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EPA Releases Clean Power Plan with Significant Reductions in Carbon Dioxide Emissions

On August 3, 2015, the U.S. Environmental Protection Agency (EPA) issued highly anticipated final rules implementing the Clean Power Plan's goal of significantly limiting carbon dioxide emissions from existing, new, modified and reconstructed fossil fuel-fired electric generating units (EGUs). EPA also proposed model state trading rules and federal plans for implementation of the required emission reductions from existing EGUs.

These rules, which will significantly impact the electric power sector, will be effective 60 days after publication in the Federal Register. EPA will accept comments on the proposed plan for 90 days after the plan is published in the Federal Register.

Summary of EPA's Rulemaking Actions

The "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units" rule establishes standards to limit carbon dioxide emissions from existing fossil fuel-fired EGUs and requires states to develop plans to meet those goals. Rather than imposing uniform federal standards on all existing sources, the rule gives states flexibility to determine how to meet the required emission reductions. To assist states, EPA has proposed rate- and mass-based model trading rules that can be incorporated into state plans. In addition, EPA has proposed rate- and mass-based approaches for federal plans that will be adopted on a state-by-state basis if a state chooses not to develop a plan or if EPA does not approve a state's plan.

The "Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units" rule amends the New Source Performance Standards for carbon dioxide

that apply to new, modified and reconstructed EGUs.

Additional background regarding the proposed rules is discussed in our previous client alert.

Legal Framework

Section 111 of the Clean Air Act requires EPA to publish a list of categories of stationary sources, including any category of sources that “causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.” In 1971, EPA listed fossil fuel-fired steam generating boilers as a source category subject to rulemaking, and in 1979 EPA listed fossil fuel-fired combustion turbines.

Once EPA lists a source category, it must publish standards of performance for new sources within the category. Section 111(d) grants EPA the authority to also adopt regulations that establish a procedure for states to submit plans that establish standards of performance for any existing source in that category. The standards of performance must reflect the degree of emission limitation achievable through the application of the “best system of emission reduction” (BSER) that EPA determines has been adequately demonstrated, taking into account the cost of achieving the reduction, any non-air quality health and environmental impacts, and energy requirements.

The state must then submit its plan to EPA for approval. If a state does not submit a plan or EPA does not approve the plan, EPA must establish a plan for that state.

Existing Sources

What Standards Apply

EPA’s proposed rules for existing EGUs outlined an unprecedented approach to controlling emissions from existing sources: limit emissions at least in part by reducing generation from EGUs by substituting generation from less carbon-intensive affected EGUs and low- or zero-carbon generating units and by implementing demand-side energy efficiencies.

The proposed rules garnered significant feedback from regulated industry and environmental groups alike; more than 4.3 million comments were submitted on the proposed rules. The comments challenged EPA’s authority to adopt such an approach to controlling emissions, critiqued the assumptions and data that EPA relied on in establishing its emission reduction goals, and suggested improvements to specific requirements of the new regulatory framework. After considering those comments, EPA adopted final rules that follow the proposed approach, with certain notable changes.

Under the final rules, BSER for existing EGUs consists of the following three building blocks:

1. Improving heat rate at affected coal-fired steam EGUs.
2. Substituting increased generation from lower-emitting existing natural gas combined cycle units for reduced generation from higher-emitting affected steam generating units.
3. Substituting increased generation from new zero-emitting renewable energy generating capacity for reduced generation from affected fossil fuel-fired generating units.

The proposed rules had also suggested a fourth building block – reduction of emissions from EGUs in the amount that results from the use of demand-side energy efficiency to reduce the amount of generation required was identified as BSER – but that building block was eliminated in the final rule.

The final rules implement other changes, including that EPA’s mandatory emission reductions begin in 2022 instead of 2020 as proposed, with a gradual application of BSER over the 2022-2029 interim period; that source-specific performance rates are uniform for fossil fuel-fired electric utility steam generating units and stationary combustion turbines; and that rate-and mass-based state goals facilitate emission trading.

Implementation of the Standards

To implement the final rules, states must develop plans to meet the emission reduction goals. State plans may take an “emission standards” approach under which the state may establish emission standards for affected EGUs sufficient to meet the required performance rates or state goals. Alternatively, states may follow a “state measures” approach that allows states to impose state-enforceable measures on entities other than affected EGUs, with backstop emission standards applicable to affected EGUs that would be triggered if the plan failed to achieve the required emission reductions. A state must submit a final plan by September 2016, or submit an initial plan with a request for an extension to September 2018 to submit a final plan.

EPA has proposed a rate-based model trading rule and a mass-based trading rule intended to help facilitate the use of a trading system to achieve compliance with the state emission reductions. EPA has also indicated that a state program that follows the model trading rules would be presumptively approvable. EPA intends to finalize both model trading rules in summer 2016, and has requested comment on numerous aspects of the model rules.

EPA has also proposed two approaches a rate-based approach and mass-based approach– for federal plans that would be adopted on a state-by-state basis when a state does not submit a plan or EPA does not approve the plan. EPA will select a single approach for use in all states in which it adopts a federal plan. EPA has requested comment on its intent to finalize a single approach, as well as whether to adopt the rate- or mass-based approach.

New, Modified and Reconstructed Sources

The proposed rule for modified and reconstructed sources identified BSER and proposed standards, each of which varied based on the type of source at issue. The final rule, set under authority of the Clean Air Act Section 111(b), changes key elements of the proposed rule. Notably, the final rule addresses all new, modified and reconstructed units in a single rulemaking. A “new” source is defined as any newly constructed fossil fuel-fired power plant that commenced construction on or after January 8, 2014. A “modification” is defined as any physical or operational change to an existing source that increases the source’s maximum achievable hourly rate of air pollutant emissions and such change occurred on or after June 18, 2014. A “reconstructed source” is defined as a unit that replaces components to such an extent that the capital cost of the new components exceeds 50 percent of the capital cost of an entirely new comparable facility and such unit reconstructs on or after June 18, 2014.

The carbon pollution standards still vary based on the type of source at issue. They are now separated into two types of fossil-fuel fired sources: generally coal-fired electric utility steam generating units, and generally natural gas-fired stationary combustion turbines. The standards rely on application of the BSER approved by EPA for each type of unit. The new standards by source are:

Source	Final Emission Standard
New Fossil Steam EGUs	1,400 lb CO ₂ /MWh-gross Based on assumption that CO ₂ produced in the facility is partially captured (est. 20 percent) via carbon capture and storage (CCS) This is less stringent than the proposed rule
Reconstructed Fossil Steam EGUs	1,800 CO ₂ /MWh-gross for units with heat input greater than 2,000 MMBtu/h 2,000 lbs CO ₂ /MWh-gross for units with heat input of less than or equal to 2,000 MMBtu/h
Modified Fossil Steam EGUs	For larger modifications (defined as those resulting in an increase of hourly CO ₂ emission of more than 10 percent relative to the emissions of the most recent five years from

	<p>that unit): Unit-specific emission standard based on the unit's best demonstrated historical performance during the years from 2002 to the time of modification, but no more stringent than the level of the standard for reconstructed fossil steam units</p> <p>For smaller modifications (defined as those resulting in an increase of hourly CO₂ emission of less than or equal to 10 percent): EPA is not setting a standard and has withdrawn this proposed rule</p>
New Stationary Natural Gas-Fired Combustion Turbines	<p>1,000 lb CO₂/MWh-gross for all sizes of base load units using natural gas combined cycle (NGCC) technology</p> <p>120 lb CO₂/MMBtu/h for non-base load units using clean fuels (an input-based standard)</p> <p>Criteria for determining whether a unit is "base load" or "non-base load" is specified in the rule</p>
New Multi-Fuel Fired Combustion Turbines	<p>120 to 160 lb CO₂/MMBtu/h depending upon fuel characteristics (applies to both base and non-base load units)</p>
Reconstructed Multi-Fuel Fired Combustion Turbines	<p>120 to 160 lb CO₂/MMBtu/h depending upon fuel characteristics – for both base and non-base load units (same standard as for new multi-fuel fired combustion turbines)</p>
Modified Multi-Fuel Fired Combustion Turbines	<p>EPA is not setting a standard and has withdrawn this proposed rule</p>

What This Means to You

The final rules are effective 60 days after publication in the Federal Register. However, any person or business that is “adversely affected or aggrieved” by EPA’s adoption of the rules can file a petition for judicial review and request the court to postpone the effective date pending review.

The proposed federal plan regarding implementation of the emission guidelines for existing units could significantly impact fossil fuel-fired EGUs, low- or zero-carbon generation EGUs, and businesses with high energy demands. Submission of comments regarding the proposed rate- and mass-based model trading rules could impact the development of your state’s plan, as EPA has indicated that state programs adhering to the model trading rules would be presumptively approvable. In addition, submission of comments to EPA regarding the proposed rate- and mass-based federal plans for adoption on a state-by-state basis could significantly impact regulation of EGUs in your state, as the federal plan will control if the state decides not to develop an implementation plan or if its proposed plan is not approved by EPA. Comments must be submitted within 90 days after the plan’s publication in the Federal Register.

Contact Us

For additional information regarding how the proposed rules might impact your business or your clients, or if you’d like assistance filing litigation on the final rules or comments on the proposed model trading rules and federal plan, please contact Alison Nelson at 303.749.7263 of Husch Blackwell's Energy & Natural Resources team.