

Power & Utilities Spotlight

New Plan to Clear the Air

EPA Considers CSAPR and Introduces Clean Power Plan

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On June 2, 2014, the EPA proposed its Clean Power Plan (CPP), which is designed to significantly reduce existing power plant emissions, purported to be one of the largest sources of carbon pollution in the United States, by the year 2030.

The Bottom Line

- On April 29, 2014, the U.S. Supreme Court upheld the U.S. Environmental Protection Agency's (EPA's) Cross-State Air Pollution Rule (CSAPR), which is designed to set limits on emissions from power plants in 28 states in the eastern half of the United States via a new cap-and-trade program.
- The EPA is currently reviewing the Supreme Court's opinion but has not yet indicated whether it plans to move forward with its efforts to reinstate the CSAPR. Meanwhile, the Clean Air Interstate Rule (CAIR) remains in effect.
- On June 2, 2014, the EPA proposed its Clean Power Plan (CPP), which is designed to significantly reduce existing power plant emissions, purported to be one of the largest sources of carbon pollution in the United States, by the year 2030 (i.e., emissions are expected to be reduced by 30 percent compared with 2005 levels).
- While the CPP is expected to result in a collaborative effort at the federal and state levels, the onus of complying with the CO₂ emissions mandate will be greater with the states, each of which will need to develop a specific state implementation plan (SIP) by considering its (1) existing emissions reduction strategies; (2) energy resources; (3) operational efficiencies; and (4) energy, environmental, and economic needs.
- U.S. power and utilities (P&U) companies should continue to evaluate different strategies for reducing power plant emissions to comply with state and EPA air-quality guidelines. These strategies may include (1) early retirement of certain plants, (2) retrofitting of existing plants with emissions reduction equipment, (3) changing the fuel mix of generating units, (4) temporary idling of plants, and (5) designing flexible dispatching plans.

Beyond the Bottom Line

This *Power & Utilities Spotlight* discusses the (1) background of the Clean Air Act (CAA), (2) CSAPR and its status, (3) recently released CPP and its implications, and (4) potential impact of the changing emissions regulatory landscape on electric-power-generating plants in the United States.

Setting the Stage

Background

Congress enacted the CAA in 1963 to research and regulate the effects of air pollution nationally. In 1970 and 1977, Congress greatly expanded the CAA to require the development of both federal and state regulations on industrial and mobile pollution (i.e., pollution caused by vehicle engine emissions). Further, in 1990, the CAA was amended to require governments to establish regulations addressing pollution related to acid rain, ozone depletion, and toxic air pollution. These amendments also (1) increased enforcement authority, (2) created a national permit program for stationary sources,¹ and (3) established new auto gasoline reformulation requirements.

On July 6, 2011, the EPA issued the CSAPR, which would require more than 1,050 coal-, natural gas-, and oil-fired electric power plants in 28 states in the eastern half of the United States to reduce sulfur dioxide (SO₂) and nitrogen oxide (NO_x) emissions via a new cap-and-trade² program for emission allowances. The rule would also require every affected state to adopt federal implementation plans (FIPs). The CSAPR would ultimately replace the CAIR, which the EPA issued in 2005. According to the EPA, the CSAPR's overall purpose is to protect the health of American citizens by reducing air pollution that damages the ozone and results in the emission of fine particles.

The CSAPR is designed to implement the "good neighbor provision"³ for the regulation of SO₂ and NO_x and would require certain upwind states to establish measures to prevent the emission of pollution across state lines that would "contribute significantly to nonattainment" of the National Ambient Air Quality Standards (NAAQS) by neighboring states. The rule's overall goal is to reduce SO₂ and NO_x emissions and pollution in downwind states. Effectively, the new rule would be a way of enforcing the requirements of the NAAQS.⁴

Certain aspects of the rule were slated to take effect on January 1, 2012, with full implementation by 2014.

Legal Challenges to the CSAPR

After the CSAPR was issued, its legality was challenged for numerous reasons by various stakeholders, including states, local governments, industry groups, and labor organizations. On December 30, 2011, just days before the rule was to take effect, the CSAPR was stayed by the U.S. Court of Appeals for the D.C. Circuit to give the judges

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¹ The EPA defines a stationary source as a "place or object from which pollutants are released and which does not move around. Stationary sources include power plants, gas stations, incinerators, houses etc."

² "Cap and trade" is a market-based approach to controlling pollution in participating areas by providing economic incentives for reducing the emissions of pollutants. Under this approach, a state or government body sets a limit or "cap" on the amount of pollutant that may be emitted and this cap is allocated or sold to companies in the form of emissions permits (known as allowances or carbon credits) representing the right to emit a specific volume. Companies are required to hold a number of allowances equivalent to their emissions and can buy additional allowances from other companies when their emissions volume exceeds the number of allowances they hold.

³ Section 110(a)(2)(D)(i)(I) of the CAA is commonly referred to as the "good neighbor provision." This provision requires every state to operate its emissions policies responsibly and limit the adverse impact of pollution on neighboring states. In addition, states must institute a SIP that would:

[C]ontain adequate provisions [that would prohibit] any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard.

⁴ NAAQS, as established by the EPA under the CAA, include both (1) primary standards designed to protect the health and well-being of the general population, with special focus on children, the elderly, and individuals suffering from respiratory diseases, and (2) secondary standards designed to protect the general public from any "known or anticipated adverse effects of a pollutant."

more time to consider its merits. On August 21, 2012, the court ruled 2–1 to vacate the rule, citing that the EPA overstepped its authority under the CAA by:

- Imposing FIPs on upwind states. Upon adopting any EPA emissions standard, a state must be given the opportunity to initiate and execute a SIP before the EPA mandates a FIP. Under the CSAPR, however, the EPA executed a FIP when it implemented the rule, thereby violating the CAA.
- Mandating that a state reduce its emissions beyond its level of significant contribution. The CSAPR does not properly account for an upwind state’s proportional contribution to a downwind state’s nonattainment of the NAAQS because it does not take into consideration (1) contributions by other upwind states or (2) the downwind state’s independent contribution to its own nonattainment.

Meanwhile, the CAIR remained in effect while the EPA and others appealed the decision to the U.S. Supreme Court.

Thinking It Through

Issued by the EPA in April 2005, the CAIR regulates emissions of SO₂ and NO_x from power plants, seeking to limit particles that drift from one state to another. The CAIR’s cap-and-trade system, which covers 27 eastern states and the District of Columbia, allows the states to meet their individual emissions budgets by selecting one of two compliance options: (1) requiring power plants to participate in an EPA-administered interstate cap-and-trade system that caps emissions in two stages or (2) undertaking measures of their own choosing.

Immediately after the court vacated the CSAPR, the trading prices for SO₂ and NO_x allowances for the CAIR program increased slightly (although allowance prices remain low compared with those from several years ago). CAIR SO₂ allowances in particular are plentiful and are trading at low prices. The cost for a power producer to comply with the CAIR SO₂ emission requirements is not expected to be significant.

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Supreme Court Ruling

On April 29, 2014, the U.S. Supreme Court ruled 6–2 to uphold the CSAPR. The majority ruled that (1) the CAA does not require that states be given a second opportunity to develop and submit a SIP once an initial plan is partly or wholly rejected (i.e., Section 110 of the CAA allows the EPA to issue a FIP within two years of rejecting a SIP) and (2) the EPA did not overstep its authority under the CAA by requiring states to reduce their emissions beyond the level of significant contribution (i.e., the allocation of emission reductions in upwind states on a cost-to-eliminate basis⁵ versus the proportional pollution contribution to downwind states is a “permissible, workable, and equitable interpretation of the good neighbor provisions”).

Thinking It Through

In the Supreme Court’s formal opinion on this matter, Justice Ruth Bader Ginsburg quoted the Bible, John 3:8 (King James Version): “The wind bloweth where it listeth, and thou hearest the sound thereof, but canst not tell whence it cometh, and whither it goeth.” This passage illustrates the challenges that environmental regulators may encounter in attempting to reduce interstate air pollution, primarily because it is impossible to precisely measure the impact of specific upwind power plant emissions on one particular state.

⁵ The “cost-to-eliminate” emissions reduction method takes into account both the magnitude of an upwind state’s emissions and the costs associated with eliminating the emissions.

The Supreme Court's decision does not automatically reinstate the CSAPR; it simply reverts the case back to the Appeals Court. The Appeals Court may need to consider other challenges to the rule that were introduced but not subjected to a formal ruling.

What's Next for the CSAPR

If the Appeals Court eventually does allow enactment of the CSAPR and the EPA decides to proceed with reinstatement, certain of the rule's provisions would need to be amended before it is reinstated (e.g., the EPA would need to revise the implementation timeline, since the original compliance dates have passed). Meanwhile, the CAIR remains in effect.

New Era in Emissions Guidelines

EPA Proposes Clean Power Plan

On June 2, 2014, the EPA proposed the CPP, a comprehensive plan that is designed to reduce existing emissions by fossil-fuel electric-generating-unit (EGU) plants. Under the CPP, by the year 2030, carbon emissions within the power sector would be reduced by about 30 percent compared with 2005 levels. The CPP is also expected to reduce other particle pollution, as well as nitrogen oxide and sulfur dioxide levels, by about 25 percent. Overall, the plan is projected to contribute to better health for Americans as well as smaller electric bills, increased energy efficiency, and reduced demand.

Thinking It Through

Each state will have its own requirement to support the overall goal of reducing CO₂ emissions to 30 percent of 2005 levels. Some states will be expected to reduce their emissions more significantly than others.

The CPP is not a new set of rules or regulations but an initiative that will allow states to develop their own SIP to meet certain CO₂ emissions requirements.

Clean Power Plan in a Nutshell

The CPP is not a new set of rules or regulations but an initiative that will allow states to develop their own SIP to meet certain CO₂ emissions requirements. Under the CPP, states would still need to comply with existing federal and state emissions regulations such as the CAIR, the MATS, the NAAQS, and regional haze rules. However, these regulations would be supplemented by individualized state-developed strategies that would further reduce power plant emissions to meet a state's CPP-defined goal.

Thinking It Through

The EPA issued the MATS rule on December 16, 2011, to set a national standard for mercury emissions and to regulate power plant emissions of mercury, acid gases, and nonmercury metallic toxic pollutants. The MATS rule is intended to (1) prevent emission into the air of about 90 percent of the mercury in coal burned in power plants, (2) reduce acid gas emissions from power plants by 88 percent, and (3) reduce SO₂ emissions from power plants by 41 percent. Unlike the CSAPR or CAIR, the MATS rule is not a cap-and-trade program; no emissions allowances are involved. If a specific plant emits more mercury or other toxics than are permitted, that plant is not allowed to operate.

Under the MATS rule, reductions are to be achieved starting in the first quarter of 2015. Power producers are expected to employ available technologies to reach the prescribed mercury targets, including selective catalytic reduction (SCR) with flue-gas desulfurization, activated carbon injection (ACI), ACI with fabric filter, and electrostatic precipitators. For more information on the MATS rule, including information on targets, penalties, and technologies expected to be used to address other toxics, see the EPA's [Web site](#).

Unlike previous regulations, the onus of complying with the standards resulting from the CPP will be greater with the states. However, in addition to designing its own

implementation timeline, each state will be able to individualize its SIP by considering its policies, infrastructure designs, regulatory structure, and emissions programs.

Although each state will develop its own SIP, the standards will provide certain nonprescriptive guidelines on how the state can achieve its emissions reduction goals. Each state will have a broad range of compliance options. However, there is no “one-size-fits-all approach” given that the P&U sector consists of various types of operating entities (e.g., regulated entities, independent power producers, rural cooperatives, municipally owned utilities) that have a mix of energy-producing plants (e.g., coal-fired, natural gas, nuclear, solar).

When implementing the CPP, states should try to develop a SIP that takes into account the “best system of emission reduction (BSER)” available. The proposal highlights four recommended methods for achieving the BSER (a state can use any one or a mix of these methods in developing its SIP):

- Reducing carbon emissions of existing EGUs by retrofitting/improving technology at existing plants.
- Decreasing emissions from the EGUs emitting the greatest CO₂ by replacing the generation with EGUs that emit less.
- Substituting generation from high-emission EGUs with low- or zero-carbon generation.
- Lowering emissions by initiating programs that improve end-user energy efficiency.

In addition to considering the above methods, a state can establish a plan with other states (i.e., a multistate implementation plan), which may improve the plan’s overall effectiveness. Further, in working toward its specific CO₂ emissions goal, each state should consider the potential impact of a plan on its (1) energy resources; (2) operational efficiencies; and (3) specific energy, environment, and economic needs.

What’s Next for the CPP

The CPP was published in the *Federal Register* on June 18, 2014, which marks the official start of the 120-day comment period that will last until mid-October 2014. The EPA will obtain feedback on the proposal through both the comment-letter process and roundtables that it is hosting in July 2014. The EPA will consider this feedback in drafting the final CPP, which is expected to be released in June 2015.

Thinking Ahead

Implications for Electric Power Producers

Changes in the emissions monitoring landscape have directly affected P&U companies’ operations. Many electric power producers have already shifted some generation sources from coal-fired to natural-gas-fired plants in response to other regulations. In addition, renewable generation sources continue to increase, further reducing SO₂ and NO_x emissions. Each of these activities represents a step toward meeting the stricter EPA guidelines under the CSAPR and the CPP.

However, additional steps might be required. For example, more generation might be shifted to nuclear plants, potentially resulting in a renewed interest in nuclear power in the United States. To make the expansion of the U.S. nuclear fleet viable and economically feasible, the EPA may need to consider a new approach to compensating nuclear power plant owners for the value of this carbon-free power source.

When implementing the CPP, states should try to develop a SIP that takes into account the “best system of emission reduction (BSER)” available.

Thinking It Through

Because the CSAPR was not stayed until just before it was scheduled to go into effect in January 2012, most P&U companies had already put plans in place to account for the elimination of the CAIR emission allowances and the EPA's grant of the CSAPR emission allowances. P&U companies should, therefore, already have preparedness plans in place if the EPA reinstates the CSAPR.

In light of the Supreme Court's decision to uphold the CSAPR; the June 2, 2014, release of the EPA's CPP; and the continued emphasis of states and federal government agencies on enhancing emissions standards, P&U companies should continue to evaluate different strategies for reducing emissions (including SO₂ and NO_x) to comply with the various air-quality guidelines. These strategies, which should take into account natural gas prices and other economic factors, may include (1) early retirement of certain plants, (2) retrofitting of existing plants with emissions reduction equipment, (3) changing the fuel mix of generating units, (4) temporarily idling plants, or (5) designing flexible dispatch plans.

While electric power producers may be able to continue to reduce emissions and levels of certain toxins — often by using existing equipment (as would be the case with NO_x) — the reduction of other toxins (e.g., SO₂) may be more challenging.

Looking Forward

The EPA is certain to continue monitoring air pollution nationally and to issue rules as needed to reduce toxic emissions. In response to such developments, Deloitte's P&U industry team will (1) host live industry seminars, (2) conduct quarterly accounting update webcasts, and (3) publish industry Spotlights as warranted. In addition, watch for Deloitte's annual *Power & Utilities — Accounting, Financial Reporting, and Tax Update*, which will be published this winter.

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