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The U.S. Supreme Court’s New Dukedom: The Hour and Year, or a Proposal Quite Near

Brian H. Potts*

The federal government in late 1999 sued thirty-six electric power facilities to enforce several of the Clean Air Act’s New Source Review (NSR) and New Source Performance Standard (NSPS) provisions. As these cases have slowly churned through the courts, the government has simultaneously tinkered with these rules through various rulemaking initiatives. Taken together, these actions have clouded the meaning of critical NSR and NSPS provisions, and generated many additional civil and legislative battles. This Article focuses on the U.S. Supreme Court’s review of one such civil battle—the Fourth Circuit’s decision in United States v. Duke Energy Corp.—and EPA’s subsequent rulemaking response. The Article first dissects the Fourth Circuit’s opinion, argues that it was wrongly decided, and urges the U.S. Supreme Court to reach a different conclusion. Then, the Article outlines EPA’s proposed regulatory solution to the Fourth Circuit’s decision and proposes two vastly different regulatory responses. Unlike EPA’s proposal, this Article’s proposals unify the NSR and NSPS provisions and provide greater regulatory flexibility without significantly weakening the NSR program. Regardless of what the U.S. Supreme Court decides, this Article takes the position that Congress or EPA should adopt one of its proposals because the proposals ease industry burdens, provide greater environmental protection, and simplify the entire NSR and NSPS process.

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INTRODUCTION

Electric power plants are a chief source of air pollution in this country: nationwide they produce approximately 70% of sulfur dioxide ($SO_2$) emissions, 30% of carbon dioxide ($CO_2$) emissions, and a quarter of all nitrogen oxide (NOx) emissions.\(^1\) In addition, the plants can produce sixty-seven hazardous air pollutants (HAPs) including mercury.\(^2\) Because this industry produces such a critical and disproportionately large segment of this nation’s air emissions, Congress and the Environmental

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2. Id.
Protection Agency (EPA) have consistently focused their attention on regulating its emissions.³

After Congress adopted the Clean Air Act (CAA) in 1970, new power plants were required to meet much more stringent requirements than existing sources: the existing plants were "grandfathered" out of meeting many significant requirements.⁴ Congress' expectation in exempting these facilities was that as they were retired, new replacement facilities would cause a decrease in total emissions over time.⁵ An existing facility could avoid stringent requirements as long as it was not significantly modified.⁶ This created an incentive for existing power plants to continue operating as long as possible without modifying their facilities—an incentive that still exists today.⁷ In fact, almost 60% of all the fossil-fueled power units operating in 2000 were built before Congress passed the CAA,⁸ and many additional units built between 1971 and 1978 have minimal, almost non-existent federal pollution control requirements.⁹

Because unmodified fossil-fueled units have a useful life of thirty to fifty years, dealing with the large quantity of these pre-1978 units has become a huge political issue recently. Modification of these plants poses many critical and often conflicting issues of cost and profitability, energy reliability, and environmental integrity. Although Congress has not acted since the 1990 CAA Amendments, over the last five or six years, EPA and the Department of Justice have focused on the power industry and the "modification rule." They have done this primarily through civil enforcement, but also by issuing new rules and regulations.

3. Id.; see also Robert A. Greco, When Is Routine Maintenance Really Routine? A Proposed Modification to the EPA's New Source Review Program, 88 MARQ. L. REV. 391, 391 (2004) ("Emissions from coal-fired power plants are a major source of pollution in the United States. As such, there are many different rules and regulations to control or limit these emissions.").

4. See Shi-Ling Hsu, Fairness Versus Efficiency in Environmental Law, 31 ECOLOGY L.Q. 303, 359 (2004) ("The fact that existing facilities are grandfathered into weaker standards is clearly a reflection of our reluctance to impose stringent new regulations on existing sources. The rationale behind this reluctance is clearly an expectations sense of fairness . . ."); Heidi Gorovitz Robertson, If Your Grandfather Could Pollute, So Can You: Environmental "Grandfather Clauses" and Their Role in Environmental Inequity, 45 CATH. U.L. REV. 131, 152 (1995).


7. See REITZE, supra note 5, at 166 ("The challenge is to keep old facilities operating without the need for a modification that triggers the need to install technology-based pollution controls . . .").

8. U.S. GEN. ACCOUNTING OFFICE, AIR POLLUTION: EMISSIONS FROM OLDER ELECTRICITY GENERATING UNITS 2 (2002). According to the same report, the leading states for SO₂ emissions from pre-1972 power plants in 2000 were Pennsylvania (830,616 tons), Ohio (789,672 tons), Indiana (449,498 tons), and West Virginia (436,309 tons). Id at 20–21. Not surprisingly, the same four states also were leading in NOx emissions from pre-1972 plants. Id.

9. See 40 C.F.R. §§ 60.42–60.44 (2006); REITZE, supra note 5, at 166.
Unfortunately, much of this action has clouded certain crucial portions of the New Source Performance Standards (NSPS) and the New Source Review (NSR) regulations and requirements, which apply to electric power plants as well as many other facilities. This Article will examine in detail a recent and important development pertaining to the NSPS and NSR modification rules: the U.S. Supreme Court’s review of the Fourth Circuit Court of Appeals’ decision in United States v. Duke Energy Corp.,10 and EPA’s subsequent rulemaking response.11

On December 31, 2002 and October 27, 2003, EPA finalized sweeping alterations to the NSR program12—which environmental and industry groups immediately challenged in two cases in the D.C. Circuit. The court recently decided these two cases, both titled New York. v. United States EPA, overturning various parts of the regulations.13 The first New York decision14 arguably casts doubt on the Fourth Circuit’s Duke Energy decision,15 further clouding the NSPS and NSR programs. Because the first New York decision and the Duke Energy decision created conflicting regulations in different circuits, EPA issued a new proposal to eliminate this conflict.16 Regrettably, this new proposal, which relies entirely on the Duke Energy decision’s analysis, will substantially weaken NSR. In a surprise move, the U.S. Supreme Court agreed to review the Fourth Circuit’s decision,17 putting EPA’s rulemaking response on hold.

12. See Prevention of Significant Deterioration (PSD) and Non-attainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, 68 Fed. Reg. 60,186 (Dec. 31, 2002); PSD and Non-Attainment NSR: Equipment Replacement Provision of the Routine Maintenance, Repair and Replacement Exclusion, 68 Fed. Reg. 61,248 (Oct. 27, 2003) (codified in scattered sections of 40 C.F.R. pts. 51 & 52). In this Article, the term “New Source Review” (NSR) will encompass the Prevention of Significant Deterioration (PSD) provisions of the CAA, which are a component of the NSR program. See id. These PSD provisions are the targets of much of the NSR litigation discussed in this Article. See, e.g., Duke Energy, 411 F.3d at 542.
16. Emissions Test for Electric Generating Units, supra note 11.
This Article argues that Duke Energy was wrongly decided and that EPA's rulemaking response is inadequate. Part I will provide the statutory and regulatory background necessary to understand the Duke Energy case and the subsequent EPA regulations. Part II will examine the District Court's and Fourth Circuit's decisions in Duke Energy and will argue that the U.S. Supreme Court should overrule the Fourth Circuit's decision. Part II also includes an examination of the D.C. Circuit's New York decision, the Seventh Circuit's recent United States v. Cinergy Corp. decision, and an overview of what is left of the NSR and NSPS rules after these cases. Finally, Part III will present and dissect EPA's new proposed regulation, and conclude by suggesting two alternative regulatory proposals that provide greater regulatory flexibility without significantly weakening the NSR program.

I. THE CLEAN AIR ACT

Meaningful restriction of air pollution emissions across the United States began when Congress passed the Clean Air Act Amendments of 1970. Although common law nuisance can be used to control air emissions in some circumstances, the majority of air pollution control comes from the CAA and its state counterparts. The primary structure of the CAA creates a partnership between state and federal agencies. CAA section 110 directs each state to develop a state implementation plan (SIP) to attain and maintain EPA's National Ambient Air Quality Standards (NAAQS). NAAQS set ceilings on the allowable concentration (mass per unit volume) of a particular criteria pollutant in the outdoor air, averaged over specific time periods. The SIP process gives state environmental agencies the opportunity to enact laws and regulations for stationary sources that are as stringent as, or more stringent than, the CAA.
A. New Source Performance Standards

As part of the 1970 CAA, Congress directed EPA to establish stationary source categories and to promulgate New Source Performance Standards for each category. In general, NSPS impose emission limitations on a certain category of new or modified sources based on the technology available to reduce emissions from each particular source category. Congress defines "modification" as "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted. Therefore, NSPS apply both to newly constructed sources and to "modifications" of existing facilities that generate new or increased air pollution. Importantly, sources built prior to 1971 are exempt from federal NSPS unless they are modified or reconstructed.

Since Congress' original mandate, EPA has promulgated NSPS for many source categories, including both large and small sources, often imposing different restrictions based on when the source was constructed or modified. Among the several categories, there are NSPS for hospital waste incinerators, nitric acid plants, metallic mineral processing plants, and even for the graphic arts industry. Most of these NSPS contain emissions standards, monitoring and reporting requirements, and test methods and procedures. Two categories are especially relevant here: the standards for fossil-fuel-fired steam generators built or modified after August 17, 1971 (referred to herein as the 1971 NSPS); and the standards for those built or modified after September 18, 1978 (referred to herein as the 1978 NSPS). Both apply to all new or modified units combusting more than 73 megawatts of heat input of a fossil fuel (250 million British thermal units (Btu/hr)) and both strictly control

28. Id. § 7411(b).
29. See id. § 7411(a)(2), (4).
30. See id. § 7411(a)(4).
31. Id. § 7411(a)(2), (4).
32. Id. § 7411(a)(2) (defining "new sources" as only those constructed or modified after publication of the 1970 regulations). State requirements, however, can be imposed. Id. § 7416.
34. 40 C.F.R. §§ 60.50c–60.58c.
35. Id. §§ 60.70–60.74.
36. Id. §§ 60.380–60.386.
37. Id. §§ 60.430–60.435.
38. See, e.g., id. §§ 60.372–60.374.
39. Id. §§ 60.40–60.46.
40. Id. §§ 60.40Da–60.52Da.
particulate matter.\textsuperscript{41} Generally, sources can meet the NOx and SO\textsubscript{2} standards in the 1971 NSPS by burning low-sulfur coal, while the 1978 NSPS usually requires the installation of a scrubber or other expensive pollution control technology.\textsuperscript{42}

\subsection*{B. New Source Review}

The New Source Review program, which Congress adopted in 1977, aims to have stringent control technology installed at certain sources undergoing construction or modification in non-attainment areas\textsuperscript{43} or in areas that meet the NAAQS, called Prevention of Significant Deterioration (PSD) areas.\textsuperscript{44} Rather than let EPA dictate which sources must comply with NSR, as it did with NSPS, Congress provided a list of applicable sources in the statute, known as “major emitting facilit[ies],” or simply major sources.\textsuperscript{45} For major sources in attainment areas undergoing PSD permitting, the best available control technology (BACT) is required.\textsuperscript{46} In non-attainment areas, the lowest achievable emissions rate (LAER) applies to such sources.\textsuperscript{47} BACT and LAER are technology standards, but are expressed as emissions limitations. LAER is generally more stringent than BACT, but both must be as stringent as, or more stringent than, the applicable NSPS emission limitation.\textsuperscript{48}

Like NSPS, NSR applies to all new or modified major stationary sources, but unlike NSPS, NSR does not apply to many small sources. It is important to note that when Congress enacted the NSR program, it referred explicitly to the NSPS definition of modification.\textsuperscript{49}

A source is considered “major” for PSD if it has the potential to emit at least one hundred tons per year of any pollutant and is listed in one of the twenty-eight promulgated categories.\textsuperscript{50} If the source is not listed in a

\begin{itemize}
\item \textsuperscript{41} Compare id. § 60.40(a), with id. § 60.40Da(a).
\item \textsuperscript{42} Compare id. §§ 60.43-60.44, with id. §§ 60.43Da–60.44Da; see also REITZE, supra note 5, at 166.
\item \textsuperscript{43} See 42 U.S.C. §§ 7501–7515 (2006). Non-attainment areas are those that do not meet the NAAQS standards. Id. § 7407(d)(1)(A)(i).
\item \textsuperscript{44} See id. §§ 7470–7492 (“Prevention of Significant Deterioration of Air Quality”). PSD areas include those where there is insufficient information to evaluate whether the NAAQS have been met. Id. § 7472(b).
\item \textsuperscript{45} Id. § 7479(1).
\item \textsuperscript{46} See id. § 7479(3).
\item \textsuperscript{47} See id. § 7501(3).
\item \textsuperscript{48} See id. § 7479(3) (“In no event shall application of [BACT] result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to [NSPS] . . . .”).
\item \textsuperscript{49} Id. §§ 7501(4), 7479(2)(C) (defining “modification” per the definition used for NSPS in Section 111(a) of the Act); see id. § 7411(a); see also United States v. Duke Energy Corp., 278 F. Supp. 2d 619, 629 (M.D.N.C. 2003), aff’d, 411 F.3d 539 (4th Cir. 2005), cert. granted, 126 S. Ct. 2019 (2006).
\item \textsuperscript{50} 42 U.S.C. § 7479(1) (2006).
\end{itemize}
category, then it is considered major if it emits 250 tons or more per year.\footnote{Id.} Fossil-fuel-fired steam electric plants are a listed category if their heat input is more than 250 million Btu per hour.\footnote{40 C.F.R. § 51.166(b)(1)(i)(a) (2006).} In non-attainment areas, where NSR applies, annual thresholds for determining whether a source is major range from one hundred tons to ten tons per year, depending on the severity of the area’s noncompliance and the particular standard at issue.\footnote{42 U.S.C. § 7511a(e).}

While NSR and NSPS are clearly interrelated, the two programs have different purposes and play different roles in achieving the CAA’s broad general goal of “protect[ing] and enhance[ing] the quality of the Nation’s air resources.”\footnote{See id. § 7401(b)(1).} The NSPS program focuses “upon the ‘affected facility’ component in a stationary source, i.e. the particular apparatus to which a standard is applied . . . [and] is therefore equipment oriented.”\footnote{N. Plains Res. Council v. EPA, 645 F.2d 1349, 1356 (9th Cir. 1981) (citing 40 C.F.R. 60.2(e) (1979)).} Conversely, the NSR program is site-oriented: it applies to the whole stationary source and focuses on plant siting and its potential effect on nearby environs.\footnote{Id.} Stated another way, NSPS regulations are more general and are based on what is technologically and economically feasible for each category’s specific equipment. NSR regulations are more site- and project-specific, allowing the agency to set stricter limitations based on what it deems to be the best technology currently available. Because EPA must promulgate actual regulations (i.e., emissions limitations) for each NSPS category, but each NSR determination is unit- and permit-specific, NSR limitations are inevitably more current (and stringent) than NSPS limitations. Given the differences in the purpose and structure of the two programs, courts have unsurprisingly struggled with how to treat similar, overlapping provisions within the two programs.\footnote{See, e.g., id. at 1355–56 (finding that the term “commenced” could be interpreted differently between the two programs).}

C. Triggering NSPS or NSR Pre-Construction Review

For existing plants to trigger NSPS or NSR, two criteria must be satisfied: (1) there must be a physical or operational change,\footnote{42 U.S.C. § 7411(a)(4) (2006).} and (2) there must be a “significant net emissions increase.”\footnote{40 C.F.R. § 51.166(a)(7)(iv)(a) (2006).} The Fourth Circuit
in *Duke Energy* focused solely on the second of these requirements. As for the first part, although courts have interpreted the term "physical change" broadly, EPA's regulations provide an exemption for routine maintenance, repair and replacement. To determine what is routine, EPA has historically looked to the nature, and extent, purpose, frequency, and cost of a proposed project.

While the statutory definitions for modification under NSPS and NSR are identical, EPA defines significant net emissions increase (the second part of the test) differently for the two programs. Unlike the test for NSR, in which EPA uses a total annual emissions test (kg/yr), EPA uses an emissions rate test (kg/hr) to measure whether a source modification will increase emissions for NSPS purposes. If a modification "results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies," the source must comply with the NSPS requirements for its category. The NSPS regulations specify that unrelated increases in the hours of operation or production rates within the operating design capacity of a facility are not modifications. Conversely, if a source spends more than 50% of the capital cost of building an entirely new facility and it is "technologically and economically feasible to meet" the NSPS, EPA considers this a reconstruction and mandates that the source comply with the NSPS for its category.

While measuring hourly increases under NSPS is relatively simple, measuring annual increases under NSR is considerably more difficult. To measure the NSR increase, EPA starts with a baseline calculation of "actual emissions"—or "the average rate, in tons per year, at which the unit actually emitted" for any two consecutive years of the ten preceding

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60. *See United States v. Duke Energy Corp.*, 411 F.3d 539, 545 n.2 (4th Cir. 2005) (stating that because the court decided that there was not a "significant net emissions increase," it need not reach the physical or operation change question), *cert. granted*, 126 S. Ct. 2019 (2006).

61. *See, e.g.*, Wis. Elec. Power Co. v. Reilly, 893 F.2d 901, 905 (7th Cir. 1990) ("[T]he most trivial activities—the replacement of leaky pipes, for example—may trigger the modification provisions if the change results in an increase in the emissions of a facility.").


64. 40 C.F.R. § 60.14(b) (2006).

65. *Id. § 60.14(a).*

66. *Id. § 60.14(e)(2)–(3).*

67. *Id. § 60.15 (a)–(b).*

68. *Id. § 52.21(b)(21)(ii)* (emphasis added). The previous rule before EPA's 2002 NSR reform was that the baseline was measured over the immediately preceding two years; however, there were circumstances where EPA might measure other years at their discretion. *See New York v. EPA*, 413 F.3d 3, 10 (D.C. Cir. 2005) (upholding EPA's new NSR baseline calculation rule).
years "using the unit's operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period." EPA then compares the actual baseline yearly emissions to the projected actual post-project emissions to see if there will be a "net emissions increase." This is known as the "actual-to-projected-actual test."

Again, NSPS are distinguishable from the NSR standards in that EPA measures emissions increases based on an hourly rate rather than a projected annual rate. This is an important distinction. If EPA uses an annual rate measurement, both an increase in hourly emissions or a corresponding increase in the total hours a unit could be operated could trigger a "net emissions increase." However, if EPA uses an hourly rate, only an increase in the hourly emissions will constitute a "net emissions increase."

II. THE DUKE ENERGY CASE AND ITS MURKY AFTERMATH

Duke Energy Corporation has been supplying electricity to North and South Carolina since the early 1900s. It currently operates thirty coal-fired electric generating units at eight plants located throughout the two states. These units were placed into service between 1940 and 1975 and have a net rated generating capacity from 38 mega-watts (MW) to 1120 MW. The majority of construction projects at issue in the litigation consisted of replacement and/or redesign of one or more of four sets of boiler tube assemblies—economizers, portions of waterwalls, superheaters, and reheaters. According to Duke Energy, the purpose of the projects was to "conduct maintenance and upgrade the selected fossil

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69. 40 C.F.R. § 52.21(b)(48)(ii). The period is five years for electric facilities. Id. § 52.21(b)(48)(i).
70. Id. § 51.166(b)(21)(ii).
71. Id. § 52.21(a)(2)(iv)(c).
73. For a quantitative example of this exact difference, see infra Part III. See also Puerto Rican Cement Co. v. EPA, 889 F.2d 292, 293-94 (1st Cir. 1989).
77. Duke Energy, 411 F.3d at 544.
79. Id. at 624.
generating units so that they operate safely, reliably and cost effectively for an additional twenty years.\textsuperscript{80}

\textbf{A. The District Court's Determination}

In December of 2000, the EPA, via the U.S. Attorney General, filed suit against Duke Energy in the Middle District of North Carolina, alleging that Duke Energy's modifications violated NSR.\textsuperscript{81} The District Court focused on both the physical change issue (the routine maintenance exemption) and the net emissions increase issue.\textsuperscript{82} However, because the Fourth Circuit did not address routine maintenance on appeal, this Article will not address that portion of the District Court’s decision.\textsuperscript{83} Regarding the issue of emissions increase, EPA asserted that the “actual-to-projected-actual” test applied.\textsuperscript{84} This test requires a source to predict a project’s impact by looking at each unit’s hourly emission rate, total hours, and rate of production. Duke Energy, on the other hand, argued that the “actual-to-actual” test applies,\textsuperscript{85} which requires “a comparison of pre-project actual emissions and future ‘actual’ emissions, assuming constant hours and conditions of operations.” The District Court agreed with Duke Energy.\textsuperscript{86}

\textbf{B. The Fourth Circuit's Determination}

The Fourth Circuit affirmed the District Court's decision based on a similar but slightly narrower reason. Without addressing the routine maintenance issue, the Fourth Circuit held that EPA had impermissibly interpreted the definition of “modification” in the NSR and NSPS sections of the CAA differently.\textsuperscript{87} It stated: “because Congress mandated

\begin{itemize}
  \item \textsuperscript{80} Id. at 625.
  \item \textsuperscript{81} Id. at 622. Environmental Defense, North Carolina Sierra Club, and North Carolina Public Interest Research Group Citizen Lobby/Education Fund all intervened as plaintiffs. Id. at 621.
  \item \textsuperscript{82} Id. at 650–52. The District Court's decision also focused on a statute of limitations issue, which will not be discussed here. Id. at 649–52.
  \item \textsuperscript{83} Essentially, Duke Energy argued that the routine maintenance exemption should encompass what is routine for the industry, while EPA said it should encompass what is routine for the unit. Id. at 622 n.1. Unlike other recent decisions, the court agreed with the plant, stating: “The EPA's continual reference to other projects within the utility industry confirms Congress' intent to define [routine] under PSD according to the relevant source category.” Id. at 635.
  \item \textsuperscript{84} Id. at 640.
  \item \textsuperscript{85} Id.
  \item \textsuperscript{86} Id. at 653. Specifically, it held that given the EPA's initial PSD rule interpretations and the fact that Congress had specifically referenced the NSPS definition of modification when it adopted the NSR definition, EPA had to calculate post-project emissions on a yearly basis. Id. at 640. In other words, EPA could not consider whether the modification would increase the facility’s hours of operation.
\end{itemize}
that the PSD definition of ‘modification’ be identical to the NSPS’ definition of ‘modification,’ the EPA cannot interpret ‘modification’ under the PSD inconsistently with the way it interprets that term under the NSPS.”

The Fourth Circuit relied entirely on the Supreme Court’s decision in *Rowan Cos., Inc. v. United States* to hold that EPA could not interpret the term “modification” differently for NSPS and NSR because the congressional language was identical. *Rowan* addressed the question of whether the Internal Revenue Service’s Commissioner could interpret the term “wages” in the Federal Insurance Contributions Act and the Federal Unemployment Tax Act differently from how the term is defined in the income tax withholding statute. The Supreme Court held that the Commissioner could not interpret the term differently. Even though *Rowan* was not cited in any of the parties’ briefs or in any of the thirty amicus briefs, the Fourth Circuit determined that EPA was bound by its original hourly emissions test interpretation of the term “modification” under the NSPS regulations, and could not use the annual emissions test for NSR.

1. The Fourth Circuit’s Rowan Analysis Was Erroneous

At first blush, the Fourth Circuit’s decision seems a simple and reasonably sound interpretation of *Rowan*. On its face, the *Rowan* decision appears to stand for the proposition that an agency cannot generally define the exact same statutory term differently when interpreting discrete statutes. However, the validity of this decision is dubious for reasons the Fourth Circuit overlooked. The Supreme Court’s decision in *Rowan* was based on the “consistency” portion of the following rule, enunciated in its earlier decision in *National Muffler Dealers Association v. United States*.

In determining whether a particular regulation carries out the congressional mandate in a proper manner, we look to see whether the regulation harmonizes with the plain language of the statute, its origin, and its purpose. A regulation may have particular force if it is a substantially contemporaneous construction of the statute by those presumed to have been aware of congressional intent. If the regulation dates from a later period, the manner in which it evolved

88. *Id.* at 547. The PSD provisions are an element of NSR. *See supra* note 12.
92. *Id.* at 263.
95. *Id.* at 253–54.
merits inquiry. Other relevant considerations are the length of time
the regulation has been in effect, the reliance placed on it, the consistency of the Commissioner's interpretation, and the degree of
scrutiny Congress has devoted to the regulation during subsequent re-
enactments of the statute.96

As many courts have pointed out, though, the rule in National Muffler
and Rowan may no longer be valid,97 as the Supreme Court decided both
cases prior to Chevron U.S.A., Inc. v. Natural Resources Defense Council.98 Significantly, the Chevron test does not look to "the
consistency of the Commissioner's interpretation."99

In addition, the Fourth Circuit read Rowan as holding that an agency
must interpret matching statutory definitions identically.100 However, the
fact that the definitions were identical was merely one factor—albeit a
significant one—in the Rowan Court's analysis. The Court found that this
factor was "strong evidence that Congress intended 'wages' to mean the
same thing," but then continued to examine the legislative history of the
statutes.101 Significantly, the legislative history strongly supported the
identical definition requirement in Rowan,102 whereas here, the legislative
history is silent.

added).
97. See, e.g., Walton v. Comm'r, 115 T.C. 589, 598 (2000), stating that:
We pause to note that before the Chevron standard of review was enunciated by the
Supreme Court, the traditional standard was simply 'whether the regulation harmonizes with the plain language of the statute, its origin, and its purpose', as
prescribed by the Supreme Court in [National Muffler]. As we have observed in a
previous case, the opinion of the Supreme Court in Chevron failed to cite National
Muffler and may have established a different formulation of the standard of review. In
the case before us, we conclude that it is unnecessary to parse the semantics of the two
tests to discern any substantive difference between them, because the result here
would be the same under either.

99. National Muffler, 440 U.S. at 477. In Chevron, the Court noted that "[t]he fact that the
agency has from time to time changed its interpretation of the term 'source' does not . . . lead us
to conclude that no deference should be accorded the agency's interpretation of the statute. An
initial agency interpretation is not instantly carved in stone." Chevron, 467 U.S. at 863.
100. See United States v. Duke Energy Corp., 411 F.3d 539, 550 (4th Cir. 2005) ("In the case
before us . . . the presumption of uniform usage has become effectively irrebuttable because
Congress' decision to create identical statutory definitions of the term 'modification' has
affirmatively mandated that this term be interpreted identically in the two programs."). cert.
102. The Rowan Court found that the legislative history indicated a "congressional concern
for 'the interest of simplicity and ease of administration.'" Id. (quoting S. REP. NO. 77-1631, at
165 (1942)).
2. **Even if Rowan Is Still Good Law, It Is Factually Distinguishable**

Even if the *Rowan* rule is still binding law, the Fourth Circuit did not address the obvious differences between the term “wages” at issue in *Rowan* and the term “modification” discussed in *Duke Energy*. Although “wages” could presumably be interpreted differently in separate contexts (e.g., earned wages versus taxable wages), it generally has the same definition within the same context. For instance, wages earned as a gas station attendant should be calculated in the same manner as wages earned as an attorney. Yet, the term “modification” has different meanings within the same contexts. For example, what constitutes a modification at one fossil-fueled plant (causing an increase in pollution) may not constitute a modification at another fossil-fueled plant—since every facility is constructed and operated differently.

Therefore, it is unreasonable to expect EPA to interpret the term “modification” consistently, especially given the stark difference in the purposes and structure of the NSPS and NSR programs. The NSPS program focuses on technology requirements for source categories, while NSR focuses on the location of the source and its potential impact on air quality in that locality.\(^{103}\) Indeed, Congress enacted the NSR program to further regulate sources that might significantly degrade local air quality despite the NSPS program.\(^{104}\)

3. **The Fourth Circuit’s Chevron Analysis Was Also Erroneous**

When assessing the validity of an agency’s promulgated regulation, the court should apply a two-step *Chevron* analysis.\(^{105}\) First, the court should assess whether Congress has “directly spoken to the precise question at issue” by looking at whether the statute’s language is clear and unambiguous.\(^{106}\) If so, the court must follow Congress’ expressed

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105. In 2001, the U.S. Supreme Court announced that not all administrative determinations are entitled to *Chevron* deference. United States v. Mead Corp., 533 U.S. 218, 226-27 (2001) (“We hold that administrative implementation of a particular statutory provision qualifies for *Chevron* deference when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority.”). In *Mead*, the Court did not apply *Chevron* deference to the Custom Service’s letter ruling, instead granting reduced deference based on a variety of factors including the “consistency [of the agency’s position] with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.” *Id.* at 228 (quoting Skidmore v. Swift & Co., 323 U.S. 134, 140 (1944)). In this case, *Chevron* deference is clearly warranted because the rule at issue is not a letter ruling, but a regulation promulgated pursuant to notice and comment. *Id.*

intent. If the statute is silent or ambiguous, the court must take the second step, looking to whether the agency’s interpretation is “based on a permissible construction of the statute.”107

In Duke Energy, the Fourth Circuit too loosely defined the primary issue and never reached the second step in the Chevron analysis. As the court stated, “the critical first ‘question at issue’ here is whether the EPA ‘can interpret the statutory term ‘modification’ under PSD differently from how EPA interpreted that term’ in the NSPS.”108 Yet, the proper question was whether EPA could interpret a component term of two identical statutory definitions differently. The issue should not have been how to interpret the full definition of “modification,” but rather how to interpret the component term “increases in the amount of any air pollutant emitted.”109

When postulated more exactly, the issue is much easier to answer. Many courts have held that component terms need not be interpreted identically, either in other statutes or within the CAA itself.110 Even more persuasive, another component term within the statutory definition of “modification”111—namely the term “stationary source”—must have different meanings within the two programs, and EPA interprets it as such.112 For NSPS, the term “stationary source” encompasses major and minor sources, while for NSR, it only refers to major sources.

4. The Fourth Circuit Did Not Have Jurisdiction to Decide the Issue

Finally, and most critically, the Fourth Circuit did not have jurisdiction to invalidate EPA’s regulation. In the CAA, Congress provided that only the D.C. Circuit could make such determinations, and only if a petition is filed within sixty days of the regulation becoming final.113 In this CAA provision, Congress states: “[a]ction of the Administrator with respect to which [a petition for review] could have obtained . . . shall not be subject to judicial review in civil or

107. Id. at 843.
111. 42 U.S.C. § 7411(a)(4) (2006) (“The term ‘modification’ means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.”).
112. For NSPS purposes, the term “stationary source” encompasses more sources than NSR was intended to regulate. Compare 42 U.S.C. § 7411(a)(3) (defining stationary source as “any building, structure, facility, or installation which emits or may emit any air pollutant”), with 42 U.S.C. § 7479(1) (limiting the NSR program to only “major emitting facilities”).
113. Id. § 7607(b)(1).
criminal proceedings for enforcement."\textsuperscript{114} Congress' purpose in enacting these provisions was to promote "even and consistent national application" of the CAA regulations.\textsuperscript{115} The \textit{Duke Energy} case was a civil action, not a petition for review, thus the Fourth Circuit did not have jurisdiction to invalidate the NSR rule.

\textbf{C. New York v. EPA and Its Effect on Duke Energy}

Many commentators have argued that there is a conflict between the Fourth Circuit's decision in \textit{Duke Energy} and the D.C. Circuit's 2005 \textit{New York} decision,\textsuperscript{116} which was published nine days after \textit{Duke Energy}.\textsuperscript{117} Although the two courts interpreted the same PSD modification rule differently, their decisions do not actually conflict, which is one reason why the U.S. Supreme Court's decision to grant certiorari was surprising.

The \textit{New York} decision resolved numerous challenges to the Bush Administration's sweeping 2002 NSR rule changes.\textsuperscript{118} In so doing, the court expressly rejected an industry claim that "modification must have the same regulatory meaning for NSR as prevailed for NSPS in 1977 on the fact that Congress, by a cross-reference, used the same language in both statutory contexts."\textsuperscript{119} In other words, industry argued that Congress incorporated the NSPS definition into its 1977 NSR amendments, and therefore EPA had to follow Congress' intent. The D.C. Circuit disagreed, citing the rule that courts require express congressional indications in the statutory language or history before inferring that Congress intended to incorporate a pre-existing regulatory definition into a statute.\textsuperscript{120} In fact, the court pointed out that when Congress created the NSR program in 1977, the NSPS regulations in force at the time "themselves used two different (and possibly inconsistent) definitions of

\begin{itemize}
  \item \textsuperscript{114} \textit{Id.}, \textsection 7607(b)(2).
  \item \textsuperscript{115} \textit{See} S. Rep. No. 91-1196, at 40-41 (1970).
  \item \textsuperscript{116} \textit{New York} v. EPA, 413 F.3d 3 (D.C. Cir. 2005).
  \item \textsuperscript{117} \textit{See}, e.g., \textit{New Source Review: Cinergy Corp. Moves to Appeal Ruling on Effects of Power Plant Modifications}, Env't Rep (BNA) at *2 (Sept. 16, 2005) ("The D.C. Circuit conflicted with . . . the Fourth Circuit."); ENVTL. INTEGRITY PROJECT, NEW SOURCE REVIEW: THE D.C. CIRCUIT SPEAKS 1 (2005), available at http://www.environmentalintegrity.org/ pubs/dccircuit\%20june05.pdf ("One of the most important aspects is the DC Circuit's apparent rejection of a recent Fourth Circuit decision holding that New Source Review applied only to projects that resulted in increases in hourly emission rates.").
  \item \textsuperscript{118} \textit{New York}, 413 F.3d at 10. For further discussion of the decision see Casey Roberts' Note in this Annual Review. Casey Roberts, Note, New York v. EPA: \textit{State Response to a Federal Regulatory Rollback}, 33 ECOLOGY L.Q. 613 (2006).
  \item \textsuperscript{119} \textit{New York}, 413 F.3d at 19 (emphasis added).
  \item \textsuperscript{120} \textit{Id.} ("Elsewhere in the Act, . . . Congress did incorporate regulatory provisions expressly by reference. Congress' failure to use such an express incorporation of prior regulations for 'modification' cuts against the proposed inference.") (citations omitted).
\end{itemize}
modification." Thus, "it would [have] take[n] a rather pointed indication from Congress to support the idea that it expressly adopted one of them for NSR." The D.C. Circuit decision, however, did not address the precise issue decided by the Fourth Circuit in *Duke Energy*, and therefore does not conflict with that decision. Stated simply, the Fourth Circuit held that EPA could not interpret the same congressional terms differently, while the D.C. Circuit found that Congress had not formally adopted the NSPS regulation when it created the NSR program in 1977. The D.C. Circuit, in its only citation to the *Duke Energy* decision, "express[ed] no opinion as to whether Congress intended to require that EPA use identical regulatory definitions of modification across the NSPS and NSR programs." Unlike the Fourth Circuit, which took it upon itself to decide an initially un-briefed issue, the D.C. Circuit refused to address this point because the argument "was not made by industry petitioners in their opening brief and [was] therefore waived."

**D. The U.S. Supreme Court's Dukedom and the Murky Status of the Emissions Increase Rule Today**

The U.S. Supreme Court shocked the legal community in granting certiorari on the *Duke Energy* case. For only the third time in the last thirty-five years, the U.S. Supreme Court agreed to hear an environmental law case where only environmental groups sought review. After losing in the Fourth Circuit, EPA actually decided not to

121. *Id.* Compare 40 C.F.R § 60.2(h) (1976) (defining "modification" as including "any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility") with 40 C.F.R. § 60.14(a)-(b) (1976) (defining "modification" as "any physical or operational change to an existing facility which results in an increase in the emissions rate to the atmosphere of any pollutant to which a standard applies" where emissions rate is expressed as "kg/hr of any pollutant discharges into the atmosphere").


123. The Fourth Circuit held that:

The plain language of the Clean Air Act provides even stronger evidence [than the statutes in *Rowan*] that Congress intended the statutory definitions of 'modification' in the PSD and NSPS provisions to be interpreted identically. While Congress used only 'substantially the same language' in the statutory definition at issue in *Rowan*, here Congress mandated that the definition of 'modification' in the PSD provisions precisely mirror the definition of 'modification' in the NSPS provision. Congress did this by directly incorporating the NSPS definition, which it had enacted in 1970, into the PSD provisions, which it enacted seven years later.


125. *Id.* (citing Verizon Tel. Cos. v. FCC, 292 F.3d 903, 911–12 (D.C. Cir. 2002)).

seek certiorari, but the environmental groups pressed on. Given this, and the lack of a direct conflict between the Fourth Circuit’s decision and the D.C. Circuit’s New York decision, it was certainly surprising that the U.S. Supreme Court agreed to review the case.

The significance of the emissions increase rule and its murky status were probably the main factors in the Supreme Court’s determination to hear the case. In addition, after Duke Energy, facilities in the five states in the Fourth Circuit (Maryland, West Virginia, Virginia, North Carolina, and South Carolina) can much more easily modify their plants without triggering NSR. This gives these facilities a competitive advantage over facilities in other nearby circuits who serve the same customer load, since they can modify their plants to increase their capacity factor and outputs without being forced to add expensive pollution controls. However, because the U.S. Supreme Court granted certiorari, facilities in the Fourth Circuit will probably wait for the decision before making any major modifications.

After the U.S. Supreme Court granted review, Judge Richard Posner of the Seventh Circuit Court of Appeals—arguably this nation’s most well respected appellate judge—issued a decision expressly refuting the Duke Energy analysis. In the decision, titled United States v. Cinergy Corp., the Seventh Circuit held that the Fourth Circuit “stepped out of bounds,” in deciding this issue since “[o]nly the U.S. Court of Appeals for the District of Columbia Circuit has jurisdiction to review the validity of nationally applicable regulations issued pursuant to the Clean Air Act.” As dicta, the Seventh Circuit went on to state that EPA could interpret the term “modification” differently for NSR and NSPS.

There is a natural presumption that identical words used in different parts of the same act are intended to have the same meaning. But the presumption is not rigid and readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent.

The Seventh Circuit went on to point out that the word “modification” is vague, and that the provisions were enacted by “different Congresses for different purposes.” While this portion of the decision is probably not


129. Id. at *1.

130. Id. at *4.

131. Id. (citing Atl. Cleaners & Dyers, Inc. v. United States, 286 U.S. 427, 433 (1932)).

132. Id.
binding, it is quite persuasive and could potentially influence the U.S. Supreme Court, should it reach the modification issue.

Before it can address the modification issue, though, the Supreme Court must first find that the Fourth Circuit has the power to invalidate the NSR rule. In other words, it granted review of the following two questions:

1. Whether the Fourth Circuit's decision violated Section 307(b) of the Act, which provides that national Clean Air Act regulations are subject to challenge 'only' in the D.C. Circuit by petition for review filed within 60 days of their promulgation, and 'shall not be subject to judicial review' in enforcement proceedings, 42 U.S.C. 7607(b); and

2. Whether the Act's definition of 'modification,' which turns on whether there is an "increase" in emissions and which applies to both the NSPS and PSD programs, rendered unlawful EPA's longstanding regulatory test defining PSD 'increases' by reference to actual, annual emissions.\(^{133}\)

If the Court finds in the affirmative on the first issue, it will not need to address the second issue and EPA's annual NSR test will stand. To uphold the Fourth Circuit's decision, the Court would have to find that the decision did not violate CAA section 307(b), and find that EPA could not interpret the term "modification" differently for NSPS and NSR. Regardless of what the Court decides, however, EPA is always free to change its interpretation of the term "modification," assuming this interpretation comports with the U.S. Supreme Court's decision.

III. HOW EPA SHOULD DETERMINE WHAT CONSTITUTES AN EMISSIONS INCREASE

At this point, a few questions naturally arise: Why is this seemingly small interpretation so important? Is there really a significant difference between basing an emissions increase on hourly emissions versus yearly emissions? Will this small change in a rule interpretation really negatively affect air quality, and if so, what areas will feel the greatest effects?

To understand the magnitude of this rule change, consider the following simple example modeled on the type of modification at issue in \textit{Duke Energy}:

\begin{quote}
A pre-1972 coal-fired 750 MW unit is using 0.5\% low-sulfur coal (mixing western and eastern coal) and currently operates at 60\% capacity with an efficiency (the rate at which it converts coal to electric power) of 31\%. While many newer units have capacities near 80\%, this unit's capacity is much lower because it is old and requires more shutdown maintenance. The owner of the unit decides to replace and/or redesign the boiler-tube assemblies (an expensive and
\end{quote}

\(^{133}\) \textit{Id.} ("Questions Presented" link).
major project) thereby increasing the efficiency and reliability of the unit. In so doing, the boiler requires much less maintenance and does not need to be shut down as often. Therefore, although the unit's efficiency increases to 33%, its capacity factor also increases to 75%, because it can be operated over longer times without maintenance. Using the hourly emissions test, the unit's emissions would not increase because the plant's efficiency increased. Specifically, the hourly \( \text{SO}_2 \) emissions rate would decrease from about 3120 kg/hr, before the modification, to 2932 kg/hr, after the modification, assuming the plant does not have a scrubber. Yet, because the unit can now be operated at 75% capacity instead of 60% it would emit about 20,000 tons per year (tpy) of \( \text{SO}_2 \) post-modification, compared to about 16,500 tpy pre-modification. This amounts to an approximate 20% increase in yearly \( \text{SO}_2 \) emissions.

Now consider that this plant's life has been extended for up to twenty years and that there are approximately 1,396 pre-1972 fossil-fuel units currently operating (or 57% of all fossil-fueled plants). Also consider that 15% of the total electricity generation from the 1,396 older fossil-fueled plants comes from fossil-fueled plants in the Fourth Circuit, and that the rule change would apply to other facilities as well. Based solely on the location and concentration of these older plants, the

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135. To calculate the hourly emission rate, first calculate the metric tons of coal used per hour:

\[
\text{Coal} = 750 \text{MW} \times (1 \text{hr}) \times (1000 \text{ kw/MW}) \times (1.29 \times 10^{-4} \text{ Mt/kWh}) \times (1/31) = 312 \text{ tons/hr}.
\]

Then, because coal is 0.5% sulfur and twice as much \( \text{SO}_2 \) is produced per inputted gram of sulfur (based on molecular weight of sulfur (32g) versus \( \text{SO}_2 \) (64g)) calculate the kilograms of \( \text{SO}_2 \) produced each hour:

\[
\text{SO}_2 = 312 \text{ tons/hr} \times (1000 \text{kg/ton}) \times (0.005) \times 2 = 3120 \text{ kg/hr}.
\]

136. See supra note 135. To calculate this emissions rate, change the efficiency from 31% to 33% in the coal calculation. This calculation now yields 293 tons/hr, which equates to 2932 kg/hr in the \( \text{SO}_2 \) calculation:

\[
\text{Coal} = 750 \text{MW} \times (1 \text{hr}) \times (1000 \text{ kw/MW}) \times (1.29 \times 10^{-4} \text{ Mt/kWh}) \times (1/33) = 293 \text{ tons/hr}.
\]

\[
\text{SO}_2 = 293 \text{ tons/hr} \times (1000 \text{kg/ton}) \times (0.005) \times 2 = 2932 \text{ kg/hr}.
\]

137. To calculate the annual emissions, simply multiply the hourly emissions rate by the number of hours in a year and multiply this number by .75 (because the plant only operates 75% of the time) and then convert from kg to tons per year:

\[
\text{SO}_2 = 2932 \text{ kg/hr} \times 8760 \text{ hr/yr} \times .75 \times 1 \text{ ton / 1000kg} = 19,263 \text{ tpy}.
\]

138. See supra note 137. To calculate this emissions rate, change the capacity factor from 75% to 60% and the hourly emissions from 2932 kg/hr to 3120 kg/hr:

\[
\text{SO}_2 = 3120 \text{ kg/hr} \times 8760 \text{ hr/yr} \times .60 \times 1 \text{ ton / 1000kg} = 16,399 \text{ tpy}.
\]

139. U.S. GEN. ACCOUNTING OFFICE, supra note 8, at 2 ("[Fifty-seven percent] of the fossil-fuel units that generated electricity in 2000 began operating before 1972").

140. See id. at 20–21 (adding the electricity generation from the five states in the Fourth Circuit and dividing by the total electricity generation).
The greatest effect of a universal rule change to hourly emissions would be in the Northeast (based on likely SO₂ deposition from Midwest and Ohio Valley plants) and in the Midwest and Ohio Valley (for NOx, PM_{2.5}, and certain forms of mercury).

This is not to say that all of the older grandfathered fossil-fuel plants or other facilities would immediately modify their plants to increase their capacity factor. In fact, modifications at many plants may not lead to an increase in a plant's capacity factor or a corresponding increase in projected annual emissions. Nor will all plants choose to operate more frequently after a modification because under the CAA's SO₂ trading program and the Bush Administration's new Clean Air Interstate Rule—which implements NOx trading—the plants would have to obtain allowances for each ton of pollution emitted. However, there is no doubt that the hourly emissions test weakens NSR (even considering the SO₂ and NOx trading regimes) and will inevitably let these older plants operate longer without adding pollution controls or retiring.

A. Choosing Duke Energy over New York: EPA's Proposed Changes to the Emissions Increase Test

Citing concerns over "nationwide consistency" and NSR's current compatibility with EPA's newly issued Clean Air Interstate Rule, EPA proposed a new rule for electric utilities based on the Duke Energy decision, on October 13, 2005, before the Supreme Court agreed to review the case. The proposed rule would use one of three hourly emissions tests to determine what constitutes a "net emissions increase" under NSR instead of the prior projected annual emissions test.

The three proposed tests are as follows:

Test 1: This proposal would use the same test for NSR as is currently used for NSPS. To determine whether a modification will cause a "net emissions increase," EPA would "compare the maximum hourly emissions achievable at the unit during the past 5 years to the maximum hourly emissions achievable at that unit after the change."

Test 2: This proposal is slightly different from the first proposal in that it would compare the "maximum hourly emissions achieved
before a change to the maximum hourly emissions achieved after the change." EPA states that it prefers the first test to the second test.  

Test 3: This proposal uses a completely different approach than either of the first two proposals. Rather than comparing the hourly emissions rate (in kg/hour) at maximum physical capacity, it would use an output-based emissions test based on "mass of emissions per unit of energy output, such as lb/MW hour or nanograms per Joule." EPA argues that the "primary benefit of output-based standards is that they recognize energy efficiency as a form of pollution prevention."  

Under all three proposals, EPA has proposed removing "netting" as a means of compliance with the rule. "Netting," which allows a source to avoid NSR if it mitigates any gains in emissions by lowering emissions elsewhere at the source, first became a prominent issue as a result of the Supreme Court’s decision in Chevron.  

B. The Problems with EPA's New Rule  

Although there are many critical problems with EPA's new proposal, three issues stand out. First, in Duke Energy, the Fourth Circuit invalidated EPA's interpretation of what constitutes a PSD modification (and presumably a non-attainment modification) for all facilities, because its definition under NSR was inconsistent with its definition under NSPS. Yet, EPA's new rule applies only to electric generating units and not to all facilities regulated under NSR. Therefore, although the rule may allow for consistency within the electric power industry, it will not solve the inter-circuit rule discrepancy for other industries subject to NSPS and NSR. If the U.S. Supreme Court upholds the Fourth Circuit’s decision, EPA will need to address this issue.  

Second, the D.C. Circuit in New York actually came to the conclusion that Congress did not intend to adopt the NSPS hourly emissions test for NSR—but this is exactly the interpretation of the statutory provision that EPA seeks in its new rule. If the proposed rule

146. Id. (emphasis added).
147. See id.
148. See 40 C.F.R. § 60.14(b)(2).
149. Emissions Test for Electric Generating Units, supra note 11.
150. Id.
151. Id. at 61,093.
152. See Emissions Test for Electric Generating Units, supra note 11.
153. See New York v. EPA, 413 F.3d 3, 20 (D.C. Cir. 2005) ("Given the two quite differently worded regulatory definitions of 'modification' within the NSPS program at the time of the 1977 [NSR] amendments, it would take a rather pointed indication from Congress to support the idea that it expressly adopted one of them for NSR. No such indication exists.").
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becomes final and is challenged in the D.C. Circuit, the court may not be willing to allow EPA to adopt this interpretation, because it has already stated that Congress did not directly incorporate the NSPS regulatory hourly definition when it enacted the NSR program. Of course, EPA could argue that under *Chevron*, the agency still has the authority to interpret an ambiguous statute where Congress has not directly spoken to the issue.\(^{155}\) Therefore, even if Congress did not expressly incorporate the NSPS definition, it will likely be EPA's position that this is a "permissible construction of the statute."\(^{156}\)

Third and most importantly, even assuming the D.C. Circuit finds that the statute is ambiguous, it is not likely to find that EPA's interpretation is permissible, given the purpose of the NSR program. A main tenet of Congress' NSR (and NSPS) modification rule, which forces pre-construction review, is that it is more efficient and sensible to add pollution control technology during construction rather than after construction is completed.\(^{157}\) Yet, as the earlier quantitative example illustrated, an hourly interpretation for NSR will allow many sources to increase their pollution levels in PSD and non-attainment areas because the sources will no longer be forced to add control technology during construction.\(^{158}\) Under an hourly test a source could significantly extend its life and significantly increase its yearly emissions without installing modern pollution controls.

EPA's proposed rule is in direct conflict with NSR's purpose. Throughout its new rule, EPA states that the "central policy goal [of the major NSR program, as applied to existing sources] is not to limit productive capacity of major stationary sources, but rather to ensure that they will install state-of-the-art pollution controls at a juncture where it otherwise makes sense to do so."\(^{159}\) This purpose is quite different from that articulated in its 2002 Report to the President on the NSR program, where it stated:

The purpose of the NSR program is to protect public health and welfare, as well as national parks and wilderness areas, as new sources of air pollution are built and when existing sources are modified in a way that *significantly increases air pollutant emissions*. Specifically, NSR's

\(^{155}\) *See Chevron*, 467 U.S. at 842-43.

\(^{156}\) *Id.* at 843.

\(^{157}\) *See EPA, New Source Review: Report to the President* 3 (2002), available at http://www.epa.gov/nser/documents/nser_report_to_president.pdf ("Congress believed that incorporating pollution controls into the design and construction when new units are built, or when major modifications occur, is generally more efficient than adding on controls after construction.").

\(^{158}\) The emissions increase could be even more significant if EPA's Clean Air Interstate Rule (CAIR) rule is overturned and the proposed rule becomes final. *See supra* note 141.

\(^{159}\) Emissions Test for Electric Generating Units, *supra* note 11, at 61,094 (emphasis added).
purpose is to ensure that when new sources are built or existing sources undergo major modifications: (1) air quality improves if the change occurs where the air currently does not meet federal air quality standards; and (2) air quality is not significantly degraded where the air currently meets federal standards. The fundamental philosophy underlying the NSR program is that a source should install modern pollution control equipment when it is built (for new sources) or when it makes a major modification (for existing sources).¹⁶⁰

Although not dispositive, the fact that EPA’s new proposed rule does not comport with its prior comments to the President is evidence that EPA is acting arbitrarily.

C. The Argument in Favor of the Hour and Year, or a Proposal Quite Near

Regardless of whether the Supreme Court overturns the Fourth Circuit’s decision in Duke Energy, EPA should not adopt any of its three newly proposed NSR emissions test rules. As shown in the quantitative example,¹⁶¹ EPA must consider the likely post-project capacity factor at the facility when calculating an emission increase, or face the possibility of large and unchecked annual emissions increases. Therefore, EPA should adopt either a uniform annual and hourly approach for both NSR and NSPS or a uniform pollutant specific approach. However, it should limit the scope of the NSPS rule under either alternative to those facilities regulated under both programs. If, on the other hand, the Supreme Court overturns the Fourth Circuit’s decision and the NSR annual test stands, EPA should either leave the rules in their current form or adopt one of this Article’s proposals.

1. The Uniform Hourly and Yearly Approach

The uniform hourly and yearly approach would require that facilities subject to both NSPS and NSR meet the current hourly and yearly emissions tests under both programs. When reading the current NSR and NSPS rules together, all facilities subject to both programs must modernize their pollution equipment if they modify a plant to extend its life in a way that increases the plant’s hourly (NSPS) or yearly (NSR) emissions. So, if a facility updates a unit and increases its hourly emissions, then certain new source baseline emission standards apply (NSPS). Conversely, if the facility updates a unit and increases annual emissions, then other, stricter-than-baseline standards apply (BACT or LAER). As currently written, a source subject to both NSR and NSPS

¹⁶⁰. EPA, supra note 157 (emphasis added).
¹⁶¹. See supra notes 134–38 and accompanying text.
could theoretically modify its facility and increase hourly emissions without increasing annual emissions, in order to escape compliance with the stricter NSR standards.

The rationale behind this approach is simple—both a plant's hourly and yearly emissions have direct environmental and health consequences. Therefore, if EPA forces a facility to show that its modification does not increase hourly or yearly emissions, then the modification is not likely to have any negative corresponding health or environmental effects. The hourly part of this approach would only apply to major sources already subject to NSR for two reasons: (1) the Duke Energy case currently requires a uniform approach; and (2) the administrative cost of calculating annual increases from every modification at small NSPS sources that are not subject to NSR would be prohibitive.

2. The Uniform Pollutant Specific Approach

While the uniform hourly and yearly approach described above makes sense and is relatively simple to implement, the uniform pollutant specific approach is much more cost-effective. The basic premise of this approach is quite logical: EPA should interpret what constitutes an emissions increase by examining the temporal and regional (spatial) related effects of each pollutant at issue and then craft a test that generally accounts for these effects. This is not to say that EPA should craft an exact emissions test that takes into account every possible temporal and spatial effect for each pollutant and corresponding facility. This would be impossible. Rather than simply having a uniform hourly, yearly, or hourly and yearly test for all pollutants that does not account for the differences between pollutants, the emissions test should generally account for each pollutant's greatest environmental and health effects.

Because the focus of this Article is on fossil-fuel power plants, this proposal focuses on two pollutants, SO\(_2\) and NO\(_x\). However, EPA could take the same approach for the remaining criteria pollutants (particulate matter, lead, and carbon monoxide).

Because both NO\(_x\) and SO\(_2\) have short-term local effects, all areas must use the hourly emissions test. However, since both pollutants' primary long-term effects are acid rain (SO\(_2\) and NO\(_x\)) and eutrophication (NO\(_x\) only), which are not problems in certain areas, the

162. Fossil-fuel power plants also emit large quantities of particulate matter (PM), but since most facilities have updated PM control equipment, this Article will not address PM. In the United States today, approximately 75% of the 1,100 coal-fired power plants are fitted with dry electrostatic precipitators. Ralph Altman, Wayne Buckley, & Isaac Ray, Multi-Pollutant Control With Dry-Wet Hybrid ESP Technology 1 (Electric Power Research Inst. Technology Review), available at http://www.cr-cat.com/pdf/conferences/Hybrid%20Dry-Wet%20ESP%20paper.pdf (last visited Aug. 12, 2006).
yearly test is only necessary in high-effect areas like certain Midwestern states and near the Chesapeake Bay. Thus, in regions where emissions contribute to serious acid rain problems, like the Midwest, or regions where eutrophication problems are likely, such as near the Chesapeake Bay, EPA should use the hourly and the yearly approach. In all other areas, EPA could use only the hourly approach for SO₂.

NOx, on the other hand, is a bit more complicated. In addition to applying a blanket hourly test, EPA must ensure that facilities located near metropolitan areas also undergo a three- or four-month summer emissions increase test. NOx emissions are associated with ozone formation, which is generally only an issue during summer months. Thus, a summer emissions test is more appropriate than an annual test.

Essentially, the different environmental and health harms form the basis of the temporal measurement distinction between SO₂ and NOx: both have local effects over short time periods and contribute significantly to the accumulation of acid rain in certain areas, but only NOx causes eutrophication and is a significant summer-time ozone-precursor. In theory, a uniform pollutant specific approach is superior to the blanket hourly and yearly approach because it measures an emissions increase based primarily on the potential harm to public health and the environment, while allowing some facilities to upgrade without modernizing their pollution equipment. Its main downfall, however, is that it would be harder for EPA and the states to implement because it is more complex than a blanket rule.

CONCLUSION

Since 1978, the NSPS and NSR definitions have ensured that older power plants that were grandfathered-in must eventually update their pollution control technology to modern standards. When Congress passed the CAA, it intended the grandfathered plants to eventually modernize or retire. The Fourth Circuit's decision in Duke Energy and

163. See EPA, Six Common Air Pollutants: Health and Environmental Impacts of NOx, http://www.epa.gov/air/urbanair/nox/hlth.html (last visited July 21, 2006) (“Increased nitrogen loading in water bodies, particularly coastal estuaries, upsets the chemical balance of nutrients used by aquatic plants and animals. Additional nitrogen accelerates ‘eutrophication,’ which leads to oxygen depletion and reduces fish and shellfish populations. NOx emissions in the air are one of the largest sources of nitrogen pollution in the Chesapeake Bay.”).

164. To do so, EPA could also enter into agreements with any potentially affected facilities stating that the facilities would not increase their summer operations.

165. EDWARD S. RUBIN, INTRODUCTION TO ENGINEERING & THE ENVIRONMENT 26 (2001); see EPA, Six Common Air Pollutants: Chief Causes for Concern (SO₂), http://www.epa.gov/air/urbanair/so2/chfl1.html (last visited July 21, 2006) (stating that high levels of SO₂ emitted over short time periods can affect asthma and that SO₂ can also travel long distances to be deposited as acid rain); see also EPA, Six Common Air Pollutants: Health and Environmental Effects of Ground-Level Ozone, http://www.epa.gov/air/urbanair/ozone/hlth.html (last visited July 21, 2006) (stating that ozone usually forms during hot weather).
EPA's subsequent rulemaking response retard this intention by changing this longstanding rule and allowing many of the remaining archaic and decrepit power facilities to extend their plants' lives without this mandatory update. These changes come at a critical time as many plants are nearing the end of their useful life. As a recent congressional report pointed out, power plant pollution kills approximately 30,000 people annually in this country—about the same amount as from drunk driving and homicides combined.166

This Article shows that there are alternatives to EPA's hourly proposal that comport with the Fourth Circuit's analysis in Duke Energy. Therefore, regardless of what the U.S. Supreme Court decides, Congress or EPA can still ensure that older facilities eventually update their pollution control equipment or retire. Because EPA and Congress may not choose to adopt this Article's proposals, however, the Supreme Court may have the last opportunity to save the annual emissions test before it is too late.
