EPA Power Plant Proposal Boosts Carbon Capture and Hydrogen

Ethan Shenkman is a partner in the environmental practice at Arnold & Porter. Ethan.shenkman@arnoldporter.com.

THE Environmental Protection Agency has, once again, rolled out an ambitious plan to reduce carbon emissions from power plants under Section 111 of the Clean Air Act. This new proposal is issued against the backdrop of the agency's two previous attempts, which struggled in the courts.

The legal saga dates back to 2015, when the Obama EPA released the Clean Power Plan, which relied on a system of "generation shifting" from fossil fuel to lower or zero-carbon sources of energy. But the Supreme Court stayed the rule and struck it down last year under an aggressive application of the Major Questions Doctrine in *West Virginia v. EPA*. The Trump EPA issued its own regulation, the far-narrower Affordable Clean Energy Rule, but it was set aside by the D.C. Circuit. Although that opinion was reversed and remanded by *West Virginia,* the Biden administration had no interest in resurrecting ACE. Instead, it designed a power plan of its own, one that is intended to significantly accelerate decarbonization of the nation's electricity grid while staying within the confines of the high court's opinion.

The IRA provides the carrot; the proposed power plant rule provides the stick

The Biden EPA's proposed rule—issued in generic form, with no fancy acronym or moniker—is certain to set off another round of legal battles, leaving practitioners to wonder: will the third time be the charm?

One of the proposal's most notable features is its endorsement of clean energy technologies that are centrally featured in the Inflation Reduction Act: carbon capture and sequestration, or CCS, and green hydrogen. In essence, while the IRA provides the carrot, through tax incentives and other funding mechanisms, to help accelerate the development of technologies at scale, EPA's new rule provides the regulatory stick to require the use of these technologies in certain applications.

Section 111 directs EPA to determine the "best system of emission reduction" "that has been adequately demonstrated," taking into account costs, non-air quality health and environmental impacts, and energy requirements. For several important categories of electric generating units, EPA has identified CCS and/or low-GHG hydrogen (co-fired with natural gas) as the best system. For example, for new and existing large natural gas-fired power plants that run frequently (i.e., base load units), operators may choose a CCS pathway, which is based on installation of the technology with 90 percent capture by 2035. Alternatively, these units may choose a low-GHG hydrogen pathway, which is based on highly efficient combined cycle technology coupled with co-firing 40 percent low-GHG hydrogen by 2032 and 96 percent by 2038.

The proposed regulation's treatment of coal-fired power plants also relies in part on CCS, with different standards applying to units based on their expected remaining lifetimes. For existing coal-fired units that plan to operate beyond 2040, the best system is CCS with 90 percent capture by 2030. Coal plants planning to retire by 2040 or earlier have less stringent standards that do not require CCS, with the least stringent standards for plants retiring by 2032, thus incentivizing the phaseout of coal beyond downward trends.

All told, EPA estimates that the new regulations would avoid 617 million metric tons of CO_2 emissions through 2042, resulting in $85 billion in climate and public health benefits. EPA also highlights the importance of its proposal for decarbonization of other sectors being electrified, including the transition of automobiles to electric vehicles and of oil and gas heating in buildings to electricity. The proposal is also expected to reduce emissions contributing to particulate matter and ozone pollution, including in communities that have expressed environmental justice concerns.

EPA will ultimately need to persuade the courts that the technologies it relies on have been "adequately demonstrated." The utilization of CCS has increased with many new projects waiting for permits, but its application in the power sector has been limited to date. EPA's proposal is optimistic that recent decreases in the cost of CCS, combined with the bump in the tax credit for CCS in the IRA, will translate into increased deployment.

Similarly for hydrogen, the agency cites to IRA tax credits and an influx in funding from the Infrastructure Investment and Jobs Act to provide a significant boost for the technology's economic feasibility. EPA proposes to define "low-GHG hydrogen" narrowly, with a specified emissions intensity. This mirrors the eligibility criteria for the maximum tax credit available, typically applied to "green" hydrogen produced from electrolysis using renewable electricity sources. Opponents of the rule will likely question whether EPA has authority to set a standard that imposes a carbon-intensity requirement on upstream production of hydrogen.

These are only a few of the many issues that practitioners will be watching, as EPA strives to finalize the rule by June 2024.