



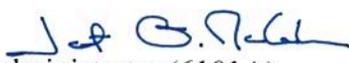
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 02 2015

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Correction of Inadvertent Errors in the Final Rule, "Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," and Associated Supporting Documents

FROM: Janet G. McCabe 
Acting Assistant Administrator (6101A)

THRU: Lorie Schmidt, Associate General Counsel 
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Joel Beauvais, Associate Administrator 
Office of Policy (1804A)

TO: Gina McCarthy
Administrator (1101A)

Several inadvertent errors were made in the process of preparing the signature package for the Clean Air Act section 111(b) final rule, "Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," signed on August 3, 2015. Corrections have been made to ensure the accuracy and consistency of the preamble and the regulatory text. Corrections to the signed final rule that merit explanation are listed below. The corrections listed below include page numbers which refer to the redline and strikeout version of the signed rule, which is provided as Attachment 1. All of the corrections are shown in the redline and strikeout version of the signed rule. The corrections shown include those listed below, as well as grammatical, punctuation and formatting corrections, including those needed to conform with requirements for publication in the *Federal Register*.

Inadvertent errors were also made in the process of preparing final supporting documents. These documents include the regulatory impact analysis (RIA) and the GHG Mitigation Measures technical support document (TSD). Corrections to these supporting documents that merit explanation are listed below. Attachment 2 is a redline and strikeout version of the RIA that shows all corrections. Attachment 3 is a compilation of the corrections to the GHG Mitigation Measures TSD, excerpted from the full document and shown in redline and strikeout.

Preamble

- Page 242 – Deleted “full” and “IGCC” and replaced “Gas” with “Gasification” to read as follows: “All components are likewise demonstrated for pre-combustion CCS at the Dakota Gasification facility...” These edits are necessary because the Dakota Gasification facility is not an IGCC and captures approximately 50 percent of the facility’s CO₂, and, therefore, should not be described as “full CCS.”
- Page 452 – Added “of more than 10 percent” to read as follows: “The EPA further notes that the types of large, more capital intensive projects that may trigger the “larger modifications” threshold (i.e., result in an hourly increase in CO₂ emissions of more than 10 percent)....” This edit is necessary for accuracy in describing the “larger modifications” threshold.
- Page 462 – Replaced “distillate” with “fuel” and added “No.” to read as follows: “For multi-fuel-fired stationary combustion turbines, the BSER is also the use of clean fuels (e.g., natural gas, ethylene, propane, naphtha, jet fuel kerosene, fuel oils No. 1 and 2, biodiesel, and landfill gas).” This edit is necessary for clarification and to use the correct terminology. Conforming edit have also been made on pages 564 and 567.
- Page 486 – Deleted “annual” to read as follows: “The proposed 219,000 MWh total sales criterion was based on...” This edit is necessary because the proposed criterion was not based on annual sales for combustion turbines.
- Page 513 – Corrected the expected lower range of percent sales in the sliding scale from “35” to “33” to read as follows: “Based on the sliding-scale approach, owners and operators of new simple cycle combustion turbines will be able to sell between 33 to 44 percent of the turbine’s potential electric output.” This edit is necessary for accuracy.
- Page 533 – Replaced “the cost-effectiveness of CCS for these units would be much higher than for base load units” with “CCS would be less cost-effective for these units than for base load units” to read as follows: “In addition, because the CCS system would remain idle for much of the time while these units are not running, CCS would be less cost-effective for these units than for base load units.” This edit more clearly makes the point regarding cost-effectiveness of CCS.
- Page 537 – Added “quality” to read as follows: “Finally, the use of clean fuels will not have any significant energy or non-air quality impacts.” This edit is necessary for accuracy in describing impacts.
- Page 548 – Corrected the number of units from “346” to “345” to read as follows: “In our analysis, we evaluated 345 NGCC units with online dates ranging from 2000 to 2013.” This edit is necessary for accuracy.
- Page 617 – Deleted “in this rule and” to read as follows: “In addition, this NSPS will apply to some modified and reconstructed units, as those terms are defined under part 60.” This correction clarifies that the terms are not defined in this rule.
- Pages 693-697 – Added a description of each voluntary consensus standard that is cited in the final rule (e.g., ANSI, ASTM, ASME and ISO methods) as required by the OFR.
- Footnotes – In addition to making minor typographical corrections and clarifications, document ID numbers were added to footnotes referencing public comments for convenience of the reader.

Regulatory text

The following corrections have been made to ensure clarity and consistency with the preamble.

- Page 712 (60.5509(a)(2)) – Add “or generators” to read as follows:
“(2) Serves a generator or generators capable of selling greater than 25 MW of electricity to a utility power distribution system.”
- Page 716 (60.5520(d) introductory paragraph) – Replaced “of the” with “uniform” and “listed” with “as described” in the first sentence to read as follows:
“(d) Stationary combustion turbines subject to a heat input-based standard in Table 2 that are only permitted to burn one or more uniform fuels, as described in paragraph (d)(1) of this section....”
- Page 716 (60.5520(d)(1)) – Added “less” in the first sentence, and replaced “distillate oil No. 1” with “No. 1 fuel oil” and added “fuel oil” in the second sentence to read as follows:
“(1) Stationary combustion turbines that are only permitted to burn fuels with a consistent chemical composition (i.e., uniform fuels) that result in a consistent emission rate of 160 lb CO₂/MMBtu or less are not subject to any monitoring or reporting requirements under this subpart. These fuels include ... No. 1 fuel oil, No. 2 fuel oil, and....”
- Page 716 (60.5520(d)(2)) – Added “not” to read as follows:
“(2) Stationary combustion turbines permitted to burn fuels that do not have a consistent chemical composition or that do not have an emission rate....”
- Pages 749, 755 and 758 (60.5580) – Deleted the definitions of *Coal refuse*, *Oil*, and *System emergency*. The first two terms are not used in this final rule and are unnecessary and *System emergency* is listed twice.
- Page 752 (60.5580) – Replaced “unit” with “facility” and “stationary combustion turbine” with “facility,” and added “, plus any integrated equipment that provides electricity or useful thermal output to the affected EGU or auxiliary equipment” to the definition of *Integrated gasification combined cycle unit or IGCC* to read as follows:
“*Integrated gasification combined cycle facility or IGCC* means a combined cycle facility that is designed to burn fuels containing 50 percent (by heat input) or more solid-derived fuel not meeting the definition of natural gas, plus any integrated equipment that provides electricity or useful thermal output to the affected EGU or auxiliary equipment....”
- Page 754 (60.5580) – Replaced “(i)” with “(1)” and “(ii)” with “(2),” and deleted “Except as provided under paragraph (ii) of this definition,” in redesignated paragraph (1) in the definition of *Net energy output* to read as follows:
“*Net energy output* means:
 (1) The net electric or mechanical output from the affected EGU plus 100 percent of the useful thermal output; or
 (2) For combined heat and power facilities....”
- Page 755 (60.5580) – Replaced “310,000” with “306,000” in the definition of *Potential electric output* to be consistent with the rounding convention adopted in this final rule (i.e., numbers or 1,000 or greater have 3 significant digits). The revised definition reads as follows:
“*Potential electric output* means ... (e.g., a 35 percent efficient affected EGU with a 100 MW (341 MMBtu/h) fossil fuel heat input capacity would have a 306,000 MWh 12-month potential electric output capacity).”

- Page 761 (Table 2) – Added “or 50 percent, whichever is less” to the first and second rows in the first column (i.e., column labeled “Affected EGU”), added “both a 12-operating month and” to the first row in the first column, and added “either a 12-operating month or” to the second row in the first column to read as follows:

Affected EGU

“Newly constructed or reconstructed stationary combustion turbine that supplies more than its design efficiency or 50 percent, whichever is less, times its potential electric output as net-electric sales on both a 12-operating month and a 3-year rolling average basis and combusts more than 90% natural gas on a heat input basis on a 12-operating-month rolling average basis.”

“Newly constructed or reconstructed stationary combustion turbine that supplies its design efficiency or 50 percent, whichever is less, times its potential electric output or less as net-electric sales on either a 12-operating month or a 3-year rolling average basis and combusts more than 90% natural gas on a heat input basis on a 12-operating-month rolling average basis.”

- Page 763 (Table 3) – Added “Yes (steam generating units and IGCC facilities)” and “(stationary combustion turbines)” to the third column (i.e., the column labeled “Applies to subpart TTTT”) of the fourteenth row (i.e., the row labeled “60.14”) and replaced “No” with “Yes” in the third column of the fifteenth row (i.e., the row labeled “60.15”) to read as follows:

General . . .	Subject . . .	Applies to subpart TTTT . . .
§60.14	Modification	“Yes (steam generating units and IGCC facilities) No (stationary combustion turbines)”
§60.15	Reconstruction	“Yes”

Regulatory Impact Analysis

- Updated IPM web links: Revised website address for all references to IPM modeling data from: <http://www.epa.gov/powersectormodeling/> to <http://www.epa.gov/airmarkets/powersectormodeling.html>.

GHG Mitigation Measures TSD

- Revised website address for all references to IPM modeling data to: <http://www.epa.gov/airmarkets/powersectormodeling.html>.
- Revised language and footnote in Chapter 2 on heat rate improvement (HRI) as follows:
 - Sec 2.5.2.2 – Deleted “ambient air (primary air) is mixed with fuel prior to combustion and a fraction of” from “Ambient air temperature can affect gross heat rate in three ways: (1) ambient air (primary air) is mixed with fuel prior to combustion and a fraction of energy released during combustion heats the incoming air, . . .,” to read “Ambient air temperature can affect gross heat rate in three ways: (1) energy released during combustion heats the incoming air, . . .”
 - Corrected final footnote by replacing “See supra 93” with “See supra 95.”

We recommend correction of these inadvertent errors and approval of these changes by signing and dating below.



Gina McCarthy,
Administrator.

Sept 3, 2015
Dated

Attachments

cc: Kristien Knapp/OA (1101A)

