

ISSUE BRIEF

Preserving Flexibility: Comments on the US Environmental Protection Agency's Carbon Existing Source Performance Standards

Nathan Richardson



RESOURCES
FOR THE FUTURE



March 2014
Issue Brief 14-05

Resources for the Future

Resources for the Future is an independent, nonpartisan think tank that, through its social science research, enables policymakers and stakeholders to make better, more informed decisions about energy, environmental, and natural resource issues. RFF is located in Washington, DC, and its research scope comprises programs in nations around the world.

1616 P St. NW
Washington, DC 20036
202.382.5000

www.rff.org



Preserving Flexibility: Comments on the US Environmental Protection Agency’s Carbon Existing Source Performance Standards

Nathan Richardson¹

Key Points

- The US Environmental Protection Agency’s (EPA’s) decision to separate coal and gas power plants into different regulatory categories for its proposed New Source Performance Standards (NSPS) has little effect on those standards, but has important implications for upcoming existing-source standards (ESPS).
- The approach—split or combined categories—that the agency uses for its NSPS will almost certainly persist for ESPS.
- Other research indicates that switching from coal to gas generation is the largest and lowest-cost emissions reduction opportunity in the power sector.
- Combined categories are therefore crucial to the cost- and environmental effectiveness of ESPS. Trading between coal and gas that could incentivize this fuel switching is almost certainly legal if categories are combined, and almost certainly illegal if they are not.
- Combining coal and gas into a single category, as the agency did in its first NSPS proposal in 2012, would not reduce EPA’s freedom to set standards, increase the rule’s complexity, or add any significant legal risk.
- EPA should therefore combine coal and gas into a single source category in its final NSPS rulemaking.

.....
¹ Resident scholar, Resources for the Future; richardson@rff.org.

I. Introduction

In its January 8, 2014 proposal, *Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units*,² the US Environmental Protection Agency (EPA) requested comment on a variety of issues. Among these requests, EPA specifically solicited comment³ on the relative merits of issuing standards separately for existing source categories (subparts Da and KKKK, covering primarily coal-fired steam and natural-gas combined cycle plants, respectively) versus combining the covered facilities into a new source category (subpart TTTT).⁴ In the proposed rule, EPA “co-proposed” these two options, indicating its uncertainty over which option to select. This brief comment aims to address that question.

In short, the decision between these two options will have little effect on the substance, legal risk, or other aspects of the new source rule being proposed. However, the decision has far-reaching implications for future existing source guidelines and standards (assuming the decision is not revisited when those guidelines are written). Specifically, the ability of EPA and the states to use flexible tools for regulating emissions from coal and gas electric generating units (EGUs), including trading among sources, and EPA’s ability to approve state standards that use these tools, very likely depend on the sources in question being grouped into the same source category.

II. Combining Source Categories: Effects on the New Source Rule

The decision to leave the existing Da and KKKK categories intact appears motivated by the agency’s decision to abandon natural-gas combined cycle (NGCC) technology as the “best system of emissions reduction” for all fossil-fuel fired plants (that is, both category Da and KKKK). Merging the two categories was necessary to be able to identify NGCC as the “best system” for coal-fired plants, as the two technologies are currently separated into Da and KKKK. Now that, in the January 2014 proposal, EPA has decided to identify coal with carbon-capture and storage

.....
² 79 Fed. Reg. 1430 (2014).

³ Id at 1454.

⁴ This comment assumes that “source categories” as defined and described in §111 of the Clean Air Act, and as that term is used throughout the proposed rule, are analogous to the sets of sources defined in different subparts of 40 CFR Part 60 (such as Da and KKKK). In other words, all sources that are within the scope of subpart Da are in one source category, and all those within the scope of KKKK are in another category. While this is not explicitly stated in either the proposed rule or the CFR, it is consistent with past EPA practice and its interchangeable use of the terms “subpart” and “source category.” See, e.g., footnote 55 of the proposed rule. The alternative interpretation—that sources could be in the same source category for §111 despite residing in different subparts in the CFR—is superficially legally plausible. Nothing in §111 requires EPA to maintain a 1:1 identity between source categories listed under §111(b)(1)(A) and the categories described in the CFR. However, §111(b)(1)(A) *does* require EPA to publish and maintain a list of source categories. If 40 CFR Part 60 is not that list (because it does not accurately represent the category divisions EPA is using), then it raises the question of where (and whether) any such list exists. Therefore the most reasonable interpretation is that 40 CFR Part 60 does constitute the list required by §111(b)(1)(A), and, therefore, that sources listed in separate subparts are indeed in separate source categories for §111 purposes.

(CCS) as the “best system” for new coal, combining the existing categories is no longer necessary to achieve EPA’s desired substantive result in this rulemaking. However, while combining categories may no longer be necessary for EPA’s new source proposal, doing so would have no significant negative effects on the proposal.

A. EFFECTS ON THE SUBSTANCE OF THE RULE

Whether EPA combines existing source categories Da and KKKK into a single new source category TTTT, or maintains the existing category definitions, will have no effect on the substance of the proposed rule. Combining categories imposes no limitations on the agency’s ability to choose the rule’s stringency, define the “best system of emissions reduction” that forms the basis of that stringency, or to set different stringencies, based on different identified systems, for various subcategories of sources. The best evidence of this is in fact EPA’s own decision to co-propose combined and separated source categories. This is, correctly, presented as a separate decision, unrelated to the substantive elements of the rule described elsewhere in the proposal.

The proposal itself provides a good illustration of such subcategorization in the form of EPA’s decision to differentiate between small and large natural gas turbines, all of which are within the scope of category KKKK.⁵ If EPA were to adopt its co-proposed approach of combining categories Da and KKKK into new category TTTT, it could readily identify the coal-fired plants previously in category Da and the gas-fired plants previously in category KKKK as separate subcategories, and issue different standards for them just as it has proposed to do for small and large turbines.

In short, because of its ability to subcategorize, EPA’s decision to issue different emissions-rate standards for coal and NGCC plants is wholly independent of its decision on the legal formalities of source category definitions.

B. EFFECTS ON LEGAL RISK

Adopting the co-proposed approach of creating new category TTTT does not create significant additional legal risk nor does it appear to add significant administrative burdens.

The Clean Air Act and longstanding EPA practice confirm that the agency has broad authority to define subcategories of top-level source categories, and to independently set the stringency and other aspects of standards for each subcategory. CAA §111(b)(2) states that “[t]he Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.” To “distinguish” among such subcategories must mean that EPA can assess the “best system” specifically for each category, leading to different determinations of

.....
⁵ See 79 Fed. Reg. 1430 at 1433 (2014).

stringency and other factors. Such subcategorization has long been EPA practice, though it is not required.⁶

The Clean Air Act also grants EPA authority to revise source category definitions. This grant comes without restrictions, time limitations, or instructions to consider any specific factors when making such revisions.

The Administrator shall . . . publish (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.⁷

Combining existing source categories Da and KKKK into new category TTTT is just such a revision. Such a move would be a break with past agency practice in the sense that the category definitions would be changed, but this is not a valid legal argument that the agency lacks the authority to make the change. The explicit grant of authority to the agency in §111(b)(1)(A) to revise the list of source categories has little meaning if the agency is not empowered to change its category definitions.⁸

While the grant of authority in the CAA to revise the list of source categories is broad, it, like all grants of authority to agencies, is ultimately subject to review on arbitrariness grounds. If EPA combines source categories, therefore, it could in principle be challenged on the basis that its decision to do so is arbitrary. There appears to be little basis for such a challenge, however. The statute, again, gives no guidance or limitation on how specific or how broad categories must be. Categories Da and KKKK already combine many different types of sources with widely divergent characteristics. The best example is probably the inclusion of IGCC plants in category Da, despite the great deal of similarity between them and NGCC plants from an engineering perspective.

If this (and many similar classification decisions enshrined in existing source category definitions) are not arbitrary, it is difficult to see any remotely persuasive argument that combining Da and KKKK would be treated as arbitrary. The new category TTTT would include almost all fossil-fuel EGUs—arguably a much cleaner category definition than the current scheme. EPA, if necessary, can argue that the common traits of all TTTT sources—connection to the electricity grid, combustion of some mix of fossil fuels, emission of greenhouse gases (GHGs) and other

.....
⁶ See *Lignite Energy Council v. United States EPA*, 198 F.3d 930 at 933 (noting that “[i]t was also within EPA’s discretion to issue uniform standards for all utility boilers, rather than adhering to its past practice of setting a range of standards based on boiler and fuel type”).

⁷ CAA §111(b)(1)(A).

⁸ An extremely narrow interpretation of §111(b)(1)(A) might be that it grants the agency authority to add (or perhaps) remove classes of sources from the list of source categories, but does not grant authority to alter the boundaries between categories once they are listed. There is no apparent basis in the statute for such an interpretation, and, given *Chevron* deference, no court could force such an interpretation on EPA.

pollutants, and other factors, justify their inclusion in the same source category. For a court to reject this rationale would be extremely unlikely given the statute’s broad grant of authority and courts’ deference to agency decisions under the *Chevron* doctrine.⁹

C. EFFECTS ON ADMINISTRATIVE COMPLEXITY

Combining source categories Da and KKKK into new source category TTTT for purposes of this rulemaking does not appear to add any significant administrative burden or complexity.

First, combining categories likely has no effect on existing performance standards for other pollutants that apply to categories Da and/or KKKK. In fact, EPA need not alter the existing definitions of category Da or KKKK at all. Nothing in the statute requires source categories to be mutually exclusive. Creation of new category TTTT, therefore, does not require EPA to redefine Da and KKKK as subcategories of TTTT for all pollutants and performance standards, past and future. TTTT can be used as the relevant source category for GHG performance standards and any future rules where combining coal and gas-fired power plants is advantageous or appropriate, while Da and KKKK can persist as the relevant source categories for existing (and future) performance standards for other pollutants.

Even if EPA concludes, for legal or merely administrative reasons, that it would be best to keep category definitions consistent across performance standards applying to different pollutants, major changes to non-GHG performance standards would not be necessary. Categories Da and KKKK can easily be redefined in the Code of Federal Regulations (specifically, 40 CFR Part 60) as subcategories of TTTT without affecting these past rules.

Some may argue that if EPA creates a new source category it must make a new endangerment finding for that category. EPA discussed this issue in its original April, 2012 proposal for GHG new source performance standards (NSPS),¹⁰ arguing that such a finding is not required, and that even if it were, the 2009 GHG endangerment finding and other actions suffice to meet the requirements of a category TTTT endangerment finding. EPA made similar arguments in its January 2014 proposal,¹¹ and they remain persuasive. In short, combining source categories is unlikely to require EPA to issue an additional endangerment finding, and even if it does (or if EPA decides to issue such a finding out of caution), the process is likely to be trivial.

.....
⁹ Indeed it is hard to see how any category definition or redefinition would be rejected by a court on arbitrariness or other grounds, short of a decision by the agency to group all sources in the economy into a single category, or to create a separate category for each source. Either approach would, arguably, violate Congress’ implied intent for EPA to divide sources into groups.

¹⁰ See 77 Fed. Reg. 22392 at 22397 (2012).

¹¹ See 79 Fed. Reg. 1430 at 1453 (2014).

III. Combining Source Categories: Effects on Future Existing-Source Guidelines and Standards

A. LEGAL RISK ASSOCIATED WITH TRADING AMONG SOURCES

President Obama has committed EPA to propose guidelines for states to issue performance standards for existing fossil-fueled EGUs under §111(d) of the Clean Air Act by June of 2014. Those standards will almost certainly be far more significant in terms of emissions reductions and impact on the economy than the new source standards proposed here.¹² It is not unreasonable to assume that these guidelines will use the same source category definitions as the new source rule—there would be no apparent reason for EPA to use different category definitions for two rules proposed in such rapid succession for the same class of sources. EPA’s specific request for comment on the impact of combining categories for existing-source standards further indicates that the agency intends to use the same category definitions for both rules.¹³ Moreover, although states are the primary regulators of existing sources under §111(d), they are bound by EPA’s source category definitions—the statute grants the authority to define and revise source categories only to EPA.¹⁴

EPA’s decision on whether to combine coal and gas-fired EGUs into a single new source category TTTT in this new source rulemaking therefore has far-reaching implications for the design of existing source performance standards (ESPS). In the ESPS guidelines, EPA may make a “system-based” interpretation of the “best system of emissions reduction” language such that some flexible compliance system including trading, banking, and averaging is defined as the “best system”, rather than a technological system as in past §111 performance standards.¹⁵ The “best system” is determined separately for each source category, implying that trading, banking, and averaging are only possible within each source category.

This is due to the source category–focused design of §111. If sources in different categories are allowed to trade emissions credits with one another, the inevitable result is that one category will

.....
¹² See, e.g., Dallas Burtraw and Matt Woerman, *Technology Flexibility and Stringency for Greenhouse Gas Regulations*, Resources for the Future Discussion Paper 13-24 (2013), available at <http://www.rff.org/RFF/Documents/RFF-DP-13-24.pdf> (using modeling and economic analysis to show substantial emissions reduction opportunities from flexible existing-source standards).

¹³ See 79 Fed. Reg. 1430 at 1454 (2014).

¹⁴ On the other hand, §111(d) does not in fact mention source categories at all. It is possible, therefore, that they are not relevant for ESPS, and that states may regulate sources that fall within the scope of §111(d) (which, admittedly, does ultimately depend on them being classed into source categories) without reference to the boundaries between categories. This is an aggressive but not implausible interpretation of §111(d). See Nathan Richardson, *Playing Without Aces: Offsets and the Limits of Flexibility Under Clean Air Act Climate Policy*, 42 *Environmental Law* 735 at 753 (2012).

¹⁵ Most legal scholars find this approach to be consistent with the statute. See generally Gregory Wannier et al., *Prevailing Academic View on Compliance Flexibility under § 111 of the CAA*, RFF Discussion Paper 11-29 (2011), available at <http://www.rff.org/Publications/Pages/PublicationDetails.aspx?PublicationID=21603>.

overcomply with their standard and create excess credits, while the other will be a net buyer of credits and will therefore fail to comply. This is arguably inconsistent with the requirement that sources (or, under a broader “system-based” interpretation of “best system of emissions reduction”, source categories) must comply with §111 performance standards. Moreover, EPA must determine the best system of emissions reduction separately for each source category. It would therefore be unable to consider emissions reduction opportunities in other source categories that would generate tradable credits when determining the “best system” and setting standards. The legal justification for trading and averaging among sources is that such trading is part of the “best system” for that source category, but that justification cannot extend to sources that lie outside the category and therefore the “best system.” The most legally defensible basis for trading under §111 therefore is inadequate to support trading across source categories. Leaving current source categories (Da and KKKK, in this context) unchanged therefore either requires EPA to abandon inter-category trading, with serious effects on program costs and emissions reductions, discussed below, or requires it to assume significant and unnecessary legal risk in allowing intercategory trading.

EPA can easily resolve this issue by combining source categories, as I discussed in a 2012 paper:

[T]he agency’s categorization powers may allow it to achieve the practical equivalent of [inter-category] flexibility. . . . [T]he agency has the authority to revise source categories and create subcategories as it sees fit—it may “distinguish among classes, types, and sizes within categories.” This probably allows EPA to expand existing categories, and possibly to create new “supercategories” encompassing multiple existing categories and relegating those existing categories to subcategory status. In this case, it would further appear to be able to define performance standards specific to each subcategory, but allow flexibility across the entire supercategory.¹⁶

EPA’s 2012 proposed NSPS, published shortly after this paper was written, did take the approach suggested in this passage by combining categories Da and KKKK into new “supercategory” TTTT. This formal move, as discussed above, has no significant implications for the substance of the rule but avoids a significant source of legal risk when and if EPA (or any state) seeks to allow trading among sources currently split between categories Da and KKKK.

B. WHY TRADING MATTERS

The availability of trading among existing sources under §111(d) ESPS, and particularly the availability of trading between coal and gas plants—currently separated into different source categories—is crucial to the environmental and cost-effectiveness of the §111(d) program. Economic analysis indicates that allowing trading between coal and gas plants could achieve

.....
¹⁶ Nathan Richardson, *Playing Without Aces: Offsets and the Limits of Flexibility Under Clean Air Act Climate Policy*, 42 Environmental Law 735 at 753 (2012).

nearly four times greater emissions reductions from the regulated sector at the same incremental cost, or the same emissions reductions at about 30 percent lower cost, relative to ESPS that do not allow coal–gas trading.¹⁷ No other ESPS policy design decision is likely to approach this level of importance.

Further, EPA should remember that states, not EPA itself, are the primary regulators under §111(d). Even if EPA concludes that coal–gas trading is not a priority, states may have a different view. EPA should therefore structure its guidelines—including preliminary actions such as source category definitions—so as to give states the maximum flexibility possible. Combining source categories Da and KKKK for purposes of GHG performance standards increases states’ flexibility by substantially reducing the legal risk associated with many types of trading or averaging, without requiring states to include such trading options.

Indeed, even if EPA determines that its preferred approach in §111(d) guidelines is to give only basic instructions to states so as to preserve their freedom to design standards as they see fit, the agency cannot avoid specific decisions on key threshold issues. The most important of these is source category definitions over which, as noted above, states have no control.

IV. Conclusions

EPA should return to the approach of the 2012 GHG NSPS proposal and combine the coal-fired sources in source category Da with the gas-fired sources in category KKKK, at least for purposes of GHG performance standards.

Doing so will have few, if any negative consequences for the new source rule. It will have no effect on EPA’s freedom to set the stringency or other substantive aspects of the performance standards as the agency sees fit, nor on EPA’s freedom to differentiate among fuel types in making those determinations. Combining source categories also does not create any significant legal risk, despite claims from industry advocates. EPA’s authority under §111 is at its height when defining and revising source categories, restrained only by arbitrariness criteria. EPA can relatively easily establish a rational, non-arbitrary basis for a decision to combine source categories.

Moreover, combining source categories has a large impact on the options available to EPA and states in future existing-source standards. Combining categories greatly reduces the legal risk associated with allowing averaging and trading across sources currently in different source

.....
¹⁷ See, e.g., Dallas Burtraw and Matt Woerman, *Technology Flexibility and Stringency for Greenhouse Gas Regulations*, Resources for the Future Discussion Paper 13-24 (2013), available at <http://www.rff.org/RFF/Documents/RFF-DP-13-24.pdf> (using modeling and economic analysis to show substantial emissions reduction opportunities from flexible existing-source standards).

categories. Analysis indicates that trading between coal and gas is the single most important determinant of the environmental and economic impact of existing-source standards.

No single decision EPA makes in crafting new-source standards has greater impact on the options available for limiting existing-source emissions. Because these existing-source standards are likely to be much more environmentally and economically significant than the new-source standards, and are likely to be the single most important element of President Obama's Climate Action Plan, the decision EPA makes today on whether to combine source categories is arguably the most important decision the agency will make in this rulemaking.