MEMORANDUM

To: Docket EPA-HQ-OAR-2010-0929

From: Jessica Gordon, EPA/Climate Change Division

Date: August 18, 2011

Subject: Process for Evaluating and Potentially Amending Part 98 Inputs to Emission Equations

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In the December 27, 2010 proposal to defer reporting of inputs to emission equations under 40 CFR part 98 (Part 98), EPA expressed its intent to further evaluate the inputs to equations to determine which, if any, could result in competitive harm if made publicly available and to take any further action if necessary, including potentially amending calculation methods and/or verification approaches under Part 98. 75 FR 81350, 81354-55. This memorandum describes this evaluation process in more detail.

Step 1: Determine whether each input is already publicly available.

- Review comments on the proposed deferral rule and call for information indicating public availability or non-availability of each input. Review cited sources to confirm availability or non-availability.
- Where commenters reported data as publicly available, determine the extent of availability and whether the available data is identical to the input in question.
- Where a given input is publicly available only for a subset of reporters, determine whether this comprises sufficient public availability.
- As appropriate, conduct additional searches of sources such as federal and state databases, voluntary reporting program databases, Title V operating permits, and National Emission Standards for Hazardous Air Pollutants (NESHAPs) dockets.

Step 2: For inputs that are not publicly available, evaluate whether release of the information is likely to result in substantial competitive harm.[1]

- Identify inputs that are identical or comparable to data elements categorized as CBI or non-CBI in the May 26, 2011 final CBI rule (both within and across source categories). Determine whether the rationale behind categorizing these data elements as CBI or non-CBI applies to the identical or comparable inputs.
- Review comments on the deferral proposal, call for information, and other notices including the Part 98 proposal, July 7, 2010 CBI proposal and July 27, 2010 supplemental CBI proposal.
    - For each input, identify whether release of the input itself would cause harm or whether harm would be caused by the use of inputs in combination. If the latter, investigate whether the harm can be alleviated by public availability of only certain inputs (*i.e.*, those deemed most important for verification).
- To identify, evaluate, and address potential harm, conduct a full market analysis for each source category, as the potential for information disclosure to harm competition depends largely on the structure of the affected market and type of information disclosed.
    - Ascertain whether disclosure of information has the potential to undermine competition within an industry (the potential impact may be greater with more homogenous input mix, production processes, and output) which could allow competitors to ascertain the relative strength of their market position and to identify sources of competitive advantage (or disadvantage) among competitors.
    - Ascertain whether disclosure of information may lead to collusion (coordinated interaction), including through reviewing comments submitted by the Federal Trade Commission and others.
    - To determine the possible degree of harm, analyze factors including, but not limited to, assessment of market transparency, entry barriers, concentration, homogeneity of products, product substitutability, elasticities of demand, and market shares (as proxy for predicting harm).
    - Where a given input is publicly available only for a subset of reporters, determine whether this demonstrates that public availability of the input for the remaining sources would be unlikely to cause substantial competitive harm.

[1] In consultation with EPA's Office of General Counsel.

Step 3: For inputs that are likely to cause substantial competitive harm if disclosed, evaluate potential alternative calculation methods and direct monitoring.

- Identify and evaluate potential alternative calculation methods.
  - Identify potential calculation methods.
    - Methods suggested by commenters on the Call for Information.
    - Greenhouse gas (GHG) calculation methods previously considered for each subpart but not adopted in the final GHG Reporting Rule. Identify these methods by reviewing the proposed and final GHG Reporting Rule preambles, public comments on the proposal, the GHG Reporting Rule Technical Support Document, and the 2008 "Review of Existing Programs" memorandum.
    - Determine whether previously-examined programs and protocols have been updated since development of Part 98 methods. Review programs and protocols including:
      - Annual Inventory of U.S. GHG Emissions and Sinks
      - Federal programs (e.g., Climate Leaders protocols, Department of Energy (DOE) 1605(b) reporting, other EPA and DOE voluntary GHG reduction programs)
      - The Climate Registry (TCR) and state programs (e.g., California Climate Action Registry (now the "Climate Action Registry"); California Air Resources Board (CARB) cap and trade program)
      - Regional programs (e.g., Regional Greenhouse Gas Initiative (RGGI); Western Climate Initiative (WCI) – since harmonized with the GHGRP)
      - 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines
      - European Union Emissions Trading System (EU ETS) and country-specific GHG reporting programs (e.g., Australia, Canada)
      - World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) protocols
      - Industry trade groups
  - Identify and review GHG programs and protocols that were created after initial GHG Reporting Rule development (e.g., The Climate Action Reserve) and determine whether they incorporate any novel GHG monitoring and calculation methods. Review identified alternative calculation methods:
    - Ensure that methods calculate GHG emissions to a level of accuracy consistent with the transparency and accuracy goals of Part 98.
    - Assess whether any inputs to alternate calculations would be sensitive (replicating the steps described above).
    - Evaluate practicability and cost as described below.

- Evaluate the use of Continuous Emissions Monitoring Systems (CEMS):
    - For source categories already permitting use of CEMS for some calculations, evaluate whether CEMS could replace or serve as an alternative to current calculation methods. For example:
        - If a subpart allows CEMS to calculate CO_2 but requires facilities to calculate emissions of other GHGs using sensitive inputs, evaluate whether CEMS are also available and applicable to calculate emissions of the other GHGs.
        - If a subpart allows CEMS for some types of process units or emission points within the process/source category, but for others rely on calculations using inputs likely to cause substantial competitive harm if released, evaluate whether CEMS are also available and applicable to calculate emissions from the other processes.
    - For source categories not yet permitting use of CEMS, evaluate whether CEMS could replace or serve as an alternative to any calculation methods in the subpart.
        - For both types of source categories listed above, assess whether it would be technically and economically feasible to require facilities to use CEMS, or to give them the choice between using CEMS and reporting potentially-sensitive inputs:
            - Analyze whether CEMS is technically applicable to the range of processes and emission stream characteristics within the industry. For example, could vent stream composition potentially corrode monitoring instruments or interfere with measurement accuracy and are there CEMS that function well in those applications?
            - Reevaluate public comments on CEMS submitted on the Part 98 proposal, July 7, 2010 CBI proposal, and July 27, 2010 supplemental CBI proposal.
            - Analyze the accuracy and uncertainty of CEMS measurements.
            - Estimate the capital and annual costs of CEMS, considering all pollutants and locations that would need to be monitored and all required calibrations, relative accuracy audits, and other quality assurance, operation and maintenance procedures.
            - Evaluate the burden of requiring CEMS on small entities.
    - Evaluate practicability and cost as described below.
- For both potential alternative calculation methods and direct measurement with CEMS, evaluate practicability and costs.
    - For each source category, analyze whether suggested methods could be applied to all facilities in the source category or whether they would be technically appropriate for only a subset of facilities.
    - Estimate the testing and monitoring costs of the methods and compare these estimates to the costs of the current methods and others considered during rule development.

- In developing the GHG Reporting Rule, one factor in identifying the appropriate reporting method was to compare the change in uncertainty with the change in costs associated with different emission measurement/estimation techniques. Where an uncertainty analysis was undertaken for the GHG Reporting Rule, evaluate the relationship between uncertainty and cost-effectiveness of the existing Part 98 methods as compared to other methods considered during Rule development phases (2009 and 2010) and methods suggested in response to the Call for Information. Specifically, analyze the relative accuracy, uncertainty and costs of the suggested methods compared to current reporting methods and others considered during rule development. Evaluation factors include but are not limited to: measurement accuracy for measured inputs; uncertainties in assumptions used in the calculation equations; quality and representativeness of any suggested emission factors; emissions variability over time and among facilities and processes as it relates to any suggested calculation method. Determine uncertainties in the overall methods via error propagation or Monte Carlo assessment and report them as the 95% confidence interval. In addition to this quantitative assessment on these source categories, perform a qualitative uncertainty assessment for all sources.
  - To evaluate the trade-off between cost and uncertainty across the alternative methods, develop three measures (i.e., metrics) of cost-effectiveness. (This is the same approach undertaken to develop the final Greenhouse Gas Reporting Rule and can be re-evaluated to include all reporting methods now under consideration.)
    - Incremental cost. This is the total national private cost difference between the options.
    - Average cost per percentage point uncertainty. This can compare the average cost per percentage point uncertainty across the various alternative methods. The percentage point uncertainty is an emissions weighted average across the sectors for which we have uncertainty estimates for different reporting methodologies.
    - Marginal cost per percentage point reduction in uncertainty. This compares the cost of reducing the coefficient of variation by 1%. For example, this could determine the incremental cost per percent point uncertainty reduced in going from the current reporting method to an alternative method.
  - In general, the results of this uncertainty cost-effectiveness analysis can be used in conjunction with other considerations such as consistency with other regulations and the burden on small entities to evaluate how the new reporting methods under consideration compare to the existing methods.

Step 4: Evaluate potential alternative verification methods.

- Identify and evaluate potential verification methods (by subpart).
    - Review methods suggested by commenters on the Call for Information.
    - Identify and evaluate other verification approaches.
    - Ensure that methods verify GHG emissions to a level of accuracy consistent with the transparency and accuracy goals of Part 98.
    - Estimate the implementation costs of the potential verification approaches and evaluate the trade-off between cost and uncertainty as described above.
        - Calculate change in industry costs relative to current verification approach.
        - Estimate relative uncertainty of the verification approaches (using quantitative or qualitative analyses).
    - Determine steps and timeline needed to implement the feasible verification methods.

Step 5: Based on the evaluations described above, should EPA determine that collection of certain inputs is not necessary, EPA may propose to amend Part 98.