Final CPP Excerpts Relevant to CHP

This document contains language that is pertinent to Combined Heat and Power (CHP) and Waste Heat to Power (WHP) from the final Clean Power Plan rule (issued under Section 111(d) of the Clean Air Act), which can be found on EPA’s website here. With the exception of definitions listed at the beginning of this document, the following excerpts are listed in order of appearance in the final rule, with page numbers at the end of each excerpt. Page number hyperlinks direct a user to the specific page within the rule where the beginning of that text is located (links seem to work better by right-clicking and copy & pasting rather than clicking directly). Footnotes have been adjusted to only include updated Federal Register citations.


Link to Final Federal Notice

Due to the extensive nature of this rule, this compendium is by no means exhaustive. Should you feel something important relevant to CHP/WHP is missing, please contact Jennifer Kefer (Jennifer@dgardiner.com).

Major changes to the rule that affect CHP include the following:

- The “line-loss” credit has been raised from 5% to 6% for unaffected units in the federal plan
- The formula used to calculate the “thermal credit” of useful thermal output has been raised from 75% to 100% - 80 Fed. Reg. at 64960
- The rule responds to public comments that CHP and WHP should be explicitly mentioned as a compliance option - 80 Fed. Reg at 64895, 80 Fed. Reg. at 64902, 80 Fed. Reg. at 64903.
Definitions Given to Key Terms in the Text of the Rule

CHP

Combined heat and power (CHP) combustion turbine means any stationary combustion turbine which recovers heat from the combustion turbine engine exhaust gases to heat water or another medium, generate steam for useful purposes other than exclusively for additional electric generation, or directly uses the heat in the exhaust gases for a useful purpose. - 80 Fed. Reg. at 64716

WHP

WHP units that meet the eligibility criteria under section VIII.K.1 may be used to adjust the CO2 emission rate of an affected EGU. There are several types of WHP units. There are units, also referred to as bottoming cycle CHP units, where the fuel is first used to provide thermal energy for an industrial process and the waste heat from that process is then used to generate electricity. ¹ There are also WHP facilities where the waste heat from the initial combustion process is used to generate additional power. Under both configurations, unless the WHP unit supplements waste heat with fossil fuel use, there is no additional fossil fuel used to generate this additional power. As a result, there are no incremental CO2 emissions associated with that additional power generation. As a result, the incremental electric generation output from the WHP facilities could be considered zero-emitting, for the purposes of meeting the emission guidelines, and the MWh of electrical output could be used to adjust the CO2 emission rate of an affected EGU.² - 80 Fed. Reg. at 64902

Affected vs. Unaffected EGUs

D. Definition of Affected Sources

For the emission guidelines, an affected EGU is any fossil fuel-fired electric utility steam generating unit (i.e., utility boiler or integrated gasification combined cycle (IGCC) unit) or stationary combustion turbine that was in operation or had commenced construction as of January 8, 2014, and that meets the following criteria, which differ depending on the type of unit. To be an affected EGU, such a unit, if it is a fossil fuel-fired electric utility steam generating unit (i.e., a utility boiler or IGCC unit), must serve a generator capable of selling greater than 25 MW to a utility power distribution system and have a base load rating greater than 260 GJ/h (250 MMBtu/h) heat input of fossil fuel (either alone or in combination with any other fuel). If such a unit is a stationary combustion

¹ In such a configuration, the waste heat stream could also be generated from a mechanical process, such as at natural gas pipeline compressors.

² This only applies where no additional fossil fuel is used to supplement the use of waste heat in a WHP facility. Where fossil fuel is used to supplement waste heat in a WHP application, MWh of electrical generation that can be used to adjust the CO2 emission rate of an affected EGU must be prorated based on the proportion of fossil fuel heat input to total heat input that is used by the WHP unit to generate electricity.
The unit must meet the definition of a combined cycle or combined heat and power combustion turbine, serve a generator capable of selling greater than 25 MW to a utility power distribution system, and have a base load rating of greater than 260 GJ/h (250 MMBtu/h). -80 Fed. Reg. at 64715-64716 [emphasis added]

Additionally, under CAA section 111(b) final applicability criteria, new dedicated non-fossil and industrial CHP units are not affected sources if they include permit restrictions on the amount of fossil fuel they burn and the amount of electricity they sell. Such units historically have had no regulatory mandate to include permit requirements limiting the use of fossil fuel or electric sales. We are exempting them from inclusion in CAA section 111(d) state plans in the interest of consistency with CAA section 111(b) and based on their historical fuel use and electric sales. - 80 Fed. Reg. at 64717

Affected EGUs Exempted from Inclusion in State Plan

We note that certain affected EGUs are exempt from inclusion in a state plan. Affected EGUs that may be excluded from a state’s plan are (1) those units that are subject to subpart TTTT as a result of commencing modification or reconstruction; (2) steam generating units or IGCC units that are currently and always have been subject to a federally enforceable permit limiting net-electric sales to one-third or less of its potential electric output or 219,000 MWh or less on an annual basis; (3) non-fossil units (i.e., units that are capable of combusting 50 percent or more non-fossil fuel) that have historically limited the use of fossil fuels to 10 percent or less of the annual capacity factor or are subject to a federally enforceable permit limiting fossil fuel use to 10 percent or less of the annual capacity factor; (4) stationary combustion turbines that are not capable of combusting natural gas (i.e., not connected to a natural gas pipeline); (5) combined heat and power units that are subject to a federally enforceable permit limiting, or have historically limited, annual net electric sales to a utility power distribution system to the product of the design efficiency and the potential electric output or 219,000 MWh (whichever is greater) or less: -80 Fed. Reg. at 64716 [emphasis added] [NB: 79 Fed. Reg at 1515 Although it is not separately defined in the CPP, the final rule includes language noting that terms not defined there are used in the CPP as defined in, among other things, 40 C.F.R. pt. 60 subpt. TTTT (the CO2 NSPS for EGUs).]

Training and Guidance on CHP

The EPA plans to use an integrated project team to solicit stakeholder input on the system during development. The team membership, including state representatives, will bring together the business and technology skills required to construct a successful product and promote transparency in the EPA’s implementation of the rule. The EPA training plan includes a wide variety of topics such as basic training on the electric power sector as well as specific
pollution control strategies to reduce carbon emissions from power plants. In particular, the states requested training on how to use programs such as combined heat and power, EE and RE to reduce carbon emissions. The EPA will continue to work with states to tailor training activities to their needs. - 80 Fed. Reg. at 64705 [emphasis added]

CHP at Affected EGUs

(5) Waste heat-to-energy conversion at affected EGUs. Certain affected EGUs in urban areas or located near industrial or commercial facilities with needs for thermal energy may be able add new equipment to capture some of the waste heat from their electricity generation processes and use it to create useful thermal output, thereby engaging in combined heat and power (CHP) production. While the set of affected EGUs in locations making this measure feasible may be limited, where feasible the potential CO2 emission rate improvements can be substantial: depending on the process used, the efficiency with which fuel is converted to useful energy can be increased by 25 percent or more. The final rule allows an owner/operator applying CHP technology to an affected EGU to account for the increased efficiency by counting the useful thermal output as additional MWh of generation, thereby lowering the unit’s computed emission rate and assisting with achievement of an emission rate-based standard of performance. (The EPA notes that unless the unit also reduced its fuel usage, the addition of the capability to capture waste heat and produce useful thermal output would not reduce the unit’s mass emissions and therefore would not directly help the unit achieve a mass-based standard of performance.3) - 80 Fed. Reg. at 64756 [emphasis added]

WHP at Non-Affected Facilities

(5) Waste heat-to-electricity conversion at non-affected facilities. Industrial facilities that install new equipment to capture waste heat from an existing combustion process and then use the waste heat to generate electricity — a form of combined heat and power (CHP) production — can produce generation that replaces generation from affected EGUs and thereby reduces CO2 emissions. A section 111(d) plan may rely on ERCs issued on the basis of generation of this nature provided that the facility does not generate and sell sufficient electricity to qualify as a new EGU for purposes of section 111(b) and is not covered under section 111(d) for another source category. More information is provided in section VIII.K. - 80 Fed. Reg. at 64757

3 However, the EPA notes that a state could establish a mechanism for encouraging affected EGUs to apply CHP technology under a mass-based plan, for example, through awards of emission allowances to CHP projects.
Discussion about Line-Losses in Proposed Rule; though Retains 5% Line-Loss Credit for Affected CHP Units

(6) Reduction in transmission and distribution line losses. Reductions of electricity line losses incurred from the transmission and distribution system between the points of generation and the points of consumption by end-users allow the same overall demand for electricity services to be met with a smaller overall quantity of electricity generation. Such reductions in generation quantities would tend to reduce generation by affected EGUs, thereby reducing CO2 emissions. The opportunity for improvement is large because, on average, line losses account for approximately seven percent of all electricity generation. The EPA recognizes that, in general, only the owner/operators of the transmission and distribution facilities have the ability to undertake line loss reduction investments, and that merchant generators may have little opportunity to engage a contractor to pursue such opportunities on a bilateral basis. Nevertheless, for entities that do have the opportunity to make such investments, generation avoided through investment that reduces transmission and distribution line losses may serve as the basis for issuance of ERCs that in turn can be used by affected EGUs. Further information is provided in section VIII.K. -80 Fed. Reg. at 64757-64758 [emphasis added]

Despite this discussion of higher average line losses, the applied line-loss credit remains 5%:

“TDF - Electric Transmission and Distribution Factor of 0.95 for a combined heat and power affected EGU where at least on an annual basis 20.0 percent of the total gross or net energy output consists of electric or direct mechanical output and 20.0 percent of the total net energy output consist of useful thermal output on a 12-operating month rolling average basis, or 1.0 for all other affected EGUs.” -80 Fed. Reg. at 64955

See also 80 Fed. Reg. at 64960 (definition of net energy output) (dividing total electric or mechanical output by .95; presumably to account for line losses).

The Federal Plan, however, increases the line-loss credit up to 6%:
In the proposed federal plan, EPA states a line-loss credit is to be 6% or the calculated statewide annual T&D loss rate, whichever is smaller. The state average is calculated using the most recent data published by the EIA State Electricity Profile.

How avoided T&D system losses will be quantified and applied to EE savings determined at the customer facility or premises. The EPA is proposing that demand-side EE programs (other than T&D efficiency measures such as CVR and volt/VAR optimization may adjust reported
savings by using a T&D adder. If such an adder is applied, the presumptively approvable approach is to use the smaller of 6 percent or the calculated statewide annual average T&D loss rate (expressed as a percentage) calculated using the most recent data published by the U.S. EIA State Electricity Profile. - 80 Fed. Reg. at 64506-64507

**Accounting Treatment of CHP at Affected Units**

I. Considerations for CO2 Emission Reduction Measures that Occur at Affected EGUs

This section describes a range of emission reduction actions that may be taken at affected EGUs that reduce CO2 emissions from an affected EGU and/or improve its CO2 emission rate, and the accounting treatment for these actions in a state plan. **Some of these actions do not necessitate additional accounting, monitoring or reporting requirements.** Such actions are discussed in section VIII.I.1 below, and include heat rate improvements, fuel switching from one fossil fuel to another, integration of RE into EGU operations, and combined heat and power (CHP) expansion or retrofit. …

1. Actions without additional accounting and reporting requirements

Many actions will reduce the reported CO2 emissions or CO2 emission rate of an affected EGU, without the need for additional accounting or monitoring and reporting requirements beyond the required CEMS tracking of actual stack CO2 emissions and tracking of actual energy output. The effect of these actions will result in changes in reported CO2 emissions and/or energy output by an affected EGU. These actions include:

- heat rate improvements;
- fuel switching to a fossil fuel with lower carbon content (e.g., from coal to natural gas);
- integrated RE; and
- CHP, including retrofit of an affected EGU to a CHP configuration, or revising the useful energy outputs (electrical and thermal) at an affected EGU already operating in a CHP configuration.

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4 Monitoring and reporting requirements for affected EGU CO2 emissions and useful energy output are addressed in section VIII.F.

5 “Integrated RE” refers to RE that is directly incorporated into the mechanical systems and operation of the EGU. An example is a solar thermal energy system used to preheat boiler feedwater. Such approaches reduce the amount of fossil fuel heat input per unit of useful energy output.

6 The emission reduction potential from CHP stems from the unit using less fuel for producing useful electrical and thermal outputs than would be required to run separate electrical and thermal units. The emission reduction would depend on the type of affected EGU and available steam hosts in the vicinity of the affected EGU. A conventional combustion turbine generator, for example, converted into a CHP unit could effectively result in a reduction of 25 percent or more in the reported CO2 emission rate. The potential retrofitted EGU CHP market consists of converted simple cycle turbines, older steam plants in urban areas, and combined cycle units near beneficial thermal loads.
Heat rate improvements, fuel switching, integrating RE and CHP would not require any additional accounting or monitoring and reporting, because under the emission guidelines affected EGUs are already required to monitor and report CO2 emissions at the stack level, and to monitor and report useful energy outputs. Stack monitoring would reflect reductions in CO2 emissions from efficiency improvements, changes in fuel use (including incorporation of RE), and other on-site changes. 80 Fed. Reg. at 64883 [emphasis added]

CHP and WHP as Compliance Options

As discussed in this section, a wide range of actions may be taken to adjust the reported CO2 emission rate of an affected EGU in order to meet a rate-based emission standard and/or demonstrate achievement of a state CO2 rate-based emissions goal. All of the measures described in this section will substitute for generation from affected EGUs or avoid the need for generation from affected EGUs, thereby reducing CO2 emissions. This includes RE measures included in the EPA’s determination of the BSER, as well as other measures that were not included in the determination of the BSER, such as other RE resources, demand-side EE, CHP, WHP, electricity transmission and distribution improvements, nuclear energy, and international RE imports connected to the grid in the contiguous U.S., as discussed elsewhere in this preamble. - 80 Fed. Reg. at 64894-64895 [emphasis added]

Treatment of Existing CHP Facilities

This 2012 date applies to all eligible measures that are used to adjust a CO2 emission rate under a state plan. For example, eligible measures, such as CHP, nuclear power and DSM, also must be installed after 2012, but only their generation or savings produced in 2022 and after can be used to adjust a CO2 emission rate. 80 Fed. Reg. at 64896

Non-Affected CHP Units

(9) Combined heat and power (CHP) units. Electric generation from non-affected CHP units7 may be used to adjust the CO2 emission rate of an affected EGU, as

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7 The accounting considerations described in this section are for a “topping cycle” CHP unit. A topping cycle CHP unit refers to a configuration where fuel is first used to generate electricity and then heat is recovered from the electric generation process to provide additional useful thermal and/or mechanical energy. A CHP unit can also be configured as a “bottoming cycle” unit. In a bottoming cycle CHP unit, fuel is first used to provide thermal energy for an industrial process and the waste heat from that process is then used to generate electricity. Some waste heat power
CHP units are low-emitting electric generating resources that can replace generation from affected EGUs. Electrical generation from non-affected CHP units that meet the eligibility criteria under section VIII.K.1.a can be used to adjust the reported CO2 emission rate of an affected EGU.

Where a state plan provides for the use of electrical generation from eligible non-affected CHP units to adjust the reported CO2 emission rate of an affected EGU, the state plan must provide a required calculation method for determining the MWh that may be used to adjust the CO2 emission rate. This proposed accounting method must adequately address the considerations discussed below. The EPA will review whether a state’s proposed accounting method for electric generation from eligible non-affected CHP units is approvable per the requirements of the final emission guidelines, as part of its overall plan review of the rate-based emission standards and implementing and enforcing measures in the state plan. The EPA notes that the proposed model rule for a rate-based emission trading program includes a proposed accounting method for non-affected CHP units. The accounting method provided in a final model rule could be a presumptively approvable accounting approach.

The proposed accounting method in a state plan must address the following considerations. The accounting approach proposed in a state plan must take into account the fact that a non-affected CHP unit is a fossil fuel-fired emission source, as well as the fact that the incremental CO2 emissions related to electrical generation from a non-affected CHP unit are typically very low. In accordance with these considerations, a non-affected CHP unit’s electrical MWh output that can be used to adjust the reported CO2 emission rate of an affected EGU should be prorated based on the CO2 emission rate of the electrical output associated with the CHP unit (a CHP unit’s “incremental CO2 emission rate”) compared to a reference CO2 emission rate. This “incremental CO2 emission rate” related to the electric generation from the CHP unit would be relative to the applicable CO2 emission rate for affected EGUs in the state and would be limited to a value between 0 and 1.

This low CO2 emission rate for electrical generation from a non-affected CHP unit is a product of both the fact that CHP units are typically very thermally efficient and the fact that a portion of the CO2 emissions from a non-affected CHP unit would have occurred anyway from an industrial boiler used to meet the thermal load in the absence of the CHP unit. In contrast, the CHP unit also provides the benefit of electricity generation while resulting in very low incremental CO2 emissions beyond what would have been emitted by an industrial boiler. As a result, the accounting method proposed in a state plan should not presume that CO2 emission reductions occur outside the electric power sector, but instead only would account for the CO2 emissions related to the electrical production from a CHP unit that is used to substitute for electrical generation from affected EGUs. - 80 Fed. Reg. at 64902 [emphasis added]

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(WHP) units are also bottoming cycle units and the accounting treatment for bottoming cycle CHP units is provided with the WHP description below.
Treatment of Biomass and CHP

Non-affected CHP units can use qualified biomass fuels. As described in section VIII.I.2.c, states must submit state plan requirements regarding qualified biomass feedstocks and treatment of biogenic CO2 emissions in state plans, along with supporting analysis and quality control measures, and the EPA would review the appropriateness and basis for such determinations in the course of its review of the approvability of a state plan. Considerations for qualified biomass included in state plans are discussed in section VIII.I.2.c, while accounting requirements for RE using biomass are provided in section VIII.K.1.a.(3)(b).

- 80 Fed. Reg. at 64902[emphasis added]

Discussion of CHP in Comments

Most comments received on CHP recommended that the EPA explicitly describe how CHP can be accounted for in a state plan. Commenters described the CO2 emission reductions achieved through CHP’s thermal efficiency and the precedent set in other federal and state rules that have included CHP as a compliance option. Some commenters pointed out that without such a description, states would not be able to readily take advantage of the CO2 emission reductions that result from the use of CHP.

- 80 Fed. Reg. at 64902[emphasis added]

WHP as a Compliance Option

(10) WHP. WHP units that meet the eligibility criteria under section VIII.K.1 may be used to adjust the CO2 emission rate of an affected EGU. There are several types of WHP units. There are units, also referred to as bottoming cycle CHP units, where the fuel is first used to provide thermal energy for an industrial process and the waste heat from that process is then used to generate electricity. There are also WHP facilities where the waste heat from the initial combustion process is used to generate additional power. Under both configurations, unless the WHP unit supplements waste heat with fossil fuel use, there is no additional fossil fuel used to generate this additional power. As a result, there are no incremental CO2 emissions associated with that additional power generation. As a result, the incremental electric generation output from the WHP facilities could be considered zero-emitting, for the purposes of meeting the emission guidelines, and the MWh of electrical output could be used to adjust the

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8 In such a configuration, the waste heat stream could also be generated from a mechanical process, such as at natural gas pipeline compressors.
CO2 emission rate of an affected EGU. The MWh of electrical output from a WHP unit that can be recognized may not exceed the MWh of industrial or other thermal load that is being met by the WHP unit, prior to the generation of electricity. Most commenters that addressed WHP noted the benefits of WHP at the same time that they discussed the benefits of CHP. The commenters reflected that WHP is another potential compliance option and requested it be discussed explicitly as a compliance option that can be used to meet the emission guidelines. The comments discussed WHP benefits but did not elaborate on a preferred accounting method for MWh of electrical generation from WHP that could be used to adjust the CO2 emission rate of an affected EGU. - 80 Fed. Reg. at 64902-64903

**Evaluation Measurement & Verification (EM&V)**

Examples and discussion of industry best-practices for executing each of the above-listed components is provided in the EPA’s draft EM&V guidance for demand-side EE, which is being released in conjunction with the proposed model rule. The model trading rule defines certain EM&V provisions for demand-side EE, as well as specific provisions for non-affected CHP and RE resources, including incremental hydroelectric power, biomass RE facilities, and waste-to-energy facilities, that may be presumptively approvable upon finalization. - 80 Fed. Reg. at 64909

**Emission Rate Credits and CHP (ERCs)**

§60.5800 What other resources qualify for issuance of ERCs?

(a) ERCs may only be issued for generation or savings produced on or after January 1, 2022, to an eligible resource that meets each of the requirements in paragraphs (a)(1) through (4) of this section. - 80 Fed. Reg. at 64950

... (4) The resource falls into one of the following categories of resources: (i) Renewable electric generating technologies using one of the following renewable energy resources: wind, solar, geothermal, hydro, wave, tidal;

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9 This only applies where no additional fossil fuel is used to supplement the use of waste heat in a WHP facility. Where fossil fuel is used to supplement waste heat in a WHP application, MWh of electrical generation that can be used to adjust the CO2 emission rate of an affected EGU must be prorated based on the proportion of fossil fuel heat input to total heat input that is used by the WHP unit to generate electricity.

10 This limitation prevents oversizing the thermal output of a WHP unit to exceed the useful industrial or other thermal load it is meeting, prior to generation of electricity.
(ii) Qualified biomass;
(iii) Waste-to-energy (biogenic portion only);
(iv) Nuclear power;
(v) A non-affected combined heat and power unit, including waste heat power; -80 Fed. Reg. at 64950

(c) ERCS may not be issued to any of the following:
   (1) New, modified, or reconstructed EGUs that are subject to subpart TTTT of this part, except combined heat and power (CHP) units that meet the requirements of a CHP unit under paragraph (a);
   (2) EGUs that do not meet the applicability requirements of §§60.5845 and 60.5850, except CHP units that meet the requirements of a CHP unit under paragraph (a); 80 Fed. Reg. at 64950

§60.5845 What affected EGUs must I address in my State plan?
(3) Stationary combustion turbines that meet the definition of either a combined cycle or combined heat and power combustion turbine. - 80 Fed. Reg. at 64953

§60.5850 What EGUs are excluded from being affected EGUs?
(a) EGUs that are excluded from being affected EGUs are:
   
   (5) EGUs that are combined heat and power units that have always historically limited, or are subject to a federally enforceable permit currently limiting and always historically limiting, annual net-electric sales to a utility distribution system to the design efficiency times the potential electric output or 219,000 MWh (whichever is greater), or less; - 80 Fed. Reg. at 64953

(NB: The final CPP definition section, 40 C.F.R. 60.5880, 80 Fed. Reg. 64,959, now says that any terms not defined there are used in the CPP as defined in, among other things, 40 C.F.R. pt. 60 subpt. TTTT (the CO2 NSPS for EGUs). The NSPS definition, at 40 C.F.R. 60.5580, 80 Fed. Reg. at 64,656, reads in relevant part: "For combined heat and power facilities where at least 20.0 percent of the total gross energy output consists of electric or direct mechanical output and at least 20.0 percent of the total gross energy output consists of useful thermal output on an annual basis, the gross electric sales to the utility power distribution system minus purchased power of the thermal host facility or facilities."

Monitoring and Recordkeeping for CHP

§60.5860 What applicable monitoring, recordkeeping, and reporting requirements do I need to include in my plan for affected EGUs?
(a) Your plan must include monitoring for affected EGUs that is no less stringent than what is described in (a)(1) through (8) of this section. - 80 Fed. Reg. at 64953,64954

(5) For both rate-based and mass-based standards, the owner or operator of an affected EGU (or group of affected units that share a monitored common stack) must install, calibrate, maintain, and operate a sufficient number of watt meters to continuously measure and record on an hourly basis net electric output. Measurements must be performed using 0.2 accuracy class electricity metering instrumentation and calibration procedures as specified under ANSI Standards No. C12.20. Further, the owner or operator of an affected EGU that is a combined heat and power facility must install, calibrate, maintain and operate equipment to continuously measure and record on an hourly basis useful thermal output and, if applicable, mechanical output, which are used with net electric output to determine net energy output. - 80 Fed. Reg. at 64954

§60.5880 What definitions apply to this subpart?
Combined heat and power unit or CHP unit, (also known as “cogeneration”) means an electric generating unit that uses a steam-generating unit or stationary combustion turbine to simultaneously produce both electric (or mechanical) and useful thermal output from the same primary energy source. - 80 Fed. Reg. at 64959

“The Thermal Credit” Raised from 75% in Proposed Rule to 100%

The final rule says:

Net energy output means:

(1) The net electric or mechanical output from the affected facility, plus 100 percent of the useful thermal output measured relative to SATP conditions that is not used to generate additional electric or mechanical output or to enhance the performance of the unit (e.g., steam delivered to an industrial process for a heating application).

(2) For combined heat and power facilities where at least 20.0 percent of the total gross or net energy output consists of electric or direct mechanical output and at least 20.0 percent of the total gross or net energy output consists of useful thermal output on a 12-operating month rolling average basis, the net electric or mechanical output from the affected EGU divided by 0.95, plus 100 percent of the useful thermal output; (e.g., steam delivered to an industrial process for a heating application). - 80 Fed. Reg. at 64960