

Mandatory Greenhouse Gas Reporting Rule: EPA's Response to Public Comments

Technical Corrections, Clarifying and Other Amendments

October 2010

Technical Corrections, Clarifying and Other Amendments

U. S. Environmental Protection Agency Office of Atmospheric Programs Climate Change Division Washington, D.C.

FOREWORD

This document provides EPA's responses to significant public comments on EPA's Proposed Technical Corrections, Clarifying and Other Amendments. EPA published a Notice of Proposed Rulemaking in the Federal Register on June 15, 2010 (75 FR 33950). EPA received comments on this proposed rule via one or more of the following methods: regulations.gov, e-mail, fax, mail or courier. Copies of all comments submitted are available at the EPA Docket Center Public Reading Room. Comment letters are also available electronically through <u>http://www.regulations.gov</u> by searching Docket ID *EPA-HQ-OAR-2010-0109*.

Where only one comment was received on a topic, this document provides a summary of that comment. For each comment, the name and affiliation of the commenter, and the document control number (DCN) assigned to the comment letter is provided. Where only one comment was provided, EPA's response to the comment is provided immediately following that comment excerpt. Where multiple comments were received on a topic EPA has summarized these like comments and provided a single response. The summary includes references to the name and affiliation of the comment letter.

In some cases, EPA provided responses to specific comments or groups of similar comments in the preamble to the final rulemaking. Rather than repeating those responses in this document, EPA has referenced the preamble.

While every effort was made to include all the comments related to a particular issue regarding EPA's Proposed Technical Corrections, Clarifying and Other Amendments on 40 CFR Part 98 in the same section of this document, some comments inevitably overlap multiple subject areas. For comments that overlapped two or more subject areas, EPA assigned the comment to a single subject category based on an assessment of the principle subject of the comment.

No public comments were received on the proposed amendments to 40 CFR part 86, and 40 CFR part 98, subparts K (Ferroalloy Production), O (HCFC22 Production and HFC-23 Destruction), S (Lime Production), CC (Soda Ash Manufacturing), EE (Titanium Dioxide Production), GG (Zinc Production), and LL (Suppliers of Coal-based Liquid Fuels).

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1. HOW THESE AMENDMENTS APPLY TO REPORTS SUBMITTED IN 2011

Several comment letters were submitted on the subject of how the proposed amendments would apply to reports due by March 31, 2011, for 2010 information.

Cement Production

Commenter Name: Bryan Brendle **Commenter Affiliation:** Portland Cement Association **Document Control Number:** EPA-HQ-OAR-2010-0109-0033.1

Comment: PCA proposes to extend the due dates for the initial reports to June 30, 2011 for the 2010 GHG data only. Subsequent reports will be due on March 31 of each calendar year, beginning in 2010. Modification of Subpart H for cement manufacturers and Subpart C for stationary combustion will have significant impacts on the cement industry, influencing the ability to file accurate reports.

Response: Please see Section I.D of the final rule amendments preamble for the response to comments on how these amendments will apply to the 2010 reporting year. Like the final rule amendments for other subparts, EPA has determined that the amendments to subpart H provide additional clarification regarding the existing regulatory requirements, but do not generally affect the type of information that must be collected or how emissions are calculated. More specifically, many of the final rule amendments to subpart H provide additional flexibility for implementing specific provisions of subpart H, but do not remove, as an option, the 2009 final rule requirements. For example, with respect to determining the weight fraction of total MgO and CaO, reporters indicated that it is more efficient to sample clinker as it exists the kiln rather than from bulk storage; something that is done by some facilities on a daily basis. We decided to amend the rule to allow facilities the option to determine a monthly value based on the arithmetic average of the daily samples. With respect to measuring clinker, we amended subpart H to provide additional flexibility for measuring clinker, but did not remove the original option in the 2009 final rule. The final rule amendments also provide additional procedures for estimating carbon dioxide (CO₂) emissions from raw materials. Given that these changes generally provide additional flexibility above and beyond what was required in the 2009 final rule, we determine that it is not necessary to extend the reporting deadline in the first year from March 31, 2011 to June 30, 2011.

Iron and Steel Production

Commenter Name: John L. Wittenborn, Joseph J. Green, and Alexander D. Menotti **Commenter Affiliation:** Counsel to the Steel Manufacturers Association and The Specialty Steel Industry of North America **Document Control Number:** EPA-HQ-OAR-2010-0109-0025.1 Commenter Name: Kevin M. Dempsey Commenter Affiliation: American Iron and Steel Institute Document Control Number: EPA-HQ-OAR-2010-0109-0028.1

Commenter Name: Robert F. Casselberry Commenter Affiliation: U.S. Steel Corporation Document Control Number: EPA-HQ-OAR-2010-0109-0031.1

Comment: All three commenters stated that if EPA chooses to include all decarburization vessels as proposed, they should not be included in the 2010 reporting. Two commenters (0025, 0028) explained that making this change retroactive to the 2010 reporting year is untenable because companies were obligated to develop comprehensive GHG Monitoring Plans in early 2010 and to begin recordkeeping in January 2010 in order to be able to report for the entire 2010 reporting year by March 2011.

One commenter (0028) stated that by expanding the decarburization vessel definition in Subpart Q to include vacuum degassing and other refining operations beyond AODs, facilities with these operations will need to make adjustments to their monitoring plans, conduct additional sampling of inputs and outputs for these operations, make programmatic modifications to tracking software, and re-train employees. The commenter claimed that it will be impossible to collect the necessary samples of steel and dusts or sludges and perform analyses representative of the months that have elapsed since the beginning of 2010 in order to perform a mass balance, and it is also unrealistic to expect companies to consider the option of establishing a site-specific emission factor for these units because of all of activities that would be required to perform testing. The commenter recommended that EPA follow the course set in its July 12, 2010 final rules adding four new source categories to the Mandatory GHG Reporting Rule (75 FR 39735). The commenter said that EPA recognized that it would be unrealistic to require those operations to report emissions for 2010 and made these new rules effective with the 2011 reporting year.

Two commenters (0025, 0028) recommended that if EPA proceeds with the proposed changes, those requirements should be effective no sooner than 2011 and should be reportable in March 2012. One commenter (0031) believes that by amending a rule to include data acquisition and management after a reporting period has already begun is arbitrary and capricious and will significantly add to the burden the regulated community faces when attempting to collect meaningful data. The commenter stated that any such amendment should be prospective in nature and not impact calculations and sampling already underway.

Response: Please see Sections I.D and II.I of the final rule amendments preamble for the response to comments regarding how these amendments will apply to the annual reports submitted to EPA by March 31, 2011.

Landfills

Commenter Name: Kerry Kelly and Leslie C. Wong Commenter Affiliation: Waste Management Document Control Number: EPA-HQ-OAR-2010-0109-0022.1 **Commenter Name:** Edward W. Repa **Commenter Affiliation:** National Solid Wastes Management Association **Document Control Number:** EPA-HQ-OAR-2010-0109-0027.1

Commenter Name: Angela D. Marconi Commenter Affiliation: Delaware Solid Waste Authority Document Control Number: EPA-HQ-OAR-2010-0109-0029.1

Comment: One commenter (0027) stated that in Section I.D. (75 FR 33952) of the preamble to the proposed rule amendments, EPA establishes the tenor of the proposed amendments by stating:

"EPA is planning to address the comments on these proposed amendments and publish the final amendments before the end of 2010. Therefore, reporters would be expected to calculate emissions and other relevant data for the reports that are submitted in 2011 using the 2009 Final MRR as amended. We have determined that it is feasible for the source to implement these changes for the 2010 reporting year since the revisions primarily provide additional clarification regarding the existing regulatory requirements, generally do not affect the type of information that must be collected, and do not substantiality affect how emissions are calculated."

However, two commenters (0027 and 0029) believed that the proposed amendment in many instances substantially change the requirements for municipal solid waste landfills (Subpart HH). The commenters believe that EPA should not be retroactively imposing these requirements for reports that are to be submitted in 2010 and should, according to commenter 0027, in some cases provide an opportunity for formal public comment. The commenter asserted that sufficient documentation was not provided for some changes (for example the change to equation HH-4), to allow a complete review by the public.

One commenter (0022) stated that, on the whole, the Agency's proposed clarifications are helpful and do not impose additional applicability, monitoring or information collection. However, the commenter agreed with commenters 0027 and 0029 that in some specific instances, the proposed clarifications do raise new issues or impose new or substantially changed monitoring and/or information collection requirements which go beyond mere clarification or explanation. The three commenters noted that it is not appropriate for EPA to impose material changes retroactively for reports to be submitted in early 2011; and, if they were so finalized, it would not be feasible for affected reporters to comply with them in the March 31, 2011, report.

One material change, in particular, noted by commenter 0022, relates to data collection and reporting requirements under 40 CFR 98.346(h), which requires reporters to provide, "an indication of whether passive vents and/or passive flares that are not considered part of the gas collection system as defined in 40 CFR 98.6 are present at the landfill." The commenter noted that this represents a new data element and would require companies to contact landfill engineers at several hundred landfills to collect this new information. The commenter does not believe that imposition of new data collection elements is appropriate in a "technical clarification"

rulemaking, particularly as any such changed requirements will not be finalized until a mere matter of weeks prior to the required submittal of 2010 emissions reports. They recommend that EPA finalize this data element, but delay its collection to January 1, 2011, and delay its reporting to March 31, 2012 and thereafter.

Response: In general, based on more specific details provided in the comment letters, the commenters appear to be referring to two items that they perceived resulted in changes to the monitoring or reporting requirements: 1) the need to determine the leachate recirculation rate; and 2) the need to report the presence of a passive gas collection system.

First, with regard to the new explanation following Table HH-1 that reporters select their k values based on the amount of leachate recirculation that occurs at the landfill, no additional monitoring is required. Company records or engineering estimates are acceptable. This is made clear in the footnote to Table HH-1 in the final rule. The additional reporting requirement regarding the frequency of leachate recirculation requires no calculation, but merely selecting an option from a drop down menu. Reporters also have the options of doing what was included in the October 2009 final rule, and use the greater value instead of considering their leachate recirculation rate.

Second, the new reporting requirement to indicate if passive vents or passive flares are present at a landfill is not a reporting requirement that needs to be tracked all year. Instead, it requires only an annual response to a yes/no question about whether passive vents or passive flares were present at the landfill during the reporting year. No further detail is requested or required. As explained in Section II.P of the Preamble, this information is important to collect and it is a simple element that reporters have ample time to incorporate into their reporting process.

We note that we did make one additional change to the reporting requirements based on comments received on the proposed rule related to allowing the use of an MCF of less than 1.0 if aeration is used at the landfill. As explained in Section II.P of the Preamble, a facility may use an MCF of less than 1.0 if there is active aeration at the landfill. If such an MCF is used, additional information must be provided about the aeration system in use. Thus, a landfill wanting to use an MCF of less than 1.0 would need to provide additional information regarding 2010 operations. However, it is expected that few facilities have aeration in use and would therefore be able to use a lesser MCF. In addition, even if aeration is in place, the facility still has the option of using the 1.0 default for MCF rather than provide the additional reporting elements, thus, no landfill is necessarily required to report the additional information for 2010 as they could elect to use the default MCF value of 1.

The commenters may also be referring to changes in the perceived applicability of subpart HH to certain construction and demolition landfills based on the proposed definition of "dedicated construction and demolition landfill." According to the commenters, the proposed definition was more restrictive than their historical interpretation of "construction and demolition landfill" based on RCRA Subtitle D definition in 40 CFR 257.2. We have revised the definition of "construction and demolition landfill" using language from 40 CFR 257.2 to more clearly define the types of landfills that are not required to report under subpart HH.

For additional information, please see Sections I.D and II.P of the final rule amendments preamble for the response to comments on how these amendments will apply to the 2010 reporting year. Finally, regarding the concern that the amendments should provide the opportunity for formal public comment, EPA notes that the proposed rule was available on the web on May 27, was published in the Federal Register on June 15, 2010 and was open for a 45-day public comment period until July 30, 2010. While a public hearing was offered, none was requested. Please see Section II.P of the June 15, 2010 proposal preamble for the rationale for these changes.

Suppliers of Petroleum Products

Commenter Name: Karin Ritter Commenter Affiliation: American Petroleum Institute Document Control Number: EPA-HQ-OAR-2010-0109-0019.1 Comment Excerpt Number: 1

Comment: API indicated that there are two EPA proposed amendments for which refiners may not be able to meet the March 31, 2011 reporting deadline. First, API indicated that defining "batch" in a manner that would require monthly reporting of crude oil volumes may necessitate modifications to current refinery sampling and monitoring practices. Second, API indicated that refineries may not be able to comply with the new language clarifying that GHG emissions should not be calculated for products that entered the refinery but were not refined or otherwise used on site.

Response: Please see Section I.D of the final rule amendments preamble for the response to comments regarding how these amendments will apply to the 2010 reporting year. For a specific response to the first part of the comment about reporting 2010 data according to the new definition of "batch", please see Section II.R of the final rule amendments preamble. With respect to the second part of the comment about not calculating 2010 GHG emissions for products leaving the refinery if those products had entered the refinery but were not further refined or otherwise used on site, the commenter did not provide information as to why refineries may be unable to comply. EPA does not concur with the second part of this comment. In this case, refineries do not have to collect or report new information; rather they are reporting less information. While there may be minor additional burden for some reporters to subtract GHG emissions for those products that no longer need to be reported, EPA sees no reason why reporters would be unable to comply.

2. SUBPART E—ADIPIC ACID PRODUCTION

One comment letter was submitted on the proposed amendments to subpart E.

Commenter Name: Sidney H. Johnson **Commenter Affiliation:** INVISTA S.a r.l. ("INVISTA") **Document Control Number:** EPA-HQ-OAR-2010-0109-0017.1

Comment: INVISTA suggested further changes to Equation E-1 to consider that a group of adipic acid production units could share the same abatement technology. The commenter suggested that the language in 40 CFR 98.53(c) be modified to include identical language from the preamble as follows (in bold):

Using the results of the performance testing paragraph (b) of this section, you must calculate an emission factor for each adipic acid unit (or for a group of units if the same **abatement is used**) according to Equation E-1 of this section: . . .

 $EF_{N2O,N} = Average facility-specific N_2O emission factor for each adipic acid production unit (or for a group of units) (lb N_2O generated/ton acid produced).$

The commenter also suggested similar changes (in bold) to the language at 40 CFR 98.54(a), 98.56(j), and 98.57(c), as follows:

98.54(a): You must conduct a new performance test and calculate a new emission factor for each adipic acid production unit (or group of units if the same abatement is used) according to the frequency specified in paragraphs (a)(1) through (a)(3) of this section.

98.56(j): If you conducted a performance test and calculated a site-specific emissions factor according to 98.53(a), each annual report must also contain the information specified in paragraphs (j)(1) through (j)(7) of this section for each adipic acid production unit (or group of units if the same abatement is used).

98.57(c): Number of facility operating hours and the number of operating hours for each unit (or group of units if the same abatement is used).

Response: EPA has added language to 40 CFR 98.53(b)(1) in the final rule to add flexibility for facilities that have a group of units that exhaust to the same abatement equipment. However, EPA does not believe that the additional language referring to a group of units in 40 CFR 98.53(c), 98.54(a), 98.56(j), and 98.57(c) is needed. The added language would not add meaningful content to the rule and the issue of a group of units that share a common abatement device has been addressed through the language added at 40 CFR 98.53(b)(1).

Please see also Section II.C of the preamble to the final rule amendments for additional information on changes made to the final rule to address different process unit and control device combinations.

Comment: INVISTA suggested that the subscript letter "N" in term $EF_{N2O,N}$ used in equation E-1, be explained and changed to avoid confusion with the "N" in Equations E-2 and E3a. The commenter also suggested that the word "generated" be struck from the definition of $EF_{N2O,N}$ in Equation E-1 to reflect that the emission factor may now be determined either before or after

abatement. If measured after abatement, the emission factor represents a reduced amount from the amount of N_2O generated.

The commenter suggested a similar change to Equation E-3a and E-3b where the terms $EF_{N2O,N}$ and EF_{N2O} respectively, are used.

Response: Please see Section II.C of the preamble to the final rule for the response regarding changing of subscripts and removal of the term "generated."

Comment: INVISTA agreed with the proposed amendments that changes are necessary to calculate emissions correctly when abatement technology is not operated 100 percent of the time. The commenter requested that additional changes be made to Equation E-3a in 40 CFR 98.53(g)(1). The commenter suggested the use of P_a instead of P_{aN} and to move the summation over the range of 1 to N to include only the (DF_N*AF_N) term.

Response: Please see Section II.C of the preamble to the final rule amendments for the response regarding accounting for instances where the abatement technology is not operated 100 percent of the time, and for additional information on changes made to the final rule to address different process unit and control device combinations.

Comment: INVISTA noted that facilities that perform the annual stack testing on an adipic acid unit after abatement and then calculate emissions per Equation E-3b in 40 CFR 98.53(g)(2) are not actually required to evaluate their abatement technology destruction efficiency or their abatement utilization factor.

The commenter suggested that EPA add rule language to clarify that facilities are still required to report the abatement information in 40 CFR 98.56(c), (f), (g), and (h), even if they use Equation E-3b. According to the commenter, requiring only those facilities that perform stack testing prior to abatement to report detailed information on abatement would be unnecessarily arbitrary.

Response: A change to the rule is not necessary in order to require that facilities report abatement information even if they use Equation E-3b. The rule already requires that all facilities subject to Subpart E must report abatement and that "each annual report" must contain the items listed in paragraphs 40 CFR 98.56 related to use of any abatement technology. Specifically they must report the following regardless of whether the testing occurs before or after abatement: annual process N₂O emissions from adipic acid production during which N₂O abatement technology is operating (tons), (e) number of abatement technologies used (if applicable) (f) types of abatement technology (percent destruction), and (h) abatement utilization factor for each abatement technology (fraction of annual production that abatement technology is operating) (see 40 CFR 98.56(c)). EPA has not changed these requirements.

Comment: INVISTA suggested that 40 CFR 98.54(a)(1) be changed to be consistent with the language in 40 CFR 98.53(b)(2) in order to clarify the requirements:

Conduct the performance test annually. The test must be conducted at a point during production in the vent system piping that is representative of the average emissions from your process well-mixed stream composition and it must be performed during normal

process operating conditions. You must document the methods used to determine the representative point normal conditions.

Response: The purpose of this language in 40 CFR 98.54(a)(1) is to elaborate the requirements outlined in 40 CFR 98.53(b)(2) to ensure that emissions data are captured when the process is operating normally. The term "average emissions" was used to avoid testing at the beginning of a production run or at the end of the production run. Testing during either of those times could result in non-representative conditions. As long as the choice of the test timing is documented and the methods used to determine the test timing are documented, this requirement is met. EPA has changed "average emissions" to "average emissions rate" to be clearer about this intent, because this is the parameter obtained during the performance test, but does not agree that further revisions, like those proposed by the commenter, are needed for clarification. The language in 40 CFR 98.54(a)(1) is consistent with the requirement in 40 CFR 98.53(b)(2).

The rule offers flexibility in determining the timing of the performance testing. In both finalizing the promulgated rule and subsequent questions from reporters, EPA learned that adipic acid production facilities do monitor N_2O on a nearly continuous basis for process reasons and therefore, facilities do have some information on the emissions profile under varying production runs. This information could help inform selection of time of testing. Further, there is literature and existing data from continuous monitoring in other countries that could be used to determine an appropriate point for measurement in the adipic acid process. Also, where continuous process monitors are not currently available, historic data could be used. The rule provides facilities flexibility on methods to determine this testing point. Further, facilities can also apply to EPA to use alternative methods for determining N_2O emissions.

Comment: INVISTA suggested additional language to clarify that performance testing is allowed before or after abatement technology. Specifically, the commenter suggested amending 40 CFR 98.53 to include the specific language from the preamble as follows (in bold):

98.53(b)(i) You must conduct the test on the waste vent gas stream from the nitric acid oxidation step of the process, referred to as the test point, according to the methods specified in 98.54(b) through (f). This testing may be performed either before or after N20 abatement technology.

The commenter also recommended changing "waste gas stream" to "vent gas stream" and to use consistent terminology within Subpart E to describe the process stream that is being tested. It is alternately referred to as the "waste gas stream" [in 40 CFR 98.53(b)(1)], the "vent stream" [in 40 CFR 98.53(d)(2)], the "emissions stream" [in 40 CFR 98.53(d)(3)] and the "air stream" [in 40 CFR 98.53(g)(1) DF_N definition]. The commenter recommended the term "vent stream" be used in each of these instances.

Response: EPA agrees that additional clarification was appropriate about the location of testing. EPA notes that paragraphs 40 CFR 98.53(g)(1) through (g)(4) were amended to reflect cases where performance testing could occur before or after any abatement technology. Specifically, paragraphs (g)(1), (g)(2) and (g)(3) are applicable to testing that occurs prior to abatement and paragraph (g)(4) is applicable to testing that occurs either without abatement or after an

abatement technology With these changes, EPA determined that the clarification provided by the commenter was not necessary.

EPA agrees with the proposed changes to the term "waste gas stream" and "air stream." The terms have been consistently changed to "vent stream" in 40 CFR 98.53(b)(1), 98.53(d)(3), and 98.53(g)(1).

3. SUBPART H—CEMENT MANUFACTURING

Two comment letters were submitted on the proposed amendments to subpart H.

Commenter Name: J. Brian Gasiorowski Commenter Affiliation: Lafarge North America Document Control Number: EPA-HQ-OAR-2010-0109-0020.1

Commenter Name: Bryan Brendle **Commenter Affiliation:** Portland Cement Association **Document Control Number:** EPA-HQ-OAR-2010-0109-0033.1

Comment: Two commenters (0020, 0033) noted that reporting requirements in 40 CFR 98.86(a)(2) and 98.86(b)(3) require cement manufacturers to report monthly cement production from each kiln at the facility. The commenters pointed out that cement kilns produce clinker – not cement. The clinker from each cement kiln is subsequently sent to a mill and pulverized into a fine powder, and mixed with other ingredients to produce cement. Plants that operate multiple kilns may combine the clinker from all kilns and store the combined clinker before feeding it to the cement mill. Because of the variability of the amount of clinker produced by different kilns, and the varying methods of storage, the commenters proposed that EPA require cement manufacturers to report the total quantity of cement produced by the facility on an annual rather than monthly, kiln-specific basis.

Response: Because the requirement to report cement production was for verification of reported emissions data, and was not actually used in emissions calculations, we have revised the rule to require facilities to report cement production on an annual, facility-wide basis. Due to the variations in storage time between clinker production and cement production, cement production data on a monthly basis do not provide significantly more information than data on an annual basis to warrant the additional data collection. Moreover, it appears that the requirements in 40 CFR 98.86(a)(2) and 98.86(b)(3) are not consistent with cement plant manufacturing practices, and therefore should not be required on a kiln-specific basis.

Comment: One commenter (0020) expressed concern that the monthly verification of the feed-to-clinker ratio, required under 40 CFR 98.94(d), is unduly burdensome. The commenter suggested that EPA change the rule to require quarterly verification instead of monthly.

Response: Please see Section II.D of the preamble for the final rule amendments for the response on clinker monitoring and reporting requirements.

Comment: One commenter (0033) stated that the cement kiln dust (CKD) measurement requirements under 40 CFR 98.84(e) should be revised to be consistent with the clinker measurement requirements under 40 CFR 98.84(d). Specifically, 40 CFR 98.84(d) allows facilities to determine monthly clinker quantities by either reconciling weigh hopper or belt weigh feeder measurements against inventory measurements or by direct weight measurement of raw feed and applying a feed-to-clinker ratio. In contrast, 40 CFR 98.84(e) requires facilities to determine quarterly CKD quantities by direct weight measurement. The commenter pointed out that the CKD quantity has a lesser impact on CO_2 emission calculations than the clinker quantity. Therefore, the rule should not have more stringent measurement devices should not be required to be installed if they are currently not being utilized at the facility, and requested that facilities be permitted to use the same methods currently in place for accounting purposes to determine the quantity of CKD not recycled to the kiln.

Response: Please see Section II.D of the preamble for the final rule amendments for the response on CKD monitoring requirements.

Comment: One commenter (0020) proposed revising the language in 40 CFR 98.87 as follows:

- Remove 40 CFR 98.87(a)(3) since it does not add any substantive requirements beyond what is already stated as required in the introductory part of 40 CFR 98.87(a).
- Reword 40 CFR 98.87(b) to read "you must retain the records specified in this paragraph (b) for each Portland cement manufacturing facility" instead of reading "you must retain the records specified in paragraphs (a) through (b) of this section for each Portland cement manufacturing facility."

Response: We have made the edits suggested by the commenter to clarify the language in 40 CFR 98.87(a) and (b).

4. SUBPART N—GLASS PRODUCTION

One comment letter was submitted on the proposed amendments to subpart N.

Commenter Name: Monica (no surname provided) Commenter Affiliation: None provided. Document Control Number: EPA-HQ-OAR-2010-0109-0012

Comment: The commenter reviewed the Technical Corrections & Other Amendments document on EPA's website and would like to request that lithium carbonate and strontium carbonate should be included in the rule in Table N-1 with their associated emission factors.

Response: Please see Section II.F of the preamble for the final rule amendments for the response on adding emissions factors for lithium carbonate and strontium carbonate.

5. SUBPART P—HYDROGEN PRODUCTION

One comment letter was submitted on the proposed amendments to subpart P.

Commenter Name: Karin Ritter Commenter Affiliation: American Petroleum Institute Document Control Number: EPA-HQ-OAR-2010-0109-0019.1

Definition of Source Category

Comment: API noted that EPA is proposing to amend 40 CFR 98.160(c) to clarify that hydrogen production facilities located within other facilities are also included in the source category if they are not owned by, or under the direct control of, the other facility's owner and operator. This clarification was necessary to correct a misunderstanding that the original rule text limited the source universe to hydrogen production facilities located within petroleum refineries. API supports this revision as it clarifies how refineries were interpreting the rule.

Response: EPA thanks the commenter for their input. The definition of the source category for subpart P in the final rule, like the proposed rule, includes merchant hydrogen facilities located within other facilities if they are not owned by, or under the direct control of, the other facility's owner and operator.

References to "Process" Carbon Dioxide Emissions

Comment: API noted that EPA is proposing to amend subpart P to remove several references to "process" CO_2 emissions. EPA is proposing to clarify the text in the rule by removing references to the term "process" from the rule language. API supports this revision as it clarifies the requirements for hydrogen plants.

Response: EPA thanks the commenter for their input. The final rule, like the proposed rule, removes the references to "process" CO_2 emissions.

GHGs to Report From Hydrogen Production Process Units

Comment: API noted that EPA is proposing to remove the requirements in 40 CFR 98.162(b) for owners or operators to report CO_2 , CH_4 and N_2O combustion emissions from each hydrogen production process unit using the emissions calculation methods in subpart C. This provision results in double counting of combustion-related emissions from hydrogen production process units, as these combustion emissions are already accounted for when following the calculation

methods in 40 CFR 98.163(a) or (b). Emissions of CO_2 would still be reported under 40 CFR 98.162(a) using the procedures in 40 CFR 98.163(a) or 98.163(b). API supports this revision as it clarifies the requirements for hydrogen plants.

Response: EPA thanks the commenter for their input. The final rule, like the proposed rule, removes the requirements in 40 CFR 98.162(b).

Calculating GHG Emissions

Comment: API noted that EPA is also proposing to amend language describing the calculation of GHG emissions from gaseous, liquid, and solid fuels and feedstocks in 40 CFR 98.163. The clarified language would specify that each gaseous, liquid, or solid fuel and feedstock would need to be calculated based on its respective equations detailed in the rule language. This removes the concern that the current language was unclear as to which fuel and feedstock stream would be used to calculate CO_2 emissions. API supports this revision. This clarification confirms API's interpretation of the rule.

Response: EPA thanks the commenter for their input. The final rule, like the proposed rule, retains the clarification on the calculation of GHG emissions from gaseous, liquid, and solid fuels and feedstocks in 40 CFR 98.163.

Comment: API noted that EPA is proposing to amend 40 CFR 98.166(c) to strike "quarterly" and "kg" (kilogram). Some facilities subject to subpart P may also be subject to subpart PP— Suppliers of Carbon Dioxide. Quarterly reporting of CO_2 quantities (in kilograms) was not consistent with subpart PP. API supports this revision.

Response: EPA thanks the commenter for their input. The final rule, like the proposed rule, amends 40 CFR 98.166(c) to strike "quarterly" and "kg" (kilogram).

6. SUBPART Q—IRON AND STEEL PRODUCTION

Three comment letters were received on the proposed amendments to subpart Q.

Commenter Name: John L. Wittenborn, Joseph J. Green, and Alexander D. Menotti **Commenter Affiliation:** Counsel to the Steel Manufacturers Association and The Specialty Steel Industry of North America **Document Control Number:** EPA-HQ-OAR-2010-0109-0025.1

Commenter Name: Kevin M. Dempsey Commenter Affiliation: American Iron and Steel Institute Document Control Number: EPA-HQ-OAR-2010-0109-0028.1

Commenter Name: Robert F. Casselberry Commenter Affiliation: U.S. Steel Corporation Document Control Number: EPA-HQ-OAR-2010-0109-0031.1

Comment: Two commenters (0025, 0028) said that the proposal to clarify the definition of decarburization vessels to include all decarburization vessels rather than just argon-oxygen decarburization (AOD) was not merely a technical correction or clarification, but was instead a substantive change to subpart Q as promulgated. According to the commenters, the new definition of decarburization vessel, which includes a list of the covered processes and the phrase "or other decarburization vessels," is much too broad and inclusive. The commenters noted that most steel plants, whether integrated or electric arc furnace producers, employ several different kinds of refining processes to improve the quality of the steel produced, and some of these refining processes, such as AODs, are primarily intended to reduce carbon. However, the commenters stated that other processes, such as vacuum degassing, electro-slag remelting, and vacuum-arc remelting, are primarily intended to reduce dissolved gases such as hydrogen, nitrogen, and oxygen in the molten steel, and carbon reduction is only incidental. According to the commenters, making these processes subject to subpart Q would require facilities to make numerous adjustments to their monitoring plans and conduct additional sampling. For these reasons, the commenters believe that the proposed amendment would add significant new requirements and represent a substantive change rather than being merely a clarification. One commenter (0031) said that the time and effort to verify GHG emissions from vacuum degassing would be extremely burdensome and could increase the resources needed to comply with subpart Q by 50 percent. The commenter stated that the added burden of data collection, measurements, recordkeeping, and reporting of these emissions is not justified by the addition of vacuum degassing and other refining operations to the mandatory reporting requirements.

Two of the commenters (0028, 0031) estimated that the additional processes included in the proposed amendment contribute "substantially less than 1 percent" of the emissions from the sector, and one commenter (0025) estimated they contributed only 0.02 percent of the emissions. One commenter (0025) said that because these emissions are relatively insignificant and would be extremely difficult to quantify for reporting purposes, they should continue to be excluded from reporting obligations. The commenter also rejected the rationale that emissions from all decarburization vessels should be reported because EPA is also proposing to limit reporting of emissions from flares to those burning coke oven gas or blast furnace gas only (an amendment that the commenter supports), which would obviate reporting of vacuum degasser flare emissions. The commenter said that the emissions are so low they would be difficult to detect, and measuring such emissions through either the carbon-mass balance approach or a site-specific emission factor would be burdensome and potentially infeasible. The commenter concluded that EPA has not provided a rational basis for inclusion of decarburization vessels within the GHG Reporting Rule.

Two commenters (0025, 0028) recommended that if EPA proceeds by adding a definition for "decarburization vessel," the definition should be revised. One commenter (0025) suggested that the definition be clarified such that it includes only vessels for which the primary purpose is decarburization. The other commenter (0028) asked that it be revised to read, "any vessel used to further refine molten steel with the primary intent of reducing carbon content of the steel that also requires flaring the off-gas to oxidize CO to CO_2 ."

All three commenters stated that if EPA chooses to include all decarburization vessels as proposed, they should not be included in 2010 reporting (see Section 1 of this document, "How these amendments apply to Reports Submitted in 2011").

Response: Please see Sections I.D and II.I of the preamble for the final rule amendments for the response to these comments on the proposed amendments for decarburization vessels.

7. SUBPART V—NITRIC ACID PRODUCTION

Two comment letters were submitted on the proposed amendments to subpart V.

Commenter Name: Sidney H. Johnson **Commenter Affiliation:** INVISTA S.a r.l. ("INVISTA") **Document Control Number:** EPA-HQ-OAR-2010-0109-0017.1

Commenter Name: Thomas Siegrist Commenter Affiliation: Koch Nitrogen Company, LLC Document Control Number: EPA-HQ-OAR-2010-0109-0030.1

Comment: Two commenters (0017 and 0030) requested that 40 CFR 98.223(b)(1) be modified to match the preamble to the final rule concerning sampling. The commenters asked that 40 CFR 98.223(b)(1) be revised (see bold) to clearly state that sampling can occur either upstream or downstream of abatement:

You must conduct the performance test at the absorber tail gas vent, referred to as the test point, for each nitric acid train according to \$98.224(b) through (f). If N₂O abatement technology has been installed in a train, that train's performance test may be conducted either upstream or downstream of the abatement technology.

Response: EPA agrees that additional clarification beyond the proposal was appropriate regarding the location of testing. EPA notes that paragraphs 40 CFR 98.223(g)(1) through (g)(4) were amended to reflect cases where performance testing could occur before or after any abatement technology. Specifically, paragraphs (g)(1), (g)(2) and (g)(3) are applicable to testing that occurs prior to abatement and paragraph (g)(4) is applicable to testing that occurs either without abatement or after an abatement technology. With these changes, EPA determined that the clarification provided by the commenter was not necessary.

Comment: One commenter (0030) requested that the units for the average site-specific N_2O emissions factor for nitric acid train "t" (EF_{N2Ot}) be changed from "lb N_2O generated/ton nitric acid produced, 100 percent acid basis" to "lb N_2O /ton nitric acid produced, 100 percent acid basis." The calculated emission factor for facilities that conduct a performance test downstream of abatement actually represent the pounds of N_2O emitted, rather than the pounds of N_2O generated. With the suggested change to removed the word "generated," the units become applicable to performance tests conducted either upstream or downstream of abatement.

Response: EPA agrees with this change. The units of the emission factor were changed from "lb N_2O generated/ton of nitric acid produced, 100% acid basis" to "lb N_2O /ton of nitric acid produced, 100% acid basis."

Comment: According to one commenter (0030), facilities do not have information to determine a point during the campaign which is representative of the average emissions over the entire campaign. The commenter requested that 40 CFR 98.224(a)(1) be modified as indicated to ensure that performance tests are conducted during representative operations while enabling operating facilities to document and demonstrate compliance with this objective:

Conduct the performance test annually. The test should **must** be conducted at a point during the campaign which is representative of the average emissions over the entire campaign under normal process operating conditions. Facilities must document the methods used to determine the representative point of the campaign demonstrate that the performance test was conducted at a time representative of normal operation when the performance test is conducted.

Response: Please see Section II.K of the preamble for the final rule amendments for the response to comments on the selection of the test conditions.

Comment: One commenter (0017) noted that the regulation for Adipic Acid is similar to the regulation for Nitric Acid and asked that EPA compare the clarifications made to each of these subparts for consistency.

Response: Please see Section II.K of the preamble for the final rule amendments for the response on amendments to subpart V that are consistent with the commenter's recommendations on subpart E.

8. SUBPART Z—PHOSPHORIC ACID PRODUCTION

One comment letter was submitted on the proposed amendments to subpart Z.

Commenter Name: Diana M. Jagiella **Commenter Affiliation:** The Mosaic Company **Document Control Number:** EPA-HQ-OAR-2010-0109-0032.1

Comment: Mosaic requested that Equation Z-1 be updated. Regarding the inorganic carbon determinations, Equation Z-1 assumed that the AFPC test is for inorganic carbon and the equation provides for calculation of CO_2 emissions using inorganic carbon content as an input. However, the AFPC test is for CO_2 directly, making Equation Z-1 inapplicable as written. The commenter suggested a technical amendment (removing the factor to convert from inorganic carbon to CO_2) to correct this minor misalignment.

Response: Please see preamble Section II.L on subpart Z- Phosphoric Acid Production for the response on updating equation Z-1.

Comment: Mosaic stated that a grab sampling protocol for phosphate rock samples will be incorporated into the 10th edition of AFPC manual and that the manual will be updated Version 1.92 of the AFPC manual. The commenter noted that AFPC Manual 10th Edition 2009 Version 1.9 does not contain a protocol for grab sampling. The commenter noted that the proposed amendments cite and incorporate by reference the AFPC Manual 10th Edition, without referencing a year or a version, and suggested that the added protocol for grab sampling would seem to be incorporated into subpart Z, under the proposed amendments, without any further action needed by EPA or by AFPC. The commenter noted that 40 CFR 98.7, states that materials are incorporated by reference "on the date of approval," and took this to mean that the proposed amendments were, in effect, changing the documents being incorporated. Thus, the commenter believed that since the protocol will be incorporated into the AFPC method prior to publication of the final rule amendments, facilities may begin using the AFPC grab sampling protocol at the time the rule amendments become effective. The commenter requested that EPA clarify that this interpretation of the proposed amendments to the references to the AFPC manual is correct.

Response: EPA agrees that it is important to allow phosphoric acid facilities to follow the latest standard protocol for grab samples of phosphate rock. In light of this, EPA has finalized requirements to provide flexibility and requires use of an industry consensus standard or industry standard practice for collecting grab samples. As an example, the Association of Fertilizer and Phosphate Chemists (AFPC) Manual 10th Edition- Version 1.92 and future versions of that manual would be an acceptable standard. Therefore, for consistency, EPA has updated the reference in both 98.264(a) and (b) to allow use of industry consensus standards or industry standard practices.

9. SUBPART HH—MUNICIPAL SOLID WASTE LANDFILLS

Several comment letters were submitted on the proposed amendments to subpart HH.

Commenter Name: Kerry Kelly and Leslie C. Wong Commenter Affiliation: Waste Management Document Control Number: EPA-HQ-OAR-2010-0109-0022.1

Commenter Name: Niki Wuestenberg Commenter Affiliation: Republic Services Document Control Number: EPA-HQ-OAR-2010-0109-0024.1

Commenter Name: Edward W. Repa **Commenter Affiliation:** National Solid Wastes Management Association **Document Control Number:** EPA-HQ-OAR-2010-0109-0027.1

Commenter Name: Angela D. Marconi Commenter Affiliation: Delaware Solid Waste Authority Document Control Number: EPA-HQ-OAR-2010-0109-0029.1 Commenter Name: Sparsh Khandeshi, Meleah Geertsma, Craig Segall Commenter Affiliation: Environmental Integrity Project, Natural Resources Defense Council, Sierra Club Document Control Number: EPA-HQ-OAR-2010-0109-0034.1

Definitions

Comment: Several commenters (0022, 0024, 0027) stated that the new definition of "dedicated construction and demolition (C&D) waste landfills" is problematic and inappropriate because it is inconsistent with the C&D landfill definition already long-established in 40 CFR 257.2, "Criteria for the Classification of Solid Waste Disposal Facilities and Practices," it represents a significant material change to the MRR GHG reporting applicability requirements, and it changes the data collection requirements for landfills retroactively. The RCRA Subtitle D definition in part 257.2 is:

"Construction and demolition (C&D) landfill means a solid waste disposal facility subject to the requirements of subparts A or B of this part that receives construction and demolition waste and does not receive hazardous waste (defined in § 261.3 of this chapter) or industrial solid waste (defined in § 258.2 of this chapter). Only a C&D landfill that meets the requirements of subpart B of this part may receive conditionally exempt small quantity generator waste (defined in § 261.5 of this chapter). A C&D landfill typically receives any one or more of the following types of solid wastes: roadwork material, excavated material, demolition waste, construction/renovation waste, and site clearance waste."

According to the commenters, a dedicated C&D landfill as defined in the proposal rarely exists and most states allow C&D landfills to accept yard waste and other forms of household trash, pointing to the use of the word "typically" with regard to the types of wastes received, and suggesting that site clearance waste includes yard waste among other materials. The commenters urged EPA to delete the new C&D landfill definition in 40 CFR 98.348 and replace it with the definition found in 40 CFR 257.2. On the other hand, one commenter (0034) expressed concern with excluding "dedicated C&D waste landfills" even with the proposed definition and requested EPA to quantify the methane emissions from these C&D landfills.

Response: Please see Section II.P of the preamble for the final rule amendments for the response to these comments.

Comment: Several commenters (0022, 0024, 0029) expressed appreciation over the amended definition of "gas collection systems or landfill gas collection systems" to confirm and clarify that passive vents/flares are not considered part of a landfill gas collection system for purposes of 40 CFR 98, Subpart HH. However, these commenters opposed the reporting requirement to provide "an indication of whether passive vents and/or passive flares that are not considered part of the gas collection system as defined in 40 CFR 98.6 are present at the landfill." The commenters argued that this represents a new data element that would require significant

additional burden to collect. The commenters recommend that EPA finalize this data element, but delay its collection to January 1, 2011, and delay its reporting to March 31, 2012 and thereafter. On the other hand, one commenter (0034) expressed concern that EPA's decision to exempt "passive" gas collection systems from flow meter reporting may inadvertently exempt substantial emissions sources. The commenter noted the uncertainty as to the number of landfills with passive vent controls and that the cumulative emissions from these passive collection systems could be significant. The commenter requested EPA include any data on this point in the record for the final rulemaking and include passive gas collection systems fully in the rule if warranted. This commenter (0034) supported additional reporting requirements in 40 CFR 98.346 regarding descriptions of gas collection systems.

Response: Please see Section II.P of the preamble for the final rule amendments for the response to these comments on the request for a delay in the reporting of whether passive vents and/or passive flares are present.

As for the one commenter's (0034) concern that EPA is exempting passive gas collection systems from flow meter reporting, this exemption will not affect the emission sources that are reported under subpart HH. Subpart HH already includes provisions for calculating and reporting GHG emissions from landfills with passive vent and/or passive flare systems that do not rely on flow meter reporting.

Comment: One commenter (0029) noted that they operate a closed landfill that incorporates the use of small fans with passive flares. According to this commenter, the use of these devices does not qualify as a landfill gas collection system per 40 CFR 98.6 due to the lack of central treatment. Another commenter (0022), while voicing support of the amended definition of a gas collection system, also stated that "the amendment correctly recognizes that passive systems do not collect and route gas to a single location as occurs in an active system."

Response: The proposed amendments contained the following revised definition, in which the bolded text indicates the text added under the proposed amendment:

"Gas collection system or landfill gas collection system means a system of pipes used to collect landfill gas from different locations in the landfill **by means of a fan or similar mechanical draft equipment** to a single location for treatment (thermal destruction) or use. Landfill gas collection systems may also include knock-out or separator drums and/or a compressor. Landfill gas collection systems do not include "passive" systems, whereby landfill gas flows naturally to the surface of the landfill where an opening or pipe (vent) is installed to allow for natural gas flow."

Pursuant to this definition, the distinguishing feature delineating an "active" gas collection system from a passive gas collection system is the presence of a fan or similar mechanical draft equipment, rather than the type of destruction device (i.e., "active" versus "passive" flare). Therefore, the system described by the first commenter is considered a "gas collection system or landfill gas collection system" because it uses a fan. The size of the fan is not a relevant factor for determining if the system is "passive." Passive systems are clearly characterized in the amended definition as having unaided gas flow. The amendments did not alter the language regarding "a single location for treatment," therefore it is unclear what is meant by the second commenter's statement, but it suggests that this commenter may have similar misinterpretations as the first commenter. Additionally, the number of flares present at the landfill does not alter the definition of gas collection system. A large landfill that has two separate series of pipes and fans that each direct landfill gas to two separate flares would have two separate gas collection systems.

Based on these comments, we believe that some landfill owners and operators may be misinterpreting the intent of the proposed clarifications. Any series of pipes and even a single pipe with multiple holes to allow landfill gas to be conveyed from different points (either vertically or horizontally) within the landfill to a destruction device can be considered "to collect gas from different locations within the landfill...to a single location for treatment." Therefore, while we are finalizing the proposed amendments to clarify our intent to require monitoring of only the "active" gas collection systems, we are also including an additional sentence within the final amended definition to note that, "A single landfill may have multiple gas collection systems."

Comment: One commenter (0029) stated that the proposed definition presented in 40 CFR 98.348 for "destruction device" is inconsistent with the definition already contained in 40 CFR 98.6 of the original rule. The commenter requested that, in agreement with the definition presented in 40 CFR 98.6, the proposed definition for "destruction device" in 40 CFR 98.348 should include conveyance through a pipeline for use/combustion offsite as a type of destruction device.

Response: There is no inconsistency between the definition of "destruction" in 40 CFR 98.6 and "destruction device" in 40 CFR 98.48. The term "destruction device" in 40 CFR 98.348 specifically refers to the device used to effect combustion of methane and does not include a pipeline because the simple conveyance of gas through a pipeline does not effect combustion. The 40 CFR 98.348 definition of "destruction device" does not mandate that the device be located at the landfill facility, and we further clarify in this response that the destruction device may be located off-site. When the term "for destruction" is used, the definition of "destruction" in 40 CFR 98.6 prevails, and clearly indicates that destruction can occur off-site and the transport of landfill gas via pipeline to an off-site destruction device constitutes "destruction." Both terms require that methane transported offsite for destruction be included in facility totals.

Mass Weighing Requirements

Comment: Several commenters (0022, 0024, and 0027) stated that the requirement in 40 CFR 98.343(a)(3) to use scales when scales are in-place for all vehicles, except passenger vehicles and light-duty pick-up trucks, or containers delivering waste, would be problematic. They asserted it is not possible to physically weigh all loads entering the landfill because their weight may exceed the scales' capability or the dimensions of the waste may not allow the waste load to pass through the physical constraints of the scale and scale-house. Some commenters (0022, 0024, 0027, and 0029) noted that state and local requirements may require accounting of certain waste types on a volumetric basis despite the landfill having scales. The commenters suggested that having to maintain two sets of records in order to comply with all established regulatory requirements is an unnecessary burden and contrary to acceptable accounting practices. One

commenter (0024) suggested that the clarification to require all waste loads to be weighed via a scale was a substantial material change because the final rule could be interpreted to allow tipping fee receipts or company records for the 2010 reporting year and beyond, and not just direct measurement. The commenters (0022, 0024, 0027) generally recommended that 40 CFR 98.343(a)(3) be revised so that waste loads could be measured by using either methodologies as appropriate for the waste type disposed, even if scales were present at the landfill. The commenters suggested EPA allow facilities to estimate the weight/volume of the delivered waste material using methods and factors allowed or required by state or local agencies or other methods documented in the facility's relevant GHG Monitoring Plan.

Response: Please see Section II.P of the preamble for the final rule amendments for the response to these comments.

Comment: One commenter (0029) assumed that the proposed amendments in 40 CFR 98.343(a)(3) addressed the weight estimation methods for passenger vehicles and light duty pickup trucks. The commenter was opposed to these requirements for passenger vehicles and light duty trucks and requested the methods provided in this section be removed and replaced with estimation methods deemed acceptable by local practice. According to the commenter, the second method provided in the rule may be useful; however the recording of inbound weight for this method would be a waste of time and effort. The measurement of inbound weight is rendered meaningless without an outbound weight with which to compare it. Therefore, the commenter requested that the requirement to record inbound weight be removed. The commenter suggested that rather than utilizing the method proposed that routine checks be performed on the assumed vehicle weights.

Response: The commenter appears to have misinterpreted the proposed requirements for light duty trucks and passenger vehicles. While landfills owners or operators may elect to weigh individual loads in these vehicles according to the methods in 40 CFR 98.343(a)(3)(i)(A) or (B), they may also use the methods in 40 CFR 98.343(a)(3)(ii). Section 98.343(a)(3)(ii) allows the landfill owner or operator to develop a typical waste load mass per passenger vehicle and/or per light duty pick-up truck, then simply record the number of passenger vehicles and light duty pick-up trucks entering the landfill, and use those data to calculate the cumulative waste quantities received from passenger vehicles and light duty pick-up trucks. The proposed amendments include no requirement to measure each incoming passenger vehicle or light duty pick-up truck. As such, we find that the proposed amendments adequately address the concerns expressed by this commenter, and we are finalizing the proposed amendments to allow passenger vehicles or light duty pick-up trucks to use alternatives to the direct mass weighing requirements in 40 CFR 98.343(a)(3)(i).

Equations and Equation Parameters

Comment: Two commenters (0022, 0027) indicated that the requirement to use a methane correction factor (MCF) of 1 will overestimate methane generation from landfills that are actively aerated and recommended that facilities be allowed to use alternative MCF values based on site-specific conditions (e.g., the use of in-situ aeration).

Response: Please see Section II.P of the preamble for the final rule amendments for the response to these comments.

Comment: One commenter (0022) noted that the new defaults for inert wastes in Table HH-1 are designated for use only by those landfills capable of segregating and measuring the waste they accept by composition using EPA's proscribed waste categories, which include: food waste, garden, paper, wood and straw, textiles, diapers, sewage sludge and, now, inerts. These categories are not used as a means of categorizing waste receipts at U.S. MSW landfills and few if any MSW landfills will be able to adjust for large quantities of inerts that may be disposed of at a specific landfill. The commenter noted that the MSW landfill sector in the U.S. typically records waste type receipts using the broad categories of MSW bulk waste, construction and demolition (C&D) bulk waste, inert waste, sewage sludge, and yard and garden waste. The commenter recommended that the inert defaults be included in Table HH-1 in the section for the "Bulk Waste Option" to allow landfills to take large shipments of bulk inert wastes into account in their landfill gas generation models.

Response: Please see Section II.P of the preamble for the final rule amendments for the response to this comment.

Comment: One commenter (0022) noted some technical issues with the proposed amendments to Equation HH-4 and the related requirements in 40 CFR 98.343(b). As proposed, 40 CFR 98.343(b)(2) requires methane and, if necessary, temperature, pressure, and moisture content to be measured once each calendar week. Many landfills measure these parameters more than once per calendar week for various operational reasons. When available, "extra" readings improve measurement accuracy and, therefore, should be encouraged. However, as proposed, the provision is not clear with regard to how the "extra" readings should be incorporated in the equation (i.e., average the readings, use only one reading, etc.). The commenter suggested averaging the values within the measurement period, which is consistent with the definition of $(C_{CH4})_n$ in equation HH-4 and subpart HH should refer to these parameters as averages.

Response: We did not intend to limit the use of measurement data to once per day or once per week. We have revised the definition of the temperature and pressure variables in Equation HH-4 to indicate "average temperature" and "average pressure." We have also revised the language in 40 CFR 98.343(b)(2)(ii), (iii)(A), and (iii)(B), to further clarify our intent to allow measurements to be made more often than once per calendar week. Specifically, the final amendments require monitoring of gas CH₄ concentration, temperature, pressure, and (if required) moisture content "at least once each calendar week; if only one measurement is made each calendar week, there must be at least three days between measurements." We are clarifying through this response that it is acceptable (and preferable) to calculate and use the average value when multiple measurements are made during a given week. However, we are concerned that specifically requiring the calculation of the average value when multiple measurements are made during a given week could be considered to be an additional calculation requirement and that some landfill owners and operators may not have maintained records of these "additional measurements." Therefore, we are not adding further clarifications that "require" averaging. Nonetheless, we believe the final rule amendment language adequately allows for the calculations of average values as requested by the commenter. If multiple measurements are

made and an average for the week taken, per the recordkeeping requirements in 40 CFR 98.3(g)(2), individual measurements used to calculate the average must be retained as a record.

Comment: One commenter (0027) stated that EPA proposed substantial changes to Equation HH-4 from the 2009 final rule without providing support documentation or a rationale for making these changes. This lack of rationale does not allow for a complete review and comment by the regulated community.

Response: The commenter is mistaken. The rationale for the proposed amendments was provided in the preamble to the proposed amendments. The proposed amendments were published in the Federal Register and the public was given 45 days to submit comments. Therefore, we consider that we have fulfilled our obligation to provide for public review and comment of the proposed amendments.

The need for the proposed clarifying amendments can be illustrated through the large number of questions received by EPA on this issue. Page 15 of the May 20, 2010 memorandum "Summary of questions raised on various subparts of the final Mandatory Greenhouse Gas Reporting Rule (40 CFR Part 98) after promulgation that are being addressed in the proposed technical corrections and other amendments" (Document ID: EPA-HQ-OAR-2010-0109-0004) indicates that at least ten submittals to the hotline posed questions or requested clarification on Equation HH-4 specifically with regard to correcting for moisture content. The significant number of submittals to EPA on the same topic demonstrates confusion and clearly indicates the need for correction or clarification to the rule language.

Comment: Two commenters (0022, 0027) indicated that the amendment to Table HH-1 regarding leachate recirculation imposed substantial new data collection requirements that would require significant operational changes to implement. According to the commenters, most landfills that recirculate leachate do not measure and track the volume that is recirculated during each event and would not be able to provide these data for the 2010 calendar year. Furthermore, one of the commenters (0027) suggested that landfills would incur significant expense to install appropriate leachate measurement and ancillary equipment for a nominal impact on landfill GHG emissions calculation.

Response: Please see Section II.P of the preamble for the final rule amendments for the response to these comments.

Comment: Two commenters (0022, 0027) stated that the Agency should not establish mandatory default values for "k" in the bulk waste section of Table HH-1, but retain the proposed default values for optional use and specifically allow for reporters to determine "k" by their own method, as documented in the facility's relevant GHG Monitoring Plan. According to the commenters, many physical factors influence the decay rate or "k" of the organic material present in an MSW landfill. While moisture content in the landfill is a significant influence on decay rate, it is not the exclusive influence, and is often not even the dominant influence. The commenters believe it is not scientifically defensible to impose a mandatory, static decay rate for all landfills accepting bulk MSW based solely upon the single factor of moisture content. The commenters suggested that "flexibility should be allowed so that each MSW landfill may use site specific data to calculate "k" as is recommended in the Agency's LandGem User's Guide and

AP-42 Emission Factors for MSW Landfills." The commenters suggested that the reporting requirements in 40 CFR 98.346(a), which require reporters to provide the frequency of leachate recirculation, could be further amended to require that reporters indicate whether they are relying on one of the default values for "k" provided for MSW bulk waste in Table HH-1, or if they are using their own procedure and site specific data, as provided in the facility's respective GHG Monitoring Plan. The commenters also suggested that footnote "a" to Table HH-1 be amended to read as follows: "Use these default values for "k" if you do not calculate your own "k" value using site-specific data and a procedure included in the GHG Monitoring Plan. If you use these default values, recirculated leachate..."

Response: Although AP-42 indicates that significant variability in the decay rate constants may be observed at individual landfills, AP-42 and LandGEM do not provide a recommended means by which one should determine this site-specific "k" value. In fact, there is no real test method by which to determine this "k" value. The final rule provides an option where "k" values can be selected based on waste composition. We are also finalizing an "alternative bulk MSW option" that will allow landfills owners and operator greater flexibility to characterize their waste streams without the detail required by the waste composition option (see Section II.P of the preamble for the final rule amendments for additional details regarding this amendment). We find that the alternative bulk MSW option provides adequate flexibility by landfill owners and operators to use site-specific parameters in the methane generation equation. We also find that it is inappropriate to allow individual landfills to derive their own bulk waste "k" value. EPA does not know of any industry standard practices for determining the decay rate, nor do the commenters provide this information.

Comment: One commenter (0027) stated that the proposed changes to Table HH-1 are unclear as presented. It defines inerts as "e.g. glass, plastic, metal, cement" and sets the DOC value as 0.00. Although the amended text is not shown in context, it appears to be part of the "Waste model – All MSW landfills" option in the original 2009 final rule. One has to assume that this correction was made so that the amended equation HH-1 could be calculated because the original text found in the 2009 final did not contain all the needed variables to perform the calculation. If this assumption is correct, then the DOC value is incorrect because a zero (0.00) cannot be used when the multiplication required in the amended Equation HH-1 is performed. The commenter recommends that EPA clarify where the DOC fits into Table HH-1 of the 2009 final rule and ensure that the values will allow for the proper calculation of amended Equation HH-1.

Response: In the final amendments, Table HH-1 has been amended to, among other things, more clearly delineate the default factors appropriate for each of the modeling alternatives. The value for DOC and k for inert waste materials are still listed as 0.00. We find no difficulty applying this value in Equation HH-1; it simply yields no methane generation. This is specifically the purpose of this waste category. It effectively allows facilities to properly reduce the calculated methane generation rate for landfills that receive a high fraction of inert wastes.

Comment: One commenter (0022) stated that the reference in the definition of inerts to "cement," should be "concrete," as cement is the binder used to hold aggregate in concrete together to form a solid matrix.

Response: Agreed. We have revised the description of inert material to refer to concrete rather than cement.

Comment: One commenter (0027) expressed disappointment that the technical corrections did not include any revision to the portions of the rule that address methane oxidation. According to the commenter, substantial research has shown that methane oxidation occurs at levels much higher than the 10 percent allowed in the rule. The commenter recommend that EPA allow reporters to determine site-specific methane oxidation rates based on emerging research, as it becomes available, and to limit methane oxidation to 10 percent only when site-specific data are unavailable.

Response: No rule change has been made as a result of this comment. The changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

10. SUBPART MM—SUPPLIERS OF PETROLEUM PRODUCTS

Commenter Name: Dan F. Hunter **Commenter Affiliation:** ConocoPhillips Compay **Document Control Number:** EPA-HQ-OAR-2010-0109-0016.1

Commenter Name: Sydney H. Johnson **Commenter Affiliation:** INVISTA S.a r.I. **Document Control Number:** EPA-HQ-OAR-2010-0109-0017.1

Commenter Name: Philip E. Guillemette **Commenter Affiliation:** Flint Hills Resources, LP **Document Control Number:** EPA-HQ-OAR-2010-0109-0018.1

Commenter Name: Karin Ritter Commenter Affiliation: American Petroleum Institute Document Control Number: EPA-HQ-OAR-2010-0109-0019.1

Commenter Name: Marla K. Benyshek Commenter Affiliation: Conoco Philips Document Control Number: EPA-HQ-OAR-2010-0109-0021.1

Commenter Name: Karen St. John **Commenter Affiliation:** BP America **Document Control Number:** EPA-HQ-OAR-2010-0109-0023.1 Commenter Name: Allen S. Lasater Commenter Affiliation: Koch Industries, Inc. Document Control Number: EPA-HQ-OAR-2010-0109-0026.1

Commenter Name: Sparsh Khandeshi, Meleah Geertsma, Craig Segall Commenter Affiliation: Environmental Integrity Project, Natural Resources Defense Council, Sierra Club Document Control Number: EPA-HQ-OAR-2010-0109-0034.1

Treatment of Denatured Ethanol

Comment: We received three comments (0018, 0019, and 0021) related to our proposed amendments regarding the treatment of denatured ethanol. Two comments (0018, 0021) supported the proposed change. The third (0019) commented that reporting of gasoline-ethanol blends (i.e., a petroleum product that contains denatured ethanol and is a blended biomass-based fuel) was burdensome and suggested that only the petroleum portion of these blends should be reported. That commenter stated that the blending of ethanol with gasoline should not be considered "to be further refined or otherwise used on site" (40 CFR 98.396(a)(1)) and that therefore, ethanol should not have to be reported.

Response: Please see Section II.R of the preamble for the final rule amendments for the response to these comments.

Comment: EPA received one comment (0019) that blending ethanol with gasoline should not be considered an activity that involves a petroleum product that is "further refined or otherwise used on site" (40 CFR 98.396(a)(1)) and, therefore, refiners should not have to report ethanol as a non-crude feedstock.

Response: EPA does not concur with this comment. Please Section II.R of the preamble for the final rule amendments for the response to these comments.

Comment: EPA received one comment (0019) that indicated that EPA itself concluded, among other things, that denatured ethanol "is never used on site."

Response: In the proposal, EPA stated that "denatured ethanol that enters the refinery as a feedstock always leaves the refinery as a product and is never used on site." EPA recognizes that this statement is not accurate. For example, denatured ethanol may enter a facility and be blended with a petroleum product on site. Therefore, it would be considered "used on site." This statement is not made in the final rule, and guidance issued on this topic is accurate.

Blended Products and Blended Non-crude Feedstocks

Comment: EPA received two comments (0018, 0019) in support of the optional method proposed to calculate CO_2 emissions that would result from the complete oxidation or

combustion of a blended product or blended non-crude feedstock. One of these commenters (0019) requested clarification on how emissions from fuel mixtures should be estimated without the use of carbon content measurements.

Response: EPA concurs with the comments in support of the proposed amendment. In the final rule, EPA has added 40 CFR 98.393(i) to allow reporters an option for calculating CO_2 emissions of blended products or non-crude feedstocks. Section 98.393(i) has been finalized as it was proposed with the addition of one requirement to report whether the blend is a blended product or a blended non-crude feedstock. In addition, EPA has made a harmonizing, grammatical edit to 40 CFR 98.396(a)(16) and (a)(17) in order to clarify that reporters following the optional method should report the CO_2 emissions of the blended product under 40 CFR 98.396(d)(1)(ii) rather than under 40 CFR 98.396(a)(16) or (a)(17).

In response to the request for clarification, EPA notes that we proposed that the optional method could only be used if the reporter uses Calculation Method 1 (default emission factors) for all blending components. EPA proposed this limitation for simplicity and quality control. EPA did not receive any rationale in the comments to open the optional method to reporters using Calculation Method 2 (site specific emission factors from sampling and testing). Therefore, EPA is finalizing 40 CFR 98.393(i) as proposed, limited to Calculation Method 1.

Comment: EPA received one comment (0018) in support of expanding the proposed optional method in 40 CFR 98.393(i) to include blended biomass-based fuels. As part of the expansion, the commenter recommended that EPA exclude the biomass component of a blended biomass-based fuel from Equations MM-12 and MM-13. The commenter also stated that the biomass component of a blended biomass-based fuel would not need to be reported under 40 CFR 98.396(a)(3) or (a)(7) because those reporting requirements were proposed to account for individual components of a blended product. In response to a request by EPA for input on how to include blended biomass-based fuels in the optional method without jeopardizing or contradicting the procedures in 40 CFR 98.393(h), the commenter recommended that EPA allow the reporter to pick either 40 CFR 98.393(i) or 40 CFR 98.393(h) to account for blended biomass-based fuels. The commenter framed this recommendation as a way to allow reporters to choose between reporting the entire quantity of the blended-biomass based fuel or the individual, petroleum-based components.

Response: After carefully reviewing this comment, EPA has determined that the commenter recommended expanding 40 CFR 98.393(i) for the sole purpose of creating a mechanism to exclude reporting on the biomass component of a biomass-blended fuel. Please see the response to comments on the treatment of denaturant in ethanol in Section II.R of the preamble for the final rule amendments for an explanation of why an amendment to exclude reporting on biomass components of a blended biomass-based fuel is outside of the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010. EPA can identify no other rationale in the comment for expanding 40 CFR 98.393(i). Therefore, EPA does not concur with this comment and is excluding blended biomass-based fuels from the optional method in 40 CFR 98.393(i) in the final rule amendments.

Miscellaneous Technical Corrections in Subpart MM

Comment: EPA received one comment (0019) on the proposal to amend Equation MM-9 in 40 CFR 98.393(h)(2) to correct the emission factor (EF) subscript from "i" to "j". The commenter supported this amendment.

Response: EPA concurs with this comment and with the proposed amendment. In the final rule, EPA has corrected the emission factor (EF) subscript from "i" to "j."

Comment: EPA received two comments (0018, 0019) on the proposal to amend the procedure in 40 CFR 98.393(f)(1) for calculating emission factors for solid products when using Calculation Method 1. Both commenters supported this amendment.

Response: EPA concurs with these comments and with the proposed amendment. In the final rule, EPA has clarified that reporters should multiply the default carbon share factor in column B of Table MM–1 by 44/12.

Comment: EPA received two comments (0018, 0019.1) in support of the proposed clarification that petroleum products that enter and leave a facility without being further refined or otherwise used on site do not need to be reported.

Response: EPA concurs with the comments in support of the proposed amendment. In the final rule, EPA has amended 40 CFR 98.396(a)(5) and (a)(6) so that reporters need not report on petroleum products and natural gas liquids that are not further refined or otherwise used on site.

Definition of Non-crude Feedstock

Comment: EPA received two comments (0018, 0019) regarding the definition of non-crude feedstock. One commenter (0018) was supportive of the proposal to add the phrase "supplemental fuel burned to provide heat or thermal energy" to the definition of non-crude feedstock, but suggested removing the phrase "otherwise used on site." The other commenter (0019) asked for clarification of the definition and stated that they assume that they would not need to report "natural gas or fuel oil purchased from a local utility to fire boilers or heat buildings" as a non-crude feedstock since emissions resulting from those sources would already be reported under Subparts C and Y.

Response: EPA has concluded that the phrase "supplemental fuel burned to provide heat or thermal energy" adds unnecessary confusion to the definition of non-crude feedstock and has deleted this phrase from the final definition. The phrase "supplemental fuel burned to provide heat or thermal energy" was meant to be an example of how a non-crude feedstock might be used and was not intended to represent the only possible use of non-crude feedstocks. However, supplemental fuel burned to provide heat or thermal energy remains an example of how petroleum products may be "otherwise used on site." In other words, refiners that use a petroleum product (e.g., fuel oil) or natural gas liquid (NGL) to fire boilers or heat buildings at a refinery would report the petroleum product or NGL as a non-crude feedstock under Subpart MM. Natural gas is not a petroleum product or NGL, and therefore should not be reported as a non-crude feedstock regardless of use. While emissions associated with the combustion of fuel oil at a refinery may be reported under another subpart, fuel oil is still required to be reported as

a non-crude feedstock under Subpart MM. EPA requires refineries to report all non-crude feedstocks under Subpart MM that enter the facility in order to subtract the emissions that would result from the oxidation or combustion of those products from their calculations. Such methodology allows EPA to collect data on the entire petroleum and natural gas liquids system without any double-counting. Furthermore, comprehensive facility-level data can help us conduct a more robust mass balance assessment for data verification purposes.

EPA does not concur that "otherwise used on site" should be deleted from the definition of noncrude feedstock. Deleting that phrase would change the intended definition of a non-crude feedstock as described in the proposal. Please see Section II.R of the preamble for the final rule amendments for the response on treatment of denaturant in ethanol, which includes more information on the meaning of "otherwise used on site."

Fuel Gas vs. Still Gas, and Other Changes to Table MM-1

Comment: In the proposal preamble, EPA requested comment on whether Table MM-1 should be amended so that refiners would have to report quantities of "fuel gas" rather than "still gas" (75 FR 33962). EPA received two comments (0018, 0019) in response to the request. Both commenters supported such an amendment, but neither provided a rationale for such an amendment. In addition, both commenters noted that gas is tracked in units of standard cubic feet, rather than barrels, and requested clarification on how to report on gas under these circumstances. One commenter (0018) requested a factor that could be used for converting standard cubic feet to barrels.

Response: EPA has not made a change to this final rule as a result of these comments because the commenters did not provide sufficient rationale for replacing "still gas" with "fuel gas" in Table MM-1. EPA has carefully reviewed the requests in the comments to provide guidance on converting standard cubic feet to barrels for purposes of reporting under 40 CFR 98. EPA needs more time to conduct additional research on this issue. In the meantime, the commenter should use their best professional judgment to convert from cubic feed to barrels.

Comment: One commenter (0021) recommended that EPA expand Table MM-1 to include commonly used feedstocks and products.

Response: No rule change has been made as a result of this comment. EPA has carefully reviewed the recommendation in this comment to add additional products to Table MM-1. EPA needs more time to conduct additional research on this issue and may address this issue in a future rulemaking. Reporters should continue to select the most appropriate product listed in Table MM-1 for purposes of selecting a default factor for Calculation Method 1 and reporting volumes and other information required under 40 CFR 98.396.

Crude Oil Definition and Reporting Requirements

We received several comments related to amendments to the crude oil definition, the proposed definition of "batch", and other technical amendments related to crude oil reporting requirements.

Comment: EPA received several comments on our proposal to amend the definition of crude oil. Two commenters supported the proposed definition of crude oil because it is identical to the definition used for reporting to the Energy Information Administration (EIA) and it will be easier for reporters to calculate and report the same data for both agencies' crude oil reporting requirements. One commenter suggested that EPA expand it even further by adding the word "nitrogen" to describe non-hydrocarbons, referencing atmospheric conditions rather than just atmospheric pressure, removing the requirement that hydrocarbon liquids must be comingled with a crude stream, and including natural gas processing plant liquids captured by gravity separation. Therefore, the commenter did not support using a definition of crude oil that is identical to the definition used by EIA. Two commenters submitted information about situations where a petroleum product is re-injected into a crude supply line or back into a reservoir. One of these two commenters reported that they inject a mixture of products, some of which meet the proposed definition of crude and some of which do not, and specifically requested clarification on how to treat such a mixture with respect to crude oil and petroleum product reporting.

Response: Please see Section II.B of the preamble for the final rule amendments for the response to comments on the definition of "crude oil".

Comment: One commenter (0023) explained that her refinery exports diverse sources of light liquid hydrocarbons, which are generally, but not always, combined with crude oil in a crude supply line by the importing customer. The light liquid hydrocarbon mixture consists of naphthas from refineries, wellhead condensate, and natural gas condensate. The commenter requested that if the definition of crude oil is amended in such a way that wellhead condensate or natural gas condensate are crude oil, her facility can either report the entire light liquid hydrocarbon mixture as a petroleum product or exclude from the petroleum product reporting requirements the portion of the light liquid hydrocarbon mixture that is injected into the crude supply line by the importing customer.

The commenter also requested that her facility be allowed to determine the emission factor of the entire mixture as if it were one petroleum product when it leaves the facility. The commenter suggested three options, one of which entails an amendment to 40 CFR 98.394(c).

Response: EPA's proposed definition of crude oil excluded liquids produced at natural gas processing plants and wellhead condensate if they are not comingled and measured with the crude stream. EPA received comments on these elements from one commenter, stating that EPA should include natural gas processing plant liquids captured by gravity separation in the crude oil definition and should remove the requirement that hydrocarbon liquids must be comingled with a crude stream to meet the crude oil definition. After consideration of these comments, EPA decided to finalize these elements of the proposed definition. Please see Section II.B of the preamble for the final rule amendments for the response to comments on the definition of "crude oil" and the rationale for why EPA did not delete these elements from the definition. Therefore, if you receive the wellhead condensate independently, then it does not meet the definition of crude oil and you must report it as a non-crude feedstock when you receive it. Furthermore, the

natural gas condensate you receive does not meet the definition of crude oil and it must be reported as a non-crude feedstock when it is received.

To report these products as non-crude feedstock under 40 CFR 98.396, you should select the most appropriate product listed in Table MM-1 for purposes of selecting a default factor for Calculation Method 1. When evaluating your products, you should examine the definitions of the individual products listed in Table MM-1 that have corresponding default factors rather, than the product category headings. Since "wellhead condensate" and "natural gas condensate" are not listed in Table MM-1, you may determine that these products are best categorized under the heading "naphtha" based on the definition of "naphtha" in 40 CFR 98.6. If you choose to develop your own emissions factors using Calculation Method 2, you must follow the procedures specified in 40 CFR 98.393 (f)(2) and 98.394(c) for each non-crude feedstock.

To report the mixture of the three products leaving the refinery, you should treat the mixture as one product and either follow Methodology 1 for the entire mixture, follow Methodology 2 for the entire mixture, or follow 40 CFR 98.394(i) by reporting on the individual components of the mixture.

EPA considered the information provided in this comment for the specific amendment to the definition of "crude oil" proposed for public comment in the Federal Register notice of June 15, 2010. Please see Section II.B of the preamble for the final rule amendments for the response to comments on the definition of "crude oil" and on how petroleum products injected into a crude supply or reservoir should be treated. EPA determined that the petroleum product must be injected into a crude supply or reservoir by the facility that received or produced it in order to meet the definition of crude oil. EPA concluded that the quality assurance of the data diminishes greatly once it leaves the hands of the reporter, and that the actions of an importing customer cannot be adequately monitored and verified under the reporting and recordkeeping requirements in the final rule. Therefore, the light liquid hydrocarbon mixture continues to meet the definition of petroleum product and does not meet the definition of crude oil in the final rule.

Comment: We received several comments related to the proposed definition of "batch". One commenter (0019) supported defining a batch as the annual volume of a type of crude oil characterized by an EIA crude stream code (rather than monthly volumes) if EPA maintains the requirement to report API gravity, sulfur content, and country of origin of crude oil. One commenter (0018) expressed support for the proposed definition of batch but cautioned that it would limit refiners to report the country of origin as "unknown" when the crude oil batch is a blend of crude oil from several known countries. The commenter therefore advised EPA to allow refiners to report on the components in a crude oil blend and to amend the quantity determination requirements so that refiners can use information obtained from normal business practices on blend component volumes. The commenter further noted that, similar to the problem of reporting a single country of origin, refiners receiving a crude oil blend would be unable to identify a single EIA crude stream code. Therefore, the commenter recommended that EPA include "annual crude volumes by EIA crude stream codes" in the definition of batch only if it is presented as one of multiple reporting options. Two commenters (0019, 0021) advocated that EPA limit the definition of batch to the annual volume of each EIA crude stream code category and remove the requirement to report API gravity, sulfur content, and country of origin for every batch.

One commenter (0034) expressed concern about limiting the definition of batch to the annual volume of each EIA crude stream code category if it means losing data on API gravity. The commenter urged EPA to require refiners to report the sample data they already collect for EIA reporting. The commenter also asked that EPA define "batch" in a way that captures the differences in crude oil originating from the same country since different crude streams from the same country can have different API gravity and sulfur contents.

Response: Please see Section II.R of the preamble for the final rule amendments for the response on the definition of "batch" and other technical amendments related to the crude oil reporting requirements.

Comment: We received two comments (0018, 0019) with input on ways to better align the monitoring and QA/QC provisions related to crude oil reporting with normal business practices. According to the two commenters, it is normal business practice for refiners to maintain data on crude batch volumes and other parameters required in 40 CFR 98.396(a)(20). They described a number of different sources they use to identify the sulfur content and API gravity of crude oil batches (including components of blended crude oil volumes) such as grab samples, contract laboratory records, crude assay reports, invoices, and pipeline receipt tickets. They explained that the data contained in these sources are often collected outside of the refinery under normal business practices, which may be inconsistent with the current requirements in the rule to use standard methods to measure these data (resulting in the need to collect the same data again inside the refinery). In addition, one of the two commenters (0018) explained that they maintain data on the components of blended crude volumes but they may not be able to determine the volume of the components of blended crude according to the quantity determination requirements in 40 CFR 98.394(a)(1) since the components arrive at the refinery already blended. Therefore, they will be forced to report the total volume of the blended crude oil and the country of origin (or EIA crude stream code) as "unknown" even though they know information about the volume components.

We also received two comments (0018, 0019) in support of the proposed elimination of recordkeeping requirements in 40 CFR 98.397 related to the measurement of API gravity and sulfur content of crude oil because it would support the use of data collected in normal business records. We received one comment (0034) that objected to EPA's deletion of specific recordkeeping requirements for API gravity and sulfur content measurements on the basis that these records were important verification tools.

Response: Please see Section II.R of the preamble for the final rule amendments for the response on the definition of "batch" and other technical amendments related to the crude oil reporting requirements.

Comment: One commenter (0019) requested that EPA remove the language "at the point of entry" in 40 CFR 98.396(a)(20) with regard to reporting volume, API gravity, and sulfur content of crude oil to allow refiners to use information on the crude oil that they collect outside of a refinery (e.g., at a tank or terminal).

Response: Please see Section II.R of the preamble for the final rule amendments for the response on technical amendments related to crude oil reporting requirements. In response to

this comment, we also made harmonizing edits to the language in 40 CFR 98.396(a)(20)(ii) and (iii) to clarify that refiners are only required to report the API gravity and sulfur content that is "representative" of the batch at the point of entry.

Comments on Subpart MM That Are Beyond the Scope of the Proposed Amendments

Comment: Two commenters (0019, 0021) recommended that EPA exclude co-located terminals from the reporting boundary of the refinery for purposes of subpart MM reporting.

Response: No rule change has been made as a result of these comments. The changes to Part 98 suggested by the commenters are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Comment: One commenter (0018) recommended that EPA change the recordkeeping requirements in subpart MM for petroleum products and NGLs.

Response: No rule change has been made as a result of these comments. The changes to Part 98 suggested by the commenters are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Comment: Three commenters (0018, 0019, and 0021) recommended that EPA eliminate all crude oil data reporting requirements within 40 CFR 98 subpart MM.

Response: No rule change has been made as a result of these comments. The changes to Part 98 suggested by the commenters are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Comment: One commenter (0017) recommended that EPA amend the definition of "petroleum product" to exclude petrochemical feedstocks such as synthetic organic chemicals or to expand Table MM-1 to include them.

Response: No rule change has been made as a result of this comment. The changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Comment: One commenter (0016) recommended that EPA amend the definition of "petroleum product" to exclude residuum injected into a crude oil sales line and the definition of "petroleum refinery" to exclude crude oil topping plants "north of the Brooks Range." Further, the commenter recommended that these topping plants be exempt from both subpart MM and Y (Petroleum Refineries) and only be required to report under subpart W (Petroleum and Natural Gas Systems) due to their unique operations. They noted that they submitted additional comments during the public comment period for 40 CFR part 98, subpart W (75 CFR 18608).

Response: The definitions of "petroleum product" and "petroleum refinery" were not changed as a result of this comment. These changes to Part 98 suggested by the commenter are outside

the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010. However, EPA considered the information provided in this comment for the specific amendment to the definition of "crude oil" proposed for public comment in the Federal Register notice of June 15, 2010. Please see Section II.B of the preamble for the final rule amendments for the response to comments on the definition of "crude oil" and for a discussion of how petroleum products injected into a crude supply or reservoir should be treated.

Further, the recommendation that topping plants only be subject to subpart W, and thereby exempt from MM and Y, is also outside of the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Comment: One commenter (0021) recommended that EPA remove the requirement to report product volumes by measurement type.

Response: No rule change has been made as a result of this comment. The changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Comment: One commenter (0026) requested that EPA confirm his understanding of the exporter provisions with respect to reporting under subpart MM of part 98.

Response: No rule change has been made as a result of this comment. The commenter has asked EPA to only confirm the commenter's understanding of the exporter provisions in Subpart MM. Since EPA has not proposed amendments to the exporter provisions cited by the commenter, the subject of the comment is outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010

11. SUBPART NN—SUPPLIERS OF NATURAL GAS AND NATURAL GAS LIQUIDS

Two comment letters were submitted on the proposed amendments to subpart NN.

Commenter Name: Steve Donatiello Commenter Affiliation: None provided Document Control Number: EPA-HQ-OAR-2010-0109-0014

Commenter Name: Karin Ritter **Commenter Affiliation:** American Petroleum Institute **Document Control Number:** EPA-HQ-OAR-2010-0109-0019.1

Comment: EPA proposed to amend the definition of the term "Fuel_h" in Equation NN–1 to clarify that the abbreviation "Mscf" refers to "thousand standard cubic feet" in order to avoid confusion on whether this abbreviation means "million standard cubic feet." EPA also proposed

to add the subscript "h" to the terms for Fuel and HHV in Equation NN–1. One commenter (0019) supported this revision.

Response: EPA thanks the commenter for their input.

Comment: One commenter (0014) recommended that EPA clarify how an LDC complies with 40 C.F.R. 98.406(c)(i). According to the commenter, an LDC could say they estimate quantities for at least one of their 600,000 meters every day. "(c) Each reporter shall report the number of days in the reporting year for which substitute data procedures were used for the following purpose: (1) to measure quantity, (2) to develop HHV(s), and (3) to develop EF(s)."

<u>Response</u>: No rule change has been made as a result of this comment. The changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

12. GENERAL COMMENTS ON THE CORRECTIONS AMENDMENTS

Commenter Name: Sparsh Khandeshi, Meleah Geertsma, and Craig Segall **Commenter Affiliation:** Environmental Integrity Project, Natural Resources Defense Council, and Sierra Club

Document Control Number: EPA-HQ-OAR-2010-0109-0034.1

Comment: The commenters generally support the amendments to the extent they provide additional data, improve the rule's clarity, or lessen burdens on reporters without compromising data quality. They are concerned, however, that a few of the proposed changes related to subpart HH and subpart MM may degrade data quality. They ask that the agency take a second look at these proposals and address their concerns on the record. As many members of the environmental community have explained at length in earlier comments [footnote: Please see Comments of the Center for Biological Diversity, Clean Air Task Force, Environmental Defense Fund, National Wildlife Federation, Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and Wild Earth Guardians (June 8, 2009) at 3-5.], the reporting rule must be grounded upon comprehensive, reliable, and thorough emissions measurements. Congress directed EPA to use its authority under Section 114 of the Clean Air Act, 42 U.S.C. § 7414, establish a system for "mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy." [footnote: See Fiscal Year 2008 Consolidated Appropriations Act, Pub. L. No. 110-161, 121 Stat. 1844, 2128 (Dec. 26, 2007).] Amendments to the proposed rule that defeat this purpose by excluding significant emissions sources, or degrading data quality, would be contrary to the law and to Congress's intent. In the final rulemaking for this corrections docket, the commenters trust that EPA will keep the purpose of the rule firmly in view.

Response: EPA thanks the commenter for their input. Please see the response to comments on Subpart MM, Definition of Batch, for the response to the comment that the proposed amendments may affect data quality for reported emissions from petroleum refineries.

Please see the response to comments on Subpart HH, Definitions, for the response to the comment that the proposed amendments may exclude certain landfill emissions sources.

13. GENERAL SUPPORT FOR THE AMENDMENTS

Commenter Name: Anonymous

Commenter Affiliation: None provided

Document Control Number: EPA-HQ-OAR-2010-0109-0009

Comment: The commenter is a Business and Ethics class and has studied this topic for the past several weeks. The commenter indicated he has seen supporting documentation and case files stating that the effect of regulating vehicle emissions is almost nil. He holds a pro position on the need to start somewhere. The benefits, no matter how small, could be the start of a spiral that continues to help the reduction of greenhouse gases. The commenter wants to express his gratitude to the EPA for their continued efforts. He plans on keeping a diligent eye on the progression of these efforts.

Response: EPA thanks the commenter for their input.

14. GENERAL OPPOSITION TO THE AMENDMENTS

Commenter Name: G.H. Holliday **Commenter Affiliation:** Holliday Environmental Services, Inc. **Document Control Number:** EPA-HQ-OAR-2010-0109-0011.1

Comment: The commenter stated that he "vigorously" disagreed with the final and proposed rules. The commenter asserted that proposed rule amendments demonstrated a lack of technical knowledge possessed by EPA, demonstrated that in the preamble to the final rule published on October 30, 2009, EPA listed 61 NAICS codes outlining the industries affected by the final rule. The commenter noted that the preamble to the proposed rule listed only 21 industries. The commenter suggested that either EPA did not know the impact of the final rule or, was trying to show a reduction or revised estimate of the impacts of the rule.

Response: EPA disagrees with the commenter's assertion that EPA did not know the impact of Part 98, or that EPA is now trying to show a reduction of that impact. Table 1 in the preamble to the final Part 98 (74 FR 56260 – 56261) cited by the commenter listed all the NAICS that were potentially affected by the final Part 98, which promulgated standards for 30 source categories affecting 60 specific industries, as well as facilities operating general stationary combustion sources. Table 1 in the preamble to the proposed amendments to Part 98 (75 FR 33951) listed 22 potentially affected industries. The proposed amendments affected fewer industries because the proposed amendments affected only 17 of the 30 source categories included in Part 98. Nowhere in the preamble does EPA state that the estimated impact of Part 98 is being revised.

Comment: The commenter argued that, based on an obtuse reading of the Clean Air Act and a ruling by the Supreme Court, EPA has granted itself authority to require an accounting of the quantities of anthropogenic greenhouse gases emitted to the atmosphere. The commenter asserted that EPA has no need for this information, since EPA has not demonstrated by physical measurements a statistically significant increase in global atmospheric temperature. The commenter provided a copy of a graph that he asserted showed a decrease in ocean temperature by Dr. Roy Spencer, Univ. of Alabama. The commenter argued that EPA has no equivalent data showing significant temperature increase to support the claim greenhouse gases cause climate change. The commenter suggested that, instead, EPA relies on the Intergovernmental Panel on Climate change reports, and suggested that these have been discredited by physical measurements and the disclosure of e-mail communications among climate researchers.

Response: The legal authority for Part 98 and the proposed amendments is described in the preambles to the proposed and final Part 98 (74 FR 16448, April 10, 2009, and 74 FR 56260, October 30, 2009), as well as the Response to Comments document for the final rule.

Regarding the science of climate change, the process of amending Part 98 is not the appropriate forum for that discussion. EPA has found that GHG emissions from new motor vehicles and engines contribute to air pollution which may reasonably be anticipated to endanger public health and welfare (74 FR 66496, December 15, 2009, "Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act"). EPA considered over 350,000 public comments, including the issues raised above by the commenter on this reporting rule and many others, in making the final endangerment finding. See also EPA's Denial of the Petitions to Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 75 FR 49556 (Aug. 13, 2010) (EPA Docket EPA-HQ-OAR-2009-0171).

Comment: The commenter suggested that the tailoring of the Clean Air Act to limit the number of facilities reporting is disgraceful and that the Agency does not have the authority to modify the Clean Air Act or any other Statue. Such change requires an act Congress.

Response: A comment regarding the legal authority for the Final GHG Tailoring Rule is outside the scope of the amendments proposed to the Mandatory Reporting of Greenhouse Gases Rule.

15. OUT OF SCOPE COMMENTS – COMMENTS ON SUBPARTS INCLUDED IN THE SEPARATE PROPOSED RULEMAKING: REVISION OF CERTAIN PROVISIONS OF THE MANDATORY REPORTING OF GREENHOUSE GASES RULE

Commenter Name: Brad Musick Commenter Affiliation: New Mexico Environment Department Document Control Number: EPA-HQ-OAR-2010-0109-0010 **Comment:** The commenter requests that EPA consider the following correction to 40 CFR 98.46 [Subpart D-Electricity Generation; Data reporting requirements]: Replace cross-reference to 40 CFR 98.36(b) with 98.36(d). 40 CFR 98.36(b) references the Subpart C data reporting requirement for "units that use the four tiers", whereas 40 CFR 98.36(d) references the Subpart C data reporting requirements for "units subject to 40 CFR part 75." Since Subpart D applies to electricity generating units that are subject to the requirements of the Acid Rain Program or are required to report CO_2 emissions according to 40 CFR 98.36(d) because it pertains to such units.

Response: EPA thanks the commenter for their input.

No rule change has been made as a result of this comment. EPA notes that the issue identified by the commenter is addressed in proposed amendments to Part 98 published on August 11, 2010. Any comments submitted regarding this issue to the docket for the August 11th proposed rulemaking will be addressed in the context of the response to comments on that proposal. However, the changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Commenter Affiliation: Williams Olefins LLC

Document Control Number: EPA-HQ-OAR-2010-0109-0013

Comment: Williams submitted a Best Available Monitoring Method (BAMM) request on January 28, 2010, requesting, among other things, permission to use an alternate test method to analyze the carbon content of its crude butadiene product. The commenter deemed this necessary because none of the methods included in 40 CFR 98.244(b)(4) are appropriate for this analysis. The method Williams requested to use is ASTM D2593 - 93 (Reapproved 2009) Standard Test Method for Butadiene Purity and Hydrocarbon Impurities by Gas Chromatography (attached). EPA approved this request on March 4, 2010; however, per the letter, as is mandated by the rule, the BAMM extension expires on December 31, 2010, potentially leaving Williams with no valid method to measure crude butadiene carbon content after that date. Williams personnel participated in an EPA webinar entitled "Mandatory Reporting of Greenhouse Gases Rule: Detailed Training Session" on February 24, 2010. The narrator suggested that Williams submit suggested comments for possible inclusion in future rule modifications/improvements via email to ghgmrr@epa.gov, so, on that same day, Williams submitted a request to incorporate ASTM D2593 - 93 (Reapproved 2009) Standard Test Method for Butadiene Purity and Hydrocarbon Impurities by Gas Chromatography into 40 CFR 98.7(e) and 98.244 (b)(4). EPA responded on April 22, 2010 that it was reviewing the analytical method and would consider it for future rule amendments. Williams replied on May 28, 2010 with additional supporting information justifying inclusion of this method in future rule amendments (attached). As noted in the commenter's May 28, 2010 email, the American Chemistry Council's Olefins Panel Butadiene Product Stewardship Task Group published the Butadiene Product Stewardship Guidance Manual in April 2010, and Table 1.5 (attached) indicates that ASTM D2593 is the industry standard for analyzing hydrocarbons in butadiene. The commenter has also inquired with a wellknown commercial laboratory that is considered a leader in the field of hydrocarbon testing and

Commenter Name: Doug Badon

its experts indicated that none of the analytical methods currently included in the 2009 Final MRR are suitable for this analysis. Williams appreciates the opportunity to comment in order to ensure that appropriate analytical methods are included in the 2009 Final MRR to achieve the highest data quality and accuracy in reported GHG emissions.

Response: EPA thanks the commenter for their input.

No rule change has been made as a result of this comment. EPA notes that the issue identified by the commenter is addressed in proposed amendments to Part 98 published on August 11, 2010. Any comments submitted regarding this issue to the docket for the August 11th proposed rulemaking will be addressed in the context of the response to comments on that proposal. However the changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Commenter Name: Luis A. Comass **Commenter Affiliation:** Sunoco, Inc. **Document Control Number:** EPA-HQ-OAR-2010-0109-0015

Comment: According to Sunoco, there appears to be an error in the units of the carbon content CC factor in equation C-5. The factor is described as Kg C/gallon of fuel. The correct units should be Kg C/ Kg of fuel. These are the units of the CC factor in equations Y-1 and Y-3. Sunoco notes that this error is not addressed in the proposed revisions.

Response: EPA thanks the commenter for their input.

No rule change has been made as a result of this comment. EPA notes that the issue identified by the commenter is addressed in proposed amendments to Part 98 published on August 11, 2010. Any comments submitted regarding this issue to the docket for the August 11th proposed rulemaking will be addressed in the context of the response to comments on that proposal. However, the changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Commenter Name: Bryan Brendle **Commenter Affiliation:** Portland Cement Association **Document Control Number:** EPA-HQ-OAR-2010-0109-0033.1

Comment: PCA acknowledges that EPA is proposing technical corrections relating to moisture monitoring, per the proposed rule signed by Administrator Jackson on July 20 in a separate rulemaking. However, PCA addresses this issue within the context of the current rulemaking because it poses a significant implementation issue for many of our members. Pursuant to 40 CFR 98.33(a)(4)(iii) for Tier 4 calculation methodology, cement manufacturers recommend that EPA modify the continuous moisture monitoring requirement under Tier 4 in the event that a CO₂ CEMS measuring on a dry-basis is used. EPA has approved as a Best Available Monitoring Method (BAMM) the use of the RATA moisture as a default value for 2010, and we feel that this should be made as a rule change. If the CO₂ concentration is measured on a dry basis, a

correction for the stack gas moisture content is required. A cement plant shall either continuously monitor the stack gas moisture content as described in §75.11(b)(2) of this chapter or, for certain types of fuel, use a default moisture percentage from §75.11(b)(1) of this chapter. It appears that EPA included this requirement based on procedures applicable to facilities covered by Part 75, and this should not be applicable to facilities covered by Part 60 that are not currently required to continuously monitor moisture levels of stack gasses. Facilities covered by Part 60 routinely utilize the moisture value from Relative Accuracy Test Audits (RATAs) in calculations requiring corrections for moisture for other emissions that are continuously monitored by CEMS. EPA does recognize that a default moisture can be appropriate for this purpose under the current GHG reporting rule by allowing a default moisture percentage from §75.11(b)(1). However, for some facilities with feed materials that affect moisture, such as cement kilns, these fuel-specific default moisture factors are not appropriate. Therefore, we request that EPA modify the moisture under 40 CFR 98.33(a)(4)(iii) to include "a default moisture percentage as determined from the most recent RATA performed pursuant to 40 CFR Part 60 Appendix F." As stated above, EPA approved this method as a BAMM for numerous facilities for the first GHG reporting year. PCA believes that continued approval of this method will not significantly affect the accurate reporting of GHGs.

Response: EPA thanks the commenter for their input.

No rule change has been made as a result of this comment. EPA notes that the issue identified by the commenter is addressed in proposed amendments to Part 98 published on August 11, 2010. Any comments submitted regarding this issue to the docket for the August 11th proposed rulemaking will be addressed in the context of the response to comments on that proposal. However, the changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Commenter Name: Karin Ritter **Commenter Affiliation:** American Petroleum Institute **Document Control Number:** EPA-HQ-OAR-2010-0109-0019.1

Comment: According to API, Table C-1 of Subpart C provides default high heating values and CO₂ emission factors for various types of fuels. One section of the table provides default HHVs for a list of petroleum products and all the emission factors are listed in units of MMBtu/gallon (suitable for liquids). However, API noted that not all the products are liquids; some are solids (petroleum coke), and some are gases (propane through butylenes could be either gas or liquid). These would preclude using such default HHV for non-liquid fuels. EPA should amend Table C-1 to provide the default fuel HHV values in units that are applicable to their physical state, i.e. for solids, liquids and gases. (EPA should also correct Table C-1 to substitute the current default "Still Gas' HHV value, which is provided in the wrong units, with 1076 Btu/scf. However, the EPA/DOJ 4/5/2010 letter indicates that EPA intends to remove the Still Gas emission factor from Table C-1, so this correction is not necessary.)

Response: EPA thanks the commenter for their input.

No rule change has been made as a result of this comment. EPA notes that the issue identified by the commenter is addressed in proposed amendments to Part 98 published on August 11, 2010. Any comments submitted regarding this issue to the docket for the August 11th proposed rulemaking will be addressed in the context of the response to comments on that proposal. However, the changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the Federal Register notice of June 15, 2010.

Commenter Name: Diana M. Jagiella **Commenter Affiliation:** The Mosaic Company **Document Control Number:** EPA-HQ-OAR-2010-0109-0032.1

Comment: Mosaic asserts that the definition of facility in 40 CFR part 98 could result in a very large area encompassing multiple large facilities to be a single "facility" under the definition at 40 C.F.R. § 98.6. The only source of CO_2 emissions from the phosphate rock mines is more than one hundred diesel pumps, most of which are not owned by Mosaic but leased from multiple vendors, and are used primarily for water management. There is an independent question whether these pumps are "portable" for purposes of exclusion from reporting under the Rule. Mosaic argues that tracking this many pumps to determine which were moved in less than 12 months, and thus fall into the definition of portable equipment and are not subject to the Rule, and which were stationary for more than 12 months and therefore subject to reporting, is costly and time consuming. They propose to pilot an approach for tracking portable equipment in 2010, and pending the results propose to EPA alternative approaches in future years.

Response: EPA thanks the commenter for their input.

No rule change has been made as a result of this comment. The changes to Part 98 suggested by the commenter are outside the scope of the specific amendments proposed for public comment in the <u>Federal Register</u> notice of June 15, 2010.