

The U.S. EPA's New Clean Air Rules

Impact on Market Participants

In the last 18 months, the U.S. Environmental Protection Agency (EPA) proposed and finalized a suite of rules designed to improve air quality in the United States. Collectively called the Clean Air Rules of 2004, two of these rules—the Clean Air Interstate Rule (CAIR)¹ and the Clean Air Mercury Rule (CAMR)—address the transport of emissions across state boundaries from electric generating units. The Ozone and Fine Particles Rules designate areas as being in “attainment” or “nonattainment” for federal standards for ozone and fine particles, respectively. The designations will be used by state, tribal, and local governments to establish control programs to reduce emissions. EPA expects CAIR to bring most areas into compliance for ozone and fine particles.

Economic modeling, air quality analyses, and benefits assessments have been conducted during the past three years. ICF Consulting has performed much of the economic modeling and analyses using its Integrated Planning Model (IPM®), including work for EPA, the Clean Energy Group or CEG (a coalition of private utilities), the Clean Air Task Force, and several utilities and generating companies.

Finalized on March 10, 2005, CAIR is designed to reduce emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), contributors to the formation of fine particulates (PM_{2.5}) and ground level ozone. This rule targets SO₂ and NO_x emissions from 28 eastern states and the District of Columbia (DC). The final CAIR requires annual SO₂ and NO_x reductions in 23 states and DC, while requiring 25 states and DC to reduce NO_x in the ozone season. The rule establishes emissions budgets for affected states beginning in 2009 for NO_x of 1.5 million tons and beginning in 2010 for SO₂ of 3.7 million tons. EPA estimates these budgets are 45 percent and 50 percent reductions below what would occur in the CAIR region absent the rule.²

Further reductions of approximately 0.3 million tons of NO_x and 1.1 million tons of SO₂ are required by 2015. The rule allows emissions banking, so actual emissions could differ from these levels.

Under CAIR, the states can achieve their required emission reductions either by having affected power plants in their states participate in an EPA-administered, interstate cap-and-trade system, or by implementing their own measures, including those that may target other sectors.

CAIR has an interesting feature in that it is integrated with the existing national SO₂ allowance trading program implemented under Title IV of the Clean Air Act. Permit holders under Title IV who also are affected by CAIR must surrender their Title IV allowances in a greater than 1:1 ratio after 2010. In other words, for each ton emitted from a CAIR-affected unit after 2010, a greater number of SO₂ allowances must be surrendered. In the period 2010 through 2014, the ratio is 2:1, while in the period 2015 and beyond, the ratio is 2.86:1. This has the effect of creating different SO₂ markets for each vintage of allowances.

In addition to issuing the CAIR rule in 2005, EPA finalized the Clean Air Mercury Rule (CAMR) on March 15, 2005, implementing a cap-and-trade program for mercury (Hg) emissions from utility power plants. Unlike the CAIR rule, the mercury rule is national in scope, setting a nationwide emissions cap applicable to all coal-fired boilers with a capacity exceeding 25 megawatts.

When fully implemented in 2018, CAMR—along with the impacts of CAIR—will limit Hg emissions to 15 tons a year. EPA estimates this is a reduction of about 70 percent from historic levels of 48 tons. Under CAMR, EPA has assigned each state and two tribes an emissions budget for mercury under the cap. As under CAIR, each state may choose how to implement the rule, including participating

