Summary of Public Comments and Responses for:

2012 Technical Corrections, Clarifying and Other Amendments to the Greenhouse Gas Reporting Rule, and Confidentiality Determinations for Certain Data Elements of the Fluorinated Gas Source Category

August 2012

2012 Technical Corrections, Clarifying and Other Amendments to the Greenhouse Gas Reporting Rule, and Confidentiality Determinations for Certain Data Elements of the Fluorinated Gas Source Category: Responses to Public Comments

U. S. Environmental Protection Agency

Office of Atmosphere Programs

Climate Change Division

Washington, D.C.

FOREWORD

This document provides EPA's responses to public comments on the *Proposed 2012 Technical Corrections, Clarifying, and Other Amendments to Greenhouse Gas Reporting Rule, and Proposed Confidentiality Determinations for Certain Data Elements of the Fluorinated Gas Source Category*. The EPA published a Notice of Proposed Rulemaking in the Federal Register on May 214, 2012 (77 FR 29935). The proposed amendments are designed to provide greater clarity for existing requirements, correct errors, and provide additional flexibility for facilities subject to reporting emissions from the following source categories: petroleum and natural gas systems (40 CFR part 98, subpart W); electronics manufacturing (40 CFR part 98, subpart I); fluorinated gas production (40 CFR part 98, subpart L); and industrial waste landfills (40 CFR part 98, subpart TT). The notice also included amendments to Table A-7 of subpart A to include one additional subpart L data element used as an input to emission equation and confidentiality determinations for four new subpart L data elements added to the reporting requirements as part of this rulemaking.

During the 30-day comment period for the proposed rule, the EPA received ten comment letters. This document provides the EPA's responses to public comments regarding the proposed amendments. The verbatim text of each comment extracted from the original comment letters is included in this document, arranged by subpart then by subject. For each comment, the name and affiliation of the commenter, the document control number (DCN) assigned to the comment letter, and the number of each comment excerpt are provided. The EPA's responses to comments are provided immediately following each comment excerpt. In some cases, the EPA provided responses to specific comments or groups of similar comments in the preamble to the final rule. Rather than repeating those responses in this document, the EPA has referenced the preamble to the final rule. Copies of all comment letters submitted are available at the EPA Docket Center Public Reading Room or electronically through http://www.regulations.gov by searching Docket ID EPA-HQ-OAR-2011-0147.

For additional information on EPA's Greenhouse Gas Reporting Program and this and other amendments to the Greenhouse Gas Reporting Rule, please see http://www.epa.gov/climatechange/emissions/ghgrulemaking.html

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I. Comments on the Proposed Amendments to Subpart A

There were no comments on the proposed amendments to subpart A.

II. Comments on the Proposed Amendments to Subpart TT

Commenter Name: Robert Reich
Commenter Affiliation: DuPont Company
Document Control Number: EPA-HQ-OAR-2011-0147-0051
Comment Excerpt Number: 1

Comment: DuPont strongly supports the Agency's proposal to amend the definition of the Subpart TT source category by adding at §98.460(c)(2)(xiii) the exclusion of "[o]ther waste material that has a DOC value of 0.3 weight percent (on a wet basis) or less." Such an exclusion will eliminate the burden on industry for reporting on landfilling of biologically inert solids that have a volatile solids concentration greater than 0.5 weight percent, which is the current exclusion criterion under (c)(2)(xii). Notably, biologically inert carbon materials (e.g., particulate carbon, coke, etc.) do not meet the volatile solids exclusion criterion, but will meet the proposed criterion. Excluding such solids from reporting requirements under the mandatory reporting rule reduces substantial burden on industry without having any impact on actual greenhouse gas emissions reporting.

Response: The EPA thanks the commenter for their input. The EPA has amended subpart TT as proposed in the May 21, 2012.

Commenter Name: Jerry Call
Commenter Affiliation: American Foundry Society
Document Control Number: EPA-HQ-OAR-2011-0147-0052
Comment Excerpt Number: 1

Comment: AFS supports the proposed direct DOC value exclusion for those facilities that only receive inert waste.

For those facilities that have chosen to determine a waste-specific degradable organic content (through the application of anaerobic biodegradation (AB) methods such as OECD 311, etc.), it is appropriate to allow those facilities that only receive wastes with a DOC less than or equal to 0.3% (on a wet weight basis) to be exempt from reporting requirements under Subpart TT. AFS has a member that has performed the alternate test method referenced by EPA, and the anaerobic biodegradation test procedures provide a more accurate value for DOC and better approximate the emissions of GHG versus the total volatile solids (TVS) method which assumes that all of the carbon in the waste sample is available for GHG releases.

Response: The EPA thanks the commenter for their input. The EPA has amended subpart TT as proposed in the May 21, 2012.

Commenter Name: Jerry Call
Commenter Affiliation: American Foundry Society
Document Control Number: EPA-HQ-OAR-2011-0147-0052
Comment Excerpt Number: 2

Comment: AFS requests clarification regarding the number of test results from the use of AB as required to determine whether or not a facility meets the definition of the source category under subpart TT.

Although AFS supports the application of AB testing of waste streams disposed in industrial landfills for the estimation of Greenhouse Gas (GHG) emissions, the Subpart TT rules should further clarify the number of test results required to reach a determination of whether the source category is applicable to the landfill GHG reporting. According to 40 CFR Part 98.460(c)(2)(xiii), any industrial landfill that has only received industrial materials that have a DOC value of 0.3 weight percent (wet weight basis) or less using a 60-day AB test procedure identified in Part 98.464(b)(4)(i)(A) would not be considered to be within the Industrial Waste Landfill Subpart TT source category, and therefore, would not have an obligation to report the GHG emissions from that industrial landfill. Subpart TT does not, however, specify how many samples of industrial waste must be collected and analyzed using the AB methods specified in Part 98.464(b)(4)(i)(A), with the exception of the reference in Part 98.464(b)(4)(i)(B), which refers to the minimum of two waste stream samples as typically required to meet the precision requirement specified in Part 98.464(b)(4)(i)(E). One 60-day AB test is sufficient to determine whether the waste going into an industrial landfill qualifies as inert (and therefore the industrial landfill is not part of this source category) since this method is so costly (> 10 x TVS per sample), is very difficult and time consuming to perform, and is not broadly performed at environmental laboratories.

Response: The EPA thanks the commenter for their input. The EPA agrees that one 60-day anaerobic biodegradation test is sufficient to determine if the waste stream is inert and therefore may be excluded from reporting under 98.460(c)(2)(xiii). A clarification to this effect has been added to 98.464(b). Please see Section II.B of the preamble.

Commenter Name: Jerry Call
Commenter Affiliation: American Foundry Society
Document Control Number: EPA-HQ-OAR-2011-0147-0052
Comment Excerpt Number: 3

Comment: Reporting requirements for industrial landfills that receive or have received a mix of inert solid waste and non-inert solid wastes: As stated in 40 CFR 98.460(c)(2)(xiii), industrial landfills that receive or have received only wastes with a DOC value less than 0.3 percent by weight per the approved AB test procedures (Part 98. 464(b)(4)(i)(A)) or that are defined as inert (Part 98.460(c)(2)(i) through (xii)), are not included in the Subpart TT subcategory. Based on this reading, it appears that if a landfill has ever accepted any waste not meeting either of these two criteria, it would be included in the Subpart TT subcategory, and would be required to report GHG emissions. This issue was raised during the e-GRRT Webinar on Subparts TT and II conducted by EPA on June 4, 2012. A question was posed to EPA

regarding whether the owner of a facility covered by Subpart TT must report GHG emissions from both the inert and non-inert waste streams. EPA officials indicated that GHG emission calculations must be performed for the total waste content in the landfill, both non-inert and inert.

Landfill owners should be able to report on only the non-inert portion of the waste streams. EPA should clarify that GHG emissions from those individual waste streams that meet the exemption listed in Part 98.460(c)(2), or otherwise determined through sample analysis to be inert, should not have to be reported. This will reduce the burden of record-keeping for the landfill activities reducing its operating cost, and has no environmental GHG impact.

Should EPA require reporting on inert in addition to the non-inert waste streams, several reporting issues arise. For example, what value of DOC is to be used to estimate the GHG emissions? Does the owner report GHG emissions of "0" for all inert wastes? Does the owner report GHG emissions for the inert waste streams using a DOC value of 0.3 percent? Does the owner report GHG emissions for the inert waste streams by computing a DOC value using Equation TT-8 and assuming a Volatile Solids concentration of 0.5 percent? Does the owner report GHG emissions for the inert waste streams using a measured DOC value from application of test methods specified in Part 98.464(b)(4)(i)(A)? Does the owner report GHG emissions for the inert waste streams by computing a DOC values using Equation TT-8 and inputting a measured value for Volatile Solids (which would be less the or equal to 0.5 percent)? If measured values for DOC and/or Volatile Solids are used for the inert waste streams, does the owner have to have tested four quarterly inert waste samples and computed an average result, or do the results from one round of sampling suffice? These issues have not been adequately addressed in the regulation. Having to report GHG emissions from waste streams that have been defined as inert for GHG emission purposes is counterintuitive and burdensome.

Response: With regard to the appropriate value to use for inert waste streams, the reporter may use either the default value in Table TT-1, DOC=0 for inert wastes listed in §98.460(c)(2), or measurement data (measured DOCx from an anaerobic biodegradation test or a DOCx value imputed from measured volatile solids concentration). If the Table TT-1 default value for DOC is used, the GHG emissions from the inert waste will also be 0. The rule requires reporting of information about each waste stream regardless of whether it is inert. Reporting requirements include a description of the waste stream and the quantity of waste disposed of in the landfill for each waste stream, among other data elements. These are existing requirements that remain unchanged by this amendment.

Commenter Name: Jerry Call
Commenter Affiliation: American Foundry Society
Document Control Number: EPA-HQ-OAR-2011-0147-0052
Comment Excerpt Number: 4
Comment: The requirement that an industrial landfill is subject to the subpart TT simply because all of the waste streams placed in the landfill are not defined as inert according to 98.460(C)(2) places an unfair regulatory burden on these landfills.

. . . it appears EPA only exempts from this subcategory those industrial landfills that have received industrial waste streams that are defined as inert according to Part 98.460(c)(2). It is entirely possible that an owner could have an industrial landfill where only one of perhaps five individual waste streams does not meet the inert designation per Part 98.460(c)(2). That being the case, the landfill is included in this source category and the owner must compute GHG emissions from the industrial landfill. If the single non-inert waste stream has a fairly low DOC (as measured according to Part 98.464(b)(4)(i)(A)) and the inert waste streams also have fairly low DOC, it is entirely possible that the computed GHG emissions from this landfill could be less than those from another landfill where all of the waste streams are defined as inert per Part 98.460(c)(2). For example, assume that the landfill in question accepts the following waste streams with the following characteristics.

Waste Identification	Tonnage (metric tons)	DOC
A	20,000	0.005
B	20,000	0.003
C	20,000	0.001
D	20,000	0.002
E	20,000	0.002

By applying Equation TT-5, one computes a bulk DOC value of 0.26 percent (or 0.0026). As stated in Part 98.460(c)(2)(xiii), if this landfill had only accepted waste streams that had DOC values of equal to or less than 0.3 percent, they would not be subject to this subcategory. By accepting a single waste stream that exceeds the inert designation in Part 98.460(c)(2)(xiii), this landfill owner would have the regulatory burden associated with Subpart TT, while another landfill owner that only accepted one waste stream with a measured value for DOC of 0.3 percent, would be exempt from this burden, even though its GHG emissions would be the greater of the two. This issue becomes even more significant when you compare the GHG emissions from a landfill that accepted only Construction and Demolition (C & D) Waste, which would have a DOC = 0.08 versus the bulk DOC value (0.0026) for the example landfill cited in this comment.

EPA has defined the C&D landfill as exempt from this subcategory while the example landfill is included in the subcategory. Clearly, the C & D landfill would generate significantly higher (by a factor of more than 30) GHG emissions than the example landfill; however the C & D landfill emissions would not have to be reported. While we agree with EPA's exemption of C & D landfills from this subcategory, landfills that can be shown to emit an equivalent or lower level of GHG emissions should also be exempted from reporting.

Response: The EPA thanks the commenter for their input. The amendment to subpart TT provides an additional opportunity for exemption from the subpart TT requirements based on a DOC value measured using a 60-day anaerobic biodegradation test. This DOC value is consistent with the volatile solids concentration exemption provided in the rule and per §98.460(c)(2) is applicable to those industrial waste landfills that only receive one or more of the inert waste materials listed. In contrast, the comment is describing a scenario in which the landfill receives several inert waste streams on the list but also receives one waste stream that is

not on this list because its DOC value is higher than the newly exempted level. The comment does not request that the exempted DOE value be adjusted higher. We have considered this comment, and concluded it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule because it does not pertain to the proposed or final DOC value exemption. Rather the comment raises issue with the exemptions applying to only those landfills that only receive one or more of the inert wastes listed in §98.460(c)(2) and requests another exemption for landfills that also receive non-inert waste. This portion of the exemption language was not proposed for change in the proposed technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule

Commenter Name: Jerry Call
Commenter Affiliation: American Foundry Society
Document Control Number: EPA-HQ-OAR-2011-0147-0052
Comment Excerpt Number: 5

Comment: The number of sampling events required to determine DOC using the methods specified in 98.464(B)(4)(I)(A) is unrealistic. In the November 29, 2011 Federal Register EPA published a final rule amending specific provisions of the Mandatory Reporting of Greenhouse Gases Rule (40 CFR Part 98) to correct certain technical and editorial errors. As part of that final rule, EPA amended Subpart TT to allow the use of 60-day AB procedures to determine DOC. However, according to Part 98.463(a)(3)(i), for the first year in which a facility determines GHG emissions, one has to determine the DOC value of a waste stream once per quarter using the methods specified in Part 98.464(b). AFS members have experience that the AB test methods typically require 90 days or more from the time that a sample is collected until final results are provided by the laboratory. Also, these procedures typically require analysis of two or more waste samples in order to assess the precision of the results. The procedure is also significantly more expensive then Method 2540G.

Given the longer duration of this test procedure, the number of samples actually tested as part of sample analysis (minimum of two and sometimes as many as four), the added expense, and the fact that the procedure provides more direct measurements of DOC, AFS requests that EPA allow the use of a single set of annual sampling using the 60-day anaerobic biodegradation method. This is consistent with the amount of sampling required to exempt a landfill from being included in this subcategory.

Response: The EPA thanks the commenter for their input. The amendment to subpart TT provides an additional opportunity for exemption from the subpart TT requirements based on a DOC value measured using a 60-day anaerobic biodegradation test. This DOC value is consistent with the volatile solids concentration exemption provided in the rule. In contrast, the comment is about the testing requirements if a landfill is required to report, i.e. is not exempt, and wants to determine its own measured DOC value rather than using the default values provided in the rule. We have considered this comment and concluded that it is out of scope in relation to the proposed and final technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule because it does not pertain to the opportunity for exemption or the testing required to determine whether an exemption is allowed. The testing required for determining exemption to the rule is separate from the requirements for determining

a waste stream-specific DOC value that is subsequently used to calculate methane generation and emissions for purposes of accurate reporting of GHG emissions from the facility.

III. Comments on the Proposed Amendments to Subpart W

General Comments on the Subpart W Proposal

Commenter Name: Jeff Applekamp
Commenter Affiliation: Gas Processors Association
Document Control Number: EPA-HQ-OAR-2011-0147-0043
Comment Excerpt Number: 2

Comment: The description of the change to table W-1A has a typo:
"Table ~~A-1A~~ **W-1A** to Subpart W of part 98 is revised to read as follows:"

Response: Due to a typographical error made at the time of the December 23, 2011 (see 77 FR 80554) amendments, the first table listed in subpart W was incorrectly identified as "Table A-1A" instead of "Table W-1A." In the May 21, 2012 notice, we proposed corrections to subpart W that included the correction to the title for this table. Following Federal Register convention, the May 21, 2012 amendatory language correctly cited "Table A-1A" using the title of the table as it appeared in the Federal Register and Code of Federal Regulations. Therefore, no changes are necessary as a result of this comment. In this action, EPA has finalized a correction to the table name such that the table is correctly titled as "Table W-1A."

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 11

Comment: Implementing these proposed amendments and incorporating them into the requirements for the data that must be reported to EPA by September 2012 is inappropriate and could cause significant problems, especially since the effective date of final rules is unknown and reporting is due in approximately three months.

INGAA cannot support a rulemaking process that issues final rules that require response times in weeks or less. For Subpart W reporting of 2011 emissions, operators have been developing systems, compiling data, and completing calculations for reportable data elements for more than 18 months. In addition, operators have submitted requests to use Best Available Monitoring Methods (BAMM), often due to the ongoing evolution and uncertainty with Subpart W requirements. The pending BAMM requests were filed in the context of the current rule (that is, without the Proposed Rule's technical corrections). Conflicts could result if Subpart W changes. The burden of requiring operators to assess and incorporate summertime revisions to Subpart W is not trivial, and mandating that reports filed in September reflect content rules unknown until July or August is not reasonable.

For example, while INGAA can note inconsistencies within the Proposed Rule's compressor equations and areas within those equations where clarity remains lacking — as INGAA has done in these comments — operators cannot presume how these issues will be reconciled. Meanwhile, reports are being prepared based on the current interpretation and as reflected in BAMM requests. Thus, while INGAA recommends that EPA complete this technical correction rulemaking expeditiously, it should not mandate conformance for September 2012 reporting.

Response: In response to the commenters first point about significant problems arising due to implementing and incorporating the proposed amendments in time for the September 28, 2012 reporting deadline, EPA has noted in the preamble to the 2012 Technical Corrections proposal, (77 FR 29935, hereinafter referred to "2012 Technical Corrections proposal") and section I.D. of the final rule, that these amendments include technical corrections that include typographical errors, errors in citations, minor clarifications in rule text, and changes to data reporting requirements aimed at streamlining the data reporting process for reporters. For example, in the 2012 Technical Corrections proposal, EPA proposed a change to the emission factors in Table W-1A to account for an error in conversion of those emission factors to account for a change in standard temperature and pressure. In this action, EPA is finalizing amendments to this emission factors, and while reporters will need to use the updated emission factors when calculating their GHG emissions, EPA does note that this type of change is not expected to result in a large burden on the reporters.

Regarding the commenters point about operators who submitted Best Available Monitoring Method (BAMM) requests that are pending final determination, EPA will consider, as stated in the subpart W final rule, BAMM requests that meet the criteria outlined in the provisions of 40 CFR 98.234(f). EPA does believe that reporters would have sufficient time to implement the amendments finalized in this rulemaking.

In response to the commenter's not about inconsistency between the 2012 Technical Corrections Proposal regarding compressor provisions, EPA has addressed comments that were submitted on the proposal for both the centrifugal and reciprocating compressor emissions sources as appropriate and in this action, specific amendments have ben finalized that are within the scope of this rulemaking.

Lastly, because this is the first year of submission of subpart W reports to EPA, a significant amount of outreach has been done information reporters and the regulated community of these proposed changes along with demonstrations of how the reporting forms would be affected as a result of finalizing the amendments in the 2012 Technical Corrections proposal. EPA believes that the amendments finalized in this action can be implemented for the September 28, 2012 data reporting deadline. Please see the section "*How will these amendments apply to 2012 reports?* in the preamble to the final rule for additional background information in response to this comment.

Comments on Equation W-6

Commenter Name: Jeff Applekamp
Commenter Affiliation: Gas Processors Association
Document Control Number: EPA-HQ-OAR-2011-0147-0043
Comment Excerpt Number: 1

Comment: Equation W-6 does not work for the natural gas processing industry, where desiccant dehydrator mol sieve is commonly used. This type of desiccant is regenerated without opening the vessel to atmosphere. The vessel is only opened to atmosphere once every 3 or 4 years when the mol sieve needs to be replaced.

Equation W-6 is set up for dehydrator change-outs that occur at least once a year, due to the 365 day factor in the numerator and the variable "T" in the denominator. Equation W-6 results in calculated emissions that are too low if the time between refilling is greater than 365 days. Thus, Equation W-6 should be changed to correctly calculate emissions from desiccant dehys [sic] that are changed out less than one time per year. This equation should be:

Es,n = (H*D2*P*P2*%G*N) / (4*P1*100)

Where:
Es,n = Annual natural gas emissions at standard conditions in cubic feet.
H = Height of the dehydrator vessel (ft).
D = Inside diameter of the vessel (ft).
P1 = Atmospheric pressure (psia).
P2 = Pressure of the gas (psia).
P = pi (3.14).
%G = Percent of packed vessel volume that is gas.
N = Number of dehydrator change-outs per year.
100 = Conversion of %G to fraction.

For example, assume that the desiccant is changed out about once every three years. We'll use 900 days for T.
Assume:
H=20 feet
D=7 feet
P1 = 14 psia
P2 = 500 psia
%G = 20%
T = 900 days

Using the Equation W-6 that is currently in the proposed rule, we get:
Es,n = (H * D2 * P * P2 * %G * 365) / (4 * P1 * T * 100)
= (20 * (7 * 7) * 3.14 * 500 *20 * 365) / (4 * 14 * 900 * 100)
= 11,231,780,000 / 5,040,000
= 2,229 SCF/YR

Using the version we are proposing in this comment, we get:
Es,n = (H*D2*P*P2*%G*N) / (4*P1*100)
= (20 * (7 * 7) * 3.14 * 500 * 20 * 1) / (4 * 14 * 100)
= 5,495 SCF/YR

Response: EPA has reviewed the comment submitted by the commenter and in this action is finalizing the amendment suggested by the commenters. For the response to this comment, please see Section II.C.2 of the preamble to the final rule.

Comments on the Proposed Amendments to Equation W-10A and W-10B

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 3

Comment: EPA has proposed to change the subscripts for the term PR_p to $PR_{s,p}$ for Equation W-10A. API suggests also modifying the definition of this term as follows:
First 30-day average production flow rate in standard cubic feet per hour of each well p, ~~under actual conditions, converted to standard conditions~~, as required in paragraph (g)(1) of this section.

Response: The EPA agrees with the commenter's recommended revisions to the definition of the term "$PR_{s,p}$" and has amended Equations W-10A of subpart W as recommended by the commenter.

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 4

Comment: EPA has proposed to change the subscripts for the term SGp to SGs,p for Equation W-10A and EnFp to EnFs,p for Equations W-10A and W-10B. API notes the following inconsistencies in the use of these terms and indicates the corrections . . . below:

> *$EnF_{s,p}$ = Volume of CO_2 or N_2 injected gas in cubic feet at standard conditions that was injected into the reservoir during an energized fracture job for each well p. If the fracture process did not inject gas into the reservoir, then ~~EnFp~~ **EnFs,p** is 0. If injected gas is CO2 then ~~EnFp~~ **$EnF_{s,p}$** is 0.*
> *$SG_{s,p}$ = Volume of natural gas in cubic feet at standard conditions that was recovered into a flow-line for well p as per paragraph (g)(3) of this section. This parameter includes any natural gas that is injected into the well for clean-up. If no gas was recovered, ~~SGp~~ **$SG_{s,p}$** is 0.*

Response: The EPA agrees with the commenter's recommended revisions to the definitions of the terms "*$EnF_{s,p}$*" and "*$SG_{s,p}$*" and has amended Equations W-10A and W-10B of subpart W as recommended by the commenter.

Comments on the Proposed Amendments to Equation W-12

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 5

Comment: EPA has made corrections to the terms defined for Equation W-12, which is part of the emission estimation methods for gas well completions and workovers with hydraulic fracturing. These revisions include replacing the term "backflow" with "flowback". API requests that the term "backflow" be replaced with "flowback" throughout Subpart W. API also notes that the word "formation" should be changed to "combination" in the revised definition of the term "N", as well as for the term "W", as shown below.

> *N = Number of measured or calculated well completions or workovers using hydraulic fracturing in a sub-basin and well type ~~formation~~ combination.*
> *W = Number of wells completed or worked over using hydraulic fracturing in a sub-basin and well type ~~formation~~ combination.*

Response: In response to the commenters first point about making a global change throughout subpart W to replace the term "backflow" to "flowback", EPA has considered this comment, and concludes it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. While EPA's original intent was that both terms had the same meaning in the context of subpart W, EPA is considering EPA is considering replacing the term "backflow" which is used extensively in the subpart W rule text with the term "flowback" by way of an amendment to subpart W in the near future. EPA is also considering inclusion of a definition of the term in subpart W to further clarify EPA's intent.

In response to the commenters' second comment about replacing the term "formation" with "combination" in the definition of parameter "N" and "W" in Equation W-12, EPA agrees with the commenter and has finalized that correction in this final rule.

Comments on Equation W-14A

Commenter Name: Andrew Shroads
Commenter Affiliation: SC & A, Inc.
Document Control Number: EPA-HQ-OAR-2011-0147-0046
Comment Excerpt Number: 1

Comment: §98.233(i)(3) contains two equations. Equation W-14A has an error with the purge factor that causes the equation to yield erroneous results. The equation subtracts a "purge factor" from the volume of the item being evacuated of natural gas (i.e., blowdown), converted to standard cubic feet. The "purge factor" is either 0, if a non-GHG gas is used to purge the item, or 1 if the item is not purged. Since the volume being purged is converted from actual cubic feet to standard cubic feet, inconsistent units are being subtracted, (i.e. standard cubic feet purged and actual cubic feet "purge factor"). This also results in a negative number if the volume of the purged item in standard cubic feet is less than in actual cubic feet, (i.e. actual conditions are hotter or a lower pressure than standard conditions). Additionally, the "purge factor" does not make sense in the way it is described. If the item is not being purged, then the calculation should

not be used, as there would be no GHG emissions from the blowdown stack, rather than including it in the calculation.

Response: EPA has reviewed this comment and disagrees with the commenter. For a response to this comment, please see section II.C.2 of the preamble to the final rule.

Comments on Amendments to the Compressor Provisions

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 1

Comment: Equation W-23
In § 98.233(o)(5), EPA proposes to revise Equation W-23 by removing the summation. This change is not adequate to correct Equation W-23, and additional revisions are warranted. INGAA recommends clarifications that are consistent with EPA's stated intent that compressor emissions be reported based on measurements when measured data is available for the site that year, and that emission factors be developed for reporting compressor emissions for modes not measured. EPA's intent has been expressed in meetings, and is also reflected in the data elements reported in § 98.236(c) and the data fields in the Subpart W e-GGRT template.

It appears that § 98.233(o)(5) is intended to calculate annual emissions based on reporter-defined emission factors for modes not measured in a particular year, and EPA desires reporting that considers not only the mode but also the emission source. For example, for centrifugal compressors with wet seals in the operating mode, an emission factor would be developed and emissions calculated for the two sources: blowdown valve leakage for wet and dry seal compressors per § 98.233(o)(1)(i) and wet seal oil degassing vent emissions per § 98.233(o)(1)(ii).

In the current rule with the summation, the implication is that a single mode-based estimate would be completed that adds the emissions from the two sources. By removing the summation in Equation W-23 in the Proposed Rule, that is no longer the case. However, the equation needs to capture not only emissions from the mode (i.e., subscript "m" in the equation), but also from the unique mode-source combination (e.g., operating mode-wet seal degassing and operating mode-blowdown valve leakage). This could be achieved by *adding another subscript* to the parameters in Equation W-23 or *re-defining subscript "m"* to apply to the relevant combination of operating mode and emission source. In the latter case, the mode-source combinations should be listed after the equation to add clarity.

There are three unique mode-emission source combinations for centrifugal compressors:
• Operating mode-blowdown valve leakage [see § 98.233(o)(1)(i)];
• Operating mode-wet seal oil degassing vent [see § 98.233(o)(1)(ii)]; and
• Not operating, depressurized mode-unit isolation valve leakage [see § 98.233(o)(1)(iii)].

To summarize, the current rule needs to be corrected because the summation term is not properly annotated and the summation would not provide an emission estimate specific to the unique combination of emission source and operating mode, as intended by EPA. The Proposed Rule removes the summation term, but results in an equation that is incomplete because it addresses the mode but does not address the associated unique emission source. If there is only one relevant source for the mode, then this is not an issue. For modes with more than one source (i.e., operating mode for both centrifugal and reciprocating compressors), the revised equation and parameter definitions are incomplete. If Equation W-23's parameters are not revised to capture each distinct combination of operating mode and emission source, the Proposed Rule's technical corrections will simply replace one unclear equation with another.

Response: EPA has reviewed the comment submitted by the commenter and in this action is finalizing a revision to the definition of parameter "$E_{,s,i}$" to "$E_{,s,i,m}$", in Equation W-23 in response to this comment. For more on EPA's response to this comment, please see Section II.C.2 of the preamble to the final rule.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 2

Comment: Equation W-24 for centrifugal compressors suffers from the same problem. The Proposed Rule appropriately corrects the summation term by placing it in the numerator of the equation. However, the summation is mode-specific, so Equation W-24 would provide two emission factors – one for operating mode and one for not operating, depressurized mode. That is not consistent with reporting requirements and proposed e-GGRT data fields for unique mode-source combinations. To correct this problem, EPA should clarify Equation W-24 by revising the definition of parameter "m" to, "**Unique** compressor mode **and emissions source combinations** as listed in paragraph (o)(1)(i) through (o)(1)(iii)." For clarity, the three unique combinations should be listed along with the definition of "m".

Response: EPA has reviewed the comment submitted and in this action is finalizing a revision to the definition of the parameters "$MT_{m,p}$" and "m" in Equation W-24 and W-28. For our response to this comment, please see Section II.C.2 of the preamble to the final rule.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 3

Comment: Equations W-27 and W-28
The same issue applies for reciprocating compressors in proposed revisions to Equations W-27 and W-28 in § 98.233(p)(7). For reciprocating compressors, there are four unique mode-source combinations, as identified in § 98.233(p)(1) through (p)(3). Without repeating the details, similar revisions to those discussed above for centrifugal units are needed for § 98.233(p).

Response: EPA has reviewed the comment submitted and in this action is finalizing a revision to the definition of parameter "$E_{s,i,m}$" in Equations W-23 and W-27, and a revision to the definitions of parameters "$MT_{m,p}$" and "m" in Equations W-24 and W-28. EPA is considering the additional changes requested by the commenter in a future rulemaking. For more on EPA's response to this comment, please see EPA-HQ-OAR-2011-0147-1 and EPA-HQ-OAR-2011-0147-2, and Section II.C.2 of the preamble to the final rule.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 5

Comment: Content of methane and CO2 in natural gas: default value
In late 2011 EPA introduced changes that reference § 98.233(u) and allow T&S sources to use default values for methane and CO2 content in natural gas. However, following Equation W-23 for centrifugal units and Equation W-27 for reciprocating units, the parameter "GHGi" is defined as "1" (i.e., assume 100% CO2 and 100% methane in the gas). This conflicts with other Subpart W requirements and should be corrected. References to GHGi should consistently refer to the default values and/or section § 98.233(u).

Response: For a response to this comment please see EPA response to comment excerpt EPA-HQ-OAR-2011-0147-0047-7 7.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 7

Comment: Parameter EF_m.
For parameter EF_m in Equation W-24, the reference to "three modes" should be revised. This relates to the discussion above [see comment EPA-HQ-OAR-2011-0147-0047, excerpt 3] regarding modes versus unique mode-emission source combinations. Based on revisions discussed above, the EF_m definition should refer to three "unique mode-emission source combinations" for centrifugal units. Similarly, following Equation W-28 for reciprocating compressors, EF_m refers to three modes. In this case, it should refer to "four unique mode-emission source combinations."

Response: The EPA thanks the commenter for their input. In the preamble to the 2012 Technical Corrections proposal, (77 FR 29941), EPA stated that the amendments proposed in that action for both centrifugal and reciprocating compressors emission sources were limited to minor corrections to certain equations, where the amendments proposed for these equations were such that owners and operators would, if finalized, correctly calculate GHG emissions from these emission sources. In response to the commenters' suggestion for further revisions to provisions in both the centrifugal and reciprocating compressor emission sources, although EPA is considering inclusion of the amendment(s) suggested by the commenter in a future rulemaking .

EPA is maintaining the same intent to keep the amendments to the calculation methodologies for these emissions sources limited for the same reasons as stated in the preamble to the 2012 Technical Corrections proposed rule, and has thus concluded that this comment is out of the scope of the 2012 Technical Corrections final rule.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 9

Comment: ***For the equations in the compressor sections, introductory text should be added to clarify the intent of the equations and how reporting entities are to use them.***
As Subpart W has undergone revisions and additional material is released by EPA, the intended approach for compressor emissions —measurement, calculations, and data roll-up — is becoming clear. For example, it appears that measured data are to be used for estimates when annual measurements are completed in that mode. For modes not measured, operator emission factors are used. To express this intent clearly, EPA should adopt introductory text, as summarized in section E below, to accompany the equations in §§ 98.233(o) and (p).

E. Summary of technical corrections and clarifications for compressor equations.

• Equations W-22 and W-26 should include an introductory phrase to clarify that these equations are for estimating emissions based on the annual site measurement: - Revise § 98.233(o)(4):

"**For modes measured in the reporting year, estimate** annual emissions using the flow measurement …"

- Revise § 98.233(p)(6): " **For the modes measured in the reporting year, estimate** annual emissions using the flow measurement…"

• Similarly, Equations W-23 and W-27 should include an introductory phrase to clarify that these equations are for estimating emissions based on operator emission factors for modes not measured that year: : - Revise § 98.233(o)(5): "**For the mode not measured in the reporting year, calculate** annual emissions from each centrifugal compressor…"

- Revise § 98.233(p)(7): "**For modes not measured in the reporting year, calculate** annual emissions from each reciprocating compressor …"

• Parameter "m" should be re-defined in both § 98.233(o) and § 98.233(p) to address not just the mode, but the unique mode-emission source combination. When "m" is defined, the three unique combinations for centrifugal units and four unique combinations for reciprocating units should be re-iterated to provide clarity.

• The erroneous reference to "GHGi = 1" following Equations W-23 and W-27 should be deleted and § 98.233(u) should be consistently referenced for gas quality.

• The term “GHGi” should be used consistently in all equations rather than adding the mole fraction term in Equations W-22 and W-26.

• For the term “EFm” in Equations W-24 and W-28, reference to the number of modes should be revised to reflect the number of unique mode-emission source combinations.

• For Equation W-22, the term “1–Bm” should be deleted because it is not consistent with the § 98.233 format for addressing vapor recovery (or flaring, etc.). Instead, a section analogous to § 98.233(p)(8) should be added to § 98.233(o).

Response: For a response to this comment please see EPA response to comment excerpt EPA-HQ-OAR-2011-0147-0047 Comment Excerpt Number 7.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 10

Comment: Consistent Reporting In Mass-Based Units
In the Subpart W reporting section, annual emissions should be reported as metric tons of CO2e, and equations should not be cited in § 98.236(c)(13) and § 98.236(c)(14) that provide results with different engineering units.

Reporting by emission source type is defined in § 98.236(c). For centrifugal compressors, the Proposed Rule revises § 98.236(c)(13)(iii)(C) because it references engineering units of cubic feet per hour. For reporting, the desired engineering unit is metric tons. INGAA agrees, and recommends that data elements that report annual emissions in §§ 98.236(c)(13) and (14) consistently report on a mass basis.

However, throughout § 98.236(c)(13) for centrifugal compressors and § 98.236(c)(14) for reciprocating compressors, annual emissions data elements are identified where reporting in metric tons is desired, but the sections reference equations in § 98.233(o) and § 98.233(p) that calculate emissions with results in volume (scf) engineering units. This direct reference of engineering units from the equations conflicts with the mass-based units desired. The reference to § 98.233 equations should be deleted from the data elements in §§ 98.236(c)(13) and (14) that report annual emissions.

Response: EPA agrees with the commenter and in this action has finalized amendments to the units for the reciprocating and centrifugal compressor data elements in 40 CFR 98.236. Please see Section II.C of the preamble to the final rule for more on EPA’s response to this comment.

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 6

Comment: EPA has removed the summation for Equation W-23. With this revision, Equation W-23 now reflects the emissions for the mode, not the entire compressor. Either the term $E_{s,i}$ needs to be revised to $E_{s,i,m}$ to reflect emissions for a particular mode, as represented by the equation (in which case the definition for $E_{s,i,m}$ should be "*Annual total volumetric GHG emissions at standard conditions from each centrifugal compressor* ***mode*** *in cubic feet*"), or the summation should be added back in with an upper limit of 3, consistent with the three possible operating modes (no change would be required for $E_{s,i}$).

Response: The EPA agrees with the commenter's recommended clarifications and has amended Equation W-23 of subpart W such that the term "$E_{s,i}$" is revised to "$E_{s,i,m}$" and is defined as follows "Annual total volumetric GHG emissions at standard conditions from each centrifugal compressor for mode-source combination m in cubic feet." Please see section II.C.2. of the preamble to the final rule for EPA's response to this comment.

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 7

Comment: EPA has changed the subscript for the term MT_m to $MT_{m,p}$ in Equation W-24 and W-28. EPA did not modify the subscript for the definition of the term MT_m following these two equations. EPA also did not define the subscript "p" for either of these equations.

Response: For a response to this comment, please see EPA-HQ-OAR-2011-0147-0047 – 2 and For a response to this comment, please see EPA-HQ-OAR-2011-0147-0047 - 3.

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 8

Comment: EPA has removed the summation for Equation W-27. With this revision, Equation W-27 now reflects the emissions for the mode, not the entire compressor. Either the term $E_{s,i}$ needs to be revised to $E_{s,i,m}$ to reflect emissions for a particular mode, as represented by the equation (in which case the definition for $E_{s,i,m}$ should be "*Annual total volumetric GHG emissions at standard conditions from each reciprocating compressor mode in cubic feet*"), or the summation should be added back in with an upper limit of 3, consistent with the three possible operating modes (no change would be required for $E_{s,i}$).

Response: The EPA agrees with the commenter's recommended clarifications and has amended Equation W-27 of subpart W such that the term "$E_{s,i}$" is revised to read "$E_{s,i,m}$." We have also revised the definition of "$E_{s,i,m}$ to read "Annual total volumetric GHG emissions at standard conditions from each reciprocating compressor for mode-source combination m, in cubic feet." For more on EPA's response to this comment, please see For a response to this comment, please see EPA-HQ-OAR-2011-0147-0047 – 2, and Section II.C of the preamble to the final rule.

Comments on the Proposed Amendments to Equation W-33

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 9

Comment: EPA has modified the definition of terms $E_{s,n}$ and $E_{a,n}$ for Equation W-33 to address the substitution of $FR_{s,p}$ for $E_{s,n}$ and $FR_{a,p}$ for $E_{a,n}$ when converting volumetric flowrates from 98.233(g). API does not take issue with the revisions proposed to paragraph "t", as it is consistent with how API members interpreted the requirements. However, API suggests modifications to the proposed revisions for the terms $E_{s,n}$ and $E_{a,n}$ as indicted below. Removing the parentheses around the $FR_{s,p}$ and $FR_{a,p}$ terms clarifies the revisions.

> *Es,n = Natural gas volumetric emissions at standard temperature and pressure (STP) conditions in cubic feet, except Es,n equals ~~(~~FRs,p~~)~~ for each well p when calculating either subsonic or sonic flowrates under 98.233(g).*
> *Ea,n = Natural gas volumetric emissions at actual conditions in cubic feet, except Ea,n equals ~~(~~FRa,p~~)~~ for each well p when calculating either subsonic or sonic flowrates under 98.233(g)*

Response: The EPA agrees with the commenter's recommended clarifications and has amended Equation W-33 of subpart W as suggested by the commenter.

Comments on the Proposed Amendments to Equation W-36

Commenter Name: Pamela Lacey
Commenter Affiliation: American Gas Association
Document Control Number: EPA-HQ-OAR-2011-0147-0048
Comment Excerpt Number: 1

Comment: AGA appreciates EPA's proposal in the 2012 Proposed Technical Corrections to correct the density factor for methane in 98.233(v). See 77 Fed. Reg. at 29951.

Equation W-36 in the current version of 98.233(v) uses engineering units of kilograms per SCF**,** but in 2011 rule revisions, EPA changed the value that one is required to use for methane density and failed to use the appropriate value as measured in kilograms per standard cubic foot. Instead, EPA's Technical Corrections final rule changed the value to "0.0422" -- which is the methane density value stated in pounds per SCF**.** If one divides the required value of AGA 0.0422 (the density of methane in lbs / SCF) by 2.2 lbs per kg , this results in a density of 0.0192 kg / SCF, which is the appropriate value in units of kg / SCF).

In the 2012 Proposed Technical Corrections EPA is now proposing to replace 0.0422 with 0.0192 in Equation W-36. This proposed revision will fix the error and eliminate the confusion between pounds and kilograms that otherwise would have over-estimated emissions by a factor of more than two (i.e. 2.2). AGA supports this proposed correction.

Response: The EPA thanks the commenter for their input. The EPA has finalized the amendment to Equation W-36 of subpart W as proposed in the 2012 Technical Corrections proposal (77 FR 29935).

Comments on Proposed Changes to the Subpart W Tables

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 2

Comment: EPA has indicated that the May 21, 2012 proposed technical amendments correct errors associated with several emission factors, but otherwise did not update or revise the emission factors. While API appreciates that EPA has corrected errors with some of the emission factors, it is not clear why EPA increased the emission factors for valves, flanges, connectors, open-ended lines, and "other" components shown in the following table.

	December 2011 Amendment Emission Factor	**EPA Proposed Revised Emission Factors (May 2012)**
Table W-1A. Onshore Petroleum and Natural Gas Production – Eastern and Western U.S.		
Population Emission Factors – All Components Light Crude Service		
Component	**Scf/hour/component**	**Scf/hour/component**
Valve	**0.04**	**0.05**
Flange	**0.002**	**0.003**
Connector	**0.005**	**0.007**
Open-ended Line	**0.04**	**0.05**
Other	**0.23**	**0.30**

API had not previously commented on the light crude emission factors shown above, because the values published by EPA were close to API's estimates when rounded up. It is not clear what prompted EPA to suggest the highlighted revisions. API requests that EPA not revise these emission factors and maintain the current values.

Response: EPA disagrees with the commenter's suggestion to revise the population emission factors for Light Crude Service for the Onshore Petroleum and Natural Gas Production industry segment. For the response to this comment, please see Section II.C.2 of the preamble to the final rule.

Out of Scope Comments on Subpart W

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 1

Comment: API notes that EPA has proposed to modify 98.233(t), such that if an equation from 98.233 results in a gas volume at standard conditions then paragraph "t" does not apply. API supports this revision. However, it does not appear to address API's issues with individual equations that result in gas volumes at actual conditions, when industry practice is to track gas flow rates at standard conditions.

API continues to insist that EPA allow the use of industry standard conditions of 60°F and 14.7 psia for all Subpart W equations used to quantify and report volumetric emissions for individual sources where gas volumes in those equations are already tracked in standard conditions. API contends that converting gas volumes that are already tracked in standard conditions to actual conditions - just to satisfy the noted units convention for specific equations - only adds burden and no value to the reported information. The following equations have not been corrected and indicate that the resulting volumetric emissions are at actual conditions:

- Equation W-3 (for AGR units) – In practice, the term Vs is tracked by industry in gas volume at standard conditions.
- Equation W-4 (for AGR units) – In practice, the inlet and outlet flow rate are tracked at standard conditions.
- Equation W-7 (well venting for liquids unloading) – In practice, the well venting flow rate will be measured at standard conditions.
- Equations W-17 and W-18 (well testing venting and flaring) – In practice, the annual gas production rates and the gas terms in GOR values are based on standard conditions.
- Equations W-19 and W-20 (flaring) – In practice, flared gas streams are tracked in standard conditions.
- Equation W-39 (combustion) – In practice, the combusted gas streams are tracked in standard conditions.

In practice, all of the gas flow rates associated with the equations noted above are tracked in standard conditions. Requiring the calculation of gas volume emissions at actual conditions for the equations noted above only adds an unnecessary calculation step for the reporters. It would necessitate converting gas volume data, which is collected at standard conditions, to actual and then converting back to standard conditions under 98.233(t).

As it stands, many API member companies are tracking these emissions in volumes at standard conditions, which is permitted through the broad application of BAMM. None of the reporting requirements in 98.236 require reporting volumetric emissions, so the tracking of volumetric emissions as designated in the equations and then converting from actual volumes to standard volumes is not in the information reported to EPA and does not change the resulting emissions. As a result, API strongly insists that these equations be corrected such that they result in gas volumes in standard conditions – and not in actual conditions – since industry already tracks the gas volumes in standard conditions.

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and

clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. Several of the Equations that would be affected by the change suggested by the commenter were not opened for comment during the 2012 Technical Corrections proposed rule (77 FR 29935). EPA would like to note that reporters who are facing unique or unusual circumstances as defined in 40 CFR 98.234(f)(4), resulting from these identified issues may apply for BAMM. As such, the changes proposed by the commenter go beyond that of this action. EPA is, however, considering this and other changes suggested by the commenters for inclusion in a future rulemaking.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 4

Comment: Nomenclature
The difference in subsection numbering for §§ 98.233(o) and (p) identifies another technical correction that should be considered at some point. For example, the unique mode-source combinations are presented in § 98.233(o)(1)(i)-(iii) for centrifugal units and § 98.233(p)(1)-(3) for reciprocating units. These two sections include analogous requirements but do not consistently present the information and requirements in the same manner. To facilitate regulatory interpretation, these two sections should strive for consistency in their language, equations, parameter definitions, etc., whenever possible.

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 6

Comment: Content of methane and CO2 in natural gas: nomenclature
The parameters that define methane and CO2 content also do not use consistent nomenclature. Throughout Subpart W, "GHGi" is used to define the concentration of gas "i" (i.e., methane or CO2). However, in Equation W-22 and Equation W-26, another term, "Mi,m", is used to define

GHGi. This inconsistency is unwarranted and GHGi should be used consistently in the equations.

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

Commenter Name: Lisa Beal
Commenter Affiliation: Interstate Natural Gas Association of America (INGAA).
Document Control Number: EPA-HQ-OAR-2011-0147-0047
Comment Excerpt Number: 8

Comment: ***Additional equation corrections are necessary for consistency.***

As discussed above, consistency between §§ 98.233(o) and (p) is warranted unless there is a sound reason for a difference. For centrifugal units, Equation W-22 includes the term "1-Bm" to address control via vapor recovery, flaring etc. For reciprocating units (and other source types in § 98.233), the analogous equation does not include this parameter. Instead, § 98.233(p)(8) addresses vapor recovery for reciprocating compressors. For consistency, INGAA recommends deleting the "1-Bm" term from Equation W-22 and adding a subsection analogous to § 98.233(p)(8) to § 98.233(o).

Response: For a response to this comment please see EPA response to comment EPA-HQ-OAR-2011-0147-0047 - 7.

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 10

Comment: EPA has changed "high heat value" to "higher heating value" in 98.233(z)(2)(vi). API appreciates this revision, but requests that all uses of "high heat value" be similarly changed to "higher heating value" throughout Subpart W.

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to

calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 11

Comment: The Subpart W rule has one calculation category, §98.233(f) Well venting for liquids unloadings, and one calculation methodology, Calculation Methodology 1, that has an equation, Equation W-7, where the time term, Tp, requires cumulative amount of time in hours of venting during the year. This time term appears to require identifying the total vent time from January 1st to December 31st of the reporting year. The reporting requirements for this category, §98.236(c)(5)(i)(C) also requires the cumulative number of unloading events that are vented to the atmosphere. In a common venting scenario described in the example below, it is not logistically possible to obtain the vent hours or number of unloading events from January 1st to December 31st of a reporting year, and the rule does not currently provide provisions such as: "Average estimated time that venting occurs in a year, using engineering estimate based on best available data" that other calculations, (Eq. W-31), allow; or annualization of the data, i.e. use of 365 days of data that includes some data from the end of the previous year.

Example: Liquids Unloading Data Gathering and Reporting Scenario

- A plunger lift well captures vent events and vent times via a local (wellsite) controller that does not electronically forward the data to the office or a database and does not have the capability to date stamp the vent event and vent times.
- A field operator has to download the vent event and vent time data from the local controller at the wellsite for uploading into a database.
- It is logistically impossible to gather the information from the local controllers in the field in one day, i.e. January 1st or December 31st.
- The local controller data for all wells with these types of controllers is captured over a several week period by the field operators, normally in the 4th quarter.
- The actual data gathered is normally for a time period other than 365 days, i.e. 300 – 400 day period actually recorded by the local controller and downloaded by the field operator, due to weather, week-ends, holidays and other operational duties.
- The data captured will normally span two annual reporting periods, i.e. November, 2011 – November, 2012.

As long as BAMM is allowed, the above situation is not an issue. However, after June 30, 2012, the rule as currently written creates a reporting issue for this situation. Unless the rule language is revised to allow for annualization of the data for the time period of January 1st to December 31st using best available data from a time period other than January 1st to December 31st, the scenario described above will require an annual BAMM request to address the issue as it is our understanding that permanent BAMM requests are not allowed.

This could potentially be addressed under the missing data procedures. Section 98.235 indicates that for continuously measured data, the reporter may use best available data for the emissions determinations. In addition, 98.235 requires "where missing data procedures are used for the previous year, at least 30 days must separate emissions estimation or measurements for the previous year and emissions estimation or measurements for the current year of data collection." It is not clear if the missing data procedures would apply to tracking hours of venting.

API stipulates that there are three potential remedies outside of annual BAMM requests for this situation, and urges EPA to either adopt one of them or allow any of the three options:

> 1. EPA could confirm that the missing data procedures would be used for tracking hours of venting;
>
> 2. EPA could modify the rule language to allow the use of an average estimated time that venting occurs in a year, using engineering estimate based on best available data, such as is provided in other calculations (e.g., Equation W-31); or
> 3. EPA could modify the rule language to allow reporters to compute an annualized estimate based on data that are collected. For example, apply 365 days of data even where the data span more than or less than one calendar year (from January 1st through December 31st).

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

Commenter Name: Karin Ritter
Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 12

Comment: What does EPA mean by "…and CO_2 EOR" in the following definition of Facility for onshore petroleum and natural gas production. See the excerpt below.

> **Section 98.238 - Definitions**

Facility with respect to onshore petroleum and natural gas production for purposes of reporting under this subpart and for the corresponding subpart A requirements means all petroleum or natural gas equipment on a single well-pad or associated with a single well-pad and CO_2 EOR operations that are under common ownership or common control including leased, rented, or contracted activities by an onshore petroleum and natural gas production owner or operator and that are located in a single hydrocarbon basin as defined in § 98.238. Where a person or entity owns or operates more than one well in a basin, then all onshore petroleum and natural gas production equipment associated with all wells that the person or entity owns or operates in the basin would be considered one facility.

For clarification, API requests that EPA modify the definition of facility provided above to replace "and CO2 EOR operations" with "or associated with CO_2 EOR operations."

Response: For the response to this comment, please see the response to comment EPA-HQ-OAR-2011-0147-0050 - 10. **Commenter Name:** Karin Ritter

Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 13

Comment: The reporting requirements under 98.236(d) require the following:
Report annual throughput as determined by engineering estimate based on best available data for each industry segment listed in paragraphs (a)(1) through (a)(8) of this section.
Although these requirements were not revised in the December 23, 2011 or May 21, 2012 amendments, API requests clarification on what value or values EPA is requesting. For example, for a gas processing plant, is throughput based on the inlet or outlet plant flow?

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

Commenter Name: Karin Ritter

Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 14

Comment: The pressure term SPp in Equation W-8 is defined as:

Shut-in pressure or surface pressure for wells with tubing production and no packers or casing pressure for each well, p, in pounds per square inch absolute (psia) or casing-to-tubing pressure ratio of one well from the same sub-basin multiplied by the tubing pressure of each well, p, in the sub-basin, in pounds per square inch absolute (psia)

This appears to require use of casing pressure or casing-to-tubing pressure ratio for wells with packers. However, the casing pressure is irrelevant for wells with packers. This is illustrated in the following diagrams. [See Docket Id. No EPA-HQ-OAR-2011-0147-0050 for diagrams provided by commenter.]

API requests that EPA modify the definition of SPp to allow the use of shut-in pressure or surface pressure for wells with packers. API's proposed modification to the rule language is indicated below . . .

SPp= Shut-in pressure or surface pressure for wells with tubing production ~~and no packers~~ or casing pressure for each well with no packers, p, in pounds per square inch absolute (psia), or casing-to-tubing pressure ratio of one well with no packer from the same sub-basin multiplied by the tubing pressure of each well, p, in the sub-basin, in pounds per square inch absolute (psia).

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

Commenter Name: Karin Ritter

Commenter Affiliation: American Petroleum Institute (API)
Document Control Number: EPA-HQ-OAR-2011-0147-0050
Comment Excerpt Number: 15

Comment: There is a minor edit needed in paragraph (G) 98.236(c)(6) for well completions.

(G) Report number of completions employing purposely designed equipment that separates natural gas from the backflow and the amount of natural gas, in standard cubic feet, recovered using engineering estimate based on best available.

(H) Report number of workovers employing purposely designed equipment that separates natural gas from the backflow and the amount of natural gas, in standard cubic feet, recovered using engineering estimate based on best available data.

It appears paragraphs (G) is truncated, "best available" should be "best available data" to be consistent with paragraph (H).

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

Commenter Name: Pamela Lacey
Commenter Affiliation: American Gas Association
Document Control Number: EPA-HQ-OAR-2011-0147-0048
Comment Excerpt Number: 2

Comment: Count Just Leaking Components vs. Total Number of ALL Components.

The 2012 Proposed Technical Corrections does not correct or clarify the confusing provisions in the inter-related calculations under Equations W-30B, W-31 and W-32. These provisions could be interpreted to imply that an LDC must count ALL components (including non-leakers) at all stations, rather than simply counting leaking components and applying the default leaker emission factors.

Our members do not maintain inventories of all their components everywhere. If the rule indeed were interpreted to require providing a count of all components – both leaking and non-leaking, our members would have to devote significant employee time to go to each T-D station to count all the components. This would be an exceedingly burdensome requirement that would not produce any useful data. The point of the rule is to report emissions, not the absence of emissions. It makes no sense to require utilities to count *all* components in their T-D stations, whether leaking or not. We do not believe this was your intent, but the rule should be clarified to make your intent clear. This problem could be fixed in the Technical Corrections Rule by adding a qualifier to clarify that the LDC doing a leak survey at a Transmission to Distribution (T-D) station should count components "*found to be leaking.*" Thus, in Equation W-30B under section 98.233(q), clarify that "**x = total number of each component type found to be leaking."** In addition, there is confusion about the conflicting references to emissions and population counts of "component types" vs. meter/regulator runs in Equation W-31 under section 98.233(r). For

other Subpart W facilities, the equation may make sense, but for distribution facilities (i.e. a gas utility's statewide network of metering-regulating stations), the equation is supposed to multiply a population count of above-grade metering-regulating stations by the station-level, company-specific emission factor developed in Equation W-32.

References to counting population counts of "component types" or to the average estimated time that "each component type associated with the equipment leak emission was operational" makes no sense in this context. More importantly, mixing up component counts and meter/regulator run counts will cause the equation to implode. It simply will not compute. This is a clear error in the rule that really must be corrected in the 2012 Technical Corrections so that Local Distribution Companies (LDCs) can submit the reports due by September 28, 2012. We think you will agree that such a fix would be one for which comment is both "unnecessary" and "Impracticable" under the Administrative Procedure Act.

The current state of the equations serves no conceivable regulatory purpose, and the change is needed to achieve what we are confident was EPA's original intent. Moreover, it must be made quickly to remove a requirement to use equations that simply will not work for this reporting year.

One way to make this correction could be to define "component type" for purposes of natural gas distribution under Equation W-31 to mean the "meter/regulator run." Another solution, which we would prefer, would be to create an Equation W-31A and W-31B, with the latter designed for natural gas distribution facilities only that would clearly explain that LDCs should apply the meter/regulator run-level emission factor developed in Equation W-32 to a population count of meter/regulator runs at above-grade metering-regulating stations. We would be happy to work with EPA to ensure that the revised equations are functional and clear.

Response: EPA has considered this comment, and concludes that it is out of scope with the technical corrections, clarifying, and other amendments to certain provisions of the GHG Reporting Rule. As explained in section I.D. *How do These Amendments Apply to 2012 Reports*, in the preamble to the 2012 Technical Corrections final rule includes minor corrections and clarifications to certain provisions in the final rule that, while important to allow reporters to calculate emissions accurately, do not materially affect the actions facilities must take to comply with the rule. As such, the changes proposed by the commenter are outside of the scope of this rulemaking. EPA is considering addressing the concerns raised by the commenter in a future rulemaking or through guidance posted on the subpart W website: http://www.epa.gov/climatechange/emissions/subpart/w.html.

IV. Comments on the Proposed Amendments and Confidentiality Determinations for Subpart L

Comments on the Methods Used to Determine Global Warming Potentials for Fluorinated Greenhouse Gases Reported under Subpart L

Commenter Name: Dana Schnobrich
Commenter Affiliation: 3M Company
Document Control Number: EPA-HQ-OAR-2011-0147-0044
Comment Excerpt Number: 2

Comment: EPA has also requested comment on 98.126(j) *Special Provisions for Reporting Years 2011 and 2012 Only*. This new section addresses methods that can be used to calculate the total site emissions of all fluorinated-GHG's [sic], in metric tons of CO2e, from all processes that are subject to Subpart L for the periods specified. 3M supports the methodologies that are being proposed by EPA with one clarification. Proposed Section 98.126(j)(3) provides for the use of a "best estimate" of GWP based on the methods described in Section 98.123(c)(1)(vi)(A)(3). 3M asks that EPA clarify that comparable methods based on use of professional judgment are acceptable, as discussed in more detail below.

3M has had considerable experience in calculating and estimating GWP. As indicated in previous communications on this rulemaking, 3M has completed a corporate-wide GHG inventory annually since 2002. The GHG inventory data has been used for participation in many climate and sustainability related programs such as the EPA Climate Leaders program, 3M Corporate Sustainability reporting, and the Dow Jones Sustainability Index. The inventory follows the World Resources Institute (WRI) protocol and has been validated in two rigorous external third party audits using EPA-approved auditors. As a part of this program 3M has developed formal procedures to determine GWP's [sic] where this information does not exist in the scientific literature. The fluorochemical production related emissions portion of the 3M inventory was used to draft Chapter 3.10 of the Intergovernmental Panel on Climate Change's (IPCC) 2006 National GHG reporting Guidelines. As part of the preparation of these guidelines, this section underwent significant technical peer review prior to publication. The reviewers included international GHG technical experts and representative from EPA.

With respect to "best estimates" of GWP, the proposed rule calls for using either a default GWP or a best estimate of GWP based on the information described in Section 98.123(c)(1)(vi)(A)(3). That section lays out various forms of data and analysis that support estimates of GWP, including among other data, "(i) data and analysis related to the low-pressure gas phase infrared absorption spectrum of the fluorinated GHG . . ." In 3M's experience in estimating GWP, this data and analysis may be useful in making the best estimate of GWP. In other situations, however, where pure standards of a compound are not available, an analysis of the infrared spectrum for a specific fluorinated GHG is not possible. In these cases 3M has determined the radiative forcing of such chemicals based on professional judgment which would normally include the use of quantitative structure activity relationships (QSAR's) that relate mathematically, the radiative forcing of a compound to the chemical's structure (i.e., type of compound (HFC vs. PFC), number of carbon-halogen bonds, etc.). 3M believes that this is a

valid approach to performing a "best estimate" in this situation and that this is consistent with the methods that are described in Section 98.123(c)(1)(iv)(A)(3).

The following is additional detail on why it may be difficult to obtain an IR spectrum for a compound. In order to determine the radiative forcing of a compound, a gas phase IR spectrum of the compound at a known concentration is required. Therefore to make such an IR spectrum an analytical standard of this "target" compound must be available. For this standard either (1) the "target" compound must be pure; or (2) if the compound is not pure, the purity of standard must be known and the FTIR spectra of each of the individual impurities must be available so that their influence on the radiative forcing of the target compound can be removed. In many gaseous manufacturing emission streams, some compounds (primarily by-products) may be present for which pure standards are not commercially available, and these compounds cannot be isolated at high purity from the manufacturing gas stream to prepare standards. This is why it is difficult to obtain spectra of some compounds.

The IPCC states that the GWPs listed in the IPCC Assessment Report have an uncertainty of 35%. 3M has conducted comparisons between measured and QSAR derived GWPs. Based on this approach the uncertainty of the radiative forcings associated with QSAR-derived GWPs is estimated to be 18 to 23%. For the atmospheric lifetimes on average for a given class of compounds, the QSAR estimates of the atmospheric lifetime differ from measured values by 30% with some minor exceptions. The overall uncertainty of a QSAR-based GWP is therefore a combination of these tow uncertainties, and use of QSARs is still more accurate than the default GWPs of 2,000 or 10,000 that are provided in the proposed rule. Use of the QSAR method is much more accurate than using the proposed default GWPs for certain compounds in classes where there is more measured data – in those situations, use of the QSAR method may result in a GWP that is not much different from a measured GWP.

Accordingly, 3M asks that EPA clarify that estimating the radiative forcing of chemicals based on professional judgment is an acceptable methodology for making a best estimate of GWP, in situations in which the pure standards of a compound are not present.

The above is just one example of a methodology that is based on professional judgment but may not be specifically described in or captured by the subsections contained in Section 98.123(c)(1)(iv)(A)(3). Other methodologies based on use of professional judgment may be acceptable. 3M asks EPA to clarify that other methods relying on use of professional judgment are acceptable, if they result in accuracy that is comparable to the accuracy associated with the methods described in Section 98.123(c)(1)(iv)(A)(3).

Response: As explained in Section II.D.2 of the final preamble, we are finding the use of QSARs to be acceptable in this context. However, we disagree with the commenter's recommendation that the rule be revised to state that any comparable methods based on use of professional judgment are acceptable if they result in accuracy that is comparable to the accuracy associated with the methods described in §98.123(c)(1)(vi)(A)(3). The commenter did not address how alternative methods would be determined to have comparable accuracy. One approach would be to allow reporters to make this determination. However, this approach could result in a wide range of GWPs being used for the same chemical as individual reporters made

their own independent judgments of which alternative methods possessed "comparable accuracy." It would also introduce greater uncertainty in interpreting the reported CO2e emissions since the accuracy of the CO_2e emissions would be unknown for those facilities that employed an alternative approach for determining GWPs. In general, rather than allowing facilities to estimate emissions using their own calculation methods, EPA has specified methods for estimating GHG emissions throughout the GHG Reporting Rule. This is to ensure that estimates are acceptably accurate and comparable across facilities (see, for example, the discussion at 74 FR 56279).

Another approach would be for the EPA to make the determination of whether an alternative method possessed comparable accuracy. However, this approach would likely be time consuming and cumbersome to the Agency, as well as to reporters, who would be required to submit detailed information on their alternative methods to the EPA in advance of the reporting deadline. In fact, the proximity of the deadline for reporting 2011 emissions (September 28, 2012) would render this approach impractical for the first year of reporting. We believe that allowing the QSAR approach addresses the specific concerns expressed by this commenter and provides sufficient flexibility without introducing additional complexity for reporters. Thus, we are not including a blanket provision permitting use of comparable methods based on professional judgment.

Comments on the Proposal to Report Emissions at the Facility-Level for Year 2011 and 2012

Commenter Name: Dana Schnobrich
Commenter Affiliation: 3M Company
Document Control Number: EPA-HQ-OAR-2011-0147-0044
Comment Excerpt Number: 1

Comment: 3M very much appreciates EPA's consideration of our previous comments on EPA's GHG Mandatory Reporting Rule, Subpart L, and related confidentiality determinations. We have reviewed the proposed technical corrections for those sections of the document that discuss Subpart L and we concur with these modifications that are being proposed by EPA. 3M supports the deferral for reporting of those data elements that are contained in 40 CFR 98.3(c)(4)(iii) and 40 CFR 98.126(a)(2), (a)(3), (a)(4), (a)(6), (b), (c), (d), (e), (f), (g), and (h). These data elements adequately capture that information that may be subject to export control and/or which may contain confidential business information. 3M also supports EPA's Subpart L proposal to require reporting on a facility-wide basis of fluorinated GHGs emissions, expressed in metric tons of CO2e, for both 2011 and 2012. This period will allow for time that may be necessary to resolve confidentiality and/or export control issues. In addition, with the requirement for reporting on a facility-wide basis and the use of best estimates for GHGs, EPA will be receiving annual total facility-wide fluorinated GHG emission during this time period, expressed in tons of CO2e.

. . .

The preamble of the rule and referenced document, "Memorandum: Potential Future Subpart L Options", discuss different options that EPA may be considering for reporting years beyond 2011

and 2012. 3M understands that EPA is not requesting comments on these activities at this time, but we anticipate participating in further discussions with EPA on this very important issue.

Response: The EPA thanks the commenter for their input. The EPA has amended subpart L as proposed in the May 21, 2012 notice; therefore, facilities subject to subpart L are not required to report the data elements 40 CFR 98.3(c)(4)(iii), 98.126(a)(2)-(4), 98.126(a)(6), and 98.126(b)-(h) until the later of March 31, 2014 or the date set forth for that data element at §98.3(c)(4)(vii) and Table A-7 of Subpart A . As we noted in the preamble to the proposed rule, the EPA received comment from the 3M Company and the American Chemistry Council indicating concern that the disclosure of the identity and quantities of fluorinated GHG emissions at the process level, from either process vents or fugitive sources, would reveal sensitive information regarding individual chemical production processes. The EPA is currently evaluating these concerns and published a Memorandum: Potential Future Subpart L Options (see EPA-HQ-OAR-2011-0147-0039) outlining some possible alternative options when this action was proposed on May 21, 2012. Any long-term changes to Part 98 would be made through a separate regulatory action in which the public would be afforded an opportunity to comment on the proposed changes.

Commenter Name: Brendan Mascarenhas
Commenter Affiliation: American Chemistry Council (ACC)
Document Control Number: EPA-HQ-OAR-2011-0147-0049
Comment Excerpt Number: 1

Comment: ACC appreciates the Agency's consideration of our March 2012 comments on EPA's January 2012 "Proposed Confidentiality Determinations for Data Elements Under the Mandatory Reporting of Greenhouse Gases Rule (MRR)."2 In those comments, ACC raised specific concerns with the proposed determinations for data elements under Subpart L, Fluorinated Gas Production. ACC and its member companies are concerned that the disclosure of the identity and quantities of the fluorinated GHGs emitted at the process level, from either process vents or as fugitive emissions, would reveal sensitive information regarding individual chemical production processes. As process-level information can contain specific information on reactants, byproducts, and products, requiring the disclosure of this data as an input to emissions equations (thereby rendering the information ineligible for treatment as confidential business information) could place manufacturers at a competitive disadvantage.
For these reasons, ACC appreciates and supports EPA's proposal for a new reporting element for reporting years 2011 and 2012, "where owners and operators of facilities producing fluorinated gases would be required to report annual total facility-wide fluorinated GHG emissions"3 expressed in metric tons of carbon dioxide equivalent (CO2e). This method maintains accurate GHG emission reporting while removing the threat of disclosing confidential business information (CBI). ACC agrees with EPA that this amendment would also allow the Agency sufficient time to evaluate and resolve any current confidentiality concerns.
ACC also agrees with EPA's deferral of reporting specific Subpart L data elements4until March 31, 2014. This decision represents EPA's recognition of the unique sensitivities present in reporting under Subpart L. It is appropriate to postpone reporting of these elements to the given date and provide adequate time for the Agency to resolve potential issues and further establish a representative and responsible reporting program. ACC also supports of EPA's decision to defer

the reporting of data elements that are inputs to emissions equations, including those from Subpart L, to March 31, 2015.

ACC is encouraged by EPA's May 10, 2012 memorandum detailing potential future Subpart L options. Although ACC understands that the Agency is not currently requesting comment on the possible changes presented in the memorandum at this time, we look forward to collaborating closely with EPA in the near future to determine the most appropriate reporting option.

Response: Please see the response to comment EPA-HQ-OAR-2011-0147-0044, excerpt 1 above.

Commenter Name: Robert Reich
Commenter Affiliation: DuPont Company
Document Control Number: EPA-HQ-OAR-2011-0147-0051
Comment Excerpt Number: 1

Comment: DuPont is concerned that the disclosure of the identity and quantities of the fluorinated
GHGs emitted at the process level, from either process vents or fugitive sources, would reveal sensitive information regarding individual chemical production processes. As process-level information can provide significant insight into reactants, byproducts, and products, requiring the disclosure of this data as inputs to emissions equations (and thus making it ineligible for treatment as confidential business information) could place U.S. manufacturers, such as DuPont, at a competitive disadvantage with their overseas competitors. As we have expressed in prior comments [footnote: DuPont Response to EPA Call for Information: Information on Inputs to Emission Equations Under the
Mandatory Reporting of Greenhouse Gases Rule; 40 CFR Part 98. For submittal to EPA Docket #: EPA–
HQ–OAR–2010–0964, March 7, 2011], we are not particularly averse to providing the information to EPA provided it is understood to be confidential business information (CBI) and managed by the Agency in a manner consistent with such classification. Of course, we are concerned about any of our CBI being managed outside of our own control, and therefore urge EPA to consider carefully the need for receiving such information as compared with the more relevant overall GHG emissions, provided that the facility maintains records of the specific F-GHGs and their quantities, subject to EPA inspection.

DuPont supports EPA's proposal for a new reporting element for reporting years 2011 and 2012, which would require manufacturers of fluorinated gases to report annual total facility-wide fluorinated GHG emissions, expressed in metric tons of carbon dioxide equivalent (CO2e). This method maintains accurate GHG emission reporting while removing any threat of disclosing potential CBI. Such an amendment would also allow the Agency sufficient time to evaluate and resolve confidentiality concerns.

DuPont also supports the Agency's proposal to defer reporting specific Subpart L data elements [footnote: 40 CFR 98.3(C)(4)(iii) and 40 CFR 98.126(a)(2)(a)(3), (a)(4), (a)(6), (b), (c), (d), (e), (f), (g), and (h)] until March 31, 2014, and we again express our support for EPA's decision to

defer the reporting of data elements that are inputs to emissions equations, including those from Subpart L, to March 31, 2015.

In reference to Subpart L, but perhaps of a more generic nature, we note with some concern a statement in the preamble of the proposal that opens: "Because only one company raised concerns that reporting process-specific emissions by chemical would reveal trade secrets…" In this case, the American Chemistry Council (ACC), of which DuPont and several other fluorinated gas producers are members, had represented our industry in its comments submitted on March 12, 2012, in reference to the confidentiality concerns with respect to the reporting of process-specific emissions of fluorinated gases. DuPont felt that these comments adequately expressed our concerns and that the additional resource expenditure to prepare separate comments was not warranted. We anticipate using the same rationale in deciding whether separate comments are needed for future regulatory proposals and hope EPA recognizes that ACC and other trade organization comments typically represent their member companies unless otherwise stated.

Response: Please see the response to comment EPA-HQ-OAR-2011-0147-0044, excerpt 1 above. With respect to the comment on trade organizations, the EPA recognizes that comments submitted by trade organizations represent the concerns of members. We also acknowledge the commenter's support for comments previously submitted by the American Chemistry Council regarding the sensitivity of some subpart L data elements.

Commenter Name: Joel Hall
Commenter Affiliation: Mexichem Fluor, Inc.
Document Control Number: EPA-HQ-OAR-2011-0147-0045
Comment Excerpt Number: 1

Comment: Mexichem supports the proposal to allow facilities subject to Subpart L to report greenhouse gas emission data in a less detailed manner for reporting years 2011 and 2012 in order to allow EPA time to fully evaluate concerns raised by stakeholders that reporting and subsequent EPA release of certain data would reveal trade secrets. Mexichem was unable to provide comments on the January 10, 2012 proposed rule regarding confidentiality determinations. Nonetheless, we share similar concerns with 3M in that reporting and subsequent release of some of the data under Subpart L could give competitors insight into our manufacturing process and thereby allow them to duplicate our process without incurring research and development costs. This would place us at a distinct competitive disadvantage.

We have previously raised concerns with the confidentiality of "emission data" required to be reported under Subpart L (see our Comments on Proposed Confidentiality Determinations for Data Required Under the Mandatory Greenhouse Gas Reporting Rule and Proposed Amendment to Special Rules Governing Certain Information Obtained Under the Clean Air Act and the Proposed Confidentiality Determinations for Data Required Under the Mandatory Greenhouse Gas Reporting Rule, Docket ID No. EPA-HQ-OAR-2009-0924).

Most concerning for us is data required to be reported under 40 CFR 98.126(a)(3) and (a)(4). 40 CFR 98.126(a)(3) requires reporting of, "The chemical identities of the contents of the stream(s)

(including process, emissions, and destroyed streams) analyzed under the initial scoping speciation of fluorinated GHG at §98.124(a), by process." 40 CFR 98.126(a)(4) requires reporting of, "The location and function of the stream(s) (including process streams, emissions streams, and destroyed streams) that were analyzed under the initial scoping speciation of fluorinated GHG at §98.124(a), by process." EPA has proposed that the data required to be reported under 40 CFR 98.126(a)(4) be considered confidential because it is in the ''Unit/Process 'Static' Characteristics That are Not Inputs to Emission Equations'' data category. EPA states that this data is a basic facility-specific characteristic that does not vary with time or with the operations of the process and is not an input to an emission equation (77 FR 1442). Mexichem supports the EPAs proposal with respect to this data element and believes that the data required to be reported under 40 CFR 98.126(a)(3) should be afforded the same consideration. For the reasons stated above, and as the EPA has acknowledged with respect to the data to be reported under 40 CFR 98.126(a)(4), these data elements "could provide insight into the manufacturing process and the configuration of the facility, such as which process equipment is sending streams to which process equipment. This could reveal information about configuration efficiencies that the reporter has developed, generally at great expense and time investment, to minimize manufacturing cost and to maximize the manufacturing rate. If a competitor could review such information on configuration, the competitor would be able to adopt the reporter's efficiency practices with less development time and expense and would gain competitive advantage at the expense of the reporter's competitive advantage."

Response: The commenter appears to be responding to our proposed confidentiality determinations for subpart L (77 FR 1434, January 10, 2012). Although we proposed confidentiality determinations for the subpart L data elements listed in 40 CFR 98.126(a)(3) and (a)(4), we are not making final determinations regarding these data elements at this time. We plan to address confidentiality determinations for these subpart L data elements through a separate future rulemaking. As part of this action, however, the EPA is deferring the reporting deadline for the following data elements: 40 CFR 98.3(c)(4)(iii), 98.126(a)(2)-(4), 98.126(a)(6), and 98.126(b)-(h) until the later of March 31, 2014 or the date set forth for that data element at §98.3(c)(4)(vii) and Table A-7 of Subpart A . The data elements mentioned by the commenter (40 CFR 98.126(a)(3) and (4)) are among those whose reporting is affected by today's action. Deferring the reporting deadline for data elements 40 CFR 98.126(a)(3) and (4) addresses the commenter's concerns in the short term and allows the EPA additional time to consider stakeholder concerns regarding the disclosure of subpart L data elements. Please see the response to comment EPA-HQ-OAR-2011-0147-0044, excerpt 1 above.