity, suggested that §63.1439(e)(6)(v) be changed to substitute "PMPU" for "polyether polyol product" as follows: "...the results for each change made to a primary product determination for a PMPU...."

Response: The EPA agrees that the primary product determination is made on a PMPU basis. Therefore, §63.1439(e)(6)(v) in the final rule was revised accordingly.

2.16.36 Section 63.1439(h)(1)

Comment: One commenter (IV-D-04) stated that unlike other paragraphs of §63.1439(h)(1), which specify that certain monitoring systems must alert the owner or operator "by alarm or other means," paragraph (h)(1)(iv) says to alert the owner or operator "by an alarm." The commenter sees no apparent reason for this inconsistency and suggested that §63.1439(h)(1)(iv) be revised as follows:

"(iv) The monitoring system will alert the owner or operator by an alarm or other means, if the running average parameter value ...."

Response: The EPA agrees with the commenter, and has revised §63.1439(h)(1)(iv) accordingly.

2.16.37 Section 63.1427

Comment: One commenter (IV-D-04) requested that the EPA correct the following minor typographical errors in §63.1427 to avoid confusion. The comments are numbered, as follows:

(1) (c): "... by calculating the epoxide emissions, if any, prior to the onset of the ECO, ~~if any~~, plus the epoxide emissions at the onset of the ECO...."

(2) (h)(1)(ii): The epoxide partial pressure in the reactor; ~~and~~ or ....

(3) (h)(2)(ii): The reactor epoxide partial pressure at the end of the ECO; ~~and~~ or ....

(4) (i)(2): ~~Continuous~~ Ongoing records....

(5) (k)(1)(ii): Within 180 days ~~of~~ after the production of the new polyether polyol product, the owner or operator shall submit a report updating the product list ~~originally~~ previously submitted for the product class ....

(6) (l)(2): The owner or operator shall ~~only~~ update the records specified in paragraphs (i)(1)(i)(A) through (G) of this section for the product.

(7) (l)(3)(i)(A): The owner or operator shall update the list of products for the product class ~~required by paragraph (i)(1)(ii) of this section~~ that the product is leaving, and for the product class that the product is entering, and shall record ....

(8) (l)(3)(i)(B): Within 180 days ~~of~~ after the change in operating conditions for the polyether polyol product, the owner or operator shall submit a report updating the product list ~~originally~~ previously submitted for the product class ....

Another commenter (IV-G-02) supported the changes suggested by Commenter IV-D-04, in particular the suggested changes to §§63.1427(h)(1)(ii) and (h)(2)(ii).

Response: The EPA agrees with all eight of the commenter's suggested corrections; and they were incorporated into the final rule.

2.16.38 Section 63.1439(e)(5)(ii)(D)

Comment: Two commenters (IV-D-04, IV-D-05) provided comments on §63.1439(e)(5)(ii)(D). One commenter (IV-D-04) stated that paragraph (D) appears to have been borrowed by mistake from another rule, perhaps the Group I Polymers and Resins standard. It refers to monthly measurements of residual organic HAP, a topic not germane to this rule, and it is ignored in cross-references, so there is no way to reach it. The commenter recommended that the paragraph be deleted from this rule.

On the other hand, another commenter (IV-D-05) requested that paragraph (D) be revised, for purposes of clarity, by adding the words "where applicable" at the end of the provisions to read as follows:

"The required information shall include a definition of the affected source's operating month for the purposes of determining monthly average values of residual organic HAP, where applicable."

Response: Section 63.1439(e)(5)(ii)(D) was inadvertently included in this rule. The EPA deleted §63.1439(e)(5)(ii)(D) from the final rule.

2.16.39 Section 63.1439(b)

Comment: One commenter (IV-D-04) maintained that in §63.1439(b), one paragraph should be moved and two cross-references should be corrected as follows:

1. Paragraph 63.1439(b)(1)(i)(C) should be moved because it has nothing to do with records of start-up, shutdown and malfunction.

2. Section 63.1439(b)(1)(i) mentions a paragraph (b)(1)(i)(D); there is no such paragraph. Nor should there be a paragraph (b)(1)(i)(C) as noted above. Therefore, the reference to (b)(1)(i)(D) should be changed to (b)(1)(i)(B).

3. Section 63.1439(b)(1)(ii) also refers to paragraph (b)(1)(i)(C) and, as noted above, does not belong here. Therefore, once it is moved, the reference to (b)(1)(i)(C) should be changed to (b)(1)(i)(B).

Response: The EPA appreciates the comments regarding the cross-referencing errors. Paragraph 63.1439(b)(1)(i)(C) was moved to §63.1439(d)(8), and the other cross-references were corrected, as recommended.

2.16.40 Actual Date Versus "Date of Promulgation"

Comment: One commenter (IV-D-04) asserted that the EPA should request the Office of the Federal Register to insert the actual date or deadline in §63.1439(e)(3)(ii)(A) through (C) instead of referring to the date of promulgation or the date of publication. The commenter believed that this would avoid confusion and could reduce the workload on owners or operators. The commenter stated that some people might not know what "promulgation" means. The commenter added that even for owners and operators that do know what "promulgation" means, the language in proposed §63.1439(e)(3)(ii)(A) through (C) creates extra work and increases the chance for mistakes or misinterpretations. The commenter provided revisions to paragraphs §63.1439(e)(3)(ii)(A) through (C) which provide for the insertion of the actual date, and the commenter requested that EPA revise those paragraphs accordingly in the final rule.

Response: The EPA appreciates the comment, and the final rule includes specific dates in those paragraphs.

2.16.41 Changes to Several Equations

Comment: One commenter (IV-D-04) requested that EPA make minor changes to several equations in the proposed rule:

1. Throughout the rule's equations, wherever the term "weight percent" is used, the weight fraction (or weight percent expressed in decimal notation) should be used.

2. In Equation 9, there should be another "(" after the minus sign and a ")" right after the second term in the numerator.

3. Equation 13 should be: AEcontrol=(AEuncontrolled)[(100-R)].

Response: Regarding the commenter's first suggestion, Equation 11 is the only equation where a weight percent is used. The EPA agrees that a weight fraction can be used, but does not find it necessary to change weight percent to weight fraction.

The EPA disagrees with the second comment, which requests that a set of parenthesis be added to Equation 9 to subdivide the second term, since an extra set of parenthesis around the second term is not needed. The EPA's reasoning is that, according to algebraic rules, multiplication is conducted before addition or subtraction, and addition or subtraction can be conducted in any order.

Finally, the EPA agrees with the commenter regarding Equation 13. Equation 13 has been revised as suggested by the commenter in the final rule.

2.16.42 Section 63.1420(h)(3)

Comment: One commenter (IV-D-05) stated that the first sentence in §63.1420(h)(3) refers to the wrong subparagraph. For clarity, the commenter recommended revising it as follows:

"During start-ups, shutdowns, and malfunctions when the requirements of this subpart do not apply pursuant to paragraphs (h)(1) through (h)~~(3)~~(2) of this section, the owner or operator shall implement, to the extent reasonably available ..."

Response: The EPA agrees with the commenter; however, as was explained earlier in this document, proposed §63.1420(h)(3) is §63.1420(h)(4) in the final rule, and this paragraph (§63.1420(h)) in the final rule does refer to "paragraphs (h)(1) through (3)".

2.16.43 Table 1

Comment: One commenter (IV-D-07) offered several corrections to the subpart PPP cross-references (citations) with subpart A (Part 63 General Provisions), as well as some editorial corrections to Table 1 of the proposed rule.

Response: The EPA appreciates these comments, and revised Table 1 accordingly.

2.16.44 Table 1

Comment: One commenter (IV-D-04) requested that EPA make the following corrections to Table 1 in the proposed rule:

1. In the entry for §63.1(a)(3), change the comment to say "... which overlap with the requirements of subparts PPP and H and specify how compliance shall be achieved." Also, if EPA accepts this comment to add paragraphs dealing with overlaps for wastewater and heat exchanger provisions, the comment should begin as follows: "Section 63.1422(f) through (k) of this subpart ...."

2. In the entry for §63.6(e)(3)(i), instead of saying "combustion, recovery, or recapture devices," the comment should say "control devices." This would be consistent with subpart U, and "control devices" would automatically include all combustion, recovery or recapture devices that are used for emission control.

3. In the entry for §63.7(a)(2), the phrase "compliance demonstration test results" should be changed to "compliance demonstration results," deleting the word "test." Subpart H does not require performance tests.

4. The entry for §63.7(e)(1) currently says performance tests must be conducted at "maximum representative" operating conditions, which is inconsistent with the wording of the proposed rule, which specifies "worst-case" operating conditions.

5. In the entry for §63.7(g), the comment should say "equipment leaks" subject to §63.1434, rather than "emission points" subject to §63.1434. This would be consistent with other entries in the table.

6. In the entry for §63.7(h), the comment should refer to §63.7(c)(2), not 63.7(c)(3).

Response: All six of the commenter's suggested corrections were incorporated into the final rule.

2.16.45 Table 2

Comment: One commenter (IV-D-07) offered several corrections to the subpart PPP cross-references (citations) to subparts F, G

and H of the HON, as well as some editorial corrections to Table 2 of the proposed rule.

Response: The EPA appreciates these comments, and has revised Table 2, as necessary.

2.16.46 Table 2

Comment: One commenter (IV-D-04) requested that EPA make the following changes in Table 2 of the proposed rule:

1. At the end of the comment for subpart H §§63.160-63.193, add the phrase, "with the differences noted in §63.1434."

2. In the "reference" column of the entry for subpart H, instead of saying §§63.160-63.193, it should say §§63.160-63.182. There are no sections after §63.182 in subpart H.

Response: The Agency appreciates the comments, and made the revisions to the final rule.

2.16.47 Table 4

Comment: One commenter (IV-D-05) stated that the footnote in Table 4 of the proposed rule should read "CAS No. = Chemical Abstracts Service Registry Number."

Response: The EPA agrees and the final rule was corrected, as suggested.

2.16.48 Table 5

Comment: One commenter (IV-D-04) requested that EPA make the following changes in Table 5 of the proposed rule:

1. In the entry for "Thermal Incinerator," in the third column, the first item should not say section "63.1429b;" the letter "b" should be a superscript, referring to a footnote.

2. All entries should be subdivided into requirements for "continuous" process vents, and requirements for "batch" process vents. Otherwise, one could interpret that continuous process vents are exempt from all requirements, which is not consistent with the rule.

3. In the entry for "Carbon Adsorber," column 3, item #3 currently says "or volumetric mass flow" but it should say "mass or volumetric flow."

Response: The EPA agrees with all three comments, and has made the suggested revisions. However, in lieu of "subdividing" the requirements in Table 5 into those for process vents from continuous unit operations and those for process vents from batch unit operation, the final rule contains a separate table (Tables 5 and 6) for each set of requirements. Table 5 lists the monitoring, recordkeeping, and reporting requirements for process vents from batch unit operations, while the new Table 6 lists the monitoring, recordkeeping, and reporting requirements for process vents from continuous unit operations.

2.17 LEGAL CONSIDERATIONS

2.17.1 Executive Order 12866

Comment: One commenter (IV-D-04) disagreed with EPA's determination that the proposed polyether polyols rule was not a "significant regulatory action" for purposes of OMB review under Executive Order 12866. The commenter stated that a regulatory action is "significant" if it raises "novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in Executive Order 12866." The commenter claimed that the proposed rule raises novel legal or policy issues, including at least the following:

1. Whether Facility M should be considered a "similar" source, and thus be counted as the floor for new-source MACT, despite having a very different manner of operation from other sources that the EPA has considered (with resulting differences in the amount and pattern of emissions and in the achievable degree of emission reduction).

2. Whether a "new source" HAP reduction of 99.9 percent should be required, when previous MACT standards have uniformly made a policy decision to consider all combustion devices as no more than 98 percent efficient.

3. Whether to require monitoring (and associated recordkeeping and reporting) during start-ups, shutdowns and malfunctions, even though the "normal" emission control requirements, which the monitoring is intended to track do not apply during those periods.

4. Whether to require group determinations for "combinations" of process vents, despite the fact that the criteria for determining Group 1 or Group 2 status were tailored to the characteristics of individual process vents.

5. Whether to incorporate future changes to the General Provisions (and perhaps future changes to other standards on which various portions of this rule are based) without further rulemaking, in apparent violation of the Administrative Procedures Act and its Clean Air Act counterpart.

6. Whether the rule may permissibly omit a lower concentration cutoff (such as 20 ppmv) when compliance with a percentage HAP reduction limit cannot be demonstrated or achievable at some HAP feed concentrations.

7. Whether the rule may classify parameter monitoring excursions as violations of "the emission limitation," rather than as violations of an operating requirement, even though parameter monitoring data are incapable of directly demonstrating compliance or noncompliance with an emission limitation.

For these reasons, the commenter requested that EPA classify this rule as a "significant regulatory action" for purposes of OMB review.

Response: The EPA stands by its original determination that the proposed polyether polyols rule was not a "significant regulatory action" since it does not raise "novel legal or policy issues." The actions raised by the commenter are technical in nature, and do not introduce any novel legal or policy issues.

In the first issue, the commenter questioned whether Facility M (the facility upon whose process vent control the MACT level of control for new sources was originally based) is a "similar" source to others in the source category. The commenter

stated that Facility M has a "very different manner of operation from other sources that the EPA has considered, with resulting differences in the amount and pattern of emissions and in the achievable degree of emission reduction." This comment was addressed in more detail in Section 2.4.1.

The commenter's second comment addressed whether a new source HAP reduction of 99.9 percent should be required, when previous MACT standards "have uniformly made a policy decision to consider all combustion devices as no more than 98 percent efficient." This was not a policy decision, but a technical issue, addressed in Section 2.4.1.

The third "novel legal or policy issue" brought up by the commenter pertained to the EPA's decision to require monitoring during start-ups, shutdowns and malfunctions. The EPA does not believe that monitoring requirements are not legal or policy issues, which was addressed in Sections 2.4.4 and 2.4.16.

The fourth issue that the commenter considered to be a "legal or policy issue" discussed the appropriateness of basing the group determinations on a combination of process vents, despite the fact that the criteria for Group 1 or Group 2 status in the proposed rule based on the characteristics of individual process vents. The EPA also maintains that this is a technical, and not a legal or policy issue, which was addressed in Section 2.4.4.

The commenter's fifth "novel legal or policy issue" addressed whether to incorporate future changes to the General Provisions into subpart PPP, without further rulemaking. This is not a novel legal or policy decision. The commenter contended that the automatic incorporation of future changes to the General Provisions into the subpart PPP requirements would be a violation of the Administrative Procedures Act (APA) and its Clean Air Act (CAA) counterpart. The EPA disagrees with this statement because the any changes made to the General Provisions would have a public comment period during which parties subject to subpart PPP would be able to comment.

The commenter's sixth "legal or policy issue" was whether the rule may permissibly omit a lower concentration cutoff (such as 20 ppmv) when compliance with a percentage HAP reduction limit cannot be demonstrated or achievable at some HAP feed concentrations. The EPA revised the rule to include an applicable concentration cutoff. Section 2.4.2 of this document discusses this issue in more detail.

In issue number 7 the commenter questioned whether the rule may classify parameter monitoring excursions as violations of "the emission limitation," rather than classifying them as violations of an operating requirement. Again, this is not a legal or policy issue and is addressed in section 2.14.4.

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16. ABSTRACT

This document contains a summary of public comments received on the NESHAP for Polyether Polyols Production (40 CFR 63, subpart PPP), which was proposed on September 4, 1997 (62 FR 46804). This document also provides the EPA's response to each comment, and outlines the changes made to the regulation in response to public comments.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air Pollution Hazardous air pollutants Emission reduction Polyether Polyols	Hazardous air pollutants	

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