



United States Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina

Signed -- August 22, 2000

**MEMORANDUM**

**Subject:** Response to Public Comments on January 25, 2000 Pulp and Paper MACT I Proposed Amendments

**From:** Stephen A. Shedd,  
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**To:** Kent Hustvedt, Group Leader  
Waste and Chemical Processes Group

On January 25, 2000 (65 FR 3907), we proposed to amend the 1998 pulp and paper national emission standard for hazardous air pollutants (1998 NESHAP). We received four public comment letters on the proposed rule changes. This memorandum presents a summary of public comments and our responses.

The final amendments to the rule will be contained in a separate notice in the Federal Register. The amendments include changes to the pulping process vent standards and the biological treatment system standards, monitoring requirements, and test methods and procedures to address technical issues identified after promulgation. Also, drafting errors in the final rule that have been identified since proposal of these amendments are being corrected. These amendments do not change the level of control or compromise the environmental protection achieved by the 1998 pulp and paper NESHAP.

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I. Drafting Errors and Clarifications

**I. BACKGROUND**

The Pulp and Paper NESHAP was promulgated on April 15, 1998 (63 FR 18504). Since promulgation, the rule has been amended by four Federal Register notices (63 FR 42238, 63 FR 49455, 63 FR 71385, and 64 FR 17555) to correct minor drafting errors and inadvertent omissions, clarify the intent of the final rule, and provide technical amendments. The above promulgated rule and amendments are hereafter referred to as the "1998 NESHAP" in this memorandum.

In the January 25, 2000 Federal Register notice (65 FR 3907), we proposed amendments to the 1998 NESHAP to revise the compliance demonstration procedures for combustion devices used to control pulping vent gases, to revise the compliance demonstration procedures for biological treatment systems used to treat pulping condensates, and to correct minor drafting errors. The proposed amendment regarding the pulping vent combustion devices removed the requirement, in some cases, to conduct an initial performance test or to continuously monitor the temperature of the control device. Briefly, the proposed amendments for biological treatment systems: (1) added an alternative emission standard (minimum HAP or methanol mass removal), (2) specified a finite list of HAPs (instead of total HAPs) for use in demonstrating compliance, (3) allowed for determination of site-specific monitoring parameters, and (4) added testing and monitoring procedures for biological treatment systems that do not meet the criteria for a "thoroughly mixed" system.

In response to the proposed amendments, four public comment letters were received. They are:

Document #	Commentor	Date of Letter
VII-D-01	D.C. McComb, Environmental/Safety Manager, Eastern Paper, Lincoln, ME	2-17-2000
VII-D-02	D.A. Barton, Regional Manager, NCASI, Medford MA	3-09-2000
VII-D-03	T.G. Hunt, Director, Air Quality Program, AF&PA, Washington DC	3-10-2000
VII-D-04	A. E. Stinchfield, Director, Regulatory Strategy and Technical Services, Fort James Corp., Deerfield IL	3-06-2000

In the final rule amendments, we are incorporating public comments where appropriate and promulgating amendments to several sections of the 1998 NESHAP final rule to: revise the compliance demonstration procedures for combustion devices used to control pulping vent gases; to revise the standards, monitoring requirements, and test methods and procedures for biological treatment systems; and to correct minor drafting errors. The basis for those changes are presented here or were contained in the preamble of the proposed rule amendments.

## II SUMMARY OF PUBLIC COMMENTS, RESPONSES, AND CHANGES TO THE STANDARDS

Generally, the comments were supportive of the proposed amendments and we have not summarized those positive comments in this memorandum. No adverse comments were received regarding the proposed amendment for pulping vent combustion devices; therefore, the amendment is being published as proposed.

The public comments we received suggested changes and clarifications to the amendments we proposed for the standards, monitoring requirements, and test methods for biological treatment systems. This section summarizes the issues raised, our responses, and the changes made in response to those comments.

### A. The Individual HAP Procedure

In the January 25, 2000 Federal Register notice (65 FR 3911), we proposed a procedure (the "individual HAP procedure") that can be used to demonstrate compliance of biological treatment systems on an individual HAP basis (either percent reduction or mass removal). This procedure was proposed as an alternative to demonstrating compliance by measuring total HAPs. To use this procedure, you must measure the mass of the individual HAPs entering and exiting the biological treatment system.

The comments stated that the proposed procedure is not viable because the outlet concentrations of the nonmethanol HAPs will be below the detection limit of the test methods specified in the 1998 NESHAP. We agree with the commenter that the proposed individual HAP procedure is not viable due to lack of adequate test methods. Therefore, we are withdrawing the proposed individual HAP procedure and its associated test methods (§63.446(e)(2)(i) and §63.457(l)(1) and (l)(2) of the proposed amendments, respectively).

Comments: One commenter stated that the proposed individual HAP procedure is not really available as an alternative. The commenter said that the fraction of the nonmethanol HAPs degraded in the biological treatment system will never be measured at sufficiently high levels to demonstrate compliance with either the proposed percent reduction or mass removal standards. The commenter said that inlet concentrations of the nonmethanol HAPs will be very low and the outlet concentrations of these HAPs will likely be below the detection limit of the specified test methods. Based on these limitations, the commenter stated that the proposed individual HAP procedure will rarely, if ever, be used by mills to demonstrate compliance of biological treatment systems.

Response: We have reviewed the data submitted by the commenter (Hazardous Air Pollutants Present in Kraft Mill Condensates and Their Significance for the Hard-piping Option Under Maximum Achievable Control Technology (MACT), December 1998, Docket No. A-92-40) regarding the low concentrations of the nonmethanol HAPs in the regulated condensates, and we have evaluated the

detection capabilities of the test methods specified in the 1998 NESHAP. We have concluded that the proposed individual HAP procedure is not a viable option because the specified test methods are not able to detect the outlet concentrations of the nonmethanol HAPs at a level sufficient to demonstrate compliance with either the proposed percent reduction or mass removal options. Therefore, we are not including the proposed individual HAP procedure and its associated emission limits in the final rule amendments.

#### B. The Minimum Measurement Level Procedure

In the January 25, 2000 Federal Register notice (65 FR 3912), we proposed amendments to the test methods and procedures section (§63.457(c)) that added two alternative procedures for determining the minimum measurement level (MML) of specific HAPs in pulping process condensate streams. The comments received stated that several clarifications and corrections to the proposed procedures were needed. We agree with the suggested clarifications and corrections and we are revising the 1998 NESHAP accordingly.

Comment: Two commenters stated that there was an inconsistency between the preamble and the proposed amendments with respect to the frequency at which the MML needs to be demonstrated. The proposed rule language (§63.457(c)(5)(i)) states that the procedures to determine the MMLs must be performed each time the method is used. The preamble (65 FR 3912) states that the MML procedures must be performed each time the analytical equipment is set up. The commenters recommended that the demonstration frequency reflected in the preamble (i.e., each time the analytical equipment is setup) would be appropriate.

Response: The Agency agrees with the commenters that the preamble and the proposed regulation specify different frequencies for demonstrating the MML. The inconsistency was unintended and we agree that the appropriate frequency is "each time the analytical equipment is set up." We are revising the 1998 NESHAP (§63.457(c)(5)(i)) to clarify this frequency. In addition to clarify this requirement, we have defined the term "set up" as it applies to analytical equipment for this regulation.

Comment: One commenter stated that the proposed MML procedure is not clear with respect to when and for which analytes the laboratory analyst would be required to perform MML demonstrations. The commenter said that they believed the EPA's intent was that the MML only be used when analytes are not detected within the normal working range of the method. The commenter stated that this intent should be made clear in the 1998 NESHAP.

Response: We agree with the commenter that our intent was that the laboratory analyst determine the MML only for those analytes which are not detected within the normal working range of the method. Consequently, we are revising the 1998 NESHAP (§63.457(c)(5)) to clarify our intent.

Comment: Two commenters stated that there were practical limitations in the MML procedures as written in §63.457(c)(5) that will make its demonstration unnecessarily difficult. The commenters recommended that the EPA allow a limited deviation from the actual MML concentration to allow for

normal experimental error and that dilutions of real world samples also be considered acceptable.

Response: After careful consideration, we agree with the commenters that without allowing some flexibility in the MML demonstration procedures, the demonstration could become very difficult in some cases. The necessary flexibility can be added with very little risk of compromising the quality of the MML. The proposed regulation permitted the analyst to create a sample with a concentration at the proposed MML by spiking a sample below the MML with a known amount of the analyte. The difficulty with this procedure is that the analyst has to estimate the native concentration of the analyte because it is below the MML. If the analyst's estimate is wrong, then the amount of known analyte added to the sample will not produce a concentration exactly at the MML.

We are revising the 1998 NESHAP (§63.457(c)(5)(i)(B)) to allow the analyst to establish the MML using a spiked sample that can vary from the proposed MML by as much as 50 percent. In addition, where target analytes are intermittently below the MML, it may be convenient to pick a single sample where one HAP is below the MML and another is above the MML and to use this sample to establish the MML for both. This can be accomplished by first diluting the sample to lower the concentration of one analyte to the MML and then spiking a known amount of the other analyte to raise it to the MML, provided the sample is not diluted by more than a factor of five. We are revising the 1998 NESHAP (§63.457(c)(6)(i)) to allow you this option.

Comment: One commenter stated that the language in the proposed amendments should be revised to clarify that the MML demonstration procedure given in §63.457(c)(6)(i) is intended to apply to an EPA approval for an MML to be used by all laboratories using a given analytical procedure.

Response: We agree with the comment that the purpose of the MML demonstration procedure in §63.457(c)(6)(i) is not clear. The purpose of this provision is to provide some quality assurance for laboratories using a method whose MML has already been demonstrated. We intended that this procedure would apply to all laboratories that choose to use a method whose MML has been demonstrated by the procedures in §63.457(c)(5)(ii). We also intended to apply this procedure to those laboratories that demonstrated the MML as described in §63.457(c)(5)(i) when those laboratories use the method after the initial set up. Consequently, we are revising the 1998 NESHAP (§63.457(c)(6)) to clarify purpose of this provision.

Comment: One commenter stated that §63.457(c)(6) of the proposed amendments indicates that the procedures described subsequently in §63.457(c)(6)(i) would apply to laboratories performing the MML demonstration as described in §63.457(c)(5)(i). The commenter noted that since the procedures in §63.457(c)(6)(i) are essentially identical to those described in §63.457(c)(5)(i)(A) through (C), this requirement would be duplicative. The commenter recommended that the reference to §63.457(c)(5)(i) be removed from §63.457(c)(6) and that the section refer to §63.457(c)(5)(ii) only.

Response: We agree that the MML procedures in §63.457(c)(6)(i) are essentially identical to those described in §63.457(c)(5)(i)(A) through (C). We also agree that applying these procedures to laboratories performing the MML demonstration as described in §63.457(c)(5)(i) would be

duplicative. However, we believe that some quality assurance procedures are necessary for those laboratories performing the MML demonstration as described in §63.457(c)(5)(i) when the laboratories are using the method after the initial setup. Therefore, we have simplified the procedures and performance requirements in §63.457(c)(6) to make them more appropriate as quality assurance checks.

Comment: One commenter stated that §63.457(c)(6)(i) should include the same requirements and/or provisions listed in §63.457(c)(5)(i), including the requirement: to run all replicate samples through the entire analytical protocol, that the sample contain the HAP, that the sample be representative of the liquid sample to be analyzed in the compliance demonstration, and that there be an allowance for dilution of the sample to bring the HAP into the required concentration.

Response: We agree that all of the provisions listed in §63.457(c)(5)(i) are necessary. Therefore, we are revising the 1998 NESHAP (§63.457(c)(6)(i)) to include these provisions.

Comment: One commenter said that the possible acceptance by the EPA of industry group-derived MMLs is implied in §63.457(c)(5)(ii), but is more clearly stated in the preamble. The commenter stated that the rule should be written to more clearly reflect the Agency's intent as stated in the preamble.

Response: As stated in the January 25, 2000 Federal Register notice (65 FR 3912), we intended to allow industry groups to demonstrate the MML for a method that can then be used by the member laboratories. However, we believe that the procedures described in §63.457(c)(5)(ii) are sufficient to allow for this and no further clarification is needed.

### C. Methanol Procedure for Biological Treatment Systems

In the January 25, 2000 Federal Register notice (65 FR 3911), we proposed a procedure (the "methanol procedure") that can be used as an alternative to demonstrating compliance of biological treatment systems on an individual HAP basis. As part of the methanol procedure, you are required to measure the ratio of nonmethanol HAP (acetaldehyde, methyl ethyl ketone, and propionaldehyde) mass to methanol mass. The value of this ratio is designated in the proposed amendments as "r." The 1998 NESHAP requires total HAP measurements on a quarterly basis. In the January 25, 2000 proposal notice (65 FR 3918), we requested comments and data to determine if quarterly testing for total HAPs is still warranted, or if testing for total HAPs annually is adequate.

The comments received in response to this request stated that an annual measurement of r is sufficient since the value of r is very low and the corresponding impact on the mass removal determinations will be small. We agree with the commenter that an annual measurement of r is sufficient. Therefore, we are revising the biological treatment system monitoring requirements (§63.453(j)(3)(ii)) to specify that the value of r must be determined only during the first-quarter test of each year.

Comments: One commenter stated that it was not necessary for mills to determine  $r$  in each quarterly test. The commenter said that, due to the very low value of  $r$  and the small effect that variations in  $r$  would have on the required mass removal, quarterly testing for  $r$  is unnecessary and would impose an unwarranted testing burden on the industry. The commenter also stated that the requirement for the annual measurement of  $r$  should be discontinued after a reasonable period (e.g., three years) once the value of  $r$  has been demonstrated to remain small.

Response: We have reviewed the data submitted by the commenter (Hazardous Air Pollutants Present in Kraft Mill Condensates and Their Significance for the Hard-piping Option Under Maximum Achievable Control Technology (MACT), December 1998, Docket No. A-92-40) regarding the low concentrations and variability of the nonmethanol HAPs. The condensate data collected from eight mills indicates that methanol comprises 97 to 99 percent of the four HAPs, with corresponding  $r$  values ranging from 0.032 to 0.0075. This range in the value of  $r$  equates to a three percent difference in the amount of methanol treated (5.74 versus 5.57 kilogram per megagram of oven-dried pulp treated, respectively).

Because of the small contribution of nonmethanol HAPs to the total HAP loading and because of the minimal impact that small variations in  $r$  will have on performance test results, we have determined that quarterly measurement of the  $r$  value is not warranted. Therefore, the final amendment's Federal Register notice will change the 1998 NESHAP (§63.453(j)(3)(ii)) to specify that the value of  $r$  must be determined only during the first-quarter test of each year.

We are not adopting the concept of discontinuing the annual measurement of  $r$  after a satisfactory demonstration period because sufficient data does not exist to evaluate the long-term variability of  $r$ . As data on the variability (or stability) of  $r$  is accumulated as part of the compliance demonstration, you may petition the Administrator (or a State that has been granted delegation) on a site-specific basis to waive the requirement to measure  $r$  each year. The authority for approving changes to the performance test methods is §63.7(e)(2) of the NESHAP general provisions.

#### D. Quarterly Performance Tests Versus Initial Performance Tests

In the January 25, 2000 Federal Register notice, we proposed adding a mass removal option for biological treatment systems, in addition to the percent reduction standard already contained in the 1998 NESHAP. We also amended the quarterly testing and compliance monitoring requirements (§63.453(j) and (p)) to make conforming revisions by replacing the term "percent reduction tests" with "performance test" or "compliance test."

The comments received stated that the EPA should clarify that the requirements for the quarterly tests are less extensive than for initial performance test, since the quarterly tests are part of the monitoring requirements. We disagree with the comments and we are making text changes to the quarterly testing requirements (§63.453(j)(1)(ii)(A) and (p)(2)) and the reporting requirements (§63.455(e)) of the rule to use consistent language.

Comments: One commenter said that, by changing the term "percent reduction test" to "performance test" in the quarterly testing requirements, States and/or local regulators may require more stringent testing requirements, such as requiring that all quarterly tests and optional compliance monitoring performance tests be conducted at full capacity with no scheduled or unscheduled maintenance events. The commenter stated that the EPA should clarify that the requirements for quarterly tests are not the same as those for initial performance tests. The commenter said that this intent is evident since the requirement for quarterly testing is located in the monitoring requirements section instead of the test methods and procedures section of the 1998 NESHAP. The commenter said that the quarterly tests are used to verify compliance by measuring the treatment system biodegradation rate and therefore should not be required to duplicate the very extensive requirements of initial performance tests, such as demonstrating compliance with the condensate collection standards and the condensate treatment standards at the same time. The commenter also stated that mills should not be required to comply with the formal notification and reporting procedures of the initial performance tests, as specified in the NESHAP general provisions, when conducting the quarterly tests.

Response: We disagree. The inconsistent terminology ("percent reduction tests", "performance test", and "compliance test") was not intended to alter the meaning of any of the compliance requirements of the rule. The same test procedures are used for the initial and continuous compliance testing specified in the 1998 NESHAP and in the proposed amendments. If a biological treatment system is used, quarterly performance testing, along with continuous parameter monitoring, is the method for determining continuous compliance with the rule. Accordingly, the quarterly tests are subject to the same notification, recordkeeping, and reporting requirements as initial performance tests. However, repeated permit authority approval may not be necessary for some of the performance test requirements (e.g., test plan, timing of future tests) applicable to continuous compliance testing since these requirements may have been subject to prior approval by the permit authority during the initial performance test procedures. Also, in the final amendment's Federal Register notice, we are reducing the notification for open biological treatment system compliance testing from 60 days to 15 days.

To improve the clarity of the rule, we are replacing inconsistent language by changing the terms "compliance test" and "percent reduction test" to "performance test" in the quarterly testing requirements (§63.453(j)(1)(ii)(A) and (p)(2)) and the reporting requirements (§63.455(e)).

#### E. Condensate Variability

In response to the January 25, 2000 Federal Register notice (65 FR 3910), we received several comments stating that the performance test and continuous monitoring procedures for the condensate collection and treatment requirements should account for inherent hour-to-hour and day-to-day variability in the amount of methanol generated in the regulated condensates. Based on the data being collected for industry condensate characterization studies, the comments stated that there is significant variability over all time scales, and the causes of methanol variability are beyond the control of the mill operator. Consequently, the comments said that there is a chance that the amount of methanol collected and sent to treatment on a short-term basis can be less than that required by the standards and can lead to noncompliance, even though the pulping processes and controls are operating normally.

We agree that condensate variability is a concern in both the initial and continuous compliance demonstrations. Variability is particularly a concern for the mass removal option where compliance is based on an amount of mass collected and the performance of the control device or system. Accordingly, we have grouped the comments and our responses into those dealing with condensate collection variability and those dealing with testing of the treatment device or system. This grouping is used to communicate the Agency's existing policy regarding compliance demonstrations and the revisions we intend to make to the 1998 NESHAP.

1. Condensate Collection Variability. Some comments recommended that because of the variability of methanol in condensate streams, the rule should be revised to clarify that long-term averages are necessary for demonstrating initial and continuous compliance with the condensate collection standards. While we agree that variability should be considered in establishing appropriate averaging periods, the 1998 NESHAP already provides you with flexibility in establishing the appropriate averaging periods for demonstrating initial compliance and conducting continuous compliance monitoring. Consequently, we are not changing the 1998 NESHAP text to address this issue.

Comments: Two commenters stated that rule is not achievable on a day-to-day (i.e., continuous) basis because it does not account for the variability in methanol formation from the pulping process condensates. The commenters stated that, due to variability factors (e.g., wood type, age of wood chips, season of the year, unscheduled equipment shutdowns) that are beyond the control of the mill operator, the amount of methanol in regulated condensates can vary over time. One commenter stated that the EPA needed to clarify that a sufficiently long averaging period on the condensate collection standard is needed to ensure a high confidence (e.g., 99 percent) that the measured methanol in condensates will comply with the standard during all periods of normal operation. The other commenter said that the EPA should allow mills to determine the amount of methanol mass in regulated condensates using factors that have been developed prior to the initial performance test and that have been approved by the permitting authority.

Response: In the January 25, 2000 Federal Register notice, we did not propose changes to the condensate collection provisions, but commenters expressed concerns regarding those provisions in the 1998 NESHAP. The response to the concerns raised by the commenters is different depending on whether you are referring to demonstrating compliance during initial (short-term) performance tests or to demonstrating continuous (long-term) compliance.

*Initial Condensate Collection Performance Tests*. In the April 19, 1999 direct final Federal Register notice (64 FR 17558), we clarified that the initial performance tests for vent and liquid streams must consist of a minimum of three test runs and the minimum sampling time for each test run is one hour. However, in that notice, we acknowledged that additional initial performance tests or longer sampling times may be needed to demonstrate compliance under normal operating conditions for

equipment systems that have multiple operating scenarios or modes. In a recent EPA letter<sup>1</sup>, this position regarding initial performance test averaging times was reiterated and explained further.

We believe that the variability factors (e.g., wood type, age of wood chips, season of the year, unscheduled equipment shutdowns) cited by the commenters represent different operating scenarios. If you believe that your mill has multiple operating scenarios that affect the amount of methanol generated in the condensates under normal operations, you must demonstrate to the Administrator's satisfaction that these multiple operating scenarios exist. You must also conduct initial performance tests to demonstrate compliance to the Administrator's (i.e., permitting authority's) satisfaction under each operating scenario. This demonstration must be based on site-specific data (e.g., condensate characterization studies) supplemented, if necessary, with engineering assessments and manufacturers' recommendations.

Because these provisions for addressing variability and for establishing the appropriate averaging times for the initial performance test (or tests) already exist, no changes will be made to the 1998 NESHAP.

*Continuous Condensate Collection Performance Tests and Monitoring.* With regard to continuous compliance and confidence levels for condensate collections, we agree that variability should be considered in establishing appropriate averaging periods for measuring the HAP (or methanol) mass in condensates. However, we do not have data to determine how long an averaging period should be for a given mill, which is why the 1998 NESHAP is written such that determinations are made by the permitting authority on a case-by-case basis based on site-specific data. Furthermore, it is the owner and operator's responsibility, not our or the permit authority's, to design and implement an approach for complying with the regulation and to determine the confidence level with which you are comfortable. In designing the compliance approach, you have a number of collection and treatment options that are provided in the 1998 NESHAP. If you desire a high confidence level that your mill will always be in compliance with the rule, then you must design your compliance plan with this in mind and factor in a degree of collection and treatment that provides an adequate confidence level. This could include controlling condensates from more than the minimum of sources, treating the condensates to a higher level than that required by the standards, installing backup equipment, or modifying the mill operations.

The 1998 NESHAP allows each mill to demonstrate, to the permitting authority's satisfaction, an appropriate averaging period based on site-specific conditions. As specified in the monitoring section (§ 63.453(n)(4)) of the 1998 NESHAP, you must provide for the Administrator's approval the rationale for the selected operating parameter value, monitoring frequency, and averaging time. This rationale is based on measurements of your condensate collection system (and any supplemental information, such as engineering studies and manufacturers' recommendations) under normal operation

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<sup>1</sup> November 5, 1999 letter, to Ronald W. Gore, Chief of the Air Division, Alabama Department of Environmental Management, from W.A. Smith, Director, Air, Pesticides and Toxics Management Division, US EPA Region IV.

and any alternative operating scenarios that are expected to recur.

As presented in the previously cited letter (November 5, 1999 letter to Ronald W. Gore from W.A. Smith), the following criteria should be addressed by the mill owner or operator and be considered by the permitting authority when approving a site-specific continuous monitoring plan:

- c The burden is on the mill to demonstrate what continuous compliance averaging time is appropriate for that particular mill. That is, the mill must submit for approval by the permitting authority the data used (as determined during sampling) to set continuous parameter values, ranges, and averaging times (§63.453(n)(4)). The site-specific determination is required to be made based on data collected during the performance test, but can be supplemented by engineering assessments (i.e., data from industry or site-specific technical studies) and manufacturer recommendations (§63.453(n)(4)(2)). Therefore, using data submitted from other mills is permissible as a supplement to the data collected during the site-specific performance tests, but the mill must show that this data represents the specific mill's equipment, operations, and processes.
- c Additionally, the operating parameters and values must be identified and monitored during performance test sampling, to correlate continuous compliance parameter values, ranges, and averaging times to the standard (§63.453(n)(1)). These operating parameters are not only necessary to establish relationships with continuous compliance monitoring, but also are necessary for the mill and permit authority to determine proper operation of equipment; determine if startup, shutdown, and malfunction (SSM) has been properly considered; and to be used to address any anomalies in the submitted data.
- c The demonstration should include data on all "named streams" in subpart S (see §63.446(b)). Limiting the data set allows intermittent streams and fewer condensate streams to improperly influence the operating parameter averaging time and range.
- c The demonstration must represent proper and normal operations that result in good air pollution practices (§63.6(e)(1)(i), §63.7(e)(1)). As an example: Is the process equipment properly operated to collect and condense condensates and is that level of operation representative of how the process equipment will continue to operate and maintain compliance? (Note: modified condensates require a new determination (§63.446(h)).
- c The demonstration should address SSM considerations and relationships to the SSM plan. Double counting or SSM and longer parameter value averaging times or broader ranges, are not appropriate. The demonstration should identify and eliminate from consideration data that represents the period of SSM.

In conclusion, while variability and confidence in maintaining compliance is a concern that should

be addressed, we believe that the rule provides adequate provisions and we have provided guidance as discussed above and in previous preambles, to address these concerns. Therefore, we are not providing additional amendments to the rule text on condensate collection continuous compliance. However, as discussed below, we have addressed and provided amendments to the rule that provides more flexibility in testing the treatment device when condensate collection varies.

2. Inlet Mass Variability During Compliance Testing of Condensate Treatment Devices In the January 25, 2000 Federal Register notice (65 FR 3910), we proposed mass removal standards, expressed as either individual HAPs or methanol, for biological treatment systems as an alternative to the percent reduction standards. Compliance with a mass removal standard requires that the inlet HAP (methanol) mass and the performance of the treatment device be measured over the same time period. The comments recommended that the rule be revised to consider variability of inlet mass concentrations during performance tests of condensate treatment devices (i.e., steam strippers and biological treatment systems). To address short-term variability in condensates on the day the performance test is conducted, these comments recommended that the mass in condensates be based on long-term averages established prior to the date of the test.

We disagree with the comments that the mass in condensates be based on data established prior to the date of the treatment system performance test. The performance test for the treatment standard must be based on actual test data of the inlet HAP (or methanol) mass and the treatment device performance on the same time basis. However, we agree with the comments that the proposed rule did not adequately account for variability during optional tests to confirm the performance of biological treatment systems during parameter excursions. The final amendment's Federal Register notice, therefore will provide some additional flexibility in conducting these tests.

Comments: One commenter stated that requiring mills to demonstrate that the required amount of condensate is being delivered to the treatment device on the day of a performance test does not take into consideration the variability of methanol generation. The commenter added that variability in the condensate mass can also be caused by shutdowns of process equipment (e.g., digester and evaporator systems) that generate condensates. The commenter said that the requirement for mills to measure the amount of methanol being delivered to the treatment plant during a single-day performance test could lead to noncompliance even though the treatment plant is providing adequate biodegradation. The commenter further noted that the intent of the performance tests required by a monitoring parameter excursion is to confirm the performance of the biological treatment system, not the performance of the condensate collection system. The commenter said that, to account for variability in methanol generation, the  $f_{\text{bio}}$  value should be multiplied by the rolling average methanol loading (instead of an instantaneous amount) during a single-day performance test.

Another commenter stated that, in all performance tests under the 1998 NESHAP, the averaging period for determining the methanol mass in regulated condensates must be longer than the minimum sampling time (three 1-hour tests) specified in the 1998 NESHAP (§63.457(c)(3)). The commenter recommended that:

(1) The EPA should revise the rule to clarify that the mass of methanol in regulated condensates entering the open biological treatment system can be based on measurements made in advance of quarterly compliance tests (and any performance tests mandated by monitoring parameter excursions), and

(2) The EPA should revise the rule to clarify that compliance with the open biological treatment system mass removal standard will be based on inlet methanol mass determined using approved methanol loading factors and real-time condensate collection system monitoring data collected over the averaging period. The factor-based methanol mass would be used with  $f_{\text{bio}}$  to determine if the system is achieving compliance with the percent reduction or mass removal standards.

Response: Our response to this issue is different for initial and quarterly compliance demonstrations than for continuous monitoring compliance testing.

*Initial and Quarterly Condensate Treatment Device Performance Tests.* The 1998 NESHAP requires initial performance tests for all condensate treatment devices used to achieve compliance with the applicable emission limit. Additionally, quarterly performance tests are required for open biological treatment systems. During the initial and quarterly performance tests, because the timing of the tests is predetermined, you have knowledge and control of the operating scenario and process equipment used on the day(s) of the performance test. Under these testing conditions, you can ensure that sufficient HAP (or methanol) mass is being sent to the treatment device to demonstrate compliance with the applicable treatment standard. Therefore, no changes will be made to the rule regarding the use of rolling averages or methanol loading factors during the initial and quarterly performance tests.

Regarding the commenter's concern over variability caused by process equipment shutdowns, we disagree that this situation could automatically lead to noncompliance. As specified in the April 12, 1999 direct final Federal Register notice (64 FR 17558), performance tests are used to demonstrate compliance with a relevant standard based on conditions that reflect normal operations. Additionally, the November 5, 1999 letter to Ronald W. Gore from W.A. Smith specifically states that performance demonstrations must represent proper and normal operations.

If process equipment that normally generates regulated condensates is shutdown, due to scheduled or unscheduled maintenance, then this scenario does not reflect normal operation. Operation of the mill under this scenario must be addressed under the SSM plan, which prescribes the procedures for operating and maintaining the source during periods of SSM and describes the corrective actions for the malfunctioning process and air pollution control devices used to comply with the standard. The condensate characterization data or studies used for compliance demonstrations should address condensate generation and emissions during routine and predictable outages that are expected to recur and prescribe the proper air pollution control practices that constitute compliance with the applicable standard.

*Optional Performance Tests During Operating Parameter Excursion.* Due to their nature, the timing of the optional performance tests of the biological treatment system conducted in response to

parameter monitoring excursions are not predetermined. If a monitoring parameter deviates from its approved value or range, you have the option of confirming the performance of the system. The performance test must be conducted immediately (i.e., on the same day) and the results must demonstrate compliance with the applicable emission limit (§63.446(e)(2)) or you must accept that the monitoring parameter excursion constitutes a violation of the standard. Consequently, on the day the optional performance test is conducted following a parameter excursion, the inlet HAP (or methanol) mass could be too low to demonstrate compliance with the applicable mass removal or percent reduction emission limits for the biological treatment system due to the variability in HAP (or methanol) generation or due to shutdowns of the process equipment that generate the condensates.

We considered allowing mills to use an inlet mass value or averages that had been determined prior to the parameter excursion in the optional performance test, as suggested by the commenters. However, we did not accept this approach because it does not provide a measurement of the performance of the open biological treatment system on the particular day that the performance test is conducted. The purpose of the test is to determine if the biological system is properly functioning even though the operating parameter values are being exceeded. It is not a test of both the performance of the collection system. Therefore, we considered what parameters are most important for determining the performance of the biological treatment unit. The amount of biological treatment actively is determined by the fraction of HAP determined to be biodegraded instead of emitted to the air. The test procedures of this standard determine this fraction (called  $f_{bio}$ ) biodegraded. Therefore, we decided that determination of the fraction of total HAP (or methanol) biodegraded in the biological treatment system ( $f_{bio}$ ) would provide direct measurement of the performance to the system at the time of the parameter excursion, when condensate collection is too low to for the biological unit to demonstrate compliance with the treatment standard.

For this optional compliance determination, we are revising the monitoring requirements section (§63.453(p)) of the 1998 NESHAP to address the variability in the inlet mass on the day of the performance test. We are also adding a paragraph to the recordkeeping requirements (§63.454(f)) to specify that a written record of the performance test results must be prepared. Although this recordkeeping requirement was contained in §63.453(p) of the 1998 NESHAP, we neglected to specify this requirement in the recordkeeping requirements section (§63.454).

The monitoring requirements (§63.453(p)) of the 1998 NESHAP specify that you have the option to conduct the performance test to demonstrate compliance with the applicable emission limit, using the short-term initial and subsequent performance test procedures for biological treatment systems according to §63.457. If compliance with the applicable emission limit is demonstrated, then the parameter excursion is not a violation of the standard. However, in the final rule we are adding that if compliance cannot be demonstrated because the inlet mass delivered to the system on the day of the test is too low to demonstrate compliance with the applicable emission limit, then the performance of the biological treatment system can be demonstrated based solely on the fraction of total HAP (or methanol) degraded in the biological treatment system (i.e.,  $f_{bio}$ ). If the value of  $f_{bio}$  is within the range of values established during the initial and subsequent performance tests under similar conditions and approved by the Administrator (i.e., permit authority), then compliance with the applicable treatment

standard is demonstrated. You should recognize that, when using this later new procedure, you may be demonstrating your compliance or non-compliance with the condensate collection standards (§63.446(c)) and your collection parameter monitoring procedures.

F. Procedures for Responding to Parameter Excursions in Biological Treatment Systems

In the January 25, 2000 proposal (65 FR 3916), we proposed a modeling procedure (appendix E of part 63) to use during unsafe sampling conditions. The procedure would be used whenever a parameter excursion occurs during an event when it is too dangerous, hazardous, or otherwise unsafe for personnel to collect samples from an open biological treatment system. The procedure would be used to satisfy the daily monitoring requirements until such time as a full performance test can be conducted under safe conditions.

The comments received stated that a conflict exists between the timing of the modeling procedure and the subsequent performance test, and on initiating steps to end the parameter excursion. We are revising the monitoring requirements (§63.453(p)) of the rule to clarify the timing of the modeling procedure, the performance test, and implementation of corrective actions, however, the intent of the 1998 NESHAP remains unchanged.

Comments: One commenter noted that there appeared to be a potential conflict in the proposed monitoring requirements for biological treatment systems (§63.453(p)). In §63.453(p)(4)(i), the proposed amendments require that steps be taken immediately to repair or adjust the operation of the process to end the parameter excursion. However, in §63.453(p)(2), the proposed amendments also specify that no maintenance or changes can be made to the process after the beginning of a parameter excursion that would influence the results of the compliance determination. A mill cannot comply with both of these requirements, particularly if unsafe conditions delay the sampling procedures.

Response: To clarify the timing of the procedures to be followed during a parameter excursion, we are revising the order of the rule text (§63.453(p)). Our intent is that you take steps to end the parameter excursion and to minimize emissions to the atmosphere during the parameter excursion, as soon as practical. These corrective steps must be taken for any problem with any control device as specified in the NESHAP general provisions (§63.6(e)). However, if you choose to conduct a performance test to confirm compliance, you must immediately collect the samples from the biological treatment system that are necessary to conduct the performance test. Until all samples necessary to conduct a full performance test of the system are collected, no repairs or adjustments can be made to the process operation because this would invalidate the test. The timing of the performance test sampling and implementation of the corrective steps is appropriate since the corrective steps would alter the existing conditions in the biological treatment system and any samples taken after the corrective steps have been implemented would not represent the conditions during the parameter excursion.

When we added other proposed amendments to the monitoring requirements (§63.453(p)), we inadvertently added confusion that was not in the 1998 NESHAP regarding the sequence of the corrective actions and the optional performance test sampling. In the final rule amendments, we are

revising the rule text (§63.453(p)) to make our intent and the sequencing of those events clear.

G. Monitoring Procedures for Biological Treatment Systems During Unsafe Conditions (Appendix E)

In the January 25, 2000 Federal Register notice (65 FR 3914), we proposed a modeling procedure (appendix E of part 63) for open nonthoroughly mixed biological treatment systems that can be used when unsafe conditions exist in the system that would prevent personnel from conducting the sampling necessary to conduct a full performance test. The comments suggested several clarifications and corrections to the proposed modeling procedures. We agree that clarifications are needed in some of the cases identified by the commenter. However we disagree with some of the other recommendations made by the commentor on this appendix, as discussed below.

Comment: The measurement of dissolved oxygen (D.O.) and dissolved solids in the initial evaluation of the unit are not used in the calculations and impose an unnecessary burden. These two parameters should be deleted from the list of parameters presented in section III.B.1.

Response: Dissolved oxygen (D.O.) measurements are necessary to insure that the unit is performing correctly and uniformly within each zone of interest. If the D.O. values indicate anaerobic operation within the zone, the use of Monod kinetics for the system will likely fail. Measurements such as D.O. and dissolved solids are necessary in the initial characterization of the zones, and the measurement of these parameters can provide a benchmark to provide assurance that the initial evaluation of the unit is still applicable at a future time. It was stated previously by NCASI that they believed that an initial evaluation of the system would not represent an undue burden on them, their primary concern was the unnecessary resources expended for detailed zone characterization on an on-going basis. These two parameters are not required on an on-going basis. The identification of D.O. and dissolved solids as part of the initial zone characterization is not deleted.

Comment: Modify the unsafe method to drop the requirement to measure the biomass in the system exit. The basis of this request is as follows: the biomass can not be sampled, the biomass does not change, and the biomass concentration does not make a difference.

Response: The biomass should be present in a representative sample at the exit of the unit. Since this sample of the unit exit is expected to provide a biomass sample without additional sampling in the center of specific zones, there is no reason to assume that it is not possible to obtain a representative sample of biomass. The argument that the biomass cannot be sampled is valid only if the effluent sample is not representative of the contents of the exit zone of the system.

The suspended solids information provided in this comment to support of the argument that the biomass does not change indicates a range of 170 to 400 mg/L. This range is approximately 80% of the average value. This data alone provides little assurance that the biomass in unit could be accurately predicted in the future without additional testing. We expect that the biomass will be both stable and reproducible under conventional operating conditions for most units, but it is possible that this is not correct for units that are not performing as designed.

Given that a representative effluent sample is available, an analysis of that effluent sample for biomass could provide additional assurance that the system is performing under the same conditions as it was under the initial system evaluation. Also, the use of a measured value of biomass concentration at the time of testing is considered more representative of the unit than measurements not taken at the time of testing.

Comment: Drop the requirement that the Monod parameters are evaluated in the initial performance test. These Monod parameters are later used to evaluate the performance of the system under unsafe conditions. The Monod test can occur after the unsafe conditions and then the new Monod test can be used to demonstrate prior performance during the unsafe conditions.

Response: The detailed initial system evaluation should be performed before unsafe conditions are expected. If the system characteristics change, then the system evaluation can be updated as already described in the appendix.

Comment: Multiple samples are not needed from zones in large aeration basins. Require only one sample from a zone for zone characterization.

Response: Obtaining multiple samples will reduce sampling errors because multiple measurements may be averaged to obtain a more representative number. During the initial characterization multiple samples are needed to determine the number and location of the zones, as well as sample variability. Under unsafe sampling conditions, it is not required to either obtain multiple samples or to sample over an extended period of time. The text will be changed to clarify this issue.

Comment: (1)The term "well-defined" should be replaced with "multiple zones". (2)Change text so that Form 7 is not needed when using a computer model. (3)"Measure the concentrations of the HAPs in each zone" should be deleted.

Response: (1)There should be a clear line of definition about each zone so there should be no ambiguity about how the zones are defined. This does not mean that the zones are completely uniform but it does mean that the zones are substantially uniform. For clarity the term " well-defined " is replaced with "defined". (2)With the current procedure, Form 7 is a requirement, not an option. (3)The incorrect text is changed to "obtain the concentrations of the HAPs in each zone".

Comment: One commentor suggested a number of clarifications and corrections to appendix E of part 63. In summary they are as follows:

- C the title to appendix E could be confusing with regard to the applicability of the procedures contained in the appendix,
- C clarify that the KL value determined for submerged aeration should be added to the Kl determined for quiescent surfaces and, if applicable, agitated surfaces,

- C correct the text of Section F for line numbers and form number,
- C correct the text of Section G to change "activated sludge" to "biotreatment",
- C replace "Form From XIV" with "Form From 3",
- C several corrections for Form 3, and
- C the procedures for Form 4 are confusing.

Response: We have made corrections and clarifications to the rule text to address the above comments on appendix E.

#### H. Performance Test Notifications

In the January 25, 2000 Federal Register notice (65 FR 3918), we proposed that the notification period for certain compliance monitoring testing be reduced from 60 days, required by the NESHAP general provisions (§63.7(b)), to 15 days. This shortened notification period would be used if a mill intends to revise the allowable monitoring parameter ranges or values using data recorded during any valid subsequent performance tests required in the monitoring requirements section (§63.453(p)) of the 1998 NESHAP. We received comments stating that the 15-day period was too long, and that same day notification should be allowed. We disagree with the comments and we believe the length of the notification period (15 days) is appropriate. Consequently, the 15-day notification change is being made to the 1998 NESHAP as proposed.

Comment: One commenter stated that it is unreasonable to require operators to notify permit authorities 15 days before compliance tests that will be used to modify the range(s) of acceptable operating parameter values. The commenter asserted that the 15-day advance notice is unreasonable when an operating parameter range excursion has triggered the test. The commenter recommended same-day notification for the following reasons: (1) given the time and effort involved in conducting a test the ability to use all compliance data to characterize the system should be allowed; (2) the permit authorities have ample time to audit the techniques used in the initial performance test and the subsequent quarterly tests; and (3) permit authorities have ample time to scrutinize the test procedures and techniques in the quality assurance/quality control (QA/QC) plan required under Appendix E.

Response: We agree that any performance test data could be used if the notification provided appropriate time to allow permit authorities to plan and attend the test. We proposed rule changes that reduced the notification period from the standard 60 day notification period established in the NESHAP General Provisions to 15 days with 24-hour confirmation notice (to establish the exact time and date of the test). We disagree with the reasons offered by the commenter for further shortening the notification period. The permit authority may not have on-hand personnel who are familiar with the techniques used in the initial performance tests and so they will need time in advance of the test to familiarized themselves with the tests. The QA/QC plan in appendix E of part 63 mentioned by the

commenter applies only to facilities that are sampling during unsafe conditions.

In completing the final rule amendments, we again considered the 15-day notification given the comments concerns and rational for a same-day or 24-hour notice and we do not believe that the new assertions warrant changing the notification period in the proposed rule. We cannot allow a shorter notification period and still preserve our and the permitting authorities' ability to effectively oversee permittees. We firmly believe that the 15-day advance notification is necessary to allow EPA or the permitting authority the opportunity to have an observer in attendance during these post-initial performance tests, which essentially serve as performance tests. The 15-day advance notification is especially important because many facilities are located in remote locations that are difficult to visit without prearranged transportation. Having reiterated our reasons for maintaining the advance notification requirements, it is worth pointing out the statement that we made in the proposal preamble (65 FR 3919) which states: "... in limited cases, shorter notification periods may be necessary and are appropriate with prior approval by the permit authority and properly recorded."

#### I. Drafting Errors and Clarifications

In the January 25, 2000 Federal Register notice, we proposed several corrections to minor drafting errors identified following promulgation. No comments were received regarding those proposed corrections. Therefore, the amendments for the corrections and minor drafting errors are being published as proposed.

However, in the January 25, 2000 Federal Register notice, we proposed several amendments to the standards (§63.446(e)(2)), monitoring requirements (§63.453(j)), and test methods and procedures (§63.457(l)) used for biological treatment system. These proposed amendments allow you to comply with a percent reduction or mass removal standard using the individual HAPs or using methanol under certain conditions. In these proposed amendments, the following drafting errors and corrections were identified by commenters:

- C the quarterly testing requirements in §63.453(j)(3)(i) contain incorrect language from the 1998 NESHAP and references to the condensate standards,
- C an incorrect variable was used in the proposed amendments (§63.457(l)) to the test methods and procedures section, and
- C the definition of "r" (the ratio of nonmethanol HAPs to methanol) and the equation to determine "r" was not included in the proposed amendments (§63.457(l)(3) and (l)(4)) to the test methods and procedures section.

We agree with each of the drafting errors identified by the commenters. Therefore, we are revising the rule accordingly.

Comment: Three commenters stated that the proposed amendments to the biological treatment

system monitoring requirements (§63.453(j)(3)(i)) contain an unreasonable requirement. The proposed amendments specify that the methanol removal results from the second, third, and fourth quarters must be at least as great as the results obtained in the first quarter test. The commenters said that this proposed requirement elevates the level of the standard above that specified in the 1998 NESHAP (§63.446(e)) and penalizes mills that design and operate their systems to perform better than the rule requires.

Response: We agree with the commenters. The requirement that the methanol removal results from the second, third, and fourth quarters must be at least as great as the results obtained in the first quarter test was unintended. In revising the monitoring requirements to allow for the use of the proposed individual HAP or methanol test procedures, we inadvertently retained language from the 1998 NESHAP that originally specified that the methanol removal in quarters two, three, and four had to be at least as great as the total HAP removal achieved during the first quarter. The rule (§63.453(j)(3)(i)) is being revised today to specify that the methanol removal obtained in the second, third, and fourth quarters must meet the standards specified in §63.446(e)(2).

Comment: One commenter noted that the proposed amendments to the monitoring requirements (§63.453(j)(3)(i)) refer to the "total HAP . . . standards specified in §63.446(e)(2)(i) or (ii)." The commenter stated with the proposed amendments, the kraft pulping process condensate standards (§63.446(e)(2)(i) or (ii)) do not regulate "total HAP." The commenter recommended that the language of §63.453(j)(3)(i) be revised to correctly refer to the individual HAP or methanol procedures.

Response: We agree that the nomenclature of "total HAP" in the proposed amendments to §63.453(j)(3)(i) is incorrect. Therefore, the rule (§63.453(j)(3)(i)) has been revised to refer to the appropriate standards in §63.446(e)(2).

Comment: One commenter said that the proposed amendments to the test methods and procedures section (§63.457(l)(4)) contained the wrong variable to indicate mass flow in units of kilograms per megagram of oven-dried pulp (kg/Mg ODP). The commenter stated that the use of the variable "E" in §63.457(l)(4) of the proposed amendments to designate mass flow in units of kg/Mg ODP was inappropriate. The commenter noted that precedent for variable designations was established in the §63.457(j)(1) and (2) of the 1998 NESHAP. In these sections of the 1998 NESHAP, the variable "E" was used to designate mass flow in units of kg per hour (kg/hr) and the variable "F" was used to designate mass flow in units of kg/Mg ODP.

Response: We agree with the commenter that the incorrect variable was used in §63.457(l)(4) to designate mass flow in units of kg/Mg ODP. Also, the variable "E" was used incorrectly in the equation specified in §63.457(l)(2) since this equation is also in terms of kg/Mg ODP. Consequently, the variables in these two equations (§63.457(l)(1) and (l)(2) in the final amendments) have been revised throughout the rule.

Comment: One commenter said that the proposed amendments to the test methods section (§63.457(l)) should have included an equation to calculate "r" (the ratio of nonmethanol HAPs to

methanol). Also, the equation specified in §63.457(l)(4) does not define the variable "r."

Response: We originally did not believe an equation for the determination of r was needed due to its simplicity. However, to improve clarity, we have added to §63.457(l)(1) the equation to determine r. We have also revised the equation specified in §63.457(l)(2) to define the variable "r." In addition, although not specifically mentioned by the commenter, we have defined the terms "fbio" and "fbio(MeOH)" in §63.457(l)(1) and (l)(2) to improve clarity.

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