

THE ENVIRONMENTAL PROTECTION AGENCY AND THE CLEAN POWER PLAN: A PARADIGM SHIFT IN ENERGY REGULATION AWAY FROM ENERGY REGULATORS

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Synopsis: On August 3, 2015, the EPA issued the so called Clean Power Plan—the centerpiece of the administration’s efforts to combat global climate change. The Clean Power Plan seeks to reduce CO₂ emissions from electric generation units within the United States by 32% from 2005 levels by 2030. The EPA asserts that the best system of emission reduction leading to this goal is to “shift” electricity generated from sources that emit more CO₂ to sources that have fewer or no emissions. As a result, the Clean Power Plan makes the EPA the nation’s energy regulator by essentially dictating to the states and their utilities the market share by fuel-type of different generation resources. This approach turns on its head the “bright line” between federal and state energy regulation that has helped shape our national energy policy for more than eighty years. While combating climate change is a laudable goal, many around the country—including twenty-six states, numerous utilities, municipalities and industry groups—have challenged the policy, political wisdom, and legality of the Clean Power Plan. But the purpose of this article is not to address those political, policy, and legal issues. This article, instead, explores what will happen if the Clean Power Plan survives those legal challenges. The article delves deeply into the practical effects of the Clean Power Plan on the states, and asks how utilities and their traditional regulators—states, public utility commissions, and the Federal Energy Regulatory Commission—will deal with this fundamental shift in the nature of energy regulation as the EPA becomes the nation’s new energy regulator.

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I. INTRODUCTION

Many readers of this Journal focus their attention on current developments in public utility regulation—from the Federal Energy Regulatory Commission’s (FERC) regulation of wholesale electricity markets, including RTO/ISOs and natural gas and oil pipelines, to the state public utility commissions’ (PUCs) regulation of retail electric service and rates, and natural gas distribution services.

With respect to electricity regulation, this Journal has chronicled the eighty-year journey of the Federal Power Act—from understanding what Congress meant in filling the now-famous “*Attleboro* gap,”¹ to the so-called “bright line” that has been drawn between federal and state jurisdiction, to the ever evolving role of the FERC versus the role of PUC’s in states that are in RTO/ISO markets.² The debate over where that jurisdictional line is drawn continues to this day, from the *EPSA* demand response case³ to the recent Third and Fourth Circuit decisions on

1. See generally *Pub. Utils. Comm’n of R.I. v. Attleboro Steam & Elec. Co.*, 273 U.S. 83 (1927); *New York v. FERC*, 535 U.S. 1, 2-3 (2002) (addressing “*Attleboro* gap”).

2. Discussed further in Part II of this article.

3. *Elec. Power Supply Ass’n v. FERC*, 753 F.3d 216 (D.C. Cir. 2014), cert. granted in part, 135 S.Ct. 2049 (May 04, 2015).

capacity markets in New Jersey and Maryland,⁴ all of which are now pending in the Supreme Court. Indeed, throughout the years, the debate between federal and state jurisdiction has largely arisen in the context of how Congress crafted the framework for regulating the nation's electricity markets and ensuring that the flow of electricity remains reliable.

Under this historical framework, authority is shared between PUCs, exercising their historic police powers, and the FERC, exercising the authority granted to it by Congress. Both PUCs and the FERC have developed extensive expertise in the areas of utility regulation, ratemaking, reliability, and resource planning, to name but a few. These state and federal agencies have long worked together to determine what mix of electric generation resources would best serve the needs of a state's customers and how that electricity should be transmitted to homes and businesses at rates that are just and reasonable. The roles and responsibilities of the FERC and the States have stayed unchanged over the past eighty or so years in those parts of the country that have not restructured their electricity markets—most notably in the Southern and Western regions of the country. Tellingly, these regions are heavily impacted by the Clean Power Plan as we will see below.

In states that already participate in RTO/ISOs, some of this authority—for instance with respect to resource planning—has migrated to the FERC as they oversee the organized markets. But even here, PUCs still play a significant role in the RTO/ISO process that reflects that historical role and responsibilities. And as the Maryland and New Jersey capacity markets cases mentioned above show, even in restructured markets, the states are not shy about addressing local concerns that reflect their historical role in how consumers are served.

This seemingly never-ending debate over where to draw the jurisdictional line between federal and state authorities will soon be renewed and taken to new heights thanks to a new regulation promulgated by the U.S. Environmental Protection Agency (EPA or Agency). Through recent rulemaking, the EPA has promulgated a rule that many believe arrogates unto the Agency the power and authority to become the nation's new energy regulator—usurping the authority states have historically had in non-organized markets, while at the same time significantly changing the FERC's authority in regulating and overseeing the RTO/ISO markets. Indeed, in either case, the EPA seeks to fundamentally change the role and authority of *energy regulators*—in traditional states where the PUCs will lose much of their historic authority over resource planning and ratemaking, and in the organized markets as system operators are forced to move from economic to carbon dispatch and as the Clean Power Plan dictates how they fulfill their Federal Power Act and North American Electric Reliability Corporation (NERC) responsibilities.

On August 3, 2015, the EPA issued its Clean Power Plan,⁵ exerting for the first time in its 45-year history sweeping new regulatory authority over the

4. See generally *PPL EnergyPlus, LLC v. Nazarian*, 753 F.3d 467 (4th Cir. 2014), cert. granted, 2015 WL 6112869 (Oct. 19, 2015); *PPL EnergyPlus, LLC v. Solomon*, 766 F.3d 241 (3d Cir. 2014) (petition for certiorari docketed).

5. Final Rule, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) [hereinafter Existing

nation's energy sector. The stated purpose of the Clean Power Plan is to reduce carbon dioxide (CO₂) emissions from fossil fuel-fired power plants by more than 32% nationwide by 2030 pursuant to purported legal authority under Section 111(d) of the Clean Air Act (CAA).⁶ But achieving this result requires the EPA to stray far from its traditional area of expertise, which is to regulate the emission of pollutants from their source: the smokestacks of power plants and factories. The EPA's final rule achieves its dramatic reductions in CO₂ emissions from the nation's electric power sector through a fundamental transformation of electricity markets, and a seismic shift in how electricity is produced and in how the right mix of generation is determined for each state. If upheld, the Clean Power Plan would essentially supplant both the states and the FERC as the nation's energy regulator. At minimum, the Plan will create direct conflicts between the EPA, the FERC, and the PUCs, reducing the FERC's and the PUCs' respective roles and traditional authority. Many opponents believe the consequences will be much more drastic, with the Clean Power Plan heralding a seismic shift in the regulatory balance of power. Across the spectrum, the words of the former Chairman of the Colorado Public Service Commission ring true: "make no mistake, the [Clean Power Plan] ends electric utility regulation as it has been done for the past century."⁷

Addressing climate change is a laudable goal; however, any actions taken must be both reasonable in nature and legal. As one of the current Administration's top priorities, the Clean Power Plan has undergone significant scrutiny from the press, academics, and politicians alike with respect to the Rule's legality and political wisdom. Addressing these political, policy, and legal issues is not the purpose of this article. For the purposes of this article, we assume *arguendo* that the Clean Power Plan will survive the litigation challenges and actually be implemented. This article attempts to focus on what will happen *afterward*, as the eventual conflicts arise between the EPA's implementation of the Clean Power Plan and the nation's traditional energy regulators—the FERC and the PUCs. Indeed, our purpose here is not to address the strengths or weaknesses of the final rule—although some of this must invariably be done to properly consider the impacts—but rather to address how the core features of the final rule will result in a fundamental shift in the nature of energy regulation at the state and federal level. Again, in undertaking this analysis, we must, to a certain extent, cast a critical eye on the final rule's provisions. Such criticism is not necessarily intended to denigrate the rule, but rather to point out what will likely occur when the Clean Power Plan relegates state PUC commissioners to the role of simply "present[ing] the bill to customers."⁸ The final rule will also likely significantly impact the FERC's authority over wholesale electricity markets. As FERC Commissioner Clark recognizes, "[t]o the degree an EPA rule directly attempts to change FERC jurisdictional market dispatch rules, there could be a

Source Final Rule]; Proposed Rule, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830 (June 18, 2014) (to be codified at 40 C.F.R. pt. 60) [hereinafter Existing Source Proposed Rule].

6. 42 U.S.C. § 7411 (2010).

7. Raymond L. Gifford, *Will the EPA Make State Utility Regulation Irrelevant?*, IHS THE ENERGY DAILY (April 15, 2013).

8. *Id.*

clear conflict between the Federal Power Act and the Clean Air Act.”⁹ Furthermore, the rule “makes it likely consumers will be required to bear the burden of stranded costs of investments forced to retire years before the useful life of the asset has expired.”¹⁰

As discussed in more detail below, our analysis suggests that the Clean Power Plan will engender profound and historic shifts in all manner of federal and state utility regulation. Indeed, the Clean Power Plan strikes at the core features of traditional utility regulation: electric resource planning, operations, and reliability—especially in the South and West that have not restructured electricity markets. By essentially mandating future “market shares” for each generation fuel type, the Clean Power Plan usurps the state’s traditional authority over electric resource planning, setting up a direct conflict between two regulatory schemes. Further, by intentionally “shifting” generation from power plants of one fuel type to power plants of another fuel type, the core feature of the Clean Power Plan creates a direct conflict with the FERC’s jurisdiction over the operation of wholesale electricity markets and electricity rates. In addition, the changes in infrastructure and resource planning required by the Clean Power Plan put it at odds with state and FERC jurisdiction over the reliability of the nation’s electric grid. Indeed, if the Clean Power Plan is implemented, there may be little left of state regulators’ historic prudence authority, as the EPA implicitly dictates fuel choices and the “proper” mix of supply side and demand side resources by setting compliance goals that in many states can only be met with certain market share minimums. And the FERC’s authority in setting RTO/ISO market design and rules will be severely cramped in order to reflect both the new market share minimums the EPA has set and the new carbon dispatch that will have to be implemented. How the courts will resolve these conflicts between conflicting federal agencies or between conflicting state PUCs and the EPA will have a profound impact on the future of utility regulation nationwide as the EPA seeks to assert itself as the nation’s energy regulator.

Although this is not the first instance where one federal agency has sought to regulate in a field that overlaps with the jurisdiction of another federal agency, or sought to supplant state authority in that same field, the Clean Power Plan does mark the first time an agency has strayed this far outside its area of expertise in an attempt to fundamentally change such a significant component of the nation’s economy. Deciding the most reliable and affordable mix of electricity from coal, natural gas, nuclear power plants, and renewable resources like wind and solar has always rested with the energy regulators at the federal and state level, with reliability oversight by the FERC. It is abundantly clear that Congress intended it to be that way: the states are to regulate such matters at the intrastate and retail level, and the FERC is responsible for the wholesale electric power market and the interstate bulk electric transmission system. The EPA has neither the legal authority nor the requisite technical expertise to be the nation’s energy regulator.

9. Response of FERC Commissioner Clark to Additional Questions for the Record from the U.S. House of Representatives Committee on Energy and Commerce, Subcommittee on Energy and Power, at 5 (Aug. 26, 2014) [hereinafter Additional Responses of FERC Commissioner Clark].

10. Statement of Commissioner Tony Clark, *Environmental Protection Agency 111(d) Regulations*, FED. ENERGY REG. COMM’N (Aug. 3, 2015), <http://www.ferc.gov/media/statements-speeches/clark/2015/08-03-15-clark.asp#.VfI3sBFVhBc> [hereinafter Clark Statement].

In sum, our purpose here is to explore the current foundations of energy regulation and the fundamental shift in the nature of energy regulation heralded by the Clean Power Plan. As regulators, utilities, and consumers all search for the “new normal,” what will it look like?

II. THE EPA’S REGULATION OF AIR POLLUTANTS INCLUDING CARBON DIOXIDE UNDER THE CLEAN AIR ACT

“[E]nergy and environmental law[s] operate in separate worlds that rarely overlap . . . [but] their subject matters are intrinsically intertwined.”¹¹ The Clean Air Act (CAA) is one of those rare instances of overlap that highlights the “intertwined” nature of energy and environmental laws.¹²

A. *Regulation of Air Pollutants Under the Clean Air Act*

Title I of the CAA sets forth the regulatory framework under which the EPA regulates emissions of air pollutants from stationary sources, such as power plants. The focal point of this regime is section 109,¹³ under which the EPA sets national ambient air quality standards (NAAQS) for certain air pollutants.¹⁴ Under a structure of “cooperative federalism” established by section 110 of the CAA, the individual states have the primary responsibility of ensuring that the air quality within their borders attains the NAAQS for each pollutant through “state implementation plans” (SIPs).¹⁵ In order to ensure attainment of each NAAQS, SIPs address (among many other things) emission limitations from individual sources within the state, systems to monitor emissions, and programs to enforce the emissions limits.¹⁶ If a state fails to submit a satisfactory plan, then the EPA may promulgate a federal implementation plan (FIP) enforcing the NAAQS.¹⁷ Both a SIP and a FIP have the force and effect of federal law, and the terms of a SIP or FIP preempt any state law or regulation that is less stringent than the SIP or FIP (although states are free to adopt more stringent measures).¹⁸

11. Lincoln L. Davies, *Power Forward: The Argument for a National RPS*, 42 CONN. L. REV. 1339, 1391-92 (2010).

12. Clean Air Act (CAA), 42 U.S.C. §§ 7401-7671q (2011).

13. CAA § 109, 42 U.S.C. § 7409.

14. NAAQS standards have been established for six “criteria pollutants”: carbon monoxide, lead, nitrogen dioxide, ozone, sulfur dioxide, and particulates (with a diameter of less than 2.5 microns and with a diameter of more than 2.5 but less than 10 microns). See generally *National Ambient Air Quality Standards (NAAQS)*, ENVTL. PROT. AGENCY, <http://www.epa.gov/ttn/naaqs/criteria.html> (last visited Sept. 10, 2015).

15. 42 U.S.C. § 7410(a)(1). Other provisions in the CAA address particular types of air pollutants other than those for which a NAAQS has been established, or emissions from particular types of sources. For example, under section 112, 42 U.S.C. § 7412, the EPA establishes emission standards for “hazardous air pollutants” that are emitted from “major sources.” A “major source” is defined in the statute as a “stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.” 42 U.S.C. § 7412(a).

16. 42 U.S.C. § 7410(a)(2)(A)-(M).

17. 42 U.S.C. § 7410(c)(1).

18. See, e.g., *Trs. for Alaska v. Fink*, 17 F.3d 1209, 1210 & n.3 (9th Cir. 1994) (holding that once approved by the EPA, a SIP has “the force and effect of federal law”); *Espinosa v. Roswell Tower, Inc.*, 32 F.3d 491, 494 (10th Cir. 1994) (holding that the less stringent state emissions standards are preempted); see also 42 U.S.C. § 7416 (“[I]f an emission standard or limitation is in effect under an applicable implementation plan . . . such State

Section 111—the provision under which the Clean Power Plan draws its authority—addresses standards of performance for new and existing stationary sources. Section 111(b) requires the EPA to set standards of performance for “new” sources, within certain specified categories.¹⁹ The EPA has promulgated new source performance standards for dozens of source categories,²⁰ and has recently issued new source performance standards for carbon dioxide emissions from new coal and NGCC power plants.²¹ On the other hand, Section 111(d)—the authority under which the Clean Power Plan was promulgated—requires the EPA to establish performance standards for “existing” stationary sources.²² Section 111(d)(1) provides that under a “procedure” established by the EPA, states are to develop plans which (a) “establish [the] standards of performance for any existing source” in a designated source category, and (b) “provide[] for the implementation and enforcement of such standards of performance.”²³ Section 111 defines “standard of performance” as a:

[S]tandard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.²⁴

Section 111 (and section 108) provides that the EPA is to regulate “air pollution which may reasonably be anticipated to endanger public health or welfare.”²⁵ The term “air pollution” is not defined in the CAA, but “air pollutant” is defined as any “air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air.”²⁶ Indeed, throughout most of the Clean

or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under such plan . . .”).

19. 42 U.S.C. § 7411(b).

20. See generally 40 C.F.R. pt. 60.

21. Final Rule, Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,510 (Oct. 23, 2015) (to be codified at 40 C.F.R. pts. 60, 70, 71, 98) [hereinafter New Source Final Rule].

22. 42 U.S.C. § 7411(d).

23. 42 U.S.C. § 7411(d)(1). Similar to section 110, the state bears the primary responsibility for implementing section 111(d) through a state plan, and the EPA has authority to step in and impose a federal plan only where a state fails to submit a satisfactory plan or fails to enforce its plan, in which case any less stringent state standard would be preempted. 42 U.S.C. § 7411(d)(2).

24. 42 U.S.C. § 7411(a)(1).

25. 42 U.S.C. § 7408(a)(1)(A); 42 U.S.C. § 7411(b)(1)(A); The Clean Air Act has similar language in other provisions delineating the EPA’s authority to regulate emissions. For example, section 202(a)(1) provides (in relevant part) that the EPA “shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [the administrator’s] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7521(a)(1); see also 42 U.S.C. § 7571(a)(2) (providing that the EPA “shall, from time to time, issue proposed emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in [the administrator’s] judgment causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.”).

26. 42 U.S.C. § 7602(g).

Air Act's history, the EPA has read the terms "air pollution" and "air pollutant" restrictively to cover substances that were unhealthful in the ambient air or that caused direct harm to the environment. Thus, for example, the EPA determined in 2003 that greenhouse gases (GHGs) such as CO₂ are not "air pollutants" subject to regulation under the Clean Air Act.²⁷ In that action, the Agency denied a petition requesting that it regulate CO₂ emissions from new motor vehicles under Title II of the CAA. In *Massachusetts v. EPA*,²⁸ the U.S. Supreme Court overturned the EPA's decision and held that carbon dioxide and other greenhouse gases "fit well within the Clean Air Act's capacious definition of 'air pollutant.'"²⁹ Consequently, the Court held that the EPA has the authority to regulate CO₂ emissions under the CAA and is required to promulgate regulations limiting emissions from new motor vehicles if the Agency were to make an "endangerment finding" under section 202(a) of the Clean Air Act.³⁰

Massachusetts v. EPA effectively removed the barrier that existed between energy regulation and environmental regulation, making them more intertwined than they ever were before. Put simply, enacting CO₂ emission standards is tantamount to regulating the production of energy, because when a carbon-based fuel—such as natural gas or coal—is combusted, CO₂ is one of the natural and unavoidable byproducts of that combustion.³¹ Moreover, it is not possible to chemically alter CO₂ emissions and capturing CO₂ so that it is not emitted into the atmosphere presents significant technical challenges. It is impossible to do so on a motor vehicle,³² and the only method of capturing CO₂ from a stationary source—carbon sequestration and storage—is currently very expensive and, as currently envisioned, requires a geologic formation that can hold the collected gases.³³

The U.S. Supreme Court overturned significant portions of those EPA stationary source regulations in *Utility Air Regulatory Group v. EPA*,³⁴ finding

27. Notice for Denial of Petition for Rulemaking, Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. 52,922 (Sept. 8, 2003).

28. See generally *Massachusetts v. EPA*, 549 U.S. 497 (2007).

29. *Id.* at 532.

30. 42 U.S.C. § 7521(a) (2011).

31. Average Fuel Economy Standards for Light Trucks Model Years 2008-2011, 71 Fed. Reg. 17,566, 17,659 (Apr. 6, 2006) (explaining the byproducts of burning fossil fuels in an internal combustion engine).

32. *Id.* at 17,660.

33. See generally Dennis Y.C. Leung, Giorgio Caramanna, & M. Mercedes Maroto-Valer, *An Overview of Current Status of Carbon Dioxide Capture and Storage Technologies*, 39 RENEWABLE & SUSTAINABLE ENERGY REVS. 426 (2014).

34. *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2446-47 (2014). Indeed, the Supreme Court just reinforced this very point in *King v. Burwell*, 135 S. Ct. 2480 (2015), stating that:

[Regarding a] question of deep "economic and political significance" that is central to this statutory scheme; had Congress wished to assign that question to an agency, it surely would have done so expressly. . . . It is especially unlikely that Congress would have delegated this decision to the IRS, which has no expertise in crafting health insurance policy of this sort.

Id. at 2489 (citations omitted). The "extraordinary" instance in *King* is likely present here. It seems unlikely that Congress could have meant for the ambiguity of section 111 of the Clean Air Act to grant the EPA unchecked power to control the interpretation of the statute where it so drastically and thoroughly affects the larger energy industry. *Id.* at 2488-89. As we discuss below in Part IV.B, the EPA's lack of expertise in the area of energy markets and grid reliability will be a factor that the courts may look at when trying to resolve any conflicting regulations.

that the Agency lacked the authority to rewrite the statutory permitting thresholds, and that the EPA incorrectly concluded stationary source permitting for GHG emissions was compelled once these substances were regulated under Title II. In doing so, the Court cautioned the EPA against using the Clean Air Act to assert sweeping new authority over the nation's energy sector:

When an agency claims to discover in a long-extant statute an unheralded power to regulate “a significant portion of the American economy,” we typically greet its announcement with a measure of skepticism. We expect Congress to speak clearly if it wishes to assign to an agency decisions of vast “economic and political significance.”³⁵

But by the time this warning was issued, the EPA was formulating plans to regulate CO₂ under Section 111(d)—through the Clean Power Plan.³⁶

B. *The EPA's Regulation of CO₂ Under the Clean Power Plan*

On August 3, 2015, the EPA issued the Clean Power Plan, which establishes CO₂ performance standards for existing Electric Generating Units (EGUs) under Section 111(d) of the Clean Air Act. For all its complexities, the central feature of the Clean Power Plan is straightforward: it requires a significant reduction across the country in electricity generated by fossil fuel-fired EGUs and that such electricity be replaced with electricity generated by other types of facilities that emit fewer or no greenhouse gases. In essence, the Rule reallocates market share for power generators based on the fuel used to produce electricity—effectively establishing the maximum percentage of coal- and gas-fired generating resources for each state.

The Clean Power Plan identifies the EPA's “best system of emission reduction” (BSER) with respect to CO₂ emissions from the power sector and uses the BSER to establish subcategory-specific CO₂ emission rates for fossil-fuel fired steam power plants (i.e., coal, gas-steam and oil) and NGCC power plants. The final category-specific rates, applicable in 2030 and thereafter, are 1,305 lbs CO₂/MWh for fossil-fuel fired steam EGUs and 771 lbs CO₂/MWh for NGCCs.³⁷

As discussed in greater detail below, the EPA determined those subcategory-specific rates by taking the BSER with respect to CO₂ emissions from the power sector and applying it on a *regional* basis to determine the amount of emission reductions that are possible *from the grid*. As the EPA admits, these rates are the EPA's “attempt[] to quantify what is feasible at the fleet-level based on application

35. *Util. Air Regulatory Grp.*, 134 S. Ct. at 2444.

36. The EPA proposed the Clean Power Plan less than a month before the Supreme Court's decision in *Utility Air Regulatory Group*.

37. Notably, the EPA's new source standards under section 111(b) are *less stringent* than the final rule's performance standards for existing sources. This is primarily due to the difference between the BSERs that the EPA has set forth in the two rules. In the new source rule, the EPA applies its more traditional definition of the BSER—new or upgraded technologies or operational processes, which can help improve efficiency and reduce emissions. For instance, in the New Source Rule, newly constructed fossil fuel-fired steam generating units have a BSER that is the “[e]fficient new supercritical pulverized coal (SCPC) utility boiler implementing partial carbon capture and storage (CCS).” New Source Final Rule, *supra* note 21, at 64,512. That results in a final standard of performance of 1,400 lbs CO₂/MWh for new coal-fired units—95 lbs CO₂/MWh less stringent than the 1,305 lbs CO₂/MWh standard for coal-fired units in the final rule.

of the BSER values to historical regional-level data.”³⁸ The EPA further admits that “the uniqueness and complexity of individual power plants, and . . . site-specific factors . . . may prevent some EGUs from achieving performance equal to region-level assumptions.”³⁹ Indeed, the EPA implicitly acknowledges that these performance standards are not always achievable by existing fossil fuel-fired EGUs acting alone.⁴⁰ Notwithstanding this fact, the EPA uses these subcategory-specific performance rates to establish state-specific rate-based and mass-based goals, calculated using each state’s 2012 generation mix.⁴¹

The EPA’s BSER consists of three “building blocks.”⁴² These building blocks—and the way they are applied to the grid—form the core of the EPA’s final rule.

Building block 1 requires individual coal-fired generating units to install new or upgraded technologies to improve their heat rates.⁴³ The EPA asserts that its analysis shows a potential heat rate improvement for the coal fleet on a regional basis (4.3% in the Eastern Interconnection, 2.1% in the Western Interconnection, and 2.3% in what the EPA refers to as the Texas Interconnection.)⁴⁴ Of the three building blocks, this is the closest to a traditional Clean Air Act BSER—an upgrade to technologies or operational methods that may reduce emissions.

Building block 2 requires NGCC sources be dispatched at a utilization rate of 75% of summer capacity. The EPA assumes that as the NGCC sources are utilized more, fossil-steam units will be utilized less. Thus, building block 2 effectively “shifts” generation from more carbon-intensive generation, e.g., coal-fired generation, to less carbon-intensive generation, e.g., NGCC generators.⁴⁵

38. OFFICE OF AIR & RADIATION, U.S. EPA, CO₂ EMISSION PERFORMANCE RATE AND GOAL COMPUTATION TECHNICAL SUPPORT DOCUMENT FOR CPP FINAL RULE 6 (2015) [hereinafter FINAL RULE GOAL COMPUTATION TSD].

39. *Id.*

40. *Id.* at 5-6; Existing Source Final Rule, *supra* note 5, at 64,728 (“[M]ost of the CO₂ controls need to come in the form of those other measures . . . that involve, in one form or another, replacement of higher emitting generation with lower- or zero-emitting generation.”).

41. Existing Source Final Rule, *supra* note 5, at 64,803-11. For simplicity, our discussion of the mathematics below applies only to the establishment of the subcategory-specific performance rates and the calculation of the state rate-based goals. We do not separately discuss the calculations leading to the mass-based goals.

42. In the proposed rule, the EPA’s BSER consisted of four building blocks. The first three blocks were the same as those in the final rule, while the last required significant demand-side energy efficiency reductions. Even though the EPA has eliminated energy efficiency as one of the building blocks, it nonetheless encourages states and affected entities to utilize energy efficiency in meeting the final rule’s goals. Further, the EPA also “hard-coded” into its model an annual incremental demand reduction rate rising to 1.0% of electricity demand for each state. OFFICE OF AIR AND RADIATION & OFFICE OF AIR QUALITY PLANNING AND STANDARDS, U.S. EPA, REGULATORY IMPACT ANALYSIS FOR THE CLEAN POWER PLAN FINAL RULE 3-13 (2015) [hereinafter FINAL RULE RIA].

43. Existing Source Final Rule, *supra* note 5 at 64,787-95; *see also* Existing Source Proposed Rule, *supra* note 5, at 34,859-62.

44. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 3.

45. Existing Source Final Rule, *supra* note 5, at 64,795-803; *see also* Existing Source Proposed Rule, *supra* note 5, at 34,862-66. The final rule assumes that it is “technically feasible” that all existing NGCCs can be run such that they have an “annual average utilization rate of 75 percent on a net summer basis.” Existing Source Final Rule, *supra* note 5, at 713.

Building block 3 requires increased deployment of low- or zero-carbon emitting generating resources (“renewable energy” sources), again “shifting” generation from coal-fired and NGCC EGUs to new renewable energy sources.⁴⁶ To accomplish the shift in generation required by building blocks 2 and 3, system operators will need to adjust established dispatch patterns to take into account the environmental aspects of a generation source in addition to its cost and reliability aspects.⁴⁷

To apply its three building blocks to determine the subcategory specific performance rates in the final rule, the EPA used an eight-step process.⁴⁸ Before discussing that process step-by-step, it is important to understand two key determinations by the EPA that govern the process and affect all eventual results. First, the EPA assumes for purposes of the rule that existing renewable (solar, wind, hydro, etc.) and nuclear generators will continue to operate as they have, and it applies the three building blocks to reduce the emissions of fossil fuel-fired EGUs, assuming that such other units will always be available and dispatched first.⁴⁹ Second, in calculating the emissions reductions that it believes possible, the EPA determined the Eastern Interconnection would produce “the least stringent emission rate,” (as reflected in the eighth and final step of the EPA’s process), so it “used [the Eastern Interconnection calculation] to establish the source-category emission performance rates” for the Clean Power Plan.⁵⁰ As a result, the EPA’s explication of its first seven steps is limited to its calculations for the Eastern Interconnection in 2030, which set its category-specific emissions rates.

Through this eight-step process, the EPA’s computation segregates existing renewable, nuclear, and hydro generation and essentially calculates how the existing market share of all fossil fuel-fired generation will be divided between fossil-steam generation, NGCCs, and new renewable generation.⁵¹ As shown in the chart below, current fossil generation in the Eastern Interconnection is split 64% to 36% between fossil-steam generation, and NGCC generation respectively.⁵² In calculating its source-specific performance standards, the EPA

46. Existing Source Final Rule, *supra* note 5 at 64,803-11; *see also* Existing Source Proposed Rule, *supra* note 5, at 34,866-71.

47. In its proposed rule, the EPA listed a fourth building block: demand-side energy reductions. The proposed rule would have regulated these activities, such as demand response, by requiring states to meet emission goals in part by “reducing the demand for [power] generation” at “all affected fossil fuel-fired EGUs” “through measures that reduce the overall quantity of generation demanded by end-users.” In acknowledgement of comments that recognized there is no language in section 111(d) purporting to delegate to the EPA authority over retail activities solely within the jurisdiction of the states, the EPA dropped this building block from its final rule. Yet the EPA has not dropped its effort to impose demand-side reductions from the Clean Power Plan altogether. The EPA assumes, and builds into its base case, a 2.1% reduction in energy demand by 2022 and a nearly 8% reduction in overall demand by 2030 due to energy efficiency programs. Thus, the EPA has built a 1% per year increase in energy efficiency into its base case. In other words, the EPA removed its proposed building block 4 as an element of BSER, and instead included it in its base case. As a result, states will either need to enact sufficient energy efficiency measures to meet the EPA’s assumed reductions, or find additional reductions through other means just as if energy efficiency were still one the EPA’s building blocks.

48. *See generally* FINAL RULE GOAL COMPUTATION TSD, *supra* note 38.

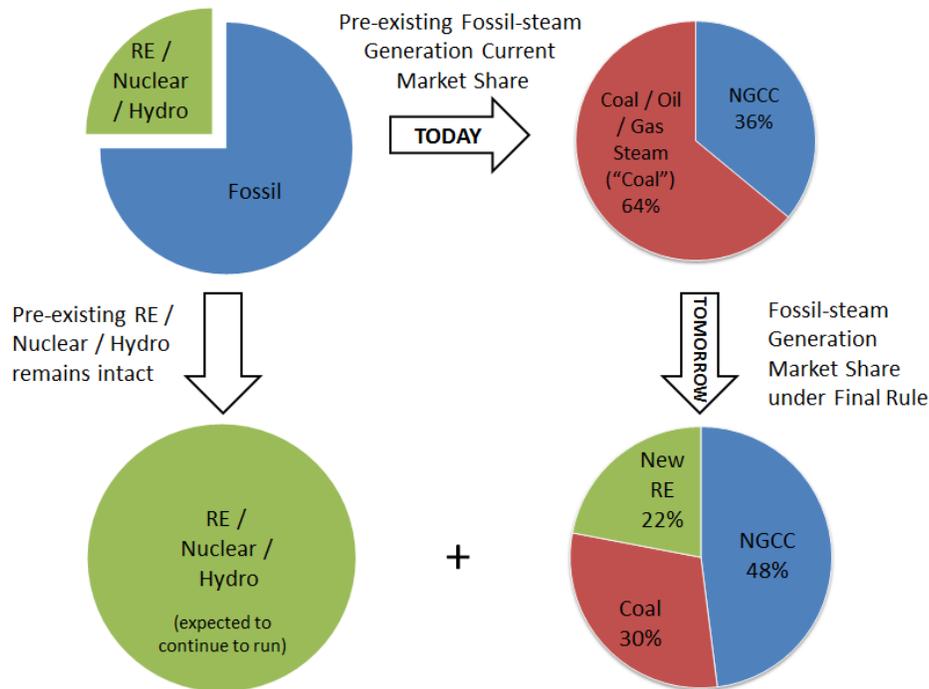
49. *Id.*

50. *Id.* at 18.

51. *See generally id.*

52. *Id.* at 13.

alters these market shares by assuming that 22% of the total fossil-fuel-fired generation will be replaced by new renewable energy resources and that the relative share of NGCC units (as they are dispatched at 75% utilization factors) will increase from 36% to 48%.⁵³ As a result, coal-fired generation is expected to decline by more than half, from 64% of fossil fuel fired generation to 30%.⁵⁴



Steps 1-3 of the EPA's process involved the EPA compiling its data, establishing its base case, and establishing its baseline and adjusted generation and emission rates used in its later calculations.⁵⁵ In Step 4, the EPA calculated a regional fossil steam emission rate by applying its assumed 4.3% heat rate improvement in building block 1. To apply building block 1, the EPA simply reduced its assumed baseline coal emissions to 95.7% (reflecting its assumed 4.3% heat rate improvement).⁵⁶ In other words, the EPA assumes that in 2030, building block 1 will reduce Eastern Interconnection coal emissions from approximately

53. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 13 & tbl. 6.

54. *See generally id.*

55. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 8-11. While many will certainly quibble with the EPA's data, for purposes of this discussion, we accept the EPA's underlying assumptions as the EPA intended them and without modification.

56. *Id.* at 11-12. Calculated 95.7% by subtracting the assumed 4.3% heat rate improvement from 100%.

1.35 billion short tons to 1.3 billion short tons. That reduces the overall emission rate of the fossil-steam units in the Eastern Interconnection from 2,160 lbs CO₂/MWh to 2,071 lbs CO₂/MWh (a modest reduction, but only about 10% of the overall reduction required to meet the EPA's performance standards).

Table 5. Adjusted Fossil Steam Rate Reflecting Building Block 1

A	B	C	D	E	F	G	H	I
	Baseline Coal		Baseline OG Steam		Baseline Fossil Steam	BB1		
	Emissions (1000 short tons)	Net Generation (GWh)	Emissions (1000 short tons)	Net Generation (GWh)	Emission Rate (lb/MWh)	BB1 HRI Level	Post BB1 Coal Emissions (1000 short tons)	Fossil Steam Emission Rate Post BB1 (lb/MWh)
Interconnection								
Eastern	1,356,066	1,230,448	52,979	74,241	2,160	4.3%	1,297,756	2,071

Source: Emission Performance Rate and Goal Computation TSD at 12

Steps 5 and 6—shifting generation from fossil-steam units to NGCCs and renewables—are then used to achieve the vast majority of the EPA's predicted emission reductions. In Step 5, the EPA applies building block 3.⁵⁷ The EPA applies this building block “out of order” because building block 3 shifts generation on a pro-rata basis from both fossil-steam and NGCC units to newly built renewable units. Building block 2, on the other hand, increases the utilization rate of NGCC units. If the EPA were to apply building block 3 after building block 2, it would lose a substantial portion of its anticipated effect. Thus, building block 3 comes first in the EPA's calculation.

In applying building block 3, the EPA assumes that by 2030, the Eastern Interconnection has the potential to add 438,445 GWhs of new renewable generation. The EPA also assumes that total baseline fossil generation in the Eastern Interconnection in 2030 will be 2,039,224 GWhs. That generation is split roughly 64% to 36% between fossil-steam generation and NGCC generation.⁵⁸ Thus, the EPA's potential renewable generation is enough to displace roughly 22% of anticipated fossil-steam generation, which the EPA does on a pro-rata basis. As a result, after application of building block 3, fossil-steam generation declines from roughly 64% of total fossil generation to 50%;⁵⁹ NGCC generation declines from 36% to 28%;⁶⁰ and new renewables account for roughly 22% of the electricity previously generated by fossil fuel-fired units.

Notably, the EPA's assumptions of “potential” new renewable generation are quite aggressive. As shown on the chart below, the EPA assumes that renewable generation capacity can be increased *each year* from 2024 through 2030 to the

57. *Id.* at 12-13.

58. *Id.* at 13. The EPA assumes 1,304,6893 GWhs of fossil-steam generation and 734,535 GWhs of NGCC generation in the Eastern Interconnection.

59. *Id.* at 14-15. From 1,304,6893 GWhs to 1,024,173 GWhs out of a total 2,039,224 GWhs.

60. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 14-15. From 734,535 GWhs to 576,606 out of a total 2,039,224 GWhs.

same extent that it increased in the highest year between 2010 and 2014, rather than using the average increase across the five years the EPA studied.

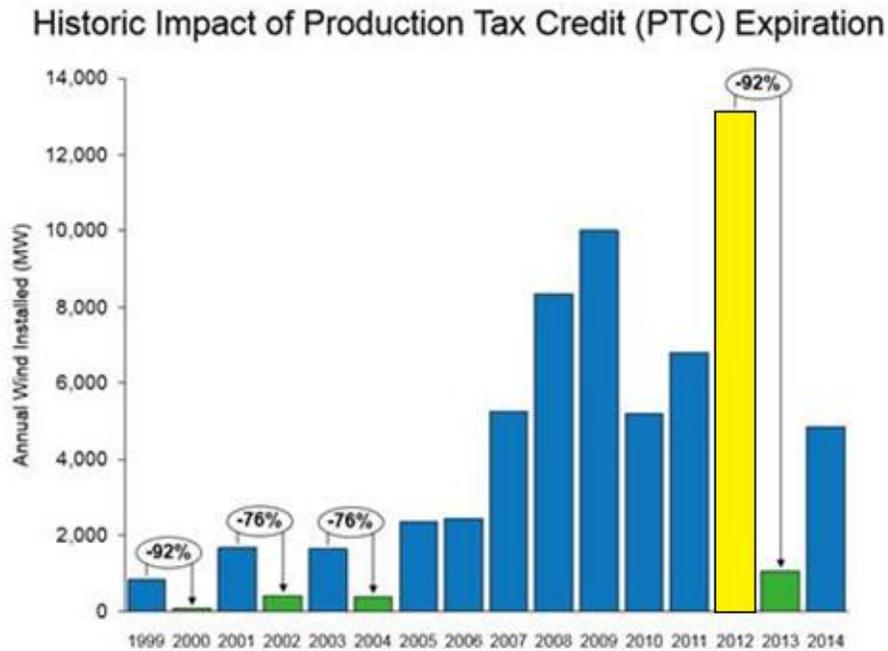
Annual Capacity Change by RE Technology (MW)

RE Technology	2010	2011	2012	2013	2014	Average	Maximum
Solar PV	267	784	1,803	2,847	3,934	1,927	3,934
CSP	78	0	0	410	767	251	767
Onshore Wind	5,112	6,816	13,131	1,087	4,854	6,200	13,131
Geothermal	15	138	147	407	4	142	407
Hydropower	294	-10	47	216	158	141	294

Source: Greenhouse Gas Mitigation Measures TSD at 4-2

The EPA's assumptions therefore do not appear sustainable. For example, the EPA assumes that onshore wind generation can increase *annually* nationwide by 13,131 MWs as it did in 2012. However, as shown in the EPA's own chart (above), onshore wind only increased by 1,087 MWs in 2013, a 92% reduction (as shown on the AWEA chart below). This, of course, is likely due to the expiration of the Production Tax Credit at the end of 2012. In any event, it suggests that when applying the EPA's assumptions to specific states, the 22% potential renewable generation figure represents the likely *maximum* amount of generation states can collectively use to replace their existing fossil fuel-fired generation.⁶¹

61. Interestingly, and as discussed in more detail below, because the EPA's performance standards are based not on individual units or even individual states, but rather vast regions across the grid, some states will need to replace substantially more than 22% of their fossil-fuel fired generation with renewables while other states may choose to replace less (or none) depending on whether the states choose to implement the Final Rule (refer to section III.B of this article).

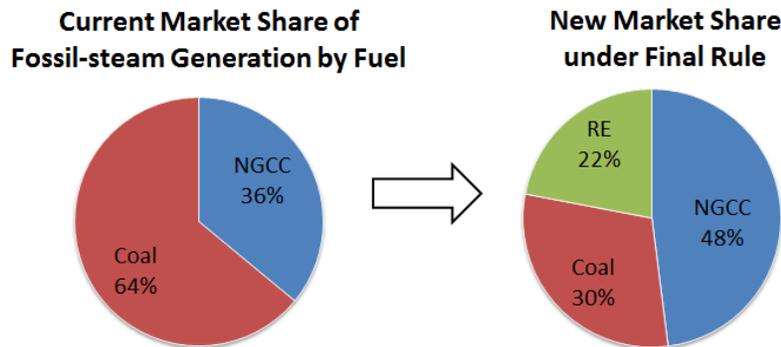


Source: AWEA Website (modified)

Step 6 applies building block 2 by calculating the difference between all of the Eastern Interconnection's NGCC's theoretical potential generation at a utilization rate of 75% of summer capacity (987,857 GWhs), and the NGCC's remaining share of total generation after application of building blocks 1 and 3 (576,606 GWhs).⁶² The difference (411,250 GWhs) is then subtracted from fossil-steam generation and added to NGCC generation, increasing NGCC generation to a 48% market share and decreasing fossil-steam to 30% (less than half of its original 64% market share).⁶³

62. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 14-15.

63. *See id.* at 15 & tbl. 7.



Finally, Step 7 calculates final emission rates by applying the new “market shares” of each generation type (renewable, fossil-steam and NGCC) to the adjusted baseline rate.⁶⁴ This results in a reduction of overall fossil-steam emission rates from 2,071 lbs CO₂/MWh (after building block 1) to 1,305 lbs CO₂/MWh; and NGCC emission rates from 894 lbs CO₂/MWh to 771 lbs CO₂/MWh.⁶⁵ These become the EPA’s subcategory-specific emission rate performance standards.

These subcategory-specific emissions rates—which the EPA acknowledges *cannot be met by any EGU acting alone*—are then converted by the EPA into state-specific emission rate goals. The EPA does this by “estimat[ing] the affected fleet rate for a state if all likely affected baseline EGUs meet the respective category-specific emission performance rates.”⁶⁶ In other words, the EPA uses its baseline assumptions of the relative market share of fossil steam generation and NGCC generation in a particular state and then uses the weighted average of the emission rates to establish the state’s rate-based emission limit.

The EPA uses Arizona as an example. According to the EPA, Arizona’s baseline fossil generation is split 48.65% to 51.35% between fossil-steam (25,370,640 MWh) and NGCC (26,783,421 MWh) generation. The EPA then uses the weighted average of the emission rates, using the relative baseline generation market shares to determine the weights. Thus, Arizona’s state goal is (48.65% x 1,305 lbs CO₂/MWh)—(51.35% x 771 lbs CO₂/MWh)—1,031 lbs CO₂/MWh.⁶⁷

III. ENERGY REGULATION IN THE UNITED STATES

A. *The “Old Normal”*: *The Regulatory Compact*

One of the defining features of energy regulation in the United States is that it is governed by a “compact of sorts.” This regulatory compact seeks to ensure a

64. *Id.* at 15-18.

65. The EPA also set interim performance rates, which apply between 2022 and 2029, of 1,534 lbs CO₂/MWh and 832 lbs CO₂/MWh for fossil fuel-fired steam boilers and NGCCs, respectively. *Id.* at 19.

66. *Id.* at 19.

67. FINAL RULE GOAL COMPUTATION TSD, *supra* note 37, at 20.

reliable and consistent power supply for consumers at prices that are both just and reasonable⁶⁸ and can be summed up simply: utilities and their “investors are provided a level of stability in earnings and value less likely to be attained” in the absence of regulation, and “in turn, ratepayers are afforded universal, non-discriminatory service and protection from monopolistic profits.”⁶⁹

In 1887, the Supreme Court in *Munn v. Illinois*⁷⁰ laid the foundation of the regulatory compact when it found “that when private property is ‘affected with a public interest, it ceases to be *juris privati* only’” and “is subject to public regulation.”⁷¹ The Court further determined in matters which “affect the public interest,” the states are entitled to set “reasonable compensation.”⁷² A few years later, in *Smyth v. Ames*,⁷³ the Supreme Court noted the question of “ascertain[ing] the compensation” to which a regulated entity is entitled “could be more easily determined by a commission composed of persons whose special skill, observation, and experience qualifies them to so handle great problems” in order “to do justice both to the public and to those whose money has been used . . . for the convenience and benefit of the people.”⁷⁴

Thus the regulatory compact was born; “[t]he bedrock principle behind utility regulation”:

The bedrock principle behind utility regulation is the so-called “regulatory compact,” which arises out of a “bargain” struck between the utilities and the state. As a quid pro quo for being granted a monopoly in a geographical area for the provision of a particular good or service, the utility is subject to regulation by the state to ensure that it is prudently investing its revenues in order to provide the best and most efficient service possible to the consumer. At the same time, the utility is not permitted to charge rates at the level which its status as a monopolist could command

68. *Jersey Cent. Power & Light Co. v. FERC*, 810 F.2d 1168, 1189 (D.C. Cir. 1987) (Starr, J., concurring). See also Davies, *supra* note 11, at 1392 (describing the underlying purpose of the regulatory compact as the need for “a consistent power supply at a reasonable price”).

69. *Jersey Cent.*, 810 F.2d at 1189. See also *Office of Pub. Util. Counsel v. Pub. Util. Comm’n*, 104 S.W.3d 225, 227-28 (Tex. App. 2003) (“Under a fully regulated system, an electricity utility enters into a ‘regulatory compact’ with the public: in return for a monopoly over electricity service in a given area, the utility agrees to provide service to all requesting customers and to charge only the retail rates set by the [Regulatory] Commission.”).

70. 94 U.S. 113 (1887).

71. *Id.* at 126, 129-30 (citing Lord Chief Justice Hale, *De Portibus Maris*, 1 Harg. Law Tracts, 78) (“When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created.”). On September 4, 1882, just a few years before the Supreme Court’s decision in *Munn*, the first central power plant in the United States started generating electricity. That plant, the Pearl Street Station in Manhattan, was a coal-fired power plant, owned and operated by the Edison Illuminating Company. At that time, the provision of electric energy was virtually unregulated. No states had laws governing the provision of electric energy and electric utilities were regulated—when they were regulated at all—by municipalities. See, e.g., Robert L. Swartout, *Current Utility Regulatory Practice From a Historical Perspective*, 32 NAT. RESOURCES J. 289, 298-300 (Spring 1992). Only in 1907 did the States begin regulating this new industry, when New York and Wisconsin became the first two states to enact public utility laws. Between 1907 and 1914, 27 other states enacted similar laws governing public utilities. *Id.*

72. *Munn*, 94 U.S. at 133-34.

73. *Smyth v. Ames*, 169 U.S. 466 (1898).

74. *Id.* at 527.

in a free market. Rather, the utility is allowed to earn a “fair rate of return” on its “rate base.”⁷⁵

In the energy space, the regulatory compact produces “an implicit obligation by the utilities to continue satisfying their customers’ power needs, as well as a reciprocal expectation by customers of continued service.”⁷⁶ To meet expectations, “utilities invest[] money, buil[d] facilities, and enter[] into long-term fuel or power contracts, relying on the ‘regulatory compact’ under which utility shareholders accepted lower rates of return on their investment in exchange for the certainty of regulated rates and resulting ability to recover prudently incurred costs.”⁷⁷ This compact continues to exist even in most “retail choice” states where consumers can select their electric power provider because the traditional utilities often remain providers of last resort and must continue to plan generation and other resources to meet anticipated needs. Indeed, the compact exists, albeit in different forms, in traditional states where the PUCS and other regulators have historic authority over resource planning and ratemaking, and also in restructured states and organized markets.

But as discussed below, if the Clean Power Plan is implemented, particularly in non-retail choice states where the Clean Power Plan has some of its most significant impacts, utilities will no longer be making resource planning decisions subject to traditional economic prudence reviews. Instead, the Clean Power Plan’s mandates will determine what mix of generation resources a utility must deploy, regardless of whether such decisions are prudent under traditional notions of state prudence reviews. Although the policy choices available to retail choice states, restructured and organized market states could fill multiple articles, for the purposes of this article we merely note that while there are different drivers of resource planning, the planning continues to be done by the utilities and PUCs or organized markets under FERC supervision, not the EPA. Now, however, the EPA appears to be mandating to the states and the RTOs/ISOs how resource decisions are to be made and how the FERC-regulated wholesale markets should operate. As FERC Commissioners Phil Moeller and Tony Clark have noted, the EPA’s model of “shifting” generation may “undermine the market principles that underpin [market] dispatch” and, “[t]o the degree an EPA rule directly attempts to change FERC jurisdictional market dispatch rules, there could be a clear conflict between the Federal Power Act and the Clean Air Act.”⁷⁸ Thus, after the Clean

75. *United States Gypsum, Inc. v. Ind. Gas Co.*, 735 N.E.2d 790, 797 (Ind. 2000) (quoting *Ind. Gas Co. v. Office of Util. Consumer Counselor*, 575 N.E.2d 1044, 1046 (Ind. Ct. App. 1991)). *See also* N. Ind. Pub. Serv. Co. v. Jupiter Aluminum Corp., No. 93A02-0505-EX-403, 2006 Ind. App. Unpub. LEXIS 698, at *15-16 (Ind. Ct. App. Dec. 22, 2006) (citing *U.S. Gypsum, Inc.*, 735 N.E.2d at 797) (“The role of the Commission is thus twofold: to ensure the adequacy of the service provided to customers by the utility and to ensure the fiscal health of the utility so that it will continue to be able to provide the service. The Commission must determine a rate of return and rates that are fair both to the consumer and to the utility’s investors.”).

76. *Transmission Access Policy Study Grp. v. FERC*, 225 F.3d 667, 699 (D.C. Cir. 2000).

77. *Id.* at 699-700 (citing Notice of Proposed Rulemaking, *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, F.E.R.C. STATS. & REGS. ¶ 32,514, at p. 33,049, 60 Fed. Reg. 17,662 (1995)).

78. Additional Questions for the Record for Comm’r Philip Moeller, *FERC Perspectives: Questions Concerning EPA’s Proposed Clean Power Plan and Other Grid Reliability Challenges*, House Energy &

Power Plan, the regulatory compact's place as the guidepost of utility regulations will forever be changed.

B. The "Bright Line" Divide Between Federal and State Energy Regulation

Along with the regulatory compact, another defining feature of energy regulation in the United States is the so-called "bright line" divide between state and federal energy regulation.⁷⁹ Congress first drew the "bright line" when it enacted the 1920 Federal Water Power Act (the 1920 Act), establishing the Federal Power Commission (FPC),⁸⁰ in part, "to provide for the comprehensive control over . . . hydroelectric power."⁸¹ Congress carefully confined the FPC's authority to "only . . . fill a hiatus which might otherwise exist in the absence of state regulation," and limited the FPC to "regulat[ing] only in the absence of state regulation."⁸²

A statement from the Supreme Court was raised to "thro[w] [light] upon the meaning of the [later enacted] Federal Power Act," in which one member of the House committee drafting the 1920 Act said:

We are earnestly trying not to infringe the rights of the States. If possible we want a bill that can not be defeated in the Supreme Court because of omissions, because of the lack of some provision that we should have put in the bill to safeguard the States.⁸³

Thus, from the beginning, Congress sought to highlight and protect the difference between the limits of state and federal jurisdiction, and preserve for the states their traditional rights and powers.

Of course, the "bright line" has not always been illuminating. In 1927, the Supreme Court identified a gap between state and federal regulatory authority (known as the "Attleboro gap"). In *Public Utilities Commission of Rhode Island v. Attleboro Steam and Electric Company*, the U.S. Supreme Court rejected an attempt by Rhode Island to regulate rates charged by a Rhode Island generating plant selling electricity to a Massachusetts company, holding that neither sending nor receiving states have jurisdiction to regulate the rates of interstate sales of electricity.⁸⁴ The Supreme Court found the states maintained jurisdiction over business which is essentially local, and under the Commerce Clause, Congress had the authority to regulate interstate sales of electricity.⁸⁵ The Court emphasized differences between federal and state regulation of electricity: states have the power to govern intrastate affairs, including the generation of electricity and its sale at retail to end users, while the federal government has the power to regulate interstate issues, including the transmission of electricity and wholesale electricity markets.

Commerce Comm., Subcommittee on Energy and Power, at 5 (Aug. 26, 2014) [hereinafter Additional Responses of FERC Comm'r Moeller]; Additional Responses of FERC Commissioner Clark, *supra* note 9, at 5.

79. *FPC v. S. Cal. Edison Co.*, 376 U.S. 205, 215-16 (1964) ("Congress meant to draw a bright line easily ascertained, between state and federal jurisdiction . . .").

80. The FPC is the predecessor agency of FERC. *See generally Department of Energy Organization Act*, Pub. L. No. 95-91, § 204, 91 Stat. 565 (1977).

81. *FPC v. Union Elec. Co.*, 381 U.S. 90, 98 (1965).

82. *S. Cal. Edison Co.*, 376 U.S. at 218.

83. *First Iowa Hydro-Elec. Coop. v. FPC*, 328 U.S. 152, 174 (1946) (quoting 56 Cong. Rec. 9810).

84. 273 U.S. 83, 90 (1927).

85. *Id.*

The Federal Power Act of 1935 (the FPA) was “intended to ‘fill the gap’ created by *Attleboro* by establishing exclusive federal jurisdiction over such [interstate] sales.”⁸⁶ In enacting the FPA, Congress once again drew a firm bright line between the federal government and the states, ensuring the FPC’s jurisdiction “extend[s] only to those matters which are not subject to regulation by the States.”⁸⁷ The states, of course, retained jurisdiction “over facilities used for the generation of electric energy[,] or over facilities used in location distribution or only for the transmission of electric energy in interstate commerce, [and] over facilities for the transmission of electric energy consumed wholly by the transmitter.”⁸⁸ Indeed, for the past eighty years, federal energy regulators have had the authority to regulate “the need for and pricing of electrical power transmitted in interstate commerce,” while states have continued to control “th[e] economic aspects of electrical generation”—such as “regulating electrical utilities for determining questions of need, reliability, cost and other related state concerns” that have been the “traditional responsibility” of the states.⁸⁹

Congress amended the FPA in the Energy Policy Act of 2005, and once again brightened the line between state and federal regulatory authority. In requiring FERC to authorize an Electric Reliability Organization to help develop and enforce nationwide reliability standards for the U.S. bulk power system,⁹⁰ Congress emphasized neither FERC nor the Electric Reliability Organization may “order the construction of additional generation or transmission capacity or . . . set and enforce compliance with standards for adequacy or safety of electric facilities or services.”⁹¹ Recent case law has affirmed the bright line. In *Electric Power Supply Association v. FERC (EPSA)*,⁹² the D.C. Circuit considered a FERC rule related to “demand response,” the practice of “[r]educing retail consumption . . . [in order to] lower the wholesale price” of electricity.⁹³ The D.C. Circuit held that allowing FERC to “engage in direct regulation of the retail market whenever the retail market affects the wholesale market . . . would render . . . useless” Congress’s bright line divide between federal and state regulatory authority.⁹⁴

86. *New England Power Co. v. N.H.*, 455 U.S. 331, 340 (1982) (citing *United States v. Pub. Utils. Comm’n of Cal.*, 345 U.S. 295, 307-11 (1953)).

87. 16 U.S.C. § 824(a) (2011).

88. 16 U.S.C. § 824(b)(1) (2011). In 1941, the FPC acknowledged that section 201(b) “defin[ed] the scope of [the FPC’s] regulatory power and jurisdiction,” and that “[t]he object of [section 201(b)] was to limit the extent of regulation we may exercise in respect of generation or local distribution facilities . . .” In the *Matter of Hartford Elec. Light Co.*, 2 F.P.C. 359, 366-67 (1941).

89. *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm’n*, 461 U.S. 190, 205-06 (1983).

90. *See generally* 16 U.S.C. § 824o (2011).

91. 16 U.S.C. § 824o(i)(2). NERC—refer to Part V.B.2 of this article—defines “resource adequacy” as “the ability of supply-side and demand-side resources to meet the aggregate electrical demand (including losses).” *See generally* N. AM. ELEC. RELIABILITY CORP., GLOSSARY OF TERMS USED IN NERC RELIABILITY STANDARDS (2015), available at www.nerc.com/files/gloassary_of_terms.pdf. Note that resource adequacy includes both supply side and demand side resources, thus squarely bringing both within the state savings clause in section 215(i) of the FPA. 16 U.S.C. § 824o(i)(2).

92. *Electric Power Supply Association v. FERC (EPSA)*, 753 F.3d 216 (D.C. Cir. 2014)

93. *Id.* at 221.

94. *Id.* at 222.

It is true the bright line has become a bit blurry as of late with respect to the RTO/ISO markets. The FERC's interaction with the bright line rule sometimes creates tension, and indeed, the FERC is not immune to complaints of intruding upon or crossing over the bright line. In *EPSA*, for example, petitioners challenged the FERC's demand response rule by arguing the FERC had gone "too far" and "encroach[ed] on the states' exclusive jurisdiction."⁹⁵ Other cases in recent years have also confused the bright line. Similarly, in other cases like *PPL EnergyPlus LLC v. Nazarian*⁹⁶ and *PPL EnergyPlus LLC v. Solomon*,⁹⁷ the Fourth and Third Circuits, respectively, affirmed district court rulings invalidating state attempts to incentivize the construction of new generation capacity, deferring in both cases to the FERC's asserted jurisdiction over regulation in this area.⁹⁸ Indeed, a number of these cases, including *EPSA*, are now or soon will be before the Supreme Court, who may determine whether the "bright line" should remain where it has been traditionally or whether it should shift one way or another as between FERC and the States. But regardless of how the Supreme Court rules, and how blurry the line has or will become in the wake of *EPSA* and other cases, it remains clear that in the Federal Power Act, Congress reserved to the states—and withheld from federal agencies—authority over generation resource planning and adequacy.⁹⁹ This, at least remains solidly on the states' side of the line. As the Supreme Court has explained, the "[n]eed for new power facilities, their economic feasibility, and rates and services, are areas that have been characteristically governed by the States."¹⁰⁰ Indeed, "the regulation of utilities is one of the most important . . . functions traditionally associated with the police power of the States."¹⁰¹

The Clean Power Plan also crosses the federal-state bright line between the regulation of wholesale and retail electric markets. The FPA empowers FERC to ensure that "all rules and regulations affecting or pertaining to" "rates or charges . . . for or in connection with the . . . sale of electric energy subject to the jurisdiction of [FERC]" are "just and reasonable."¹⁰² But the FPA specifically denies the FERC the authority to regulate retail markets, even where such measures "affect[t]" the price of wholesale sales of electricity that fall within the

95. *Id.* at 218.

96. *PPL EnergyPlus LLC v. Nazarian*, 753 F.3d 467 (4th Cir. 2014), *cert. granted*, 2015 WL 6112869 (Oct. 19, 2015).

97. *PPL EnergyPlus LLC v. Solomon*, 766 F.3d 241 (3d Cir. 2014).

98. *Id.* at 253; *Nazarian*, 753 F.3d at 480.

99. *See, e.g., Nazarian*, 753 F.3d at 479-80 (emphasizing the need to preserve "the division of the regulatory field that Congress went to so much trouble to establish" by respecting "Congress' specific grant of power to the States to regulate production" (internal quotation marks omitted)); *PPL EnergyPlus, LLC v. Hanna*, 977 F. Supp. 2d 372, 383, 386 (D.N.J. 2013) (emphasizing that, under the FPA, states "retai[n] . . . authority over the siting and construction of power plants," and "continu[e] to regulate local utilities' construction of new power plants, operations, and rates charged for retail service to customers"). *See also Chemehuevi Tribe of Indians v. FPC*, 420 U.S. 395, 408, 410-11 (1975) ("Congress did not intend to give the [FPC] licensing jurisdiction with respect to [fossil-fueled] thermal-electric power plants [T]here is simply no suggestion in any of the legislative materials that the [FPA] would authorize the [FPC] to license the construction or maintenance of [fossil-fueled] thermal-electric power plants."); *N.C. ex rel. Utils. Comm'n v. Carolina Power & Light Co.*, 614 S.E.2d 281, 287 (N.C. 2005) ("Congress . . . intended that the states and their utilities commissions retain their traditional authority over generating facilities and local supply adequacy and reliability.").

100. *Pac. Gas & Elec. Co.*, 461 U.S. at 205.

101. *Ark. Elec. Coop. Corp. v. Ark. Pub. Serv. Comm'n*, 461 U.S. 375, 377 (1983).

102. 16 U.S.C. § 824d(a) (2011).

FERC's jurisdiction.¹⁰³ Yet despite the fact that the FPA does not even authorize the FERC to regulate retail activities, the EPA has concluded that section 111(d) of the CAA authorizes the EPA to do so.¹⁰⁴ In other words, even in the organized markets, there is still a line between federal and state regulation. How bright that line is, and where it should be drawn, will undoubtedly be impacted by the ultimate results in the EPSA, Maryland, and New Jersey cases. But the line that ultimately emerges will define the scope of jurisdiction and authority between the nation's historic energy regulators—the FERC and the PUCs. The Clean Power Plan all but eliminates *that line* and largely renders the current FERC/State line drawing cases an academic exercise. But nothing in section 111(d) of the Clean Air Act suggests Congress intended to grant the EPA such broad authority to erase this line altogether and exercise such sweeping authority over the nation's electricity markets. Section 111(d) tasks the EPA only with “prescrib[ing] regulations which shall establish a procedure . . . under which each State shall submit to the [EPA] a plan which (A) establishes standards of performance” that reflect the degree of emission limitation achievable through the EPA-selected system, and “(B) provides for the implementation and enforcement of such standards of performance.”¹⁰⁵ “When an agency claims to discover in a long-extant statute an unheralded power to regulate a significant portion of the American economy,” courts “typically greet its announcement with a measure of skepticism.”¹⁰⁶ As discussed in greater detail below, if Congress had intended for the EPA to wield such power over the electric sector, it presumably would have made that clear in either the CAA or the FPA. What Congress *has* however made clear as recently as 2005 in the EPAct, is that federal and state authority, including between the FERC and states, is distinctly separate.

IV. CONFLICTS IN THE FIELD OF ELECTRIC POWER MARKET

A. *Conflicts Between the EPA and State Regulators*

1. State Implementation of the Clean Power Plan

In order to implement the Clean Power Plan, states have until September 6, 2016, to either (a) file their final state implementation plans (SIP) with the EPA, or (b) file an “initial submittal” that, if granted, will give the state a two-year extension to September 6, 2018, to file their final SIP with the EPA.¹⁰⁷ States may submit individual compliance plans to the EPA, or several states may join together

103. 16 U.S.C. § 824(b)(1) (2011). For further support for the proposition that the FPA confines the FERC to regulating wholesale markets only, see *EPSA*, 753 F.3d at 219. The Supreme Court granted certiorari to hear the appeal in May 2015, indicating the line between wholesale and retail could be under review. *See* 135 S. Ct. 2049 (2015).

104. *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000) (explaining that “the meaning of one statute may be affected by other Acts” and that “we must be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency”).

105. 42 U.S.C. § 7411(a)(1), (d).

106. *Util. Air Regulatory Grp.*, 134 S. Ct. at 2444 (internal quotation marks omitted).

107. Existing Source Final Rule, *supra* note 5, at 64,876.

and submit a multi-state plan.¹⁰⁸ Failure to file either a final plan or an initial submittal requesting an extension by September 6, 2016, will result in a federal implementation plan.

To receive the two-year extension on the SIP, a state's initial submittal "must address three required components sufficiently to demonstrate that a state is able to undertake steps and processes necessary to timely submit a final plan by the extended date of September 6, 2018."¹⁰⁹ The three components include: (1) the identification of the approach or approaches the state is considering as part of its final plan and a description of the progress made to date; (2) an explanation of why one year is insufficient; and (3) a demonstration of how the states have incorporated public comment and input into the formation of the final plan.¹¹⁰

The EPA acknowledges that to implement the Clean Power Plan many states will need to modify the powers of their state PUCs. In noting that it will likely "take longer than the agency initially anticipated [i.e., one year] for the states to complete the tasks necessary to finalize a state plan," the EPA admits that the delay is in part due to the fact that states may need to engage in "state legislative and rulemaking activities" to implement the Clean Power Plan.¹¹¹ Thus, if a state is granted a two-year extension, it must submit an update in 2016 that includes "draft or proposed legislation or regulations that must become final at the state level prior to submitting a final plan submittal to the EPA."¹¹² The EPA's acknowledgement of the need for the amendment of state PUC powers to implement the Clean Power Plan highlights the concerns of the former chairman of the Colorado Public Service Commission that "[i]n the absence of new state legislation, [the Clean Power Plan] will fundamentally alter and diminish the vital role of PUCs across the country."¹¹³

The final SIP, due either on September 6, 2016, or September 6, 2018, (if a state or group of states has secured an extension from the EPA), must include five key components. These include: (1) the identification and inventory of the most recent year's CO₂ emissions for each affected EGU; (2) emission standards for each affected EGU, including compliance periods and, importantly, a demonstration that the standards when taken together meet the EPA's stated CO₂ emission goals for that state; (3) state and federally enforceable backstop measures for each affected EGU's emission standards; (4) monitoring and recordkeeping requirements for each affected EGU; and (5) reporting requirements for each state to the EPA.

The demonstration required by the second component—that the emission standards for the affected EGUs *when taken together* must meet the overall stated

108. It is unclear whether the EPA has the authority to accept multi-state plans. The final rule continues to suggest that state plans can "be implemented on a single-state or multi-state basis," *See, e.g., id.* at 64,710. However, the plain text of section 111(d) of the Clean Air Act provides that "the Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section [110] *under which each State shall submit to the Administration a plan . . .*" 42 U.S.C. § 7411(d)(1) (emphases added). Section 111(d) therefore does not specifically authorize the multi-state plans contemplated by the EPA.

109. Existing Source Final Rule, *supra* note 5, at 64,876.

110. *Id.* at 64,708.

111. *Id.* at 64,669, 64,937-38.

112. *Id.* at 64,859.

113. *See generally* Gifford, *supra* note 7.

performance goals of the EPA—highlights just how the Clean Power Plan will change forever the resource planning and mix of generation resources for each state. As noted above, no fossil-fuel-fired EGU can meet the category-specific performance goals set forth by the EPA on its own. There is no cost-effective technology or other improvement that a coal-fired power plant can implement within its own fence line to limit its emission rate to the now-mandated 1,305 lbs CO₂/MWh. The same is true for NGCC units. Instead, many coal plants (between 27 and 38 GWs by 2030) will need to cease operations and retire, and others will need to have their emissions offset by increased generation from renewable energy sources and NGCCs.

As explained in more detail below, the EPA assumes that 22% of all fossil-fuel-fired generation will be replaced by renewable energy resources through building block 3. This means that, in addition to the renewable portfolio standards already implemented by many states, each state will need to drastically increase the amount of zero-emitting generation resources within its borders in order to implement the Clean Power Plan. Such resources include renewables (wind and solar) as well as new hydro-electric or nuclear facilities. Indeed, the states will be forced to construct such units even where the cost of such construction far outweighs the cost of utilizing already existing units or even building new, more efficient, and cleaner coal or NGCC units. Similarly, the EPA also assumes that additional coal units will be shuttered as NGCC units are increased to a 75% utilization rate through building block 2. The increased use of NGCCs will likely require significant natural gas pipeline and storage infrastructure projects, in order to ensure that sufficient natural gas supplies are available for NGCC generators to replace a significant amount of coal-fired generation.

Indeed, in order to implement the Clean Power Plan, on a nationwide basis states must use both building block 2 and building block 3 to achieve the EPA's stated goals. Although states may not need to use each building block at precisely the level envisioned by the EPA, states will need to use the building blocks in some combination to achieve the limits set. For example, in its CO₂ Emission Performance Rate and Goal Computation Technical Support Document for the final rule,¹¹⁴—where the EPA calculated its performance standards—the EPA's own calculations demonstrate how states will be forced to rely on building blocks 2 and 3.¹¹⁵

In calculating the category-specific goals, the EPA concludes that of the approximately 2 million GWh (2,039,224 GWh) of fossil-fuel-fired generation in the Eastern Interconnection's baseline, approximately 22% of that (438,445 GWh) will need to be “shifted” to renewable energy sources (as per building block 3) under the final rule. As explained above, the replacement of 22% of fossil generation by renewable generation is the *maximum* amount of renewable generation that the EPA thinks is possible. And, as also noted, the EPA's assumptions of what is possible are very aggressive, assuming that the grid can replicate the highest renewable capacity additions for each renewable generation type in each and every year between 2022 and 2030. Indeed, the EPA's

114. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 27.

115. *Id.* at 8.

assumptions are more than twice as high as the average increase in renewable capacity—just 10.3%—over the time period the EPA studied.

With respect to the remaining 78% of existing fossil fuel generation in the Eastern Interconnection's baseline, the EPA concludes that all NGCC units can operate at an average annual utilization rate of 75% of their summer capacity, which increases the NGCC generation market share to 48% of the baseline generation, reducing coal generation from 64% to only 30%—a reduction by more than half.¹¹⁶

Thus, the EPA's performance standards essentially place a *minimum* market share on renewable generation, and a generalized *maximum* market share on NGCC and fossil-steam units. Because NGCC can only replace 48% of existing fossil-fuel-fired generation when running at a 75% summer capacity utilization rate, they likely cannot replace additional coal-fired generation beyond the amount estimated by the EPA in its IPM modeling results or otherwise sustain a larger "market share" of the needed capacity.¹¹⁷ Similarly, with NGCC's operating at a 75% of summer capacity utilization rate, per the EPA's calculation, the entire grid would need to replace 22% of baseline generation with zero-emitting sources (i.e., renewable energy resources or new hydro-electric and nuclear sources), like renewable generation in order to reduce the overall average emission rate down to the performance standard of 1,305 lbs CO₂/MWh. Thus, the relative "market share" of NGCCs units can be reduced in a final implementation plan only to the extent that renewable energy sources are increased beyond the EPA's proposed 22% (on a grid-wide basis). Similarly, the "market share" of fossil steam generation can only be increased beyond the EPA's proposed 30% to the extent the increases are offset by increased zero-emitting generation. Of course, because the 22% represents what is reasonably the *maximum* potential renewables possible (based on the EPA's own historical data), this effectively caps NGCC generation at a 48% market share and fossil steam generation at a maximum 30% market share (down from a previous 64% market share) across the grid.

As discussed below, when applied to individual states, the Clean Power Plan essentially dictates market shares for each state—regardless of whether that state participates in an RTO/ISO market or not. While each state has some flexibility (i.e., it could potentially build more renewables, or reduce fossil-steam generation beyond the amounts predicted by the EPA) they are nonetheless constrained by the mathematics the EPA used in formulating the rule. As such, state regulators and the RTO/ISO resource plans and processes will find their authority and powers severely limited by the EPA's math. They may be able to make some small changes in the margins, but overall they will need to follow the EPA's building blocks.

B. Effects of the Clean Power Plan on Individual States

The final goals range from a low of 771 pounds of CO₂ per megawatt-hour for Idaho, Rhode Island, and the Lands of the Fort Mojave Tribe, to a high of 1,305

116. *Id.* at 15, 17.

117. As a practical matter, NGCCs will likely need to replace less than 48% of existing fossil-fuel-fired generation because some percentage of the NGCC fleet's available capacity will need to be held in reserve to balance the increased use of non-dispatchable renewable generation resources.

pounds of CO₂ per megawatt-hour in North Dakota, Montana, West Virginia, the Lands of the Navajo Nation, and the Lands of the Uintah and Ouray Reservation.¹¹⁸ To achieve these interim and final performance goals, each state will need to apply the three building blocks, shifting generation away from coal-fired EGUs to NGCCs and renewable energy sources.¹¹⁹ Indeed, the EPA estimates that under its mass-based approach, 38 GWs of coal-fired capacity—“about 14-19 percent respectively of all coal-fired capacity projected to be in service in the base case”—will need to be retired by 2030.¹²⁰ This is in addition to the 70 GWs of coal-fired capacity that the EPA assumes will retire by 2030 in the base case;¹²¹ however, such assumed retirements have been hotly contested by numerous utilities, states and industry groups.¹²²

The EPA’s IPM model thus predicts that, between its base-case assumptions and its rate-based model, almost 62 GWs of coal-fired generation capacity will need to be retired between 2016 and 2018.¹²³ For example, in Illinois, the EPA’s model suggests that more than 4 GWs of coal-fired capacity from 16 units will retire by 2018, at least 2.5 GWs of which as a direct result of the Clean Power Plan and the remaining 1.5 GWs as a result of EPA’s contested base-case assumptions.¹²⁴ Similarly, EPA estimates that more than 4 GWs of coal-fired capacity from 17 units will retire in Michigan, more than 3.7 GWs of coal-fired capacity will retire in North Carolina, more than 2.6 GWs in Kentucky, more than 1.6 GWs in Tennessee, and almost 1.8 GWs in Texas.¹²⁵ Each of these states will need to replace that capacity (and additional capacity that will retire through 2030) with either increased generation from NGCC units or newly constructed renewable energy sources, despite the relative cost of such units compared to the

118. Existing Source Final Rule, *supra* note 5, at 64,824-25; *see also* Existing Source Proposed Rule, *supra* note 5, at 34,957-58. As the EPA explained in the proposed rule, “[t]he state-specific CO₂ goals derived from application of the methodology vary because, in setting the goals for a state, the EPA used data specific to each state’s EGUs and certain other attributes of its electricity system (e.g., current mix of generation resources).” *Id.* at 34,836.

119. Existing Source Final Rule, *supra* note 5, at 64,787-811.

120. FINAL RULE RIA, *supra* note 42, at 3-30. The EPA estimates that 27 GWs of coal-fired capacity will need to be retired nationwide by 2030 under its rate-based approach.

121. *Integrated Planning Model (IPM) Base Case v. 4.10*, U.S. ENVTL. PROT. AGENCY, available at <http://www2.epa.gov/airmarkets/integrated-planning-model-ipm-base-case-v410#ProposedTransportRule> (last visited Oct. 23, 2015).

122. *See, e.g.*, Coal Industry Motion for Stay, Case No. 15-1363, Oct. 23, 2015, ECF No. 1580004 at 25 (Mot. at 16) (“EPA manipulated its ‘base case’ (the future grid without the Rule) by arbitrarily reducing the amount of coal generation assumed to be in existence at the beginning of 2016 so as to make it seem as if the Rule causes fewer coal unit retirements than it really does.”); *id.* at 342 (Schwartz Decl. at 4) (“These additional retirements are not forecast by the EIA nor have these retirements been announced by the facilities’ owners.”); *id.* at 397 (Schwartz Decl., Attach. at 23) (“The large incremental number of units that EPA counts as retiring between now and the beginning of its base case . . . cannot be accounted for by utility announcements of further retirements[.]”); Motion of Utility and Allied Petitioners for Stay of Rule, Case No. 15-1363, Oct. 23, 2015, ECF No. 1580014 at 33 (Mot. at 16 n.13) (“EPA says its projections are the ‘best assessment of likely impacts of the [Clean Power Plan] under a range of approaches that states may adopt,’ but EPA’s projected impacts are almost certainly unrealistically low.”).

123. *Compare EPA Rate-Based System Summary Report, with EPA Base Case System Summary Report, Analysis of the Clean Power Plan*, U.S. ENVTL. PROT. AGENCY, available at <http://www2.epa.gov/airmarkets/analysis-clean-power-plan> (last visited Oct. 23, 2015) (IPM Run Files).

124. *Id.*

125. *Id.*

force-retired coal units. Moreover, each state will also need to deal with the stranded investment costs caused by retiring so many GWs of coal-fired capacity that still have significant useful life.

While the EPA claims that states will have “flexibility” in meeting the emissions rates, as applied to individual states, the EPA’s calculations dictate certain minimum and maximum “market shares” for each generation fuel-type. While it is true that most states will be able to make some decisions about how much new renewable generation they build, or how much fossil-steam generation they retire, or whether they will run their NGCCs at a 70, 75, or 80 percent summer capacity factor, they will nonetheless each need to use the building blocks in some combination to meet the EPA’s emissions goals. And, while it is also true that states may work together, providing additional “flexibility” at the margins, each state is effectively constrained by the mathematics the EPA used in formulating the rule.

For example, under the final rule Pennsylvania—a state that participates in PJM—must meet an average emission rate of 1,095 lbs CO₂/MWh by 2030.¹²⁶ According to the EPA, Pennsylvania’s current mix of fossil generation is similar to that of the Eastern Interconnection as a whole, and is split roughly 61% fossil steam generation (with a 2,121 lbs CO₂/MWh emission rate)¹²⁷ and 39% NGCC generation (with a 902 lbs CO₂/MWh emission rate).¹²⁸ Assuming that Pennsylvania utilizes its NGCCs in 2030 at a 75% summer capacity utilization rate, the NGCC’s would increase their approximate relative market share to 44% from roughly the 39% they generate currently. Given the NGCC’s average emission rate (as provided by the EPA), in order to meet its state-specific emission rate, Pennsylvania would need to replace approximately 22% of its adjusted baseline generation (more than 144 million MWhs) with zero-emitting resources. As a result, the relative market share of Pennsylvania’s fossil steam generation would decrease to 35% from roughly a 61% market share. As with the national calculation, it is unlikely that Pennsylvania could increase its NGCC utilization beyond the *maximum* cap dictated by a 75% utilization rate. Similarly, the relative market share of zero-emitting renewables in Pennsylvania indicates the *minimum* amount of renewables that are needed to offset the CO₂ emissions of Pennsylvania’s fossil-steam units. Thus, the only way for Pennsylvania to increase fossil-steam’s generation market share would be to either increase the market share of the zero-emitting renewables, or find emission reductions in other places (such as energy efficiency measures).

126. For purposes of calculating these market share percentages, we assume that each state maxes out its NGCCs under building block 2 (which is zero for states with no current NGCC output) and that fossil steam output is curbed in accordance with EPA’s guidance regarding building block 1. The remaining reductions needed to reach each state’s respective target rates are then allocated to building block 3, and the resulting renewable output is calculated as a percentage of overall output. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at app. 6.

127. After application of building block 1, Pennsylvania’s fossil-steam generation emission rate would be 2,030 lbs CO₂/MWh.

128. U.S. ENVTL. PROT. AGENCY, CLEAN POWER PLAN STATE GOAL VISUALIZER (XSLM) app. 3, <http://www2.epa.gov/cleanpowerplanttoolbox> (last updated Oct. 22, 2015) (downloadable excel sheet [hereinafter CLEAN POWER PLAN STATE GOAL VISUALIZER (XSLM)]).

Similarly, under the final rule Colorado—a state that does not participate in an RTO/ISO market—must meet an average emission rate of 1,174 lbs CO₂/MWh by 2030. According to the EPA, Colorado's current mix of fossil generation is split roughly 75% fossil steam generation (with a 2,225 lbs CO₂/MWh emission rate)¹²⁹ and 25% NGCC generation (with a 917 lbs CO₂/MWh emission rate). Assuming that Colorado utilizes its NGCCs in 2030 at a 75% summer capacity utilization rate, they would increase their relative market share to 43% from roughly the 25% they generate currently.¹³⁰ Given the NGCC's average emission rate (as provided by the EPA), in order to meet the EPA's state-specific emission rate, Colorado would need to replace approximately 20% of its adjusted baseline generation (more than 55 million MWhs) with zero-emitting resources.¹³¹ As a result, the relative market share of Colorado's fossil steam generation would decrease to 37% from roughly 75%.¹³²

On the other hand, some states have sufficient NGCC capacity that they could theoretically meet their state-specific emission rate through just building block 2. Take Arizona for example. Arizona's current mix of fossil generation is split roughly 49% fossil-steam generation and 51% NGCC.¹³³ If, in 2030, all of Arizona's NGCC's are dispatched at a 75% utilization rate, according to the EPA's figures, they would actually generate more electricity (roughly 61 million MWhs) than the EPA assumes that Arizona will need in that year (roughly 51 million MWhs).¹³⁴ Moreover, the NGCC emission rate in Arizona is only 900 lbs CO₂/MWh, which is less than Arizona's state-specific emission goal of 1031 lbs CO₂/MWh. Thus Arizona could theoretically meet the EPA's emission goals without resorting to building block 3, and instead shifting all (or virtually all) of its fossil-steam generation to NGCC generation, as dictated by building block 2. This, of course, would necessitate the retirement of almost 3 GWs of coal-fired generation in Arizona. Other states that have the flexibility to seek reductions through a mix of building block 2 and 3 or entirely through building block 2 include, among

129. After application of building block 1, Colorado's fossil-steam generation emission rate would be 2,129 lbs CO₂/MWh.

130. *Id.*

131. *Id.*

132. *Id.*; Indeed, there are many other states with similar outcomes using the EPA's math, for example: Alabama's relative market shares would shift from 46% fossil steam generation and 54% NGCC generation to 22% fossil steam, 61% NGCC and 17% renewables; Indiana's relative market shares would shift from 88% fossil steam generation and 12% NGCC generation to roughly 53% fossil steam, 15% NGCC and 32% renewables; Illinois's relative market shares would shift from 89% fossil steam generation and 11% NGCC generation to 46% fossil steam, 24% NGCC and 30% renewables; Maryland's relative market shares would shift from 97% fossil steam generation and 3% NGCC generation to 61% fossil steam, 8% NGCC and 31% renewables; Michigan's relative market shares would shift from 74% fossil steam generation and 26% NGCC generation to 35% fossil steam, 42% NGCC and 23% renewables; North Carolina's relative market shares would shift from 68% fossil steam generation and 32% NGCC generation to 41% fossil steam, 38% NGCC and 21% renewables; Ohio's relative market shares would shift from 79% fossil steam generation and 21% NGCC generation to 49% fossil steam, 23% NGCC and 28% renewables; South Carolina's relative market shares would shift from 72% fossil steam generation and 28% NGCC generation to 41% fossil steam, 37% NGCC and 22% renewables; South Dakota's relative market shares would shift from 74% fossil steam generation and 26% NGCC generation to 40% fossil steam, 35% NGCC and 25% renewables; and Tennessee's relative market shares would shift from 82% fossil steam generation and 18% NGCC generation to 48% fossil steam, 22% NGCC and 30% renewables.

133. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 20.

134. *Id.*

others, California, Maine, Massachusetts, Nevada, New Jersey, Oregon, and Washington.¹³⁵

There are other states, however, that are precluded from opting how to allocate their emissions reductions through building blocks 2 and 3 because they do not currently have any NGCCs within their borders. West Virginia, for example, does not have any existing NGCCs and thus its fossil generation is currently 100% fossil-steam, with an average emission rate of 2,064 lbs CO₂/MWh.¹³⁶ Because West Virginia has no NGCC capacity, it will not achieve any emissions reductions through building block 2. In order to meet its final target emissions rate of 1,305 lbs CO₂/MWh, West Virginia's renewable energy would need to constitute nearly 34% of the state's electric generation by MWh, well beyond the 22% shift designated to the Eastern Interconnection by EPA. Likewise, North Dakota, which also has no existing NGCCs and thus will have no emissions reductions through building block 2, would need to convert 42% of its current fossil output to renewable energy in order to reduce its average emission rate from 2266 lbs CO₂/MWh to its final target of 1305 lbs CO₂/MWh.¹³⁷ Other states and territories similarly affected include Montana, the Lands of the Navajo Nation, and the Lands of the Uintah and Ouray Reservations.¹³⁸

As evidenced by the wide variations in the renewable output required in order for each state to meet its target emissions rate, EPA's so-called "flexibility" is applied quite disparately and is largely illusory. While some states will have the ability to allocate some portion of their emissions reductions between building blocks 2 and 3, other states will be largely constrained by the EPA's mathematics. In states with little or no existing NGCC output, however, the effectiveness of building block 2 is greatly diminished (for obvious reasons), forcing those states to rely heavily on building block 3 in order to meet their respective target rates.¹³⁹

1. The Clean Power Plan Intrudes on State Police Powers over Resource Planning and Retail Electric Markets, Especially in non-RTO/ISO States

The Clean Power Plan directly intrudes upon the historic authority and abilities of the states to exercise their historic police powers, especially with respect to all aspects of resource planning and how states oversee and regulate utility decisions on what the best mix of resources (including demand side measures) might be to prudently serve customers. In non-RTO/ISO states, the

135. See generally *id.*

136. CLEAN POWER PLAN STATE GOAL VISUALIZER (XSLM), *supra* note 128, at app. 3. After application of building block 1, West Virginia's fossil-steam generation emission rate would be 1,975 lbs CO₂/MWh.

137. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at app. 6; CLEAN POWER PLAN STATE GOAL VISUALIZER (XSLM), *supra* note 128.

138. FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at app. 6; CLEAN POWER PLAN STATE GOAL VISUALIZER (XSLM), *supra* note 128, at app. 3.

139. CLEAN POWER PLAN STATE GOAL VISUALIZER (XSLM), *supra* note 128, at app. 3. Of course, states may also attempt to reduce overall emissions through energy efficiency measures. However, as noted the EPA already assumes a 1% per year increase in energy efficiency in its base case (reducing the total generation it estimates each state will need by 2030). As such, it may not be possible for some states to increase energy efficiency further and they may, in fact, have to find additional reductions through buildings blocks 2 and 3 to offset any unachieved the baseline energy efficiency.

PUC's authority remains largely the same today as it did at the dawn of modern utility regulation.

In these states, for nearly 100 years, Congress and the federal courts have consistently recognized and reinforced the "bright line" divide between federal and state jurisdiction over the generation of electrical energy.¹⁴⁰ As discussed in more detail below in section IV.B, the FPA's establishment of the bright line between federal and state authority must inform the jurisdictional reach of the Clean Air Act.¹⁴¹

But the Clean Power Plan jumps over the "bright line" and effectively federalizes resource planning and decision making through the Clean Power Plan's compliance process. In doing so, the EPA asserts broad federal authority over matters long left to the states.

For instance, the Clean Power Plan as written effectively dictates minimum and maximum "market shares" of electric generating resources for each state through its building block approach.¹⁴² For example, as discussed above, the EPA's own modeling shows that to comply with the EPA's performance goals under a rate-based approach, states will need to shift approximately 22% of existing fossil fuel-fired generation to generation from renewable energy sources. The EPA also suggests that existing NGCC's should be operated at a 75% utilization rate, giving them a 48% market share. For some states, if they increase their NGCC utilization to lower emission reductions to the target number, they will have to build a minimum market share of zero-emitting sources in order to comply with the rule. For example, in Alabama, after the state increases NGCC utilization to 75% of summer capacity, the state cannot reach its EPA-mandated emission target without replacing at least 17% of its baseline fossil-fuel energy generation from renewables.

While the PUCs and other state regulators may have the ability to play with these market shares around the edges, they will no longer have the ability to determine on a macro level what the appropriate mix of generation sources are for their states. Indeed, the PUC's ability to review projects and determine whether they are prudent will be limited to those resources that fall within the Clean Power Plan's gambit, even if the proposed project is more costly than alternative fuel sources. There will be similar, albeit different impacts on FERC regulation of the organized wholesale markets, as will be discussed below.

140. *Supra* Part II. *See, e.g.*, 16 U.S.C. § 824(b) (recognizing the states' exclusive authority "over facilities used for the generation of electric energy[,] over facilities used in local distribution or only for the transmission of electric energy in interstate commerce, [and] over facilities for the transmission of electric energy consumed wholly by the transmitter."); H.R. REP. NO. 1318, 74th Cong., 1st Sess., at 8 (1935) (emphasizing that the FPA "takes no authority from State commissions"); *FPC v. S. Cal. Edison Co.*, 376 U.S. 205, 210-16 (1964) (describing the divide between federal and state jurisdiction established in the FPA as a "bright line"); *Chemehuevi Tribe of Indians v. FPC*, 420 U.S. 395, 408-10 (1975) (explaining that "there is simply no suggestion" that the FPA grants FERC jurisdiction over electric generating plants); 16 U.S.C. § 824o(i)(2) (2005 amendment to the FPA incorporating a "savings provision," preserving state exclusive authority "to order the construction of additional generation or transmission capacity or to set and enforce compliance with standards for the adequacy or safety of electric facilities or services").

141. *FDA v. Brown & Willimason Tobacco Corp.*, 529 U.S. 120, 133 (2000) ("[T]he meaning of one statute may be affected by other Acts, particularly where Congress has spoken substantively and more specifically to the topic at hand.")

142. *See generally* Gifford, *supra* note 7.

Moreover, under the Clean Power Plan, the state determination on how to comply—what mix of plant retirements, new builds, etc. will be needed—will no longer be made by the load-serving entities as regulated and overseen by state PUCs. Instead, the very structure of the Clean Power Plan relegates almost all power to state air regulators, potentially eliminating the “customer protection” role of the PUCs and possibly “mak[ing] state commissions largely irrelevant, except for formally passing through the costs of carbon planning to customers.”¹⁴³

As the former chairman of the Colorado Public Utility Commission has explained:

PUCs focus[] on low cost resource planning to meet customer demand, while companion ‘self-regulating’ cooperatives and municipal utilities d[o] the same.

* * *

[But] EPA’s rule will change that. Achieving reduced carbon emissions will replace low cost planning. PUCs will not authorize resources with cost in mind, but rubber stamp decisions by air regulators. In competitive wholesale markets, meanwhile, environmental dispatch will replace competitive dispatch, leading to nearly impossible conundrums for regional markets to hold together in state-by-state carbon plans. Meanwhile, grid reliability and cost are subordinate to EPA’s environmental goals as they pursue the President’s climate change agenda.

In the absence of new state legislation, this will fundamentally alter and diminish the vital role of PUCs across the country. And this is not a one-shot EPA intervention. The CPP would require verification throughout the 2020-2030 period, and a new set of rules would occur every decade to meet the president’s Climate Action Plan of 80 percent carbon emissions reduction by 2050.¹⁴⁴

Recognizing that Congress has forbidden it from running rough-shod over the states’ prerogative to make energy policy decisions, the EPA claims it is not doing so by dogmatically insisting that the Clean Power Plan “offe[rs] states and utilities substantial flexibility and latitude in achieving” the EPA’s goals.¹⁴⁵ But because of the very nature of the Clean Power Plan, most or all states will need to utilize all three of the EPA’s building blocks to achieve the required emission reductions.¹⁴⁶ The EPA’s approach is intentionally predicated on measures

143. *Id.* We do not address here whether state air regulators have authority under state law to even play the role EPA has suggested for them, or whether they have the expertise to do so. We note that a number of states have already stated that absent significant changes in state laws, they will not be able to implement the Clean Power Plan.

144. *Id.*

145. *See, e.g.*, Existing Source Proposed Rule, *supra* note 5, at 34,925; Memorandum on Proposed Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units, EPA, at 18, 95 [hereinafter Proposed Rule Legal Memo]; *see, e.g.*, Existing Source Final Rule, *supra* note 5, at 64,663. The word “flexibility” appears in the final rule more than 200 times.

146. ENVTL. PROT. AGENCY, PROPOSED RULE GOAL COMPUTATION TECHNICAL SUPPORT DOCUMENT 16 (June 2014) [hereinafter PROPOSED RULE GOAL COMPUTATION TSD] (In its Proposed Rule Goal Computation TSD, the EPA discussed Ohio as an example. The EPA concluded in its analysis that the share of renewable energy in Ohio’s portfolio would go from 1% of total net generation (or 1.7 million MWh) to 10.6% of net generation (or 13.8 million MWh). In addition, another 16.3 million MWh of generation would be “avoided” through the application of demand-side energy efficiency measures. Indeed, fully 67% of the reductions in carbon dioxide emissions required for Ohio stemmed from the expanded use of zero-carbon-dioxide-emitting electricity sources and demand-side energy efficiency measures (building blocks 3 and 4). Another 14% of the reductions were attributable to the redispatch to NGCC units. It would therefore have been impossible for Ohio to meet the EPA’s carbon dioxide emissions goals without significant reliance on building blocks 2 through 4. Although the EPA no longer uses Ohio as an example and building block 4 is not a part of the final rule, Ohio

throughout the electricity sector that inherently cannot be met by any single EGU that emits CO₂. Instead, the core feature of the EPA's approach is that generation from some units should be "shifted" to generation at other units.¹⁴⁷ Indeed, unlike other Clean Air Act provisions, the Clean Power Plan does little to actually reduce the rate of emission from EGUs. Although building block 1 focuses on heat rate improvements, the majority of emission reductions under the Clean Power Plan come from reduced generation.¹⁴⁸ And if the EPA is correct in its contention that states are able to pick and choose among building blocks or forego them altogether, there is no assurance that *any* actual reduction in the rate of emission from EGUs would occur. As such, the EPA is attempting to force the states to develop plans that would impose regulatory obligations on numerous entities—whether or not that entity has ever been regulated by the state.¹⁴⁹ If the state chooses not to do so, the EPA could disapprove the state plan and apply the Clean Power Plan's emission limits directly to coal-fired EGUs through federal implementation plans. But because meeting the emission goals without relying on building blocks 2 and 3 would be virtually impossible, many fossil fuel-fired units will be forced to shut down, thereby ensuring that the state will not be able to supply adequate electricity to its citizens. As a result, states have no practical option other than to comply with the EPA's mandates: they will be forced to adopt elements of building blocks 2 and 3, either "voluntarily" through a state plan, or as negotiated mitigation measures when the EPA imposes a federal plan directly on the affected EGUs. In either case, as the EPA has acknowledged, states may need to pass enabling legislation in order to implement the final rule.¹⁵⁰ But in any event, EPA seeks to restructure the nation's electricity markets and become the nation's energy regulator.

That EPA seeks this energy czar role can be illustrated in the way state PUCs, especially in non-RTO/ISO states, generally set the rates, terms, and conditions

will still struggle to meet the final rule's goals without relying on building blocks 2 and 3. In fact, as noted above, Ohio's reduction mandate became even more stringent from the proposed to the final rule. *See, e.g.*, FINAL RULE GOAL COMPUTATION TSD, *supra* note 38, at 27.

147. Existing Source Final Rule, *supra* note 5, at 64,795-803. Indeed, the EPA has zeroed in on trading programs as the preferred method for meeting the Clean Power Plan's standards, as evidenced in its Proposed Federal Plan. *See* Proposed Rule, Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations, 80 Fed. Reg. 64,966, 64,966 (Oct. 23, 2015) ("This proposal presents two approaches to a federal plan for states and other jurisdictions that do not submit an approvable plan to the EPA: a rate-based emission trading program and a mass-based emission trading program."). But Congress has expressly rejected cap-and-trade programs such as the one the EPA seeks to implement here when the Senate refused to bring the American Clean Energy and Security Act of 2009 (known colloquially as the "Waxman-Markey Bill") to the floor. H.R. 2454, 111th Cong. (2009).

148. *Id.*

149. *Id.* at 625, 1024 (For example, the Clean Power Plan essentially compels the production of zero-CO₂ emitting generation resources, but such resources *are not subject to regulation under section 111*. Indeed, section 111 is meant to regulate "sources" of emissions, and something which does not emit pollutants *cannot* be a source.).

150. *Id.* at 1024 ("[T]he EPA has determined that 2 years is a reasonable timeframe for a state to decide on the type of approach it will take in the final plan submittal and to draft legislation or regulations for this approach.").

for the provision of essential utility services within their state borders.¹⁵¹ That traditional role can be broken down into at least three overlapping segments: resource planning, prudence reviews and cost recovery, and overseeing safety and reliability. Each of these historic state roles is severely impacted by the Clean Power Plan.

For instance, resource planning is the process of determining what resources are needed (i.e., generation, transmission, distribution, or demand-side resources), where and how they should be sited, reviewing whether the cost of the mix of resources being considered is reasonable and prudent (this last part overlaps significantly with cost recovery), and in certain instances, how the state's energy markets and resource dispatch operate. Prudence reviews and eventual cost recovery are where the state upholds its part of the regulatory compact, ensuring that when the utility is making prudent decisions, it will end up earning enough that its investors remain committed, but not so much that the consumers are subject to monopolistic rents. And of course, safety and reliability is the process of ensuring that the utility services are provided in a safe and reliable manner.

But under the Clean Power Plan, the EPA effectively forces states to enact measures "such as dispatch limitations [and] renewable portfolio standards that require investment in renewable energy resources."¹⁵² While the EPA frames these as optional measures, they are optional in name only as they form the basis for the emission goals established by the EPA.¹⁵³ The so-called "flexibility" the EPA suggests states have is simply illusory. It is akin to the government mandating that someone must drive a car from New York to Los Angeles, and that they must arrive in Los Angeles by December 31, 2015. The driver can never drive more than fifty miles per hour, and must average fifty miles per gallon of gasoline or use a hybrid car. And if the car is fueled by gasoline, then the car can never be on the road more than eight hours in any one day. Moreover, 50% of the trip must be taken on toll roads in order to reduce demand on the roads. Nonetheless, the driver has "flexibility" because the government has not mandated the precise route and roads the driver takes on his journey.

Simply put, in practice and in reality, flexibility and the "options" (as the EPA asserts) will be mandatory because states cannot meet the mandated goals without using them. As such, the Clean Power Plan impermissibly intrudes on state authority by requiring the states to undertake resource planning that may not be in the best interest of that specific state.

As a result, especially in non-RTO/ISO states, the Clean Power Plan interferes with and changes the traditional roles and responsibilities of the PUCs in overseeing resource decisions and determining their prudence. The limitation on the states' resource planning authority has a significant domino effect. By limiting the states' right to determine what resources will be built, the Clean Power Plan also restricts the ability of states to site new resources where and when they want, as siting can often be attributable as much to the type of resource being built

151. *Id.* at 85-86, 159. While it is easy to generalize about state commissions, each one is different. Significant differences include the number of Commissioners, whether they are elected or appointed, and what their partisan representation is like.

152. Proposed Rule Legal Memo, *supra* note 145, at 74-76.

153. *Id.* at 75-76.

as it is to the normal politics behind land and land preservation deals. Similarly, the Clean Power Plan requires significant changes to market structures and, while not “requiring” them, recommends the use of demand-side energy efficiency programs, the costs of which are projected to be massive.

To be sure, the EPA may argue that state PUCs retain the ability to make prudence decisions under the guise of the flexibility the EPA purports exists in the SIP process. But the Clean Power Plan strips away the universe of “prudent” options utilities that PUCs may consider. Thus, the most prudent choices available for PUCs to consider will no longer exist, replaced by only those limited options under the constraints imposed by the EPA. Moreover, prudence decisions include a timing element that the Clean Power Plan would render meaningless. In making investment decisions, PUCs review the planning and resource proposals put before them on a long-term basis, looking to determine where an investment leaves customers into the future. If the EPA has the power—as it claims it does—under the Clean Air Act to implement rules that allow it to change fundamental aspects of the energy industry at any given time, prudence decision making becomes ornamental at best. What assurance do PUCs have that an investment decision considering a forty-year useful life will not be rendered obsolete the next time the EPA decides to drastically increase its regulatory powers? Furthermore, what significance do existing investments that were the result of prudence decisions have if the EPA can decide halfway through the planned period to change the energy mandates under which the investment decisions were intended to operate, and force the retirement or displacement of resources previously found to be prudent? The answers to these questions (which would likely vary from state to state) represent a fundamental shift in PUC authority. Indeed, the Clean Power Plan actually carries with it the risk of a constantly changing regulatory landscape that undermines the practical impact of prior prudence planning decisions that were found to best serve customers. As Commissioner Clark recognizes, the rule “makes it likely consumers will be required to bear the burden of stranded costs of investments forced to retire years before the useful life of the asset has expired.”¹⁵⁴

Indeed, the EPA has acknowledged that the Clean Power Plan will force the retirement of a significant portion of the nation’s coal-fired electric generation fleet. As a result, much of the investment that went into those electric generation units may become stranded. Under the regulatory compact, the promise states (and to a lesser extent, the organized markets) make to utilities and their investors is that they will be able to recover their prudently incurred costs, including stranded costs. Indeed, the very essence of the regulatory compact is that the utility and its investors trade potentially higher returns from other investments for “lower rates of return on their [utility] investment in exchange for the certainty of regulated rates and resulting ability to recover prudently incurred costs.”¹⁵⁵ As the D.C. Circuit and the FERC have noted, however, if the compact begins to break down, and “[u]nless utilities are able to recover stranded costs[,] . . . their ability

154. Clark Statement, *supra* note 10.

155. Transmission Access Policy Study Group v. FERC, 225 F.3d 667, 700 (D.C. Cir. 2000).

to compete and attract investor capital in a deregulated market may be seriously impaired.”¹⁵⁶

As written, the Clean Power Plan prevents states from exercising their primary policymaking responsibility for developing plans that establish standards of performance. The final rule would result in an “override” of a state plan that relies on the “factors” that a state deems important or relevant but that the EPA does not. Such factors include both the costs of complying with the final rule (the EPA suggests that such costs will be far less than those alleged by numerous commenters) and the remaining useful life of many of the units scheduled to be retired. By forcing the retirement—against state wishes—of numerous generating facilities that still retain useful life, the EPA is essentially stranding billions of dollars of otherwise prudently incurred investments. Further, by denying the states the ability to adequately consider the cost of proposed infrastructure changes, and instead dictating what does or does not work with the final rule, the Clean Power Plan essentially takes control of each individual state’s resource planning authority.¹⁵⁷ Such resource planning decisions have always been reserved to the states under their historic police powers. The Clean Power Plan, however, establishes emission “goals” that states cannot adjust, and that are so stringent that they can be met only by an EPA-mandated approach—an approach that necessarily strips states of their policymaking role.

As such, the Clean Power Plan will all but eliminate state PUCs’ consumer protection function, instead essentially transferring their power to state air regulators.¹⁵⁸ Under the combination of the Supremacy and Commerce Clauses,

156. *Id.* This is not, of course, to suggest that stranded costs can never be recovered. Transmission Access Policy Study Grp. v. FERC, 225 F.3d 667 (D.C. Cir. 2000); *see also* 18 C.F.R. 35.26 (2015); Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 62 Fed. Reg. 12,274 (Mar. 14, 1997). However, the converse can also occur as well in some limited circumstances. Indeed, under the principle of “used and useful,” a previously prudently incurred expense can be deemed no longer prudent if it is not “used and useful, as a power plant shut down prematurely by the Clean Power Plan might be.” *See, e.g.,* Jersey Central Power & Light Co. v. FERC, 810 F.2d 1168, 1181 & n.3 (1987) (In such situations, further rate recovery can be denied).

157. The Clean Power Plan will also effectively force states to participate in multi-state schemes to handle energy matters, limiting their authority to determine how to dispatch, operate, and plan for generation resources within their territory. It is unclear whether such multi-state schemes are permissible under the CAA. Nonetheless, the EPA has admitted that, “as a practical matter,” implementing building block 2 will “necessarily occur on an interstate, and not an intrastate, basis.” Proposed Rule Legal Memo, *supra* note 144, at 92. And the EPA expects that such multistate schemes will be in place to “seek solutions such as capacity markets and transmission upgrades, to preserve resource adequacy and ensure the continued reliable operation of the grid.” Existing Source Proposed Rule, *supra* note 5, at 34,888. The EPA thus recognized that, to reduce emissions as the proposed rule would require, states will need to work on a regional basis. Besides raising fundamental questions under the Compact Clause of the Constitution, the proposed rule unlawfully strips states of the ability to manage energy matters on their own.

158. Existing Source Proposed Rule, *supra* note 5, at 34,920. For instance, state PUCs tend to approach resource planning and their other policy responsibilities in a holistic manner, looking for just the right mix of safe, affordable, and reliable electricity. Even before the EPA proposed the Clean Power Plan, many states already considered whether the energy at issue was environmentally friendly. But at the end of the day, whether the energy is affordable matters less than if the supply of energy is reliable. For similar reasons, environmentally friendly energy is not useful if people cannot turn their lights on in the evening, or if they cannot afford to buy power. The Clean Power Plan prevents the PUCs from balancing these concerns by emphasizing the environmental constraints to the detriment of reliability and affordability.

Congress may “pre-empt the States entirely in the regulation of private utilities.”¹⁵⁹ Accordingly, where Congress delegates its authority to a federal agency, that agency’s regulations will preempt acts within the field of federal regulation by state PUCs, even if the result is higher retail rates for consumers.¹⁶⁰ This is commonly understood to be called the “filed rate doctrine.”¹⁶¹ State PUCs are not entitled to second-guess the prudence of federal agency regulations, such as by inquiring into whether the wholesale rates are “just and reasonable under the filed rate doctrine.”¹⁶² Rather, PUCs may only act where Congress does not intend for federal agencies to regulate, or the agency itself defers to the states.¹⁶³ Otherwise, even where PUCs have legitimate interests at stake, they must take recourse to alternative methods consistent with federal regulations.¹⁶⁴ But under the Clean Power Plan, it is no longer the FPA that might be preempting the PUCs. It is the EPA—the nation’s new energy regulator.

C. Conflicts Between the EPA and FERC Authority

The EPA itself described its proposed Clean Power Plan as a “plant to plug” approach to regulating CO₂ emissions from the power sector.¹⁶⁵ The Clean Power Plan, as proposed, thus represented a significant departure from the EPA’s historic

159. *FERC v. Mississippi*, 456 U.S. 742, 764 (1982) (upholding constitutionality of Public Utility Regulatory Policies Act). Nor, of course, may state PUCs violate the federal Constitution. *New Eng. Power Co. v. New Hampshire*, 455 U.S. 331, 344 (1981) (holding that state PUC’s order requiring utility to sell energy within the state, rather than exporting it, violated the Commerce Clause).

160. *Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 953, 972-73 (1986) (upholding wholesale hydroelectric power rate approved by the FERC over rate set by state PUC); State PUC regulations will also be preempted if they impinge on a field that the federal regulatory scheme has occupied to the exclusion of state law, even if Congress has not authorized a federal agency to regulate the specific activity in question. *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 310-11 (1988) (state statute requiring public utilities to obtain approval of PUC before issuing long-term securities was preempted by Natural Gas Act, even though the FERC lacked explicit authority to regulate such securities); *Mid-Con Freight Sys. v. Mich. Pub. Serv. Comm’n*, 545 U.S. 440, 442 (2005) (holding that federal statute did not preempt state fee requirement because it fell outside the statute’s scope).

161. *Miss. Power & Light Co. v. Mississippi*, 487 U.S. 354, 375 (1988).

162. *Id.* at 372, 375 (holding that FERC proceedings allocating wholesale costs of nuclear power plant preempted prudence inquiry by state PUC); *see also Entergy La., Inc. v. La. Pub. Serv. Comm’n*, 539 U.S. 39, 46 (2003) (holding that the filed rate doctrine applies to state regulators as a matter of federal preemption).

163. *See, e.g., La. Pub. Serv. Comm’n v. FCC*, 476 U.S. 355, 359 (1986) (holding that FCC regulations did not preempt inconsistent state PUC regulations where Congress expressly denied FCC jurisdiction); *S. Pac. Transp. Co. v. Pub. Util. Comm’n of Or.*, 9 F.3d 807, 811-12 (9th Cir. 1993) (holding that federal law did not preempt state regulation of locomotive whistles where EPA expressly exempted such standards from its regulatory scheme and expressly invited state regulation).

164. *Pub. Util. Comm’n of Tex. v. FCC*, 886 F.2d 1325, 1335 (D.C. Cir. 1989) (holding that FCC permissibly preempted state PUC’s order enforcing geographic boundaries of state-approved telephone monopolies. In the opinion, the court acknowledged that the state PUC had a regulatory interest and suggested “that states could protect ratepayers against costs . . . by imposing reasonable charges for termination of service to minimize the impact of stranded investment and could also allocate costs and revenues among certificated carriers associated with traffic over their facilities.”).

165. Gina McCarthy, Administrator, EPA, Remarks Announcing Clean Power Plan, As Prepared (June 2, 2014) (“To craft state goals, we looked at where states are today, and we followed where they’re going The goals spring from smart and sensible opportunities that states and businesses are taking advantage of right now. From *plant to plug*.”) (emphasis added); *see also EPA Fact Sheet: Clean Power Plan Flexible Approach to Cutting Carbon Pollution*, ENVTL. PROT. AGENCY (June 2, 2014), <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602fs-plan-flexibility.pdf>.

means of regulating emissions from stationary sources. Rather than focusing on the emissions from the smokestack and promoting technologies that capture or chemically alter those emissions, the EPA suggested regulating the entire industry (plant) that produces those emissions and to reduce the demand for the industry's product all the way from the large industrial users and factories to the homes and electrical outlets (plugs) of the average American family. The EPA recognized the legal flaws in its initial approach and has stepped back from its proposal slightly, eliminating the "plug"—demand side energy efficiency requirements—in its plant-to-plug scheme.¹⁶⁶ But, as set forth above, the Clean Power Plan still affects the way energy will be regulated and generated in this country. At the federal level, the Clean Power Plan thus directly conflicts with FERC's obligations under the FPA to ensure the reliable operation of the nation's electric system at rates that are just and reasonable.

For instance, in the approximately two-thirds of the country served by an RTO/ISO, just and reasonable wholesale rates are determined through the grid operator's economic dispatch process.¹⁶⁷ But, in order to accommodate the "shifting" of resources demanded under building blocks 2 and 3, dispatch will be dramatically different under the Clean Power Plan, and present an array of options that, regardless of which the operator chooses, will necessitate major changes in how a grid operates. By putting limits on emissions, the EPA is functionally requiring that resources be "re-dispatched" under a form of security constrained economic *and environmental* dispatch, as opposed to the existing security constrained economic dispatch model. In theory, the universe of compliance options is large: utilities might run more and use offsets; they might impose limits on the hours they can be dispatched; they may even operate on a seasonal basis. Perhaps utilities and states will work together to develop carbon markets. Regardless of which option utilities choose, implementation will likely be complicated as will each RTO/ISO's entire resource planning process.

For example, FERC is obligated to ensure the reliable operation of the nation's bulk power system at just and reasonable rates. In order to meet those conjoined obligations, system operators currently utilize a security constrained economic dispatch model that, on a simplified basis, dispatches the lowest-cost generation resource available that is capable of meeting the bulk energy system's electric generation and reliability needs. This dispatch model is embedded in the market designs underlying the FERC-approved tariffs that govern the energy markets overseen by the RTOs/ISOs and by system operators of integrated systems. Changing the dispatch model may require that such tariffs be modified.

Although the rule on its face allows for a range of implementation options, in reality, most states will need to rely heavily on building blocks 2 and 3. Under those building blocks, states must shift significant amounts of generation from fossil-steam EGUs to NGCCs or new zero-emitting resources.¹⁶⁸ As a result, the

166. As noted, however, the Clean Power Plan still builds into its base case a significant 1% annual increase in energy efficiency—essentially keeping alive the "plug" version of its proposed rule.

167. *About 60% of the U.S. Electric Power Supply Is Managed by RTOs*, U.S. ENERGY INFO. ADMIN. (Apr. 4, 2011), <http://www.eia.gov/todayinenergy/detail.cfm?id=790>; *About the IRC*, ISO/RTO COUNCIL, <http://www.isorto.org/about/default> (last visited Sept. 10, 2015).

168. Existing Source Final Rule, *supra* note 5, at 64,795; Legal Memorandum on Accompanying Clean Power Plan for Certain Issues, EPA, at 116 ("[B]uilding block 2 . . . entails shifting generation – sometimes

EPA's final rule will result in a complete restructuring of the FERC-approved energy markets, requiring resources to be dispatched based on a least-emission, rather than a least-cost, basis. As FERC Commissioner Moeller explained when discussing the similar provision in the proposed rule:

Building Block 2 relates to increasing natural gas generation dispatch up to 70 percent. Assuming this is even operationally possible, as noted in my testimony, this appears to be a fundamental shift from "economic dispatch" to "environmental dispatch" and *has the potential to completely undermine the market principles that underpin dispatch of the system.*¹⁶⁹

Commissioner Moeller's question as to whether utilization of natural gas at the 70% level is "even operationally possible" highlights the even greater dangers associated with the final rule's threshold of 75%.

Indeed, within organized markets, attempts to utilize the building block's carbon dispatch approach to meet emissions goals will require FERC's approval for any changes to the governing RTO/ISO system tariffs and, in particular, will require FERC's approval for any changes to the dispatch algorithms. Indeed, as the EPA has acknowledged, switching to a carbon dispatch model will result in increased costs over the current security constrained economic dispatch model.¹⁷⁰ As a result of those increased costs—and for other reasons—it is entirely possible that the FERC will determine that the EPA's carbon dispatch model is *not* just and reasonable, particularly if it "undermine[s] the market principles that underpin dispatch."¹⁷¹ As FERC Commissioner Clark has opined, "[t]o the degree an EPA rule directly attempts to change FERC jurisdictional market dispatch rules, there could be a clear conflict between the Federal Power Act and the Clean Air Act."¹⁷²

The dispatch system necessary to accommodate the mandates of the Clean Power Plan is not merely economic dispatch of eligible generation, as the EPA

called load shifting – from (higher emitting) fossil steam generators to (lower emitting) NGCC units[.]", http://www3.epa.gov/airquality/cpp/cpp-legal-memo.pdf#_ga=1.231026328.62456306.1445049363; *see also* Existing Source Proposed Rule, *supra* note 5, at 34,862.

169. Additional Responses of FERC Comm'r Moeller, *supra* note 78, at 5; *see also* Written Responses of FERC Comm'r Philip Moeller, *FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and Other Grid Reliability Challenges*, House Comm. on Energy and Commerce, Subcommittee on Energy and Power, at 3 (July 29, 2014) [hereinafter Written Testimony of FERC Comm'r Moeller] ("For decades we have relied on the concept of 'economic dispatch' of electric generation. Simply put, the power plants with the lowest operating cost are called first to generate electricity – with various reliability requirements and other factors as part of the decision, depending on the structure of various markets. By moving to what is essentially 'environmental dispatch,' units will be called to generate primarily based upon the emission profile of the unit."); Response of Comm'r Tony Clark, *Preliminary Questions for the FERC*, House Energy and Commerce Comm., Subcommittee on Energy and Power, at 3 (July 29, 2014) [hereinafter Responses of FERC Comm'r Clark] ("There has been some speculation that the state and regional carbon compliance plans might envision requesting the FERC to authorize the various RTOs to transition away from the security constrained economic dispatch model towards some form of dispatch based on carbon emissions. . . . To go beyond that by changing the fundamental market dispatch algorithms in the ways some have suggested would be a major change, to say the least.").

170. *See, e.g.*, Existing Source Final Rule, *supra* note 5, at 64,749 ("The EPA estimates that, together, the three building blocks are able to achieve CO₂ reductions at an average cost of \$30 per ton, which the EPA likewise has determined is reasonable."); *see also* Existing Source Proposed Rule, *supra* note 5, at 34,865 ("For the scenario reflecting a 70 percent NGCC utilization rate, comparison to the business-as-usual case indicates that the average cost of the CO₂ reductions achieved over the 2020-2029 period was \$30 per metric ton of CO₂").

171. Additional Responses of FERC Comm'r Moeller, *supra* note 78, at 5.

172. Additional Responses of FERC Comm'r Clark, *supra* note 9, at 5.

may attempt to style it. Under a security constrained economic dispatch model, utilities currently take both reliability and cost into consideration in deciding which resources to dispatch (and, in some instances may take environmental considerations into account). But under the environmentally constrained security dispatch model essentially dictated by the final rule, system operators will always need to consider environmental factors alongside price and reliability. Whereas economics currently bend to reliability in existing dispatch, economics will now have to bend to both reliability and environmental considerations.

The Clean Power Plan would also fundamentally change the manner in which RTO/ISOs plan for new transmission needed to move power to customers. The retirement of existing coal and gas plants, and the construction of new generation, along with the integration of new renewables, will require the construction of significant new transmission facilities in order to move the power to customers. In Order No. 1000, FERC required RTO/ISOs and utilities to develop regional and super-regional plans for deciding where, when, and how new transmission will be constructed and funded. Each region developed through a long and drawn-out process its own approach and FERC has largely approved these regional plans which establish not just processes but also criteria for determining how transmission will be constructed in the most efficient and economic manner. The Clean Power Plan will require RTO/ISOs and utilities to revisit these plans as the criteria and processes which made sense yesterday, may not be feasible or sensible today. For instance, if transmission must be built pursuant to a SIP approved by the EPA, or under a FIP, the RTO/ISO will need to accommodate that new build whether or not it would have been built under its current process or criteria. Whether from an economic perspective this would have been the “right” outcome under an RTO/ISO’s existing planning and economic criteria will have to now take a back seat to what the EPA determines.

Furthermore, the final rule limits the applicability of renewable resources in certain compliance schemes to only those renewables built after January 1, 2013. In such circumstances, dispatch will and must favor environmental inputs over cost, as some renewables that might qualify for credit under the EPA’s rubric may be more favorable than others and will further push cost considerations down in priority. And renewables come with their own set of problems that will need to be integrated into the dispatch algorithms: with more reliance on renewables, what sources will be available to sustain the grid when intermittent resources like wind or solar become unavailable? The algorithm will have to take into account not only the dispatch required to manage increased renewables, but also the effect of having virtually all NGCCs operating at a break-neck pace to meet the EPA’s 75% utilization factor. The increasingly complicated dispatch algorithms require many more considerations than the current dispatch, and may very well fail a traditional “just and reasonable” determination based on costs. For these reasons, the new model is not simply the existing security constrained economic dispatch model with a slightly different universe of generation options.

In part due to these considerations, and as discussed in greater detail below, the Clean Power Plan will likely interfere with the reliability of the nation’s energy grid. When the EPA was formulating its initial proposed rule, FERC’s Office of Reliability provided several critiques of the proposal. Similarly, NERC, several RTOs/ISOs, and many states have raised their own reliability concerns with

respect to the proposed Clean Power Plan.¹⁷³ And the FERC itself sent a letter to the EPA expressing certain concerns regarding the Clean Power Plan's effect on reliability.¹⁷⁴ While FERC did not outright state that the Clean Power Plan would have a detrimental effect on system reliability, FERC did caution the EPA that any "final rule should provide enough time and flexibility for affected entities to take the actions that they must take to ensure system reliability," including, for instance, "the construction of gas or electric infrastructure to support the addition of new capacity."¹⁷⁵ The FERC also offered its assistance in crafting a so-called "reliability safety valve" that would help "adjust" an affected entity's "compliance obligation[s]" in the event of "unforeseen or emergency system conditions [that] will result in violation of a Commission-approved Reliability Standard or reserve margin deficiency."¹⁷⁶ The FERC also offered to put into place "a process to review state plans for potential reliability concerns."¹⁷⁷

In some small ways, the EPA appears to have taken some of the FERC's advice in its final rule, adopting the FERC's reliability safety valve suggestion, which will allow units that are critical to reliability to deviate from the SIP for up to a ninety-day period under emergency circumstances.¹⁷⁸ As noted above, the EPA also delayed primary compliance with the Clean Power Plan by two years, pushing initial compliance back from 2020 to 2022, noting that "the record is compelling" that the proposed "emission reductions could not be achieved as early as 2020 without compromising system reliability."¹⁷⁹ However, delaying implementation for the Clean Power Plan may not be sufficient to stem the harms the Clean Power Plan may inflict on electrical reliability. The EPA specifically "recognizes that successfully achieving reductions by 2022 will be facilitated by actions and investments that yield CO₂ emission reductions prior to 2022."¹⁸⁰ Thus, utilities and other affected EGUs will likely need to take the steps necessary to comply before 2022, creating potential negative effects on reliability.

It is hard to fathom that Congress explicitly provided the FERC with the power to regulate our nation's electric grid for the last eighty years, and expanded that authority in 2005, but somehow intended that the EPA should have the authority and ability—even though it certainly doesn't have the expertise—to supplant the FERC's authority and determine by itself how the system should operate. If Congress had intended the phrase "BSER" to grant the EPA such sweeping authority to become the nation's energy regulator, preempting both the states and the FERC, it would have said so directly, especially since Congress said just the opposite as recently as 2005.

173. See generally Part IV.A.2.

174. Letter from Comm'rs, FERC, to Janet G. McGabe, Acting Assistant Administrator, Office of Air and Radiation, EPA (May 15, 2015), available at www.ferc.gov/media/headlines/2015/ferc-letter-epa.pdf.

175. *Id.* at 1.

176. *Id.* at 2.

177. *Id.* at 3.

178. Existing Source Final Rule, *supra* note 5, at 64,874-81.

179. *Id.* at 41.

180. *Id.* at 42.

V. RESOLVING POTENTIAL CONFLICTS IN THE FIELD OF ELECTRIC POWER MARKETS

A. *Resolving Conflicts Between the EPA and State Regulators*

1. The Clean Air Act Should Not Be Read as Trumping the States' Historic Police Powers over Electric Utilities

As discussed above, the electricity market in the United States has been regulated both at the federal level by the FERC and the state level by state electricity commissions, pursuant to the “bright line” divide established by Congress in the FPA. The Clean Power Plan intrudes not only on the FERC’s jurisdiction, but also on the states’. Such intrusion necessarily gives rise to conflicts between the EPA mandate in the final rule and the individual states’ historic police powers over electric resource planning. What, then, is a state commission to do when its obligation to submit a state plan that is “satisfactory” to the EPA conflicts with its state law responsibility for ensuring an affordable supply of reliable electricity to its citizens?

Resolving potential conflicts between federal and state authority entails an examination of federal preemption. Preemption is derived from the Supremacy Clause of the United States Constitution, which provides (in its relevant part) that “the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land[.]”¹⁸¹ Preemption is generally grouped into three categories: (1) express preemption; (2) field preemption; and (3) conflict preemption.¹⁸² Express preemption applies “when Congress has unmistakably . . . ordained that its enactments alone are to regulate a part of commerce, state laws regulating that aspect of commerce must fall.”¹⁸³ A federal agency may also issue a regulation that expressly preempts state law, thus barring states from regulating on the same subject or in the same field.¹⁸⁴ Field preemption occurs “if a scheme of federal regulation is so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it, if the Act of Congress . . . touch[es] a field in which the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject, or if the goals sought to be obtained and the obligations imposed reveal a purpose to preclude state authority.”¹⁸⁵ Conflict preemption occurs when state and federal law directly conflict, and arises in two general circumstances: (1) “where compliance with both federal and state regulations is a physical impossibility”;

181. U.S. CONST. art. VI, cl. 2.

182. *Wisc. Pub. Intervenor v. Mortier*, 501 U.S. 597, 605 (1991).

183. *Jones v. Rath Packing Co.*, 430 U.S. 519, 525 (1977) (internal citation and quotation omitted); *see, e.g.*, 49 U.S.C. § 32919(a) (2011) (providing that “[w]hen an average fuel economy standard prescribed under this chapter is in effect, a State or a political subdivision of a State may not adopt or enforce a law or regulation related to fuel economy standards or average fuel economy standards for automobiles covered by an average fuel economy standard under this chapter.”).

184. *City of New York v. FCC*, 486 U.S. 57, 69 (1988); *see also* David S. Rubenstein, *Administrative Federalism as Separation of Powers*, 72 WASH. & LEE L. REV. 171, 212 (2015).

185. *Wisc. Pub. Intervenor*, 501 U.S. at 605 (quoting *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947) (internal quotations omitted)).

and (2) when state law “stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.”¹⁸⁶

Whatever type of preemption is at issue, there are two overarching principles that direct the preemption analysis. The first is that the “purpose of Congress is the ultimate touchstone in every preemption case.”¹⁸⁷ The second is that courts must “start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress.”¹⁸⁸ This presumption against preemption of state law is derived from the Supreme Court’s belief that states are “independent sovereigns in our federal system.”¹⁸⁹ Thus, “[t]he Constitution . . . withhold[s] from Congress a plenary police power that would authorize enactment of every type of legislation.”¹⁹⁰ Instead, this power is reserved for the states.

Applying these principles here leads inexorably to the conclusion that the EPA does not have the authority to usurp the states’ historic police power over electric resource planning. And even where a RTO/ISO exercises this authority in restructured states, this is a product of a *state decision* to restructure its electric markets and *voluntarily* decide how resource planning should be done. But that was a *state decision*, not the result of the federal government preemption. As discussed above, states—not the federal government—have exercised their historic police powers over electric utility resource planning since the inception of modern utility regulation. There is therefore a strong presumption against preempting this state authority. Moreover, not only has Congress failed to express any intent to preempt state law in this field, it has in fact expressed the *opposite* intent and zealously sought to preserve the primacy of state law. From the beginning, Congress emphasized when enacting the 1920 Act that federal authority should “only . . . fill a hiatus which might otherwise exist in the absence of state regulation” and limited the FPC to “regulat[ing] only in the absence of state regulation.”¹⁹¹ The FPA continued that intent by recognizing the states’ exclusive authority “over facilities used for the generation of electric energy[,] over facilities used in local distribution or only for the transmission of electric

186. *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U.S. 132, 141-43 (1963) (citations and internal quotations omitted); *see also* *Mut. Pharm. Co. v. Bartlett*, 133 S. Ct. 2466, 2473 (2013) (“Even in the absence of an express preemption provision, the Court has found state law to be impliedly pre-empted where it is ‘impossible for a private party to comply with both state and federal requirements.’” (quoting *English v. General Elec. Co.*, 496 U.S. 72, 79 (1990))); *Barnett Bank of Marion County, N.A. v. Nelson*, 517 U.S. 25, 31 (1996) (“Alternatively, federal law may be in ‘irreconcilable conflict’ with state law.” (quoting *Rice v. Norman Williams Co.*, 458 U.S. 654, 659 (1982))); *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941) (“Our primary function is to determine whether, under the circumstances of this particular case, Pennsylvania’s law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.”); Alan Untereiner, *The Defense of Preemption: A View from the Trenches*, 84 TUL. L. REV. 1257, 1263 (2010) (breaking down conflict preemption into three subcategories: (1) impossibility preemption; (2) standard conflict preemption; and (3) obstacle preemption.); *see also* JJ England, Note, *Saving Preemption in the Clean Air Act: Climate Change, State Common Law, and Plaintiffs Without a Remedy*, 43 ENVTL. L. 701, 724 (2013).

187. England, *supra* note 185, at 725; *see also* *Wyeth v. Levine*, 555 U.S. 555, 565 (2008).

188. *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 485 (1996) (quoting *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947)); *see also* *Wyeth*, 555 U.S. at 565.

189. *Wyeth*, 555 U.S. at 565 & n.3 (quoting *Lohr*, 518 U.S. at 485).

190. *United States v. Lopez*, 514 U.S. 549, 566 (1995).

191. *FPC v. S. Cal. Edison Co.*, 376 U.S. 205, 218 (1964).

energy in interstate commerce, [and] over facilities for the transmission of electric energy consumed wholly by the transmitter.”¹⁹² Most recently, Congress reinforced its intent to preserve state primacy by incorporating a “savings provision” in amendments to the FPA in 2005 that preserve state exclusive authority “to order the construction of additional generation or transmission capacity or to set and enforce compliance with standards for the adequacy or safety of electric facilities or services.”¹⁹³ Consequently, any conflict that may arise between state authority over electric resource planning and the EPA’s efforts to implement the Clean Power Plan should be resolved in favor of the states.

2. State Utility Boards, and Not the EPA, Have the Requisite Expertise to Regulate Electric Utilities and Ensure the Availability of Reliable and Affordable Electricity at the Retail Level

For many of the same reasons as described above with respect to the FERC and NERC at the federal level, state utility commissions have far more experience and technical ability to regulate energy matters at the state, local, and retail level than does the EPA.¹⁹⁴ Just as the EPA failed to elicit input from the FERC before proposing its ambitious regulatory program, it likewise did not draw on the expertise of state utility boards. This has led to widespread criticism of the Clean Power Plan. Indeed, by the time this article went to publication, 26 out of 47 states—more than 55%—affected by the Clean Power Plan had filed petitions for review in the D.C. Circuit.

Many PUCs attribute the shortcomings in the proposed rule to the EPA’s lack of expertise in regulating energy matters. For instance, some PUCs have criticized the EPA’s use of incorrect values in its calculations, inconsistent methodologies, and redundant mathematical formulae.¹⁹⁵ Others have argued that the proposed rules compliance timeline was “neither credible nor viable,” and that “[s]tates need to have the full proposed compliance period, through the end of 2030, to achieve their goals.”¹⁹⁶ The EPA has tried to address that issue, but still misses the mark.¹⁹⁷

Even the EPA’s general framework is flawed. The federal government’s state-by-state approach is an awkward fit for a country whose electric markets often span multiple states.¹⁹⁸ Idaho, for example, consumes coal-generated energy

192. 16 U.S.C. § 824(b); *see also* H.R. Rep. No. 1318, 74th Cong., 1st Sess., 8 (1935) (emphasizing that the FPA “takes no authority from state commissions”).

193. 16 U.S.C. § 824o(i)(2) (2010).

194. *See generally* Part III.C.

195. *See, e.g.*, COMMENTS SUBMITTED ON BEHALF OF THE PUBLIC UTILITIES COMMISSION OF OHIO, CARBON POLLUTION EMISSION GUIDELINES FOR EXISTING STATIONARY SOURCES ELECTRIC UTILITY GENERATION UNITS 23-24 (2014) [hereinafter OHIO COMMENTS] (observing that the EPA improperly entered 470,486 MWh rather than 2,599,011 MWh for the Dresden Plant’s net generation. Also discusses the rounding errors produced by the EPA’s methodology, and demonstrates how the EPA’s formula for mass-based calculation “adds and subtracts the same value . . . in the same question.”).

196. OHIO COMMENTS, *supra* note 195, at 17; PUB. SERV. COMM’N OF WISCONSIN, WISCONSIN’S COMMENTS ON EPA’S PROPOSED CLEAN POWER PLAN pts. 1, 3 (2014).

197. *See, e.g.*, KANSAS CORP. COMM’N, COMMENTS OF THE KANSAS CORPORATION COMMISSION ON THE PROPOSED CLEAN POWER PLAN 23 (2014) [hereinafter KANSAS COMMENTS] (“The EPA’s Clean Power Plan requires compliance within ten to fifteen years. This deadline is not achievable.”).

198. FERC v. Mississippi, 456 U.S. 742, 757 (1982) (“No State relies solely on its own resources [for electric energy.]”) (citing FPC v. Fla. Power & Light Co., 404 U.S. 453 (1972)).

produced in at least five other states.¹⁹⁹ Texas has four separate electricity markets.²⁰⁰ Examples like these “show[] how irrelevant state boundaries are in determining” the appropriate mix of energy.²⁰¹ The enforcement of such interstate arrangements through a state-by-state approach will fundamentally alter the role, responsibilities, and jurisdiction of state PUCs nationwide.

Indeed, the EPA’s basic assumptions are at odds with industry understanding, evincing a lack of industry knowledge and, in particular, a lack of familiarity with state-specific resources.²⁰² For example, and as pointed out above, the EPA erroneously assumes as the linchpin of its entire regulation that all electric generation is “fungible.”²⁰³ This is simply incorrect. In the eyes of PUCs, these blunders illustrate just how little the EPA knows about the physics, geography, and organization of electric markets.²⁰⁴

B. Resolving Conflicts Between FERC and EPA Authority

As discussed above, the Clean Power Plan conflicts with FERC’s traditional authority in the areas of reliability and energy market formation, and thus sets up a conflict between the FPA and the Clean Air Act. While much has been written on the topic of overlapping regulatory space, no clear rule has arisen for determining which *federal* agency or statute should have primacy in case of a conflict.²⁰⁵ In some circumstances, courts appear to have applied the long-standing maxim *generalalia specialibus non derogant* (i.e., the provisions of a general statute must yield to the specific statute) in order to determine which agency should have primacy in the field. These cases, such as the Supreme Court’s decision in *FDA v. Brown & Willimason Tobacco Corp.*, hold that “the

199. *FERC Perspective: Questions Concerning EPA’s Proposed Clean Power Plan and other Grid Reliability Challenges*, Hearing Before the Subcomm. on Energy and Power of the H. Comm. on Energy and Commerce, 113th Cong. 2 (2014) (statement of Philip D. Moeller, Chairman, FERC).

200. PUB. UTIL. COMM’N OF TEXAS, CARBON POLLUTION EMISSION GUIDELINES FOR EXISTING STATIONARY SOURCES ELECTRIC UTILITY GENERATION UNITS 2 (2014) [hereinafter TEXAS COMMENTS].

201. SOUTH DAKOTA PUB. UTILITIES COMM’N, COMMENTS FROM THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION ON EPA’S PROPOSED CARBON POLLUTION EMISSION GUIDELINES FOR EXISTING STATIONARY SOURCES 2 (2014) [hereinafter SOUTH DAKOTA COMMENTS] (“[S]tate boundaries have little to no bearing on utility boundaries.”); MAINE PUB. UTILITIES COMM’N, COMMENTS OF THE MAINE PUBLIC UTILITIES COMMISSION ON THE PROPOSED CLEAN POWER PLAN 8 (2014) (discussing the EPA’s failure to account for regional renewable electricity markets).

202. See, e.g., TEXAS COMMENTS, *supra* note 200, at 11-14 (describing how the EPA “failed to account for the unique factors of the Texas electricity sector”); SOUTH DAKOTA COMMENTS, *supra* note 201, at 1 (listing as its primary goal to “educat[e] EPA about South Dakota’s electric industry”).

203. KANSAS COMMENTS, *supra* note 197, at 23-24 (critiquing the EPA’s mistake); *but cf.* William S. Scherman, Charles H. Haake, & Jason J. Fleischer, *EPA’s Dangerous Desire to Become America’s Energy Regulator*, FORBES (May 11, 2015) (“Every first year electrical engineering student learns within the first few days of classes that electric generation at one location is simply not fungible with generation from another location.”).

204. See, e.g., KANSAS COMMENTS, *supra* note 197, at 10 (“The EPA demonstrates its lack of experience and technical knowledge of the electrical system, generation mix, and associated reliability issues.”); OHIO COMMENTS, *supra* note 195, at 22 (noting that the EPA “takes an approach whereby it seeks to act in the energy industry without the requisite knowledge or understanding of the plan’s far-reaching impacts.”).

205. Jason Marisam, *Duplicative Delegations*, 63 ADMIN. L. REV. 181, 238 (2011).

meaning of one statute may be affected by other Acts, particularly where Congress has spoken substantively and more specifically to the topic at hand.²⁰⁶

In application, this means that statutes specifically tailored to govern a narrow issue will typically win out over generalist statutes that regulate more broadly. For example, in *Nutritional Health Alliance v. FDA*, the Second Circuit struck down regulations of the Food and Drug Administration addressing the packaging of iron supplements under the Food, Drug, and Cosmetic Act, holding that doing so could conflict with the regulation of such packaging by the Consumer Product Safety Commission under the Poison Prevention Packaging Act.²⁰⁷ One basis for the court's holding was the observation that "a later-enacted, more specific, comprehensive statute that targets the specific subject matter at issue in the case controls the construction of a more general statute when there is a potential conflict or discrepancy between the burdens imposed upon affected entities."²⁰⁸ The court found that Congress has crafted a detailed regulatory program targeting the narrow problem of accidental poisoning of children from ingestion of ordinary household products, and that that program precluded potentially conflicting regulations of the FDA.²⁰⁹ Similarly, in *California v. Kleppe*, the Ninth Circuit held that Congress granted specific authority to the Department of the Interior over the air quality in the outer continental shelf, and the EPA therefore could not impose conflicting regulations in this arena under its more general grant of authority under the Clean Air Act.²¹⁰

As applied to regulation of the energy industry, this canon of interpretation plainly indicates that the Federal Power Act, not the Clean Air Act, should govern with respect to energy regulations where a conflict arises between FERC and the EPA. Through the FPA, Congress has carefully crafted the scope and extent of FERC's powers as between FERC and the states, and in doing so, Congress makes a point to preserve state authority. If EPA continues to submit that its broad, generalized mandate to set the best system of emission reduction trumps the detail of a statute governing the minutia of EPA's target industry, the EPA faces an uphill battle in court. Given precedent such as *Brown v. Williamson Tobacco Corp.*, it is likely courts will consider that the FPA—clearly the more "specific" statute—controls. And because the FPA specifically promotes the state authorities that the EPA now is attempting to preempt, the courts will probably find that the CAA—a more "generalist" statute—must give way to the FPA.

Interestingly, when addressing motor vehicle CO₂ emissions, the EPA faced a similar conflict with the Department of Transportation (DOT) and sought to cede its authority. DOT regulates motor vehicle fuel economy under the Energy Policy and Conservation Act of 1975 (EPCA).²¹¹ The EPA determined that regulating such emissions was indistinguishable from regulating fuel economy, and further determined fuel economy could be mathematically translated (in terms of miles per gallon of fuel consumed) to a CO₂ emission rate (in terms of grams of CO₂

206. *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133-34 (2000).

207. *Nutritional Health Alliance v. FDA*, 318 F.3d 92 (2d Cir. 2003).

208. *Id.* at 102.

209. *Id.* at 104-05.

210. *California v. Kleppe*, 604 F.2d 1187 (9th Cir. 1979).

211. 49 U.S.C. § 32902 (2011).

emitted per mile).²¹² The U.S. Supreme Court addressed this seeming overlap of authority in *Massachusetts*, holding that the EPA's regulation of CO₂ emissions under the Clean Air Act is not inherently inconsistent with the DOT's regulation of fuel economy:

EPA finally argues that it cannot regulate carbon dioxide emissions from motor vehicles because doing so would require it to tighten mileage standards, a job (according to EPA) that Congress has assigned to DOT. But that DOT sets mileage standards in no way licenses EPA to shirk its environmental responsibilities. EPA has been charged with protecting the public's "health" and "welfare," a statutory obligation wholly independent of DOT's mandate to promote energy efficiency. The two obligations may overlap, but there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency.²¹³

As a result of this decision, the EPA made an endangerment finding under Section 202(a), concluding that "elevated concentrations of greenhouse gases in the atmosphere . . . endanger the public health and . . . welfare," and that "emissions of . . . greenhouse gases from new motor vehicles contribute to [that] air pollution."²¹⁴ In light of that finding, the EPA and the National Highway Traffic Safety Administration subsequently issued a joint rule establishing harmonized fuel economy and GHG emission standards for light duty vehicles.²¹⁵

Of course, in instances such as this, courts tend to encourage the agencies to come to some resolution between themselves. Only when that does not work do the courts intervene, applying a variety of potential remedies.²¹⁶ While there is no one test for evaluating direct conflicts between federal agencies and statutes, scholars have identified numerous factors that courts consider, such as: (1) whether the agencies have cooperated to achieve a resolution between themselves;²¹⁷ (2) whether the agencies have been historically active or inactive in the disputed jurisdictional space, if the other agency had not been actively regulating the disputed field;²¹⁸ and (3) the expertise of the agency in the particular field.²¹⁹

Here, while the EPA lacks the expertise to regulate on reliability issues (and largely fashioned the rule without FERC input), the EPA, FERC, and the

212. Final Rule, Average Fuel Economy Standards for Light Truck Model Years 2008-2011, 71 Fed. Reg. 17,566, 17,660 (Apr. 6, 2006).

213. *Massachusetts*, 549 U.S. at 531-32.

214. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,516, 66,537 (Dec. 15, 2009).

215. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010).

216. See, e.g., *Hunter v. FERC*, 711 F.3d 155 (using de novo review); *Massachusetts*, 549 U.S. at 533 (assessing the conflicting regulation on other grounds, holding that intra agency coordination is preferable); *Nutritional Health Alliance v. FDA*, 318 F.3d 92 (2d Cir. 2003) (striking down a new regulation promulgated by the FDA because it would interfere with the CPSC's long-term regulation); see also Marisam, *supra* note 205, at 208-11; Amanda Shami, *Three Steps Forward: Shared Regulatory Space, Deference, and the Role of the Courts*, 83 *FORDHAM L. REV.* 1577, 1601 (2014) ("When analyzing the level of deference to award, if any, different courts accord varying emphasis based on a host of factors, including whether one agency is executive and the other is independent, the statutory scheme, expertise, and political accountability.").

217. *Massachusetts*, 549 U.S. at 533.

218. Marisam, *supra* note 205, at 209 (citing *Nutritional Health Alliance v. FDA*, 318 F.3d 92 (2d Cir. 2003)).

219. Shami, *supra* note 216, at 1601.

Department of Energy (DOE) have signed a memorandum of understanding (MOU) where each agency pledges to make efforts to ensure the reliable implementation of the final rule.²²⁰ The MOU is a short document that describes a monitoring strategy the agencies agree to jointly undertake to “help ensure that state plans can be implemented in a manner that is fully compatible with the power sector’s ability to maintain electric reliability.”²²¹ The agreement is largely based on “frequent communications and coordination among the three agencies,” and ensures each agency will communicate with its constituents (i.e., states) before meeting “no less than quarterly[] to discuss what they are learning about the developing state plans and any potential reliability concerns.”²²² While the MOU attempts to involve the FERC and the Department of Energy in the implementation of the rule, it is unclear how meaningful the two agencies’ involvement will be, and the fact remains that they were largely absent from development of the rule in the first place. And if EPA prevails, it and not the FERC or DOE will retain final authority over how the Clean Power Plan is implemented.

Given the EPA’s reluctance to involve the experts in reliability in the formation of the proposed and final rules, the courts may be more likely to find in any true dispute that FERC has both the expertise and the historic precedence, and as such should have the controlling regulations. The EPA recognized that reliability matters fall under the FERC’s purview in its briefing in *Delaware Department of Natural Resources & Environmental Control v. EPA*, where the Agency unambiguously stated that the “FERC has jurisdiction over the ‘transmission of electric energy in interstate commerce,’ and is responsible for maintaining the reliability of the electric grid.”²²³ Moreover, the EPA admitted its lack of expertise in reliability when it stated that it “reasonably determined that it should leave competition-related considerations to the authorities directly responsible for maintaining the reliability of the electric grid”—i.e., the FERC.²²⁴

1. The Clean Power Plan Was Promulgated by the EPA with Minimal Consultation from FERC

In today’s modern administrative state, it is often impossible for Congress to specifically delegate tasks to individual agencies such that no jurisdictional overlap exists.²²⁵ When this happens, sister agencies will often work together through interagency consultation, interagency agreements, and joint policymaking in order to avoid promulgating conflicting regulations.²²⁶ The Office of Information and Regulatory Affairs, which resides in the White House’s Office of Management and Budget, often acts as the “mediator” between agencies in order

220. EPA-DOE-FERC Coordination on Implementation of the Clean Power Plan, ENVTL. PROT. AGENCY (Aug. 3, 2015), <https://www.ferc.gov/media/headlines/2015/PPP-EPA-DOE-FERC.pdf>.

221. *Id.* at 3.

222. *Id.* at 3-4.

223. Respondent’s Motion for Stay of Mandate, *Del. Dep’t of Natural Res. & Env’tl Control v. EPA*, USCA No. 13-1093, at 22 (D.C. Cir. July 15, 2015).

224. *Id.* at 40.

225. See, e.g., Marisam, *supra* note 205, at 190-99; Shami, *supra* note 215, at 1589-90.

226. Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131, 1186-88 (2012); Marisam, *supra* note 205, at 210-14 (citing examples).

to ensure consistency among regulatory programs.²²⁷ For example, in enacting the motor vehicle GHG emission limits and fuel economy standards discussed above, the EPA and the DOT worked together to craft a “joint rulemaking” that “set forth a carefully coordinated and harmonized approach to implementing” both the Clean Air Act and EPCA.²²⁸ Similarly, when a dispute arose between the Department of the Interior and the FERC concerning jurisdiction to license and regulate offshore hydropower projects, the two agencies entered into an MOU establishing that the FERC has “exclusive jurisdiction to issue licenses and exemptions for hydrokinetic projects located [offshore],” while the Department of the Interior maintained jurisdiction over leases, easements, and rights-of-way regarding offshore lands for hydropower projects.²²⁹

Here, in contrast, the EPA developed the Clean Power Plan with minimal input or consultation from FERC. In its proposed rule, the EPA claimed that it had met “on several occasions” with staff from the FERC and the DOE “to discuss [the EPA’s] approach to the [proposed] rule and its potential impact on the power system.”²³⁰ But the EPA never indicated what, if any, position or advice FERC or DOE staff took with respect to the issues raised by the proposed rule. Indeed, when asked by Congress what input they had in the formulation of the Clean Power Plan, several FERC Commissioners shockingly testified that the EPA not only did not meet with some of the Commissioners directly, but that the EPA had not requested *any* written advice or analysis from FERC, including on the proposed rule’s effects on electric reliability.²³¹ Then-interim-Chairman LaFleur acknowledged that while the FERC and EPA staffers did meet in several closed-door meetings, most of the FERC Commissioners were not included in those meetings.²³² In some cases, when the FERC staffers met with the EPA they were apparently ignored or denied relevant information. Indeed, one FERC Commissioner testified to Congress that in at least one closed-door meeting between the FERC and the EPA, the EPA *did not permit FERC Staff to review*

227. Marisam, *supra* note 205, at 183; Freeman & Rossi, *supra* note 226, at 1117; Shami, *supra* note 215, at 1617.

228. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324, 25,328 (May 7, 2010).

229. Historically, FERC asserted jurisdiction over hydropower projects such as dams, while the Department of the Interior regulated offshore energy projects such as oil exploration and development. *See generally* 16 U.S.C. § 817 (2011); 43 U.S.C. §§ 1331-1356 (2011). These two fields of regulation began to overlap as technologies were developed to capture hydropower offshore using waves. Marisam, *supra* note 205, at 215-16; Memorandum of Understanding between the U.S. Department of the Interior and Federal Energy Regulatory Commission (Apr. 9, 2009), *available at* <https://www.ferc.gov/legal/mou/mou-doi.pdf>.

230. Existing Source Proposed Rule, *supra* note 5, at 34,899.

231. Responses of FERC Acting Chairman LaFleur to Preliminary Questions from the U.S. House of Representatives Committee on Energy and Commerce, Subcommittee on Energy and Power, at 2 (July 29, 2014) (explaining that the “EPA did not request written advice or analysis regarding the potential impacts of the [Proposed Rule] on the reliability of the electric grid”) [hereinafter Responses of FERC Acting Chairman LaFleur].

232. *Id.* at 1-2; *See also* Responses of FERC Commissioner Clark, *supra* note 169, at 1 (stating that the “EPA did not consult with me”); Written Responses of FERC Commissioner Moeller, *supra* note 169, at 1 (stating that he has “had no consultations with EPA on its proposal”); Responses of FERC Commissioner Norris to Preliminary Questions from the U.S. House of Representatives Committee on Energy and Commerce, Subcommittee on Energy and Power, at 1 (July 29, 2014) (stating that he has “not consulted with EPA regarding the Proposal”).

*documents the EPA had brought to the meeting.*²³³ The implication of this is that the EPA may have sought to limit advice or analysis that would have been contrary to its intended goals.²³⁴

Moreover, FERC's own testimony shows that in crafting the proposed rule, the EPA may have ignored critical reliability observations made by FERC staff. According to a memo prepared by the Director of FERC's Office of Reliability memorializing a conversation between FERC staff and the EPA, FERC's Office of Reliability alerted the EPA that FERC was concerned about the feasibility and reliability effects of the EPA's four proposed building blocks. For instance, with respect to building block 2 of the proposed rule, FERC told the EPA that it "had doubts about the ability to expand the pipeline infrastructure as quickly" as necessary to meet the EPA's proposed 70% utilization rate of NGCCs and that the EPA's reliance on the fact that some NGCC units had previously exceeded a 60% utilization factor might be misplaced.²³⁵ Regarding the "significant increase in renewable generation" reflected in building block 3, FERC staff told the EPA "that it is difficult to get transmission built for such generation when it is remote from loads, e.g., wind farms," and that there were "unresolved questions about the effects of relying on renewables for 20% or more of net generation."²³⁶ "In particular..." FERC staff pointed out, there are "different views on the issue of ensuring adequate ancillary services."²³⁷

Regarding the infrastructure development needed to meet the requirements of building blocks 2 and 3, FERC's Office of Reliability tried to tell the EPA that such development "could lead to significant costs for new pipelines and transmission" and that the proposed rule would "require extensive and time-consuming engineering analysis of [ancillary service] issues."²³⁸ But the EPA did not appear to listen. FERC reinforced that point to no avail, noting that building new transmission and pipelines to meet the targets of building blocks 2 and 3 "might be costly and difficult to achieve within the timeline of the emissions targets."²³⁹ And, with respect to the heat rate improvements required by building

233. Additional Responses of FERC Commissioner Moeller, *supra* note 78, at 1 ("One of my advisors, Robert Ivanauskas, attended one private meeting prior to release of the rule which included Joe Goffman, Janet McCabe, and Chairman Cheryl LaFleur. Although EPA brought some documents to that meeting, EPA decided not to allow FERC to look at those documents.").

234. Additional Responses of FERC Commissioner Clark, *supra* note 9, at 5 ("I would ask EPA to not ignore the engineers and system planners who are raising red flags about reliability.").

235. Memorandum from Mike Bardee, Phone Call on EPA's Draft Rule for GHG from Existing Power Plants (Apr. 25, 2014), available at <http://docs.house.gov/meetings/IF/IF03/20140729/102558/HHRG-113-IF03-Wstate-LaFleurC-20140729-SD004.pdf> (as attached to Responses of FERC Acting Chairman LaFleur, *supra* note 230, at 1) [hereinafter FERC Staff Memo].

236. *Id.* at 2.

237. *Id.*

238. *Id.* at 2.

239. *Id.*; see also Responses of FERC Acting Chairman LaFleur, *supra* note 231, at 7-8 (July 29, 2014) (stating that "FERC staff emphasized [to EPA staff] that in light of the EPA's proposal to rely on increased capacity factors for natural gas fired generation resources, gas pipeline adequacy should be considered from a regional perspective, not just a national perspective, due to existing constraints on the system" and that "the construction of adequate natural gas infrastructure will be an important factor affecting the implementation of state compliance plans"); Written Responses of FERC Commissioner Moeller, *supra* note 169, at 5 (stating that he is "skeptical of EPA's contention that the modeled capacity increases [in natural gas infrastructure] are feasible by 2020").

block 1, FERC staff advised the EPA that the proposed rule assumes heat rate improvements “beyond the levels suggested in a couple of studies” and that the “assumed cost effectiveness of the proposed improvements [is] hard to reconcile.”²⁴⁰

In the final rule, the EPA acknowledged the FERC’s input, but such acknowledgement will likely not be sufficient for a reviewing court to find that EPA’s regulation should control given EPA’s attempt to restructure the nation’s electricity markets. For instance, when discussing system reliability, the EPA acknowledges that it was due in part to “extensive consultation with key agencies responsible for reliability, including the FERC and DOE,” that lead the EPA to push back the initial compliance date of the rule to accommodate reliability concerns.²⁴¹ While such revisions may help alleviate in some way the potential for massive changes in a hugely compressed time frame, the delay in the compliance period does nothing to alleviate many of the serious reliability issues that will result from retirements that may occur as soon as the beginning of 2016. While only time will tell, many commenters are concerned that the reliability safety valve implemented in the final rule is insufficient to address the potential effects on reliability caused by the final rule.²⁴² The safety valve will allow states “to notify the EPA that an affected EGU or EGUs may need to temporarily comply with modified emission standards” when necessary to counter “an immediate, unforeseen, emergency situation that threatens reliability,” and provides for affected EGUs to deviate from the SIP for up to ninety days (and beyond, although deviations after 90 days “must be accounted for and offset”).²⁴³ This is a necessary but wholly insufficient provision. The safety valve covers only “unforeseeable” emergencies “brought about by an extraordinary, unanticipated, potentially catastrophic event” and is meant “to be used only in exceptional situations,” *but this is all after the fact, and leaves EPA, not the FERC as the final decision maker on reliability matters.*²⁴⁴ Equally critical, the true test of reliability is not whether a system can be fixed when issues arise, but whether the issues can be prevented in the first place. The EPA’s final rule does not account for reliability concerns until they have already become a problem, and thus the reliability safety valve does little to meaningfully address reliability concerns.

2. The FERC, and Not the EPA, Has the Requisite Expertise to Regulate Electric Reliability and Wholesale Markets

Another factor courts will likely consider is the relative expertise of each agency in the field being regulated.²⁴⁵ As discussed above, the FERC (and NERC) are the federal government’s experts on the issues of reliability. No other agency has the depth of knowledge or the expertise to adequately review and analyze reliability issues.

240. FERC Staff Memo, *supra* note 235, at 2.

241. Existing Source Final Rule, *supra* note 5, at 64,671.

242. *Id.* at 1103-40.

243. *Id.* at 1113, 1123.

244. *Id.* at 1125, 1130.

245. Shami, *supra* note 216, at 1601 (“When analyzing the level of deference to award, if any, different courts accord varying emphasis based on a host of factors, including . . . [the agency’s] expertise . . .”).

For instance, under the Energy Policy Act of 2005, the FPA specifically obligates the FERC to ensure both the reliability of the bulk power system and that wholesale electricity rates remain just and reasonable.²⁴⁶ Section 215 of the FPA confers on the FERC both the right and the responsibility to maintain the continued reliable operation of the bulk power system.²⁴⁷ Among other things, Section 215 empowered the FERC to authorize an Electric Reliability Organization—NERC—for the purpose of developing and enforcing reliability standards for the bulk power system. Similarly, sections 205 and 206 of the FPA obligate the FERC to ensure that “all rules and regulations affecting . . . rates’ in connection with the wholesale sale of electric energy are ‘just and reasonable.’”²⁴⁸ The EPA, in contrast, has not been delegated any jurisdiction over the bulk electricity market by Congress, and its more general mandate to regulate emissions from the smokestacks of stationary power plants cannot be read as overriding the FERC’s more specific jurisdiction over reliability. To suggest that this authority somehow eviscerates the states’ historic police powers would turn the law of preemption on its head.

The EPA simply does not have the necessary expertise to regulate the reliability of the electric grid or the nation’s energy markets. Even the briefest review of the EPA’s final rule displays a startling lack of understanding about the efficient operation of our nation’s energy grid, and indeed, the physics underlying such operation. Perhaps the most obvious example is the EPA’s fundamentally flawed premise that a megawatt is a megawatt is a megawatt. Indeed, despite numerous commenters chastising the EPA for its description in the proposed rule of “electricity and electricity services” as “fungible products,” the EPA nonetheless continues to proclaim, albeit with a slight caveat, “that electricity production takes place, at least to some extent, interchangeably between and among generation facilities and different types of generation.”²⁴⁹

The EPA’s central premise of fungibility in the proposed rule was simply wrong, and remains so in the final rule, as any first year electrical engineering student would note. For instance, as FERC Commissioner Clark explained in response to the proposed rule, “[i]t would be a sweeping, and incorrect, assumption to simply say that all megawatts are equal when it comes to reliability within or across regions. . . . This is why transition in the energy grid necessitates rather long lead times and granular analysis.”²⁵⁰ The EPA’s overly simplistic view of the electric power system ignores significant geographic, structural, and temporal limitations on the ability of one resource to substitute for another. In his statement following the issuance of the final rule, Commissioner Clark emphasizes that the FERC “must continue to make the case for reliability and the proper functioning of FERC-jurisdictional markets,” and notes that while “EPA officials are writing these regulations, EPA officials are not responsible for ensuring reliable, affordable power.”²⁵¹ Indeed, despite the FERC having the best

246. Energy Policy Act of 2005 §§ 101-1840, 42 U.S.C. §§ 15801-16538.

247. 16 U.S.C. § 824o.

248. *EPSA*, 753 F.3d at 221 (quoting 16 U.S.C. § 824d(a) and citing 16 U.S.C. § 824e(a)).

249. Existing Source Final Rule, *supra* note 5, at 64,678, 64,776, 64,782.

250. Additional Responses of FERC Commissioner Clark, *supra* note 9, at 6 (emphasis added).

251. Clark Statement, *supra* note 10.

regulators, engineers, and operators in the world, “no one should think reliability and affordability are slam dunks, lest we deny the science of electrical engineering.”²⁵²

The EPA similarly demonstrates a lack of understanding about the electric industry by failing to account for or even recognize that different types of generation resources have different characteristics that make them better suited for some roles and ill-equipped for others. Some plants are quick to start up and can quickly increase or reduce their output in order to meet unexpected swings in demand, while other plants may be slower to turn on and less capable of rapid changes. For instance, it typically takes a day or more to bring a nuclear plant back online after it has been shut down, cooled, and depressurized, and the cost to do so is relatively high. As a result of these operating constraints, among other reasons, nuclear plants are generally run at maximum capacity at all times (i.e., as baseload generators), except when the plants are taken offline for refueling or maintenance outages. NGCCs, on the other hand, have significantly lower start-up costs and significantly shorter start-up times in comparison, and are often capable of ramping up and down with significant speed. This flexibility allows system operators to compensate for ever changing load demand and to reliably provide adequate capacity to meet short-term requirements in order to balance the output fluctuations from renewable generating facilities.

The EPA’s answer to the concerns affected entities have raised about reliability is to argue that it has made “two key changes . . . to the interim goals: establishing 2022, instead of 2020,” as the date for initial compliance, and adding a requirement that states “demonstrate that they have considered electric system reliability in developing their state plans.”²⁵³ But these changes continue to ignore the serious structural issues with the final rule.

As NERC explained in its analysis of the EPA’s proposed rule, none of the EPA’s building blocks actually fit together. For instance, with respect to building block 3, NERC noted that “grid reliability issues associated with increased variable resources are not directly addressed in the EPA’s proposed [b]uilding [b]locks.”²⁵⁴ This remains true in the final rule. With respect to building block 2, “NERC found a number of reliability concerns regarding increased reliance on natural-gas-fired generation that should be evaluated.”²⁵⁵ Among other things, NERC raised concerns about the negative effects of reduced fuel diversity caused by the proposed rule, and raises serious questions about the availability of natural gas and natural gas pipeline capacity.²⁵⁶ Again, this issue remains unaddressed in the final rule, and indeed, the EPA has doubled down on building blocks 2 and 3.

These were not just idle concerns, and the EPA’s failure to adequately address them in the final rule demonstrates that the EPA simply does not have the

252. *Id.*

253. Existing Source Final Rule, *supra* note 5, at 64,676.

254. NERC, POTENTIAL RELIABILITY IMPACTS OF EPA’S PROPOSED CLEAN POWER PLAN 13 (Nov. 2014), available at http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential_Reliability_Impacts_of_EPA_Proposed_CPP_Final.pdf.

255. *Id.* at 9.

256. *Id.* at 3.

technical expertise to regulate the reliability of the nation's energy grid and become the nation's energy regulator.²⁵⁷

VI. CONCLUSION

If upheld, the Clean Power Plan will fundamentally alter the role of state and federal utility regulators. State air regulators will make many, if not all, of the resource decisions state commissioners have previously made for over 100 years. Prudence reviews will be largely ministerial, as utility decision making will be handled by the EPA. State ratemaking will largely hold an accounting function, making sure the costs associated with EPA dictated determinations were properly recorded in the state system of accounts. And finally, the FERC and RTO/ISOs would be similarly constrained, as the EPA forces the FERC to regulate carbon markets—not the kind of markets the FERC has found to be necessarily just and reasonable under factors traditionally considered by the FERC under the Federal Power Act.

Indeed, as the nation's new energy regulator, EPA will be making all the decisions.

257. Others have raised similar concerns. For example, the Southwest Power Pool's (SPP) October 9, 2014 comments to the proposed rule explained that “[u]nless the proposed [rule] is modified significantly, SPP’s transmission system impact evaluation indicates serious, detrimental impacts on the reliable operation of the bulk electric system in the SPP region, introducing the very real possibility of rolling blackouts or cascading outages that will have significant impacts on human health, public safety and economic activity within the region.” Comments Submitted by Southwest Power Pool, Docket No. EPA-HQ-OAR-2013-0602, at 6 (filed on Oct. 9, 2014), <http://www.regulations.gov#!documentDetail;D=EPA-HQ-OAR-2013-0602-20757>. Likewise, the Electric Reliability Council of Texas (ERCOT) performed an analysis of the proposed rule and warns that the proposed rule, if implemented, “is likely to lead to reduced grid reliability for certain periods and an increase in localized grid challenges.” ELEC. RELIABILITY COUNCIL OF TEXAS, ERCOT ANALYSIS OF THE IMPACTS OF THE CLEAN POWER PLAN I (Nov. 17, 2014), available at <http://www.ercot.com/content/news/presentations/2014/ERCOTAnalysis-ImpactsCleanPowerPlan.pdf>. Among other things, “ERCOT estimates that the proposed CO₂ emissions limitations will result in the retirement of between 3,300 MW and 8,700 MW of coal generation capacity, could result in transmission reliability issues due to the loss of generation resources in and around major urban centers, and will strain ERCOT’s ability to integrate new intermittent renewable generation resources.” *Id.* at 7. ERCOT further notes that “[t]he Clean Power Plan will also result in increased energy costs for consumers in the ERCOT region by up to 20% in 2020, without accounting for the costs of transmission upgrades, procurement of additional ancillary services, energy efficiency investments, capital costs of new capacity, and other costs associated with the retirement or decreased operation of coal-fired capacity in ERCOT.” *Id.* at 1.