

56407	West County Energy Center	FL	WCCT2C	815	839
56407	West County Energy Center	FL	WCCT2 A	816	840
2720	Buck	NC	12C	816	840
2720	Buck	NC	11C	816	840
56407	West County Energy Center	FL	WCCT1B	817	842
621	Turkey Point	FL	TPCT5B	824	849

These data incorporate substantial allowances for variability in performance as they are based on the highest annual average reported for each of these units from 2006-2011. No further allowance is called for. We anticipate that industry commenters may make broad arguments based on anecdotal information that further allowances are needed, for example, because of increased emissions from supplemental firing (duct burners). Those emissions are included in the data, but in the event that EPA is persuaded by such arguments, we offer below a means of addressing duct burners to accommodate such variability in annual CO<sub>2</sub> emission rate as might be occasioned by the use of these devices. These data, along with the performance specification data discussed earlier, clearly establish that the emission rate standard for new units should be no greater than a range of 825 -850 lb/MWh

#### 8. Small combined cycle unit emission rates

EPA proposes a single CO<sub>2</sub> standard for all affected units, regardless of the size of the facility or year of introduction of the turbine model. As a result, the performance data reflecting the very smallest of the **existing** NGCC designs, the 25 MW unit models, appear to have driven the selection of the proposed standard. There are two major problems with this approach: (1) BSER is not for existing models but rather new sources, and (2) it fails to recognize that the biggest plants that emit most of the CO<sub>2</sub> currently employ the most efficient techniques and designs. The efficiency of combined cycle units is largely a function of gas turbine operating temperature; the use of enhancement techniques, such as inlet air cooling; and the use of fully fired HRSGs. There is nothing in the laws of physics that prevents smaller NGCC units from achieving the efficiencies of larger units. However, the Gas Turbine World Handbook data reveals that small units generally had efficiencies less than 55 percent while the better performing larger units had efficiencies of 59 to 60 percent.

As demonstrated earlier, NSPS standard setting is intended by Congress to drive technology transfer. Joint Environmental Commenters believe EPA should set a standard that drives this segment of the sector to develop smaller units with the same efficiencies as the larger units available today. At a minimum, EPA may not allow the theoretical existence of a potential market for a few small units to serve as a basis for setting a standard that is overly lax when applied to the larger units that are more likely

to be responsible for most of the emissions from the category. To the extent that EPA is concerned that smaller units may not be able to meet the same limits as larger units, EPA should establish a size-based subcategory, as it has in other rules, and set a separate limit for smaller units.

We note that EIA data cannot be used to identify these small units as the EIA data report only the capacity of the combustion turbine for some of the smaller units and identifies several large (275 MW) units as less than 100 MW. Figure 2 lists all units that we have identified within the CAMD database for which the combined cycle unit capacity is 130 MW or less.

The Roseville Energy Center units are listed in CAMD as 42 MW units. The Roseville units appear to be the lowest emitting small combined cycle units in the CAMD data base. The reported annual emission rate for these units for the years 2006-2012 ranges from 877-926 lb/MWh on a gross emissions basis. If we assume that this unit is the benchmark for a small NGCC emission standard and apply a 3 percent conversion factor to the highest years' emissions the resulting limit for small NGCCs would be 954 lb/MWh (net). This difference in performance is consistent with the 2010 Gas Turbine World data on efficiencies, where small units generally had efficiencies less than 55 percent while the better performing larger units had efficiencies of 59-60 percent.

Table 2 displays the highest reported annual average emission rate (gross) and the highest reported emission(net) for each of the small units that we have been able to identify. Thirteen of these 15 units would have complied with EPA's proposed 1000 lb (gross) emission limit but none of these units would have met the 825-850 lb (net) range recommended above.

Table 2. Small combined cycle emission rates

Column1	Column2	Column3	Column4	Column5
Name	Unit ID	High CO2 Rate (Gross) From Period of Observation	Highest Reported CO2 emission rate (net)	Combined Cycle Block Capacity
Sacramento Power Authority	1	863	889	172
Frederickson	F1CT	911	938	137
Roseville	CT001	922	950	160
Roseville	CT002	926	954	160
Raesfeld	PCT2	937	965	154

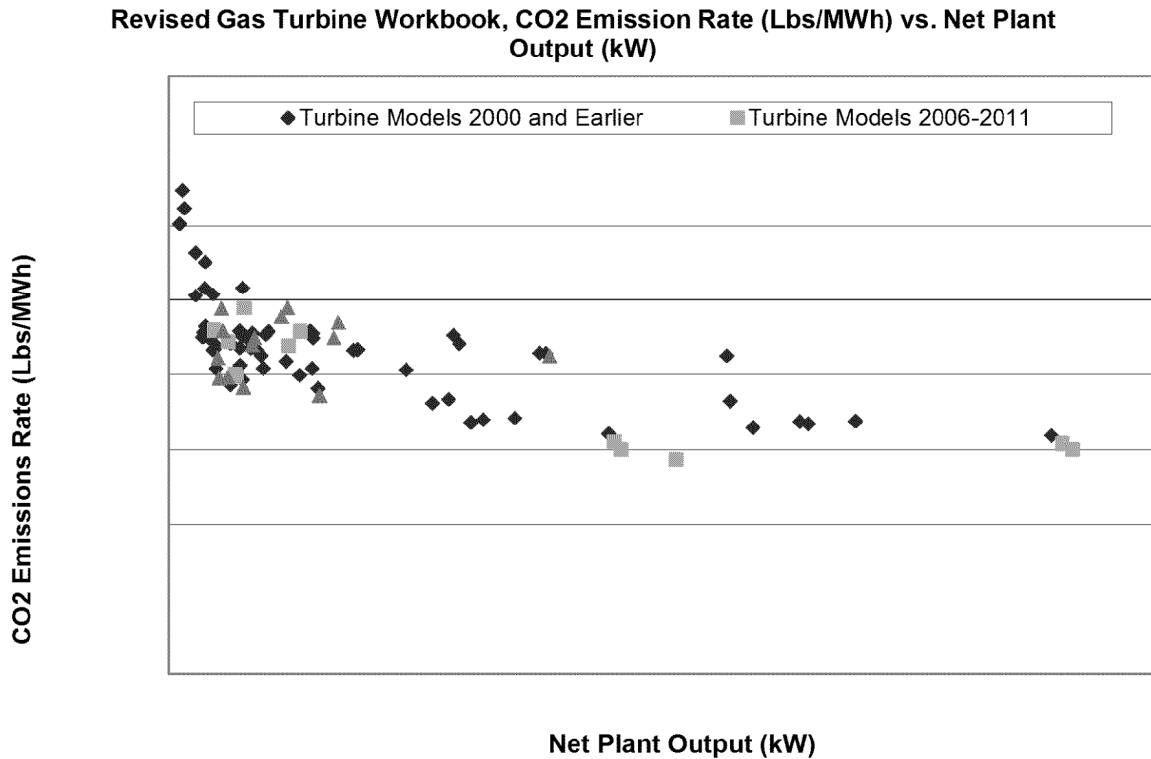
Raesfeld	PCT1	941	969	154
Carson Cogen	D1	959	988	55
Indeck Corinth	1	963	992	128
Pinelawn	00001	974	1,003	80
L'Energia	2	977	1,007	82
Dighton	1	984	1,014	169
Bluffview	CTG-1	986	1,015	60
Arapahoe	CT6	994	1,024	150
Arapahoe	CT5	1,016	1,046	150
Indeck Olean	1	1,043	1,074	79

The Gas Turbine World unit performance specifications show a substantial number of potential small combined cycle designs where the demonstrated emission rate at ISO conditions is at or below 900 lb/MWh. See Figures 2 and 3.<sup>157</sup> With the application of reasonable factors to account for operation at non-ISO conditions, an emission limitation of 1000 lb/MWh (net) appears to be attainable by these units. If EPA determines that subcategories by size are justified, the data demonstrate that the “cut point” in capacity between large and small units should be somewhere between 150 MW and 200 MW. Further analysis would be required to identify where, within this range, the subcategories should be divided.

Figure 2

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<sup>157</sup> See also Appendix C.



#### 9. EPA Should Adopt a Net Electrical Output Standard

EPA states that its proposed standard is in pounds of CO<sub>2</sub> per MWh of electricity produced on a gross basis. 77 FR 22394, 22398, 22436. However, our review of EPA's calculations that arrived at the 1000 lb/MWh standard indicates they were made and are reported on a net basis and mischaracterized in the rulemaking preamble. These calculations are reported in the spreadsheet, "Gas Turbine Workbook" in a tab called "Combined Cycle."

We note that the ISO performance specifications relied on by EPA are routinely reported on a net electrical output basis and that EPA has proposed that the CO<sub>2</sub> emission limit be based on a gross electrical output basis. Joint Environmental Commenters recommend that the final standard be established on a net electrical basis and thus would not make further adjustments to the design-based calculations. However, should EPA decide to promulgate a standard based on gross electrical output using the net heat rates used to develop the draft standard, EPA must then convert the net electric output-based calculations to a gross electrical output basis. We recommend the generally accepted conversion factor of 3 percent. That is, heat rates on a gross electric output basis should be assumed to be 3 percent lower than the heat rates reported by Gas Turbine World on a net electric output basis.

Joint Environmental Commenters strongly recommend that the standard be based on emissions per net generation. A net emission standard (1) more accurately reflects what is to be regulated; (2) can be implemented in a simple and straight forward fashion (especially for new units); (3) provides an appropriate incentive for minimizing parasitic loads, and (4) is needed to accomplish the fuel- neutral goal of the standard and ensure that actual emissions from CCS coal-fired units do not exceed the level of emissions from BSER NGCC units. The net v. gross correction is relatively small for natural gas units (3 percent) but large and presently uncertain for CCS coal units. Enforcement of a standard based on net generation is relatively straightforward. The CO<sub>2</sub> measurement procedure is unchanged; but the measurement of the amount of electricity occurs at the bus bar or “delivery point” at the plant where ownership of the energy changes hands rather than at the generator itself.

The difference between of a gross and net generation standard is the treatment of emissions associated with the operation of auxiliary equipment, such as a scrubber, or in this instance the CCS process equipment. With a net generation standard, 100 percent of the real world emissions associated with generating the electricity that serves the public are measured and subject to the standard. Under a gross generation standard, that portion of the real world emissions that is associated with operating the CCS process equipment would be ignored. While the difference between net and gross generating capacity is quite small (3 percent) for a CCNG unit, it may be far larger (perhaps on the order of 30 percent) for coal-fired CCS units. If a CCS plant emits at the rate of EPA’s proposed standard of 1000 lbs/MWh on a gross basis, but 30 percent of its power is used to run the CCS system, then its net output is only 0.7 MWh and so its emission rate per MWh would be 1000 lb/0.7 MWh or 1428 lb/MWh. In such a case, 428 lb/MWh of real world emissions would be ignored. In the case of a NGCC plant operating at a 1000 lb/MWh (gross) emission rate, 3 percent of its power is used to meet the needs of the balance of the plant and so the net output to the grid would be 0.97 MWh and its emission rate per MWh would be 1000 lb/0.97 MWh or 1031 lb/MWh. Joint Environmental Commenters submit that it is inappropriate to consciously ignore any real world emissions for no stated reason and submit that the extremely large difference in impact on units using different fuels is inconsistent with the stated fuel neutrality of the proposal.

While EPA has determined that NGCC and not CCS technology is BSER, we note that CCS equipped coal-fired units can meet both the EPA proposed limit on a net basis and the more protective net limit suggested by the Joint Environmental Commenters. In order to comply with a net emission limit of 1000 lb a coal-fired power plant with uncontrolled emissions of 2000 lb/MWh would have to employ a CCS that was 65 percent effective. A 70 percent effective CCS unit would be needed to meet our recommended alternate limit while a 79 percent effective CCS unit would be required to achieve the 600 lb/MWh limit proposed by EPA in its 30 year compliance option. Each

of these capture rates have been shown to be achievable.<sup>158</sup> EPA should also ensure that the energy consumed by pre-combustion techniques, such as coal gasification, for CCS is properly accounted for.

## **10. Duct Burners**

EPA has corrected for the reduction in efficiency associated with less than full load operation, but has not addressed the issue of the increased rate of emissions associated with the use of duct burners to serve peak power needs. We believe that the use of duct burners is embedded in the data and is not significant in terms of affecting the annual CO<sub>2</sub> emission rate. However, the specific emissions associated with the use of duct burners in the publicly available data are difficult to disaggregate. Joint Environmental Commenters anticipate that industry commenters may argue that the use of duct burners justifies a higher emission standard than is suggested by the performance specifications relied on by EPA or by CAMD data. EPA should not accept broadly based or anecdotal arguments to support such assertions, but should require credible, comprehensive data. The EPA should also investigate high efficiency duct burners. While we doubt that such data will be forthcoming, if sufficient factual information is presented to support such arguments, we suggest that, rather than raising emission limits for all units, EPA treat emissions from duct burners as peaking emissions, subject to the hourly limitations recommended in this comment for other peaking units, and not included for purposes of determining compliance with the emission limits for intermediate and base-load units. We believe that this could be accomplished by measuring the amount of natural gas consumed by the duct burners and applying the CO<sub>2</sub> emission factor of 117 lb CO<sub>2</sub>/MMBtu and by measuring the increased generation that results from the use of the duct burners. Both the increased generation and the increased CO<sub>2</sub> would be subtracted from the annual emission calculation.

## **11. Summary of Comments Regarding CO<sub>2</sub> Emission Limits**

1. We support a fuel-neutral, single category for all fossil fueled EGUs, with subcategories based on the function of the unit either as base load /intermediate-load unit or as a peaking unit.
2. EPA should identify the best system of emission reduction for this category. As a matter of engineering, this will require identifying the BSER for natural gas units, since they are generally lower emitting than coal or oil-fired units.

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<sup>158</sup> Some would maintain that the energy penalty for CCS is "only" 20 percent which changes the emission rates but not the underlying issue.

3. BSER is to be established on what is achievable, not necessarily what has been done in the past. An emission limit that virtually all units constructed in the past six years can meet does not represent BSER.
4. At the very least, BSER should be no higher than the emission rate achieved by the average of the best performing existing combined cycle natural gas units.
5. Both (1) the design specification information (after applying reasonable factors for load, age, temperature and altitude) and (2) the in-service emissions data for the best performing units demonstrate that the emissions limitation for new intermediate and base load units should not be greater than 825-850 lb/MWh (net).
6. We strongly recommend the use of net generation rather than gross. A net emission standard (1) more accurately reflects what is to be regulated; (2) can be implemented in a simple and straight forward fashion (especially for new units); (3) provides the appropriate incentive to minimize parasitic loads; and (4) is needed to accomplish the fuel- neutral goal of the standard and ensure that actual emissions of CCS coal-fired units do not exceed the level of emissions from BSER NGCC units.
7. We anticipate that industry commenters may argue that small combined cycle units cannot meet either the limits proposed by EPA or the more stringent limits recommended by environmental commenters. At present the record does not support such an argument given that the same technologies that reduce the emission rates of larger units could be incorporated into smaller units. However, to the extent that EPA agrees with comments concerning small units, we recommend that EPA establish a separate BSER limit for units 150-200 MW or less, rather than relaxing the standard for the more common and more efficient larger units which emit the majority of the CO<sub>2</sub>. Based on the several sets of information available to EPA, we do not believe that a limit greater than 950 – 1000 lb/MWh (net) is warranted for these smaller units.
8. While we agree that peaking units serve a different functional purpose, they can contribute significant greenhouse gas emissions. We recommend that EPA expeditiously commence a rulemaking establishing a standard for these units.
9. We anticipate that industry commenters may argue that units that employ duct burners to a large extent cannot comply with either the limit proposed by EPA or the more stringent limits recommended by environmental commenters. We note that the emissions from these devices are included in the reported emissions data and so should already be accounted for. Should submissions from industry to the record in this rulemaking demonstrate otherwise, we recommend treating both the generation and the emissions associated with the use of these devices as peaking unit emissions, which, as a matter of function and engineering design, they are.

#### **E. 30 Year Compliance Option**

Besides the basic 1000 lbs CO<sub>2</sub>/MWh standard, EPA proposed a separate 30 year averaging compliance option for coal- and petroleum coke-fired EGUs adopting CCS. 77 Fed. Reg. 22,406. This option includes two phases of emissions limitations that, over 30 years, would yield a 1000 lbs CO<sub>2</sub>/MWh cumulative average. EPA proposed to allow a

10 year first-phase, with the emissions limit set at 1800 lbs CO<sub>2</sub>/MWh. For the remaining 20 years, the source would have to meet a limit of 600 lbs CO<sub>2</sub>/MWh. The higher limit may be reached by a number of currently available coal technologies, and the lower limit may be reached by those technologies with the addition of CCS. EPA also proposed to allow sources to seek approval for alternative 30 year timelines with shorter (but not longer) periods of operation without CCS, and with other corresponding two-phase emission limits averaging to 1000 lbs/MWh over 30 years (so long as the first-phase limit does not exceed 1800 lbs/MWh).

These numbers should be revised downward to comport with the lower standard we recommend. For example, if EPA sets an annual standard at 825 lbs CO<sub>2</sub>/MWh, then plants using the 30 year compliance option should be required to achieve emissions of 1625 lbs/CO<sub>2</sub> MWh during their first ten years of operation and emissions of 425 lbs CO<sub>2</sub>/MWh for the next 20 years.

#### **F. A More Stringent Standard Is Economically Achievable**

EPA correctly concludes that setting an NGCC-based BSER will not impose unreasonable (or even significant) costs upon the industry. See RIA at 5-15. The D.C. Circuit holds that considerations of economic achievability may weaken an NSPS only in highly exceptional circumstances. See *Portland Cement Ass'n v. Train*, 513 F.2d 506, 508 (D.C. Cir. 1975) (“Portland Cement II”) (NSPS may be made less stringent in response to economic considerations only “where the costs of meeting standards would be greater than the industry could bear and survive...”); *Lignite Energy Council*, 198 F.3d at 933 (EPA’s standards will be upheld unless environmental or economic costs of using a technology are “exorbitant”). Here, the EPA’s proposed standards are squarely within the bounds of these principles on economic achievability. The Agency’s decision to set an emission limit based on NGCC plants is backed up by a thorough and reasonable analysis of the fossil fuel-generation industry’s near-term future.

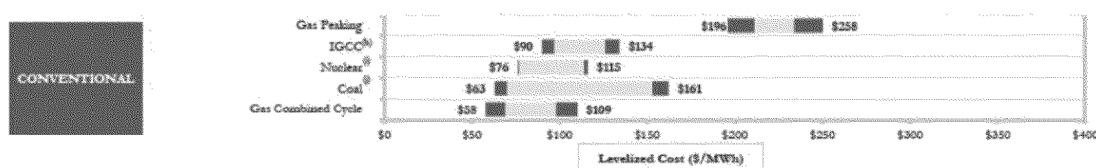
As EPA correctly concludes, “all indications suggest that very few new coal-fired power plants will be constructed in the foreseeable future.” 77 Fed. Reg. at 22,413. It is simply not economic to proceed with these plants in a time of low electricity demand and low natural gas prices. See *id.* EPA observes correctly in the RIA that, consistent with these trends, the Energy Information Administration (EIA)’s Annual Energy Outlook for 2012 forecasts no new unplanned coal capacity through 2020. RIA at 5-5. EIA’s most recent Electric Power Monthly report confirms that this trend continues. As of April 2012, none of the 4844 MW of the new units to come online are coal-fired; instead, new capacity additions are largely in renewable power or natural gas. EIA, *Electric Power Monthly May 2012* at Table ES3.<sup>159</sup> Conversely, retirements to date have been predominantly coal-fired units. See *id.* at Table ES4. Because the industry is already

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<sup>159</sup> Attached as **Ex. 37** *supra*, at 6.

constructing NGCC plants, rather than coal plants, solidifying this economic trend with the NSPS will impose few, if any, additional costs.

Industry-wide levelized cost figures compiled by independent analysts also support EPA's analysis. The most recent (2011) edition of Lazard's Levelized Cost of Energy Analysis,<sup>160</sup> a widely-used reference, shows that even high-end values for the levelized cost of NGCC, which assume very high fuel prices, still fall at or below the mid-range levelized cost of coal generation. With lower fuel prices, the levelized cost of NGCC falls below the bottom end of coal unit costs.



Further, as we discuss in detail above, new large NGCC plants are being constructed at carbon emissions efficiencies substantially greater than 1000 lbs/Mwh of CO<sub>2</sub>. The fact that these highly-efficient plants are being constructed by many different operators even in the absence of the NSPS firmly demonstrates that they are economic. Far from imposing “exorbitant” costs on industry, efficient plants save fuel costs per unit of electricity produced, and so lower costs.

Under these circumstances, there is no credible argument that the proposed standard, or even a significantly more rigorous standard for gas-fired plants, would impose significant costs upon industry. As these economic analyses demonstrate, EPA's conclusion that the standard is economically achievable is justified both for individual plants and for the industry nationally. Courts have made it clear that EPA may examine the economic achievability of a standard at the “*broadest sense at the national and regional levels and over time*” as opposed to simply at the plant level in the immediate present.” In *Sierra Club v. Costle*, 657 F.2d 298, 330 (D.C. Cir. 1981) (emphasis added). Viewed over the next eight years, the industry plainly will continue its shift away from expensive coal-fired electricity, further supporting EPA's conclusion that the NSPS is manifestly achievable and cost-effective.

#### IV. Monitoring, Compliance, and Enforcement Issues

Compliance with the GHG performance standard is, of course, essential to ensure the benefits of that standard. EPA proposes a monitoring and compliance scheme that allows facilities to report their emissions on the basis of either fuel consumed or direct monitoring of actual emissions, that incorporates a monthly reporting period, and that

<sup>160</sup> Attached as **Ex. 40**.

provides an affirmative defense for exceedances attributable to malfunctions. Proposed 60 C.F.R. §§ 60.5530, 60.5535, 60.5540. In general, the proposal provides a workable system when applied to intermediate- and baseload gas-fired power plants, although EPA should clarify the calculation of penalties for noncompliance and we object to the proposed affirmative defense. For coal-fired power plants, EPA should require direct monitoring of emissions, removing the option for emission estimates based on fuel inputs.

#### **A. EPA Should Clarify Penalties and the Duration of Violations**

EPA proposes to average emissions over a 12 month period for purposes of determining compliance with the standard. Proposed 40 C.F.R. § 60.5520(a). We acknowledge the appropriateness of a long averaging time to account for daily and seasonal fluctuations in electricity demand, together with source's differing efficiencies at various loads. This long averaging period raises issues regarding penalties and enforcement. EPA should answer these questions now, rather than awaiting individual enforcement actions, and ensure that penalties are sufficient to incentivize compliance.

EPA proposes to require facilities to "measure or calculate a 12 month rolling average CO<sub>2</sub> emission rate, calculated per calendar month, in terms of tons/MWh." 77 Fed. Reg. at 22437-38 (Proposed 40 CFR §§ 60.5525(c), 60.5540(a)-(b)). Each month, the facility must calculate average emissions per output for the month, then calculate the average of monthly averages for the prior year. Proposed 40 C.F.R. § 60.5540. The facility "is determined to have excess emissions" if this "12-operating month rolling average value" exceeds the applicable emissions limit. *Id.*

A facility that violates this limit will be subject to penalties, but EPA has not addressed how those penalties will be calculated. The Clean Air Act provides for imposition of penalties of up to \$37,500 "per day of violation" of NSPS standards. CAA § 113(d)(1)(B), 42 U.S.C. § 7413(d)(1)(B); 40 C.F.R. Part 19 (adjusting \$25,000 maximum daily penalty for inflation). EPA should explicitly state that when a facility's twelve-month average CO<sub>2</sub> emissions exceed the applicable limit, the facility has been in violation of the limit for every day of the preceding year<sup>161</sup>. The "violations" the CAA is concerned with are excess emissions themselves, not merely the days on which calculation occur. Further, irrespective of whether the emissions on a given day are above or below the standard, each day's emissions contribute to the violation of the annual average.

Relatedly, EPA should require daily, rather than monthly, calculation of the rolling annual average emissions. Under this approach, once a facility calculates an initial violation, each subsequent day on which the rolling average exceeds the limit is another

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<sup>161</sup> Under EPA's standard practice with respect to rolling averages, days that have already contributed to the initial violation are not counted again if the violation continues on subsequent days.

day of violation for purposes of penalty calculation. Because this average is likely to be calculated automatically, and because sources must know each day's emissions in order to manage their compliance obligations, this change should impose no additional burden on facility operators. This approach is required because the intent of the CAA penalty provisions is to deter violations by ensuring the availability of penalties that are greater than the economic benefit of the violation. If the average is calculated on a monthly basis, a facility could argue that violations only occur on the days in which the calculation is required. Under this argument, a facility could perpetually violate the standard but be liable for at most \$450,000 per year.<sup>162</sup> Given the very large potential economic benefits that may accrue from unlawful operation of highly profitable plants<sup>163</sup>, this potential liability falls far short of the level necessary to induce compliance. Such an interpretation by a company that fails to comply would be inconsistent with the statutory scheme. Rather than invite this dispute, however, EPA should preempt it by switching to daily, rather than monthly, calculation of the rolling average and explicitly affirming how it intends to enforce these averages.

## **B. EPA's Should Not Adopt the Proposed Affirmative Defense**

Joint Environmental Commenters applaud EPA's recognition that the proposed NSPS emission standard must apply at all times, including during periods of startup, shutdown, and malfunction ("SSM"). 77 Fed. Reg. at 22,407. In *Sierra Club v. EPA*, 551 F.3d 1019, 1027-28 (D.C. Cir. 2008), the D.C. Circuit made clear that, under the Act, emissions standards require "continuous" control of pollution. Although in that case the Court was evaluating the legality of SSM exemptions to emissions standards promulgated pursuant to Section 112 of the Act, its holding is not limited to Section 112 emission standards; rather, because the Court was interpreting 42 U.S.C. § 7602(k), the Act's definition of "emission standard" that applies throughout the Act, its holding is equally applicable to NSPS such as those proposed here. EPA thus properly proposes an NSPS that would apply at all times, including malfunction periods.

Nonetheless, EPA also proposes an "affirmative defense" to penalties when the standard is violated due to a malfunction. See 77 Fed. Reg. at 22,437 (proposing 40 C.F.R. § 60.5530). The proposed affirmative defense is inconsistent with the text of the Act and is unnecessary in light of the long averaging times EPA has proposed for the standard. Moreover, it would create significant barriers to enforcement that have not been identified in the proposal. As a result, the affirmative defense risks increasing actual emissions and thus blunting the efficacy of the proposed rule.

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<sup>162</sup> 12 monthly reports x \$37,500 per report in violation.

<sup>163</sup> Assuming a wholesale price of \$40/MWh, a 400 MW unit operating at an 85 percent capacity factor would generate \$120 million per year in revenues.

EPA's promulgation of an affirmative defense under the NSPS provisions does not comport with the statutory language. The proposed affirmative defense is inconsistent with the Act's requirement, codified at 42 U.S.C. § 7602(k), that emission limits be continuous. *See Sierra Club v. EPA*, 551 F.3d at 1027-28. By allowing operators to escape liability during malfunctions, the affirmative defense effectively lifts emission limits during such periods. Whether an operator's authority to emit pollutants in an uncontrolled manner stems from an exemption to emission limits or an affirmative defense to such limits, the effect is the same: intermittent controls allowing unabated emissions. Intermittent pollution control is precisely what Congress intended to avoid by requiring that limits be continuous. *Id.* at 1027 (citing *Kamp v. Hernandez*, 752 F.2d 1444, 1452 (9th Cir. 1985)).

By removing civil penalties for periods of malfunction, the proposed affirmative defense also precludes effective citizen participation in enforcement. The statute lays out how the courts are to assess civil penalties, whether a case is brought by EPA or a citizen. 42 U.S.C. § 7413(e). Congress intended citizens to be able to enforce the NSPS using the full range of civil enforcement mechanisms available to the government and subject only to the limitation that the government not be "diligently prosecuting" its own civil enforcement action. CAA §§ 304(a)(2), (b)(1)(B). EPA's rule proposal undermines the judiciary's assigned role in assessing penalties and discourages citizen participation in (and the efficacy of) CAA enforcement actions.

The statute instructs judges how to determine the size of civil penalties whenever they are sought. The scheme Congress established does not contemplate that EPA can limit when civil penalties can be assessed. 42 U.S.C. § 7413(e), *see also Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842-43 (1984). Civil penalties are a remedy available in citizen enforcement actions when the agency has not acted, and the statute gives judges a list of factors to consider in assessing penalties. CAA § 113(e). Imposing additional agency-created limits exceeds EPA's delegated authority.<sup>164</sup> A court in a citizen enforcement action must consider these factors and make its own determination of what civil penalties are "appropriate" under CAA § 304(a).<sup>165</sup> An owner of a covered facility must not be able to evade civil penalties that apply when the congressionally-mandated factors in the statute are met.<sup>166</sup> *See* 42 U.S.C. § 7413(e)

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<sup>164</sup> *See Chevron*, 467 U.S. at 842-43; *see also Barnhart v. Sigmon Coal Co.*, 534 U.S. 438, 462 (2002) ("We will not alter the text in order to satisfy the policy preferences of the Commissioner."); *North Carolina v. EPA*, 531 F.3d 896, 910 (D.C. Cir. 2008) ("All the policy reasons in the world cannot justify an agency reading a substantive provision out of a statute.").

<sup>165</sup> The Ninth Circuit recently explained that under an analogous provision of the Clean Water Act, 33 U.S.C. § 1319(d), "the civil penalties provision is committed to judicial, not agency, discretion." *Sackett v. EPA*, 622 F.3d 1139, 1146-47 (9th Cir. 2010) *cert. granted in part*, 131 S. Ct. 3092 (2011), *rev'd on other grounds by* 132 S. Ct. 1367 (2012).

<sup>166</sup> Even if the statute were ambiguous in this regard, the proposed affirmative defense would nonetheless be invalid under *Chevron* step two and arbitrary and capricious since it is unreasonable to construe the statute as

(listing factors). Notably, courts interpreting the analogous provision of the Clean Water Act have held that the statutorily enumerated factors cannot warrant elimination of a penalty. See *United States v. Lexington Fayette Urban County Gov't*, 591 F.3d 484, 488 (6th Cir. 2010) (collecting cases from the Fourth, Sixth, Ninth, and Eleventh Circuits)

Although section 113(d) grants EPA some discretion regarding administrative penalties, this grant of authority does not extend to penalties courts may impose under sections 113(e) or 304. Under section 113(d), EPA may “compromise, modify, or remit, with or without conditions, *any administrative penalty* which may be imposed under [subsection 113(d)].” 42 U.S.C. § 7413(d)(2)(B) (emphasis added). Sections 113(e) and 304 contain no similar grant of authority. Instead, Section 304(a) grants courts the sole authority “to apply any appropriate civil penalties” in citizen suits. The explicit reference to EPA’s ability to modify penalties in one subsection and its absence in the other subsection of the same provision indicates that Congress made an intentional decision that EPA may not alter by rule.<sup>167</sup>

The proposed affirmative defense would also hinder citizen participation in CAA enforcement, contrary to the congressional intent of conferring on citizens the right to protect themselves from pollution. The affirmative defense would likely be used on a routine basis by polluting sources seeking to avoid penalties, just as the malfunction exemption was. As a result, citizens who seek the assessment of civil penalties against polluters in order to protect themselves and achieve the Act’s goals would be forced to engage in fact-intensive disputes over the cause of emission violations and adequacy of responsive measures – an outcome Congress intended to prevent with the simple straightforward enforcement and penalty provisions in the Clean Air Act. *NRDC v. Train*, 510 F.2d 692, 724 (D.C. Cir. 1974) (Congress intended for citizen suit enforcement to avoid re-delving into “technological or other considerations.”). This burden on citizens would make it less likely that they would enforce the Act. Decreased citizen enforcement would result in fewer civil penalties, which in turn would reduce overall compliance with the Act, since civil penalties provide a powerful deterrent to violators.

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allowing EPA to prevent courts from considering specifically listed factors. See *Chevron*, 467 U.S. at 843 (explaining that if the statute does not answer the question at issue, “the question for the court is whether the agency’s answer is based on a permissible construction of the statute”); see also *Gen. Instrument Corp. v. F.C.C.*, 213 F.3d 724, 732 (D.C. Cir. 2000) (explaining that “an arbitrary and capricious claim and a *Chevron* step two argument overlap”); *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (explaining that agency acts in arbitrary and capricious manner if it fails to consider “relevant factors” or “entirely fail[s] to consider an important aspect of the problem”). By “upset[ting] the statutory balance struck by Congress,” as discussed above, the affirmative defense is unreasonable under *Chevron* step two. *Int’l Alliance of Theatrical & Stage Employees v. N.L.R.B.*, 334 F.3d 27, 35 (D.C. Cir. 2003).

<sup>167</sup> Even if EPA, rather than courts, bore responsibility for applying the section 113(e) factors, EPA would be required to consider all the section 113(e)(1) factors in setting the penalty. CAA § 113(e)(1), 42 U.S.C. § 7413(e)(1); see also *N.Y. Cross Harbor R.R. v. Surface Transp. Bd.*, 374 F.3d 1177, 1184 (D.C. Cir. 2004) (holding that “Board’s failure to balance the competing interests . . . requires” vacatur of agency action).

See, e.g., *Pennsylvania v. Del. Valley Citizens' Council for Clean Air*, 478 U.S. 546, 560 (1986). As the Supreme Court explained: "To the extent that [civil penalties] encourage defendants to discontinue current violations and deter them from committing future ones, they afford redress to citizen plaintiffs who are injured or threatened with injury as a consequence of ongoing unlawful conduct." *Friends of the Earth, Inc. v. Laidlaw Env'tl. Servs.*, 528 U.S. 167, 186 (2000).<sup>168</sup>

The proposed affirmative defense is unnecessary. As EPA suggests, long averaging periods obviate any possible need for an affirmative defense. 77 Fed. Reg. at 22409 (requesting comment on this issue). This is true for both the twelve-month and 30-year averaging period. Any period of malfunction or other higher emissions is likely to be brief, especially any event satisfying the terms of the proposed affirmative defense, which requires "repairs [to be] made as expeditiously as possible" and for the "frequency, amount, and the excess emissions (including bypass) [to be] minimized to the maximum extent practicable." Proposed 40 C.F.R. §60.5530(a)(2), (a)(3) (77 Fed. Reg. at 22437). The impact of such a brief period of malfunction will be diluted across an entire year when the average emissions are computed. Thus, by running only slightly more efficiently than EPA requires, a prudent facility owner will be able to provide an adequate margin of safety to insulate against any possible violation of the standard. Indeed, as EPA's own data shows,<sup>169</sup> new NGCC plants – the type of fossil fuel-fired power plant EPA reasonably expects to be built in the coming years<sup>170</sup> – should easily be able to meet, and in most cases exceed, a substantially lower standard than the standards we advocate here and that EPA has proposed the proposed standard during normal operation. Thus, owners of future TTTT plants can build in a margin of safety to account for malfunctions over the course of the year, and still meet the standard. These arguments apply with even greater force to potential coal-fired units on the 30-year compliance option. In summary, because the standard provides a long averaging time, a prudent operator – the only type of operator to whom the affirmative defense would apply<sup>171</sup> – will never need the affirmative defense. Codifying this affirmative defense would invite complexity and prolonged dispute while providing no discernible benefit.

EPA's prosecutorial discretion similarly defeats any argument for the affirmative defense. EPA has discretion to decide what cases to prosecute, to consider settlements,

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<sup>168</sup> S. Rep. 101-228, at 373 (1989), as reprinted in 1990 U.S.C.A.N. 3385, 3756.

<sup>169</sup> See "New Combined Cycle Units," EPA-HQ-OAR-2011-0660-0029, available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0660-0029> (last visited June 1, 2012).

<sup>170</sup> See, e.g., 77 Fed. Reg. at 22,418 ("[I]t seems unlikely that utilities would choose a natural gas-fired boiler as the generation technology of choice when NGCC is a much more efficient, less expensive, and more widely-used technology").

<sup>171</sup> The affirmative defense would only apply to operators who have taken reasonable care to avoid malfunctions: i.e., prudent operators. See 77 Fed. Reg. 22,437.

and to request civil penalties in a case-by-case manner, as long as it acts consistently with the Clean Air Act to protect clean air as its top priority. *See* 42 U.S.C. § 7401. Promulgating this affirmative defense is equivalent to giving polluters “get out of jail free” cards for serious emission exceedances and violations. Polluters are likely to claim that any violation of the standard is due to a malfunction in order to evade the requirements. Allowing polluting sources to evade financial penalties – which are the real teeth of the standards – through this type of measure may lead to sources no longer even trying to prevent process upsets. It will also increase the complexity and expense of enforcement actions. EPA has provided no evidence that an affirmative defense for malfunctions would serve the purpose of section 111, to protect people from air pollution.

The precedent on which EPA relies does not support the affirmative defense. EPA primarily cites old cases that have been superseded by subsequent legislative and judicial developments, as EPA acknowledges. *See* 77 Fed. Reg. at 22,409 (“...[I]ntervening case law such as *Sierra Club v. EPA* and the CAA 1977 amendments undermine the relevance of these cases today. . . .”). The only recent case EPA relies on, *Montana Sulphur & Chemical Co. v EPA*, 666 F.3d 1174 (9th Cir. 2011), did not consider the lawfulness of an affirmative defense. Rather, that court considered an industry challenge to EPA’s imposition of numerical emission limitations on flaring in a Federal Implementation Plan (FIP). *Id.* at 1191. The court rejected this challenge because it determined that continuous emission limitations are required under the Act and because EPA had offered sufficient “leeway” for “truly unavoidable emissions.” *Id.* The court cited an analogous affirmative defense incorporated into the FIP as an aspect of this leeway, as well as the laxity of the proposed emissions limitations, the latter allowing some short periods of flaring with emissions in excess of what is generally permitted. 666 F.3d 1191.<sup>172</sup> In this brief discussion the court did not consider the legality of the affirmative defense, including, in particular, the conflict between the affirmative defense and Section 113(e) discussed above.

Even assuming *arguendo* that EPA does have authority to promulgate any type of affirmative defense to penalties for malfunctions, EPA should also promulgate the following provisions:

1. A specific amount of compensatory penalties should apply to each reported malfunction (consistent with the Act). These funds should be dedicated to enforcement and inspections of the specific facility, to create greater assurance that malfunctions will not happen again.
2. EPA should modify the regulations so that the affirmative defense cannot be used by a specific facility or company more than once within a set period of time, such as 10 years. The affirmative defense should become automatically unavailable to a facility that has previously had a malfunction within the last 10 years, to ensure that this defense does not swallow the value of the standards.

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<sup>172</sup> Here, the long compliance period accomplishes the same effect.

3. EPA should promulgate specific public reporting and notification requirements for malfunctions and emission exceedances. Specifically, EPA should require that when a facility provides EPA with a notification of a malfunction or emission standard exceedance under the regulations, this notice will be made publicly available on EPA's website within 14 days. Commenters support EPA's proposal to require reporting of malfunctions, as proposed at 40 C.F.R. § 60.5530(b), but it is important that this information be electronically reported, and made publicly available as soon as possible.

Commenters urge EPA not to adopt an affirmative defense that undermines citizen rights and remedies under the Act. Given the serious nature of climate change, EPA should not retract or weaken citizen rights and remedies, as this proposal does, by making it more difficult to obtain meaningful relief when facilities are releasing unacceptably high levels of carbon dioxide into the atmosphere.

### **C. EPA Should Require Direct Monitoring of CO<sub>2</sub> Emissions, Especially for Coal Plants**

EPA proposes to allow facilities to determine compliance with the standard by either monitoring emissions directly or by estimating emissions based on fuel consumption. Proposed 40 C.F.R. §§ 60.5535, 60.5540.<sup>173</sup> Direct monitoring of emissions, especially using continuous emission monitoring systems ("CEMS"), is generally more accurate than estimation of emissions using fuel consumption, as EPA has previously acknowledged.<sup>174</sup> Accordingly, EPA should require CEMS for emissions from all units.<sup>175</sup>

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<sup>173</sup> It appears that EPA inadvertently omitted a third provision relating to using fuel consumption to estimate emissions. Proposed 40 C.F.R. § 60.5535(c) refers the option of "determin[ing] . . . CO<sub>2</sub> mass emissions are by monitoring fuel combusted in the affected EGU and periodic fuel sampling *as allowed under § 60.5525(c)(2)*," but the proposal does not contain a section 60.5525(c)(2).

<sup>174</sup> See, e.g., U.S. EPA, Regulatory Impact Analysis for the Mandatory Reporting of Greenhouse Gas Emissions Proposed Rule ('RIA') at 5-15 – 5-21 (Mar. 2009), attached as **Ex. 41**, John Schakenbach, Robert Vollaro, & Reynaldo Forte, U.S. Office of Atmospheric Programs, *Fundamentals of Successful Monitoring, Reporting, and Verification under a Cap-and-Trade Program* ('Fundamentals'), 56 J. of the Air & Waste Mgmt. Ass'n 1576, 1581 (Nov. 2006), attached as **Ex. 42**.

<sup>175</sup> EPA should also clarify that all plants must undergo an initial performance test pursuant to 40 C.F.R. § 60.8. In the preamble to the proposed rule, EPA explicitly "propose[s] that owners/operators of a new unit, conduct an initial performance test to demonstrate compliance with the CO<sub>2</sub> emissions limits beginning in the calendar month following initial certification of the CO<sub>2</sub> and flow rate monitoring CEMS," "[c]onsistent with the performance testing requirements in the CAA section 111 regulatory general provisions (40 CFR part 60.8) and CEMS certification requirements (40 CFR part 75.4(b))." 77 Fed. Reg. at 22409. Despite this statement, Proposed Table 1 to Subpart TTTT of Part 60, "Applicability of Subpart A General Provisions to Subpart TTTT,"

For coal plants in particular, using fuel input to estimate emissions understates emissions compared to direct monitoring. Thus, even if EPA concludes that fuel-based emission estimates are sufficient for gas-fired plants, EPA nonetheless should require CEMS monitoring of emissions for coal plants. We note that it appears that all existing coal-fired plants already use CEMS, to comply with existing reporting requirements under the Acid Rain Program and Greenhouse Gas Reporting Rules.<sup>176</sup> Accordingly, requiring coal plants to use CEMS will improve reporting accuracy while imposing little if any additional burden on industry.

The value of CEMS data is illustrated by analysis of plants for which EPA has both CEMS and fuel-based emission estimates. Power plants within the Clean Air Act's Acid Rain Program report CO<sub>2</sub> emissions to the EPA; essentially all, if not all, coal-fired plants do so using CEMS, while most oil- and gas-fired plants use site-specific emissions calculations.<sup>177</sup> The Energy Information Administration ('EIA') also calculates emissions for these plants, but uses fuel consumption data rather than the CEMS information.<sup>178</sup> These parallel data sets allowed US Geological Survey scientists to compare measured and estimated emissions for 2900 plants, including the 828 plants which report using CEMS measurements (which are, almost entirely, coal plants).<sup>179</sup> They documented significant divergences between the two data sets. Overall, the fuel consumption data provided an average 4.6% lower emissions estimate.<sup>180</sup> This average divergence masks even greater divergence in estimates regarding individual plants.<sup>181</sup> This discrepancy is

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indicates that § 60.8 does not apply. Because EPA's preamble explicitly states that section 60.8 will apply, and because EPA includes no discussion to the contrary, we assume proposed Table 1 is in error.

<sup>176</sup> Katherine V. Ackerman & Eric T. Sundquist, *Comparison of Two U.S. Power-Plant Carbon Dioxide Emissions Data Sets*, 42 Environmental Science & Technology 5,688, 5,690 (June 2008), attached as **Ex. 43** ("Currently, all coal-fired units use CEM systems").

<sup>177</sup> See 40 C.F.R. §§ 75.10(a)(3) (CO<sub>2</sub> monitoring options); 75.13 (CEMS requirements).

<sup>178</sup> Katherine V. Ackerman & Eric T. Sundquist, *Comparison of Two U.S. Power-Plant Carbon Dioxide Emissions Data Sets*, 42 Environmental Science & Technology 5,688, 5,688 (June 2008), attached as **Ex. 43**, *supra*.

<sup>179</sup> See *id.* at 5,689.

<sup>180</sup> *Id.*

<sup>181</sup> The study authors expressed this overall variability by calculating the absolute relative difference. The systemic 4.6% underestimate included above is the "signed relative difference", which is generated by adding up all the paired differences, positive or negative (e.g., -5+5+1=1) and dividing by the number of data pairs – and the average absolute difference, which is calculated by adding the absolute value of those differences (e.g. 5+5+1=11), and so measures the total variation between the pairs because oppositely-signed differences do not cancel each other out. Using these methods, while the signed relative difference between matched pairs was 4.6%, the corresponding absolute relative difference was 17.1%.

likely due to the inherent inaccuracy of fuel sampling for coal plants. Samples are typically taken from different parts of the fuel pile and the calculations do not take into account environmental conditions at the time of fuel use, such as wet or frozen coal. Accordingly, EPA should require coal-fired plants to use CEMS to calculate CO<sub>2</sub> emissions, using the procedures provided in proposed 40 C.F.R. § 60.5540(a).

#### **D. Enforcement of the 30 Year Compliance Option**

Joint Environmental Commenters submit that if included in the final standards, the 30 year compliance option must be structured with additional features necessary to ensure compliance through a plant's lifetime. Requirements and expectations must be explicit, clear, and binding before construction on a project can begin. EPA's regulations must require that an EPA- or state-issued permit under the 30-year option include milestones for assuring that all necessary steps are taken to prepare for, and operate under, the lower second phase emission limitation. Such milestones should include specific deadlines and required filings with the permitting agency for the following steps: (1) completing detailed construction plans for all CCS-related components including not only carbon capture equipment but also all necessary infrastructure and sequestration arrangements, along with any other components needed for compliance with the second-phase emission limitation, (2) signing construction contracts, with reportable milestones, (3) obtaining all required state and local regulatory approvals, and (4) securing all necessary financing. All such milestones requirements should be incorporated into Title V permits as conditions on operation. This will ensure that they are binding and enforceable, especially to the extent that they require any ongoing obligations through Phase I.

Additionally, EPA should ensure that an EGU will not commence construction or first-phase operation without effective assurances of financial capability and responsibility to meet second-phase obligations. To do so, EPA's regulations should require the owner or operator to provide an escrow payment system, insurance policy, surety bond, or other similar instrument. Such an instrument would have enough value to pay for CCS installation, including meeting all the permit milestones, and the funds would be available to pay for installation. That value will be forfeited for any failure to comply with emissions limitations. EPA should require financial assurances to be sufficient to make a failure to install or operate CCS more expensive than installing and operating it, which will ensure that every source choosing the 30 year compliance option will fulfill its obligations.

Joint Environmental Commenters urge these requirements recalling the experience of the South Coast Air Quality Management District (AQMD) with the Regional Clean Air Incentives Market (RECLAIM). When the RECLAIM limitations on NO<sub>x</sub> emissions tightened, regulated sources claimed compliance would be too expensive. They

succeeded in undermining AQMD and basically ended RECLAIM. It is widely acknowledged that the RECLAIM program did not have sufficient guarantees that the necessary investments would take place during the first phase to ensure success of the second phase. EPA should consider that failure and design a set of requirements that avoids the same problems.

Joint Environmental Commenters further note the research conducted by Resources for the Future (RFF) on the need for financial securitization for deferred compliance obligations like the proposed 30-year averaging period. We encourage EPA to consider a discussion paper from RFF: Dalia Patino Echeverri, et al., *Resources for the Future, Flexible Mandates for Investment in New Technology* (2012), available at <http://www.rff.org/RFF/Documents/RFF-DP-12-14.pdf>. Their research shows that the significant risk of backsliding inherent in the thirty-year option can be mitigated by requiring payments into an escrow fund or other financial assurances.

### **1. Failure to Comply**

Two provisions of the Clean Air Act provide penalties for NSPS violations. Section 113(d)(1) authorizes civil penalties for NSPS violations of up to \$37,500 per day. 74 Fed. Reg. 628.<sup>[1]</sup> This equates to a maximum penalty of \$13,687,500 per year. Separately, Section 120 authorizes noncompliance penalties that are set at the amount of economic benefit gained from noncompliance. § 120(d)(2). These noncompliance penalties are in addition to, and not in lieu of, the civil penalties. § 120(f).

A source that fails to comply with its 30 year compliance option limits is therefore subject civil penalties of as much as \$13.6 million per year, plus a noncompliance penalty as necessary to recovery of whatever additional profit it gained from its failure to comply. Joint Environmental Commenters note that a failure to install CCS would incur an economic benefit not just from first-phase operations, but also from avoided installation costs. EPA should make clear in the regulations that it retains the authority to recover all economic benefit from failing to comply. With vigorous enforcement, then, it will be in no source's economic interest to fail to comply with second-phase emissions limitations. These penalties provide an essential backstop to the surety bond or equivalent instrument discussed above.

Joint Environmental Commenters further note that a failure to operate installed pollution control equipment is a "modification" that subjects a source to New Source Performance Standards. *See, e.g., National Southwire Aluminum Co. v. U.S. E.P.A.*, 838 F.2d 835 (6th Cir. 1988) (turning off pollution control equipment constitutes a modification). While EPA has failed to propose standards for modifications (as discussed elsewhere in these comments), the regulations should provide that if a source decides not to operate existing CCS equipment, it will become subject to the New Source Performance Standards and New Source Review.

## 2. Alternative Timelines

Joint Environmental Commenters have no objection to allowing sources to propose different 30-year timelines that achieve greater near-term reductions. Accordingly, if EPA elects to allow a source greater flexibility in choosing the 30-year timeline applicable to it, such alternative timelines must be subject to three restrictions. First, no source should be allowed to exceed 1800 lbs CO<sub>2</sub>/MWh in any year. Second, no source should be allowed to defer the first-phase emission limitation by more than ten years from the start of operations. Third, the 30-year averaging must be based on permitted emissions in each year, rather than on actual emissions. A source permitted for 1800 lbs CO<sub>2</sub>/MWh that runs at 1600 lbs CO<sub>2</sub>/MWh would not earn credit for use in another year. Instead, the timeline sets out ceilings that may not be exceeded.

These conditions are reasonable and necessary to ensure reliable compliance with a 30-year compliance path that, as EPA recognizes, creates unique enforcement concerns. There is no justification for imposing interim emission limits less stringent than what supercritical boilers, IGCC units, and pressurized CFB boilers can meet from the commencement of operations. Further, establishing a minimum interim standard of 1800 lbs CO<sub>2</sub>/MWh will help to provide certainty both to regulators and regulated sources and avoid situations where sources find themselves ultimately unable to achieve sufficient emission reductions to make up for excess emissions during the first phase of operations.

Finally, we support EPA's suggestion to automatically terminate the 30-year averaging compliance option for new plants commencing construction after 2020. We agree that "flexibility is likely to be most important for the first several CCS projects (i.e., "first movers")" and that it should not be necessary to include this type of compliance option when the NSPS is next reviewed. 77 Fed. Reg. at 22,407. Automatic termination of the provision will avoid creating expectations that could as a practical matter constrain EPA's options at the next review, and it will not prevent EPA from renewing the provision if it is still determined to be appropriate in 2020.

## V. Transitional, Modified, and Reconstructed Sources

### A. Transitional Sources

EPA proposes to exempt from the NSPS certain new sources that EPA believes are "poised to commence construction in the very near future." 77 Fed. Reg. at 22,421. EPA appears to be concerned that applying the NSPS to these sources would have adverse economic effects by stymieing projects that otherwise would be moving

forward promptly. EPA's concerns are unfounded. In fact, exempting these sources is the action that would be detrimental to the public. Many of the projects on EPA's list of potential transitional sources would saddle ratepayers with huge costs if built as planned. Others are massively subsidized by the public fisc. Some are not needed to meet electricity demand. Almost all of these projects are far from commencing construction, and most lack financing. Several of these projects, if they go forward at all, are fully capable of meeting the proposed standard.

Instead of exempting failing, risky, and expensive projects, EPA should follow the rule defining "new sources" that Congress set forth in Section 111(a)(2) of the Clean Air Act, and require the sources on the "Potential Transitional Source" list to comply with the same performance standard that applies to all other new sources in this category.

**1. EPA's List of "Potential Transitional Sources" Consists Only of Projects That Are Failing, Unnecessary, or Able to Meet the Proposed Standard.**

EPA proposes to exempt up to 15 proposed coal-fired power plants that – to EPA's understanding – already have preconstruction permits that meet PSD requirements but have yet to begin construction. 77 Fed. Reg. at 22,421. EPA labels this group "potential transitional sources," and indicates that only those sources on the list that "commence construction" by April 13, 2013 may ultimately qualify for the exemption. *Id.* The sources included on this list are not the sort of projects that merit special treatment. Building a coal-fired power plant under current economic conditions is a risky and ill-advised investment that nearly all power companies have moved away from.<sup>182</sup> Dozens of similarly ill-conceived projects have already been canceled.<sup>183</sup>

Public information about these projects demonstrates that they are either (a) able to meet the NSPS for new sources; or (b) highly unlikely to ever complete construction (whether or not they convince state authorities that they have "commenced" construction by April 2013).<sup>184</sup> EPA's concern that applying the new source standard to this group would undermine otherwise successful projects is therefore unfounded.

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<sup>182</sup> See discussion in Section [REDACTED] *supra* [EPA Has Reasonably Grouped Coal- and Natural Gas-Fired Power Plants in Category TTTT]; *See also, e.g.,* Union of Concerned Scientists, *A Risky Proposition: The Financial Hazards of New Investments in Coal Plants* (2011) and *Burning Coal, Burning Cash* (2010), attached as **Exs. 44 & 45**.

<sup>183</sup> 77 Fed. Reg. at 22,422, n. 66; *Plans for 150 New Coal Plants Scrapped, Transition to Clean Energy Picks Up Steam*, at [http://action.sierraclub.org/site/MessageViewer?em\\_id=195922.0](http://action.sierraclub.org/site/MessageViewer?em_id=195922.0); Sierra Club Coal Tracker, at <http://www.sierraclub.org/environmentallaw/coal/plantlist.aspx>.

<sup>184</sup> We discuss the issue of "commencing construction" further in Section C below.

**a. Limestone 3 (Texas)**

Limestone 3, a proposed addition to NRG Energy's existing Limestone power plant, received its PSD permit in December 2009. NRG has neither applied for a wastewater permit, nor identified any plans to proceed with the project. This project is not moving forward, nor is there any indication that NRG has expended a significant amount of resources on developing the plant, or that it could not change its design plans at this time.

**b. White Stallion (Texas)**

By EPA's own standards, White Stallion does not meet the first prong of the test for "potential transitional sources." EPA defines these sources as those that "have received approval for their PSD preconstruction permits *that meet CAA PSD requirements.*" 77 Fed. Reg. at 22,421. EPA gave notice to the Texas Commission on Environmental Quality ("TCEQ") multiple times that the White Stallion PSD permit does not comply with the Clean Air Act. In September 2010, following a series of letters throughout the permitting process, EPA informed TCEQ that "[b]ecause of the deficiencies identified in our written correspondence and the lack of required NAAQS demonstrations, if TCEQ were to issue the permits as they are proposed *they would not be consistent with federal requirements...*"<sup>185</sup> TCEQ nevertheless issued the permits without correcting these deficiencies. Accordingly, by EPA's own determination, the PSD permit does not meet CAA requirements and should not qualify White Stallion as a "transitional source."

The plant is also facing a number of hurdles unrelated to carbon regulation. Perhaps most significant, the plant has been unable to acquire sufficient water rights to satisfy the plant's needs. The local surface water authority, the Lower Colorado River Authority, rejected White Stallion's proposal to contract for surface water in 2011, and White Stallion has not come close to obtaining sufficient groundwater rights.<sup>186</sup> Nor does it have a plan for conveying available groundwater to its site.<sup>187</sup>

In addition, a state judge remanded the plant's air permit to TCEQ for consideration of whether the information in the application is consistent with the company's submittal to the Army Corps of Engineers for a wetlands permit.<sup>188</sup> Although the remand process

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<sup>185</sup> Letter from L. Starfield, Deputy Regional Administrator, to M. Vickery, Executive Director of TCEQ (Sept. 29, 2010) (emphasis added), attached as **Ex. 46**.

<sup>186</sup> Declaration of C. Roberts ¶¶5, 10, 12 (and corresponding attachments), *White Stallion Energy Center, LLC et al. v. EPA*, No. 12-1100 (and consolidated cases) (D.C. Cir., filed May 17, 2012), attached as **Ex. 47**.

<sup>187</sup> *Id.* ¶11.

<sup>188</sup> Order, *Env't'l Defense Fund, Inc. v. Texas Comm'n on Env't'l Quality*, No. D-1-GN-11-000011, Dist. Ct. of Travis County, Tex., 201<sup>st</sup> Judicial Dist. (June 20, 2011), attached as **Ex. 48**.

on that particular issue recently concluded, the same judge will hear additional claims that the air permit is unlawful, several of which were underscored by EPA in its comments on the permit.<sup>189</sup>

White Stallion's plant design also remains in flux. For example, the company has announced a switch from wet-cooling to dry-cooling, which will require substantial additional space.<sup>190</sup> White Stallion has not indicated how it will reconcile this larger footprint with its commitment not to construct upon the site's wetlands. In short, the plant has many hurdles and likely design changes before it; it is not close to fruition.

#### c. Coletto Creek (Texas)

Coletto Creek, originally proposed in 2008, appears unlikely to gain financing whether or not it can nominally "commence construction" by the April 2013 deadline. According to a project official, "the project is now on hold."<sup>191</sup> Moreover, the developers have expressed the willingness and capability to incorporate CCS technology if the plant does move forward: "A still-active website outlining the proposal says the plant owners are 'looking ahead in anticipation of future carbon-capture regulations,'" so the new unit "has been designed to be retrofitted with carbon-capture technology." *Id.*

#### d. Holcomb 2 (Kansas)

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<sup>189</sup> A state court judge has stated his intent to remand the permit for the proposed Las Brisas Energy Center, which faced similar criticism from EPA as White Stallion. Letter from Hon. S. Yelenosky to Counsel of Record, Re: Cause No. D-1-GN-11-001364, *Env't'l Defense Fund, Inc. et al vs. Tex. Comm'n on Env't'l Quality*, 261<sup>st</sup> Judicial District Court, Travis County, Tex. (May 14, 2012), attached as **Ex. 49**. The Las Brisas remand suggests that White Stallion also faces an uphill battle in state court.

<sup>190</sup> On October 6, White Stallion officials announced that due to "setbacks" in acquiring surface water rights from the LCRA, "the project would now implement a dry cooling technology." Heather Menzies, *White Stallion Clears Two Major Hurdles*, Bay City Tribune (Oct. 6, 2011), attached as **Ex. 50**; See also United States Environmental Protection Agency, *Cooling Water Intakes: Section 316(b): Phase I—New Facilities, Technical Development Document for the Final Regulations Addressing Cooling Water Intake Structures for New Facilities*, EPA-821-R-01-036, Nov. 2001, at [http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/phase1/technical\\_index.cfm](http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/phase1/technical_index.cfm), Chapter 3, p. 3-34 (noting that "[d]ry cooling towers generally require approximately 3 to 4 times the area of a wet tower for a comparable cooling capacity.").

<sup>191</sup> Bill Dawson, *Texas and carbon capture: A status report on power plants, policy and research*, Texas Climate News (May 15, 2012), at <http://texasclimatenews.org/wp/?p=4972>.

The Holcomb 2 (aka Sunflower) project does not qualify as a “potential transitional source” for numerous reasons. EPA has repeatedly advised the Kansas Department of Health and Environment in writing that the PSD permit for Holcomb 2 does not comply with the Clean Air Act because it does not include required emission limits to ensure that the plant will not exceed the one-hour NAAQS for NO<sub>2</sub> and SO<sub>2</sub>.<sup>192</sup> Because EPA has repeatedly acknowledged that the permit does not “meet CAA PSD requirements,” 77 Fed. Reg. at 22,421, Holcomb 2 cannot qualify as a “potential transitional source.” Moreover, the preconstruction permit is currently being challenged in the Kansas Supreme Court on these and other grounds.

Contrary to EPA’s suggestion that the potential transitional sources it has identified are already fully planned and designed, the air pollution control equipment for Holcomb 2 is still in the early design stages and will likely require “substantial redesign.”<sup>193</sup>

In addition, the United States District Court for the District of Columbia has ruled that the Rural Utility Service (“RUS”) violated the National Environmental Policy Act (“NEPA”) by failing to produce an environmental impact statement in connection with its involvement in approving past financial arrangements related to the project. *See Sierra Club v. U.S. Dep’t of Agriculture*, No. Civ. A 07-1860, 2012 WL 263506 (D.D.C. Jan. 30, 2012), appeal docketed, No. 12-5097 (D.C. Cir. Apr. 9, 2012). Pursuant to the court’s order, RUS cannot consent to the current project proposal until an EIS has been completed. *Id.* at \* 10-11. Sunflower has not yet requested approval from RUS for the current project proposal, nor identified an alternative that would not require RUS approval.

Finally, the majority owner of the proposed Holcomb 2 project, Tri-State Generation and Transmission, Inc., has published and filed with the Colorado Public Utilities Commission a final Electric Resource Plan showing the plant is unnecessary to meet demand. Of the 24 resource planning scenarios modeled by Tri-State, none showed any real need for coal-fired power from Holcomb 2 to meet future energy demand. Rather, Tri-State’s modeling demonstrated that future demand could be met with a combination of cleaner alternatives, such as demand side management and renewable generation resources.<sup>194</sup>

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<sup>192</sup> See Letter from K. Brooks, Regional Administrator, U.S. EPA to R. Moser, Secretary, Kansas Department of Health and the Environment, dated Feb. 3, 2011, attached as **Ex. 51**; Letter from K. Brooks, Regional Administrator, U.S. EPA to R. Moser, Secretary, Kansas Department of Health and the Environment, dated Oct. 31, 2011, attached as **Ex. 52**.

<sup>193</sup> Declaration of Ranajit Sahu in Support of Sierra Club’s Opposition to Intervenor’s Motion to Dismiss One Issue of Four on Grounds of Mootness, *Sierra Club v. Moser*, Case No. 11-105,493-AS (Kan. Mar. 16, 2012), attached as **Ex. 53**.

<sup>194</sup> Integrated Resource Plan / Electric Resource Plan for Tri-State Generation and Transmission Associate, Inc., Submitted to Western Area Power Authority, Colorado Public Utilities Commission, Nov. 2010, attached as **Ex. 54**. See also Tri-State Generation

When questioned, Tri-State advised the press that it planned to delay construction of Holcomb 2.<sup>195</sup> Because the owners of the proposed project intend to delay construction independent of the NSPS, Holcomb 2 should be required to meet the NSPS.

**e. De Young (Michigan)**

The expansion of the James De Young coal-fired power plant in Holland, Michigan is a failing and unnecessary project. It has been criticized by the Michigan Public Service Commission as unnecessary and more costly than available alternatives for meeting energy demand. The Commission determined in a 2010 report that the Holland Board of Public Works had failed to demonstrate the need for the facility as the sole source to meet projected capacity requirements, and that Holland had underestimated the role of energy efficiency and renewable generation resources in future years.<sup>196</sup> The estimated cost of construction continues to rise.<sup>197</sup> A consultant for the City of Holland also analyzed the City's energy demands and available options and found that the City could meet its needs without a new coal or gas-fired power plant. Instead, the consultant recommended a combination of efficiency, 37MW of wind, and 24 MW of solar power.<sup>198</sup> Despite these recommendations, Holland continues to pursue this unneeded project. A challenge to its PSD permit is pending before the Michigan Court of Appeals.

**f. Wolverine (Michigan)**

The Wolverine plant was originally proposed in 2007 by the Wolverine Power Cooperative and it has not garnered sufficient support to move forward. As with the De Young plant, the Michigan Public Service Commission has determined that the plant is not needed. The Commission concluded in a 2009 report that Wolverine had not presented compelling evidence that the proposed coal-fired power plant was the best means of meeting future energy demand, and that Wolverine did not adequately

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and Transmission Associate, Inc.'s Resource Planning Presentation, June 10, 2010, attached as **Ex. 55**.

<sup>195</sup> Tim Carpenter, *KDHE seeks input on coal plant*, Topeka-Capital Journal (July 4, 2010), at [http://cjonline.com/news/state/2010-07-04/kdhe\\_seeks\\_input\\_on\\_coal\\_plant](http://cjonline.com/news/state/2010-07-04/kdhe_seeks_input_on_coal_plant).

<sup>196</sup> Staff Report to Michigan Department of Natural Resources & Environment on Holland Board of Public Works' Electric Generation Alternatives Analysis For Proposed Permit to Install (PTI) No. 25-07 For Circulating Fluidized Bed Coal Boiler in Holland, Michigan, July 7, 2010, Docket Number: U-16077, attached as **Ex. 56**.

<sup>197</sup> *Holland BPW awaiting studies on power plant decision — deadlines, rising costs loom*, The Holland Sentinel (May 5, 2012) <http://www.hollandsentinel.com/news/x43405729/Holland-BPW-awaiting-studies-on-power-plant-decision-deadlines-rising-costs-loom>.

<sup>198</sup> Garforth International Report (September 9, 2011), attached as **Ex. 57**.

explore demand-side management options such as energy efficiency.<sup>199</sup> Wolverine Power itself seems to recognize that its original proposal for a coal-fired power plant may not be the best way forward: In early 2010, it announced that energy demand in 2009 was down 14.6% from 2008 numbers and that it had purchased a 340-MW natural gas plant. A challenge to Wolverine's PSD permit is currently pending before the Michigan Court of Appeals.

**g. Plant Washington (Georgia)**

Plant Washington does not qualify for the "transitional source" exemption as defined by EPA. As of the NSPS proposal, it had not obtained the complete, final, and legally effective construction and operation air permit that is required before the plant can commence construction.<sup>200</sup> Nor is it anywhere close to beginning meaningful construction. Its developer, Power 4 Georgians, has not completed critical design elements for the plant, including the design of the boiler or major pollution controls. *Id.* In recent permit applications, many of the major pieces of equipment, including the main boiler and major pollution controls are listed as "TBD," or "To Be Determined." *Id.*

**h. Bonanza (Utah)**

The Bonanza plant proposal has been dormant for years and does not meet the first criteria that EPA has set forth for "potential transitional sources": a final PSD permit. The EPA's Environmental Appeals Board ("EAB") remanded the permit to EPA Region 8 in 2008 for failure to properly justify its decision not to establish a BACT limit for carbon dioxide.<sup>201</sup> The permit was never finalized and the Region has not reissued a PSD permit for the plant. Even if the remanded permit could be treated as a final PSD permit, it has expired automatically because the project has not moved forward since the remand and the proponent has not sought a permit extension. *See* 40 C.F.R. § 52.21(r)(2); 40 C.F.R. § 124.5(g)(2); *Sierra Club v. Franklin County Power*, 546 F.3d 918, 929-30 (7th Cir. 2008).

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<sup>199</sup> Staff Report to Michigan Department of Environmental Quality on Wolverine Power Supply Cooperative's Electric Generation Alternatives Analysis For Proposed Permit to Install (PTI) No. 317-07 For Circulating Fluidized Bed Coal Boilers at Rogers City, Michigan, Sept. 8, 2009, Docket Number: U-16000, attached as **Ex. 58**.

<sup>200</sup> Declaration of K. Ebersbach, *White Stallion Energy Center, LLC et al v. EPA*, No. 12-1100 and consolidated cases (filed May 17, 2012), attached as **Ex. 59**.

<sup>201</sup> Order Denying Review in Part and Remanding in Part, *In re Deseret Power Electric Cooperative*, PSD Appeal No. 07-03 (Evtl. App. Bd. Nov. 13, 2008), *available at* [http://yosemite.epa.gov/oa/EAB\\_Web\\_Docket.nsf/Filings%20By%20Appeal%20Number/C8C5985967D8096E85257500006811A7/\\$File/Remand...39.pdf](http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Filings%20By%20Appeal%20Number/C8C5985967D8096E85257500006811A7/$File/Remand...39.pdf).

**i. Two Elk (Wyoming)**

Two Elk is a proposed pulverized coal plant designed in the early 1990s. It originally applied for an air permit in 1996. Over the last 16 years, it has not been able to muster financing for its plant or more than two or three employees. The construction site currently consists of a stack foundation, a road, and an administrative and storage building.<sup>202</sup> There are no plans to drill water wells (the next step for construction) and the company has halted its agreement with PacifiCorp for interconnection to the grid.<sup>203</sup> After witnessing the company's inaction for decades, local residents have ceased to take the project seriously.<sup>204</sup>

Nor does Two Elk have a final PSD permit, as its PSD permit is still under consideration by the state of Wyoming. In a 2007 settlement agreement with the state resolving a dispute about whether its permit had expired for lack of construction, Two Elk agreed that if its construction schedule were to lapse again, it would apply for a permit modification that would include a new BACT analysis, along with all the other requirements that would apply to a new PSD permit.<sup>205</sup> The Wyoming Department of Environmental Quality ("WDEQ") informed Two Elk in 2010 that this settlement term had been triggered. Two Elk subsequently told WDEQ that it would provide all the necessary information to satisfy the settlement agreement, including a new BACT analysis and air dispersion modeling.<sup>206</sup> Two Elk never completed this application.

Rather, Two Elk's communications with WDEQ reveal that the company is still in the process of designing the basics of the plant. In March 2010, Two Elk sought permission to burn biomass in addition to coal, and submitted a new analysis of potential boiler technology.<sup>207</sup> Thus, the plant certainly does not meet EPA's criterion of being a fully designed and planned project. Moreover, Two Elk has repeatedly stated its intent to

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<sup>202</sup> Wyoming Department of Environmental Quality Memorandum re: Two Elk Power Plant Site Visit (May 16, 2011), attached as **Ex. 60**.

<sup>203</sup> See Two Elk Quarterly Progress Report, First Quarter 2012 (April 13, 2012), attached as **Ex. 61**.

<sup>204</sup> Rone Tempest, *"Stimulus" for Two Elk: Big Checks, But No New Jobs*, WyoFile (Sept. 27, 2011), attached as **Ex. 62**.

<sup>205</sup> Joint Stipulated Settlement Agreement at ¶13.G, Wyoming Environmental Quality Council, Docket No. 07-2601, attached as **Ex. 63**.

<sup>206</sup> Letters from B. Enzi, Vice President, Two Elk Power Company, to C. Schlictemeir and J. Corra, Wyoming Department of Env'tl Quality ("WDEQ") (May 11, 2010), attached as **Exs. 64 & 65** [2 letters].

<sup>207</sup> Letter from B. Enzi to J. Corra, WDEQ, re: adding biomass as an additional fuel (March 29, 2010), attached as **Ex. 66**; Correspondence between WDEQ and Two Elk re: July 2010 Boiler Technology Analysis, attached as **Ex. 67**.

study and implement CCS capture at the site.<sup>208</sup> Two Elk should be able to make plans to meet the NSPS (in the unlikely event that it moves forward with its project).

For all of the reasons above, Two Elk is a wholly unworthy candidate for EPA's proposed transitional source exemption. It is clear that this project is not bringing jobs or economic development to Wyoming. A recent investigative report pointed out that despite gaining hundreds of millions of dollars in federal grants, which were used to pay the CEO a salary of over \$1 million in a two-year period, the company only employs one other person – its lobbyist.<sup>209</sup> Providing special treatment for this project, which has not materialized despite 16 years of support from the state and federal government, will not help the public.

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Several of the “potential transitional sources” EPA has identified are already planning to implement CCS or will otherwise meet the NSPS. For these sources, EPA's statement that “it would be challenging” for the transitional sources “to proceed with construction without substantial re-design of the project in order to install CCS and thereby be in compliance with the 1,000 lb CO<sub>2</sub>/MwH standard”, 77 Fed. Reg. at 22,424, does not hold true, particularly in light of the flexibility provided by EPA's 30-year compliance path. EPA claims without basis that “[i]mposition of an unexpected emission rate requirement at such a late date could upset carefully crafted financial plans, causing delay or even cancellation of the project.” *Id.* at 22,425. Rather than attempting to set a separate standard for these sources, EPA claims that it lacks the information to do so and can therefore exempt them. *See* 77 Fed. Reg. at 22,425 (“[W]e do not have information as to key components of their proposed project and business plan, including, among other things, the amount of capture from the planned CCS system or possible revenue streams associated with CCS.”). Lack of information is not a sufficient reason to exempt these plants from the standard, nor is it a credible reason with respect to plants that have or are receiving federal funding. EPA could seek the necessary information from the plants' developers during this rulemaking proceeding, and much of the relevant information is available publicly if it does not already reside with other federal agencies administering financial assistance programs.

Like the projects described above, some of the CCS projects are unlikely to proceed. The others can readily meet the proposed standard.

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<sup>208</sup> Two Elk Grant Application Package for Recovery Act: Clean Coal Initiative, Round 3 (Excerpt), at 3, attached as **Ex. 68** (“Two Elk Energy Park's Carbon Project links coal-fired power production, 90% flue gas CO<sub>2</sub> removal and EOR in WY; demonstrates CCS, boosts domestic oil production and raises federal oil and coal revenues.”)

<sup>209</sup> Rone Tempest, *Two Elk “Stimulus”: Big Checks, But No New Jobs*, Wyofile (Sept. 27, 2011), attached as **Ex. 62**, *supra*.

**j. Summit (Texas)**

Summit is an integrated gasification combined cycle (“IGCC”) plant that plans to emit less CO<sub>2</sub> than a natural gas plant. The company president, Eric Redman, stated in May of this year that “CO<sub>2</sub> emissions would amount to about 200 pounds per MWh, making the Texas plant far more climate-friendly than even the best combined-cycle natural-gas plants, which emit about 850 to 1,000 pounds per MWh.”<sup>210</sup> Accordingly, there is no apparent risk that treating Summit as a new source, as defined by statute, would derail the project.

**k. Tenaska (Texas)<sup>211</sup>**

The Tenaska proposal in Texas remains speculative. Like other Texas plants, Tenaska has had difficulty acquiring sufficient water rights to satisfy the plant’s needs.<sup>212</sup> In addition, challenges to the plant’s PSD permit are pending in state court.<sup>213</sup> Tenaska’s vice president of environmental affairs, Gregory Kunkel, stated recently that it is unclear whether the project will continue. If the plant does succeed in moving forward, the NSPS should not be a barrier. Mr. Kunkel has stated that “Trailblazer is designed to perform much better than the proposed standard”.<sup>214</sup> Comments filed in this docket by Tenaska, Inc. confirm that, as currently designed, the plant can meet the proposed NSPS.<sup>215</sup>

**l. Taylorville (Illinois)**

The Taylorville facility has recently put its plans for coal gasification on hold and is discussing constructing a natural gas facility instead. In addition, even if the plant does move forward with coal gasification, the facility is designed to be carbon capture ready, is planned for one of the most promising geologic locations in the country for CCS, and

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<sup>210</sup> Summit Power, Latest News, at <http://www.summitpower.com/in-the-news/can-environmentalists-learn-to-love-a-texas-coal-plant/>, citing *Can Environmentalists Learn To Love a Texas Coal Plant?*, Yale Environment 360 (May 31, 2012).

<sup>211</sup> EDF does not join in these comments.

<sup>212</sup> *Stamford to Sell Water to Tenaska*, Sweetwater Reporter (July 13, 2011), at <http://www.sweetwaterreporter.com/content/stamford-sell-water-tenaska> (“The company still needs to find hundreds of millions of gallons more water and needs to go through an appeal process on its air permit before construction can begin.”).

<sup>213</sup> *Sierra Club v. Texas Comm’n on Env’tl Quality*, No. 11-12-00040 (11<sup>th</sup> App. Ct., Tex.); *Multi-County Coalition v. Texas Comm’n on Env’tl Quality*, No. 11-12-00108 (11<sup>th</sup> App. Ct., Tex.).

<sup>214</sup> Bill Dawson, *Texas and carbon capture: A status report on power plants, policy and research*, Texas Climate News (May 15, 2012) at <http://texasclimatenews.org/wp/?p=4972>.

<sup>215</sup> Tenaska’s proposal for 30-year averaging is in fact more stringent than what EPA proposes.

has applied for an injection permit to sequester carbon from the facility. Comments filed in this docket by Tenaska, Inc. confirm that, as currently designed, the plant can meet the proposed NSPS.

State utility regulators have determined that if the project moves forward as a coal gasification plant, it will place a heavy and unnecessary burden on ratepayers. In a 2010 facility cost report, the Illinois Commerce Commission determined that electricity generated by Taylorville would cost substantially more than that generated by other types of facilities (\$212.73 per MWh versus \$88.80 to \$121.97 for wind versus \$154.05 to \$160.78 for combined cycle combustion turbines).<sup>216</sup> The Commission also concluded that the rate impacts on residential and small business customers would likely exceed the maximum allowable amount, and additional project costs would be borne by commercial and industrial customers. *Id.* For this reason, the project continues to face significant opposition from large industrial users who are concerned about the higher cost of electricity.

**m. Goodspring (Pennsylvania)**

The Goodspring plant developers recently announced plans to construct a natural gas combined cycle facility instead of a coal facility.<sup>217</sup> Accordingly, the plant will meet the NSPS.

**n. Power County (Idaho)**

Southeast Idaho Energy's Power County project received its air permit in 2009. That permit includes an enforceable CO<sub>2</sub> emission limit that would require the plant to achieve a 58 percent reduction in its CO<sub>2</sub> emissions. The company has five years to reduce its onsite carbon emissions to the levels required in the permit; until then, it will be allowed to purchase carbon offsets. Southeast Idaho Energy has not proceeded with construction or other permitting. In March 2011, the *Idaho State Journal* reported that plans for the plant were "indefinitely stalled due to lack of funding."<sup>218</sup> Soon after, city officials of American Falls, Idaho confirmed that the company had closed its local office

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<sup>216</sup> Illinois Commerce Commission, Report to the General Assembly, Analysis of the Taylorville Energy Center, Facility Cost Report, at 2, Sept. 1, 2010, attached as **Ex. 69**.

<sup>217</sup> Mark Gilger, Jr., *Coal Cleared from Plans*, Republican Herald (May 19, 2012), at <http://republicanherald.com/news/coal-cleared-from-plans-1.1317514> (last visited June 18, 2012).

<sup>218</sup> John O'Connell, *Plans for fertilizer plant stalled due to funding woes*, Idaho State Journal, (March 31, 2011) at [http://www.idahostatejournal.com/news/online/article\\_eb21e9f0-5c1b-11e0-9e32-001cc4c03286.html](http://www.idahostatejournal.com/news/online/article_eb21e9f0-5c1b-11e0-9e32-001cc4c03286.html) (last visited June 13, 2012).

there.<sup>219</sup> Thus, plans to proceed with the plant were likely abandoned long prior to EPA's proposed rule. In any event, it is not clear that the project would be covered by this rule. Its owner does not intend to sell power to the grid; rather, the purpose indicated in the plant's permit is only to produce fertilizer, ammonia, and related products.

**o. Cash Creek (Kentucky)**

Cash Creek is a proposed IGCC plant that originally received its PSD permit in 2006. It has not moved forward with plans to construct. EPA has just granted a petition to object to the plant's Title V permit.<sup>220</sup> Among other issues, EPA determined that the state permitting authority had not conducted a proper BACT analysis, and that certain permit terms were too vague to be enforceable. Kentucky issues combined Title V and PSD permits. Thus, Cash Creek is not in possession of a valid PSD permit that meets Clean Air Act requirements; it no longer meets EPA's first criteria for transitional sources.

**p. Las Brisas (Texas)**

Las Brisas is a petroleum coke-fired power plant proposed for Corpus Christi, Texas, which EPA correctly excluded from its list of potential transitional sources. First, it does not have a final PSD permit. In Texas, EPA Region 6 handles PSD permits for greenhouse gases because the state refused to do so. EPA has determined that Las Brisas must obtain a PSD permit for greenhouse gases, but has not yet issued the permit. In addition, a Texas judge recently indicated his intent to remand the plant's PSD permit for criteria pollutants because it does not comply with CAA requirements.<sup>221</sup> The Texas Commission on Environmental Quality had approved the company's permit over EPA's objections and against the recommendation of two administrative law judges. The state judge's ruling was consistent with EPA's determination that the permit did not meet regulatory requirements.<sup>222</sup> Thus, there is no plausible argument that this plant is in possession of a final PSD permit that meets CAA requirements. As it lacks these key

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<sup>219</sup> *Southeast Idaho Energy closes office at American Falls*, Idaho State Journal, May 27, 2011, at [http://www.idahostatejournal.com/news/online/article\\_6e13933a-884b-11e0-bc3c-001cc4c002e0.html](http://www.idahostatejournal.com/news/online/article_6e13933a-884b-11e0-bc3c-001cc4c002e0.html).

<sup>220</sup> Order Granting in Part and Denying in Part Petition to Object, *In the Matter of Cash Creek Generation, LLC*, Petition IV-2010-04 (June 22, 2012), attached as **Ex. 70**.

<sup>221</sup> Letter from Hon. S. Yelenosky to Counsel of Record, Re: Cause No. D-1-GN-11-001364, *Env't'l Defense Fund, Inc. et al vs. Tex. Comm'n on Env't'l Quality*, 261<sup>st</sup> Judicial District Court, Travis County, Tex. (May 14, 2012), attached as **Ex. 49**, *supra*.

<sup>222</sup> See Letter from L. Starfield, Deputy Regional Administrator, EPA Region 6, to M. Vickery, Executive Director, Texas Commission on Environmental Quality (TCEQ), January 24, 2011 urging TCEQ not to issue Las Brisas PSD permit until certain issues were resolved.

permits, as well as a final wastewater permit, Las Brisas is not “poised to begin construction in the very near future.”

Nor are there any other proposed coal-fired power plants that might meet the criteria EPA sets forth for the “transitional source” classification. Sierra Club tracks PSD permits for coal-fired power plants nationwide and has identified no other source that has a final PSD permit, has completed design and planning, and is poised to commence construction.

In sum, the potential transitional sources fall into two general groups. The first consists of various types of conventional coal-fired power plants, which have no special features in common to distinguish them from other fossil fuel generators and, in any event, are not likely to progress. These plants have failed or are on course to fail for reasons that have nothing to do with EPA’s proposed carbon regulation. The other group consists of plants proposing to use CCS, or convert to natural gas, which could meet the proposed standard if they succeed in moving forward. As a result, EPA would not impose a substantial economic cost or otherwise scuttle viable projects by simply including these sources in the new source standard.

## **2. EPA Should Not Exclude “Transitional Sources” from the New Source Performance Standard Set for Other Fossil Fuel Fired EGUs.**

Section 111(a)(2) of the Clean Air Act defines a “new source” as any stationary source that commences construction or modification after publication of proposed new standards of performance under section 111 that will be applicable to the source. 42 U.S.C. § 7411(a)(2).<sup>223</sup> Under this definition, any new fossil fuel-fired EGU greater than 25 megawatt electric (MWe) that commences construction after April 13, 2012, is a “new source” and will be subject to the CO<sub>2</sub> standard that EPA ultimately promulgates when the source begins operating. *United States v. City of Painesville*, 644 F.2d 1186, 1191 (6<sup>th</sup> Cir. 1981) (CAA §111(a)(2) “plainly provides that new sources are those whose construction is commenced after the publication of the particular standards of performance in question.”). Because the statute uses the date a standard is proposed to define which sources are subject to the standard, the transitional source exemption cannot be harmonized with the statutory protections contemplated by Congress when it enacted section 111.

EPA offers a number of justifications for grandfathering this group of sources, most of which revolve around the assumption that a “substantial redesign” would be

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<sup>223</sup> “The term ‘new source’ means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.” 42 U.S.C. § 7411(a)(2).

required for these sources to meet the proposed standard, which would “disrupt the plans” and “schedule” of the sources, resulting in a loss of “sunk costs.” 77 Fed. Reg. at 22,400, 22,424. However, EPA points to no authority that allows it to exempt certain sources on this basis. EPA must establish performance standards for new sources within a listed category. 42 U.S.C. § 7411(b). Those standards apply to *any* source in that category that commences construction after EPA publishes such proposed standards. 42 U.S.C. § 7411(a)(2). While EPA “may distinguish among classes, types, and sizes within categories of new sources *for the purpose of establishing* such standards,” 41 U.S.C. § 7411(b)(2)(emphasis added), Section 111 does not contemplate that EPA may exclude some subset of new sources in the category from the established standard.<sup>224</sup>

EPA further argues that, “[t]here is nothing in CAA section 111 that suggests that Congress expected that the EPA may determine the BSER in a way that would significantly disrupt the plans of the regulated sources that are implicated here.” *Id.* But in its definition of “new sources” in Section 111(a)(2), Congress anticipated that sources in the midst of development might be affected by new standards.<sup>225</sup> Nor is it necessary for Congress to have foreseen the specific application of a statute for it to be applied in accord with its terms.

EPA’s approach allows it to pick and choose favored sources within a category that do not have to meet the chosen standard, setting a dangerous precedent for future rulemakings. By EPA’s logic, any individual source within a category covered by an NSPS could seek an exemption from a proposed new source performance standard based on “disruption” of its plans. This result is both unfair and inconsistent with EPA’s obligations.

The exemption for certain sources also departs from EPA’s past practice. None of the previous NSPS rulemakings cited by EPA exempts certain hand-picked sources based on the timing of their projects or “sunk costs” in planning a particular design. *See Lime Manufacturing Plants NSPS* (setting standards for rotary kilns, but not other types of kilns, because the vast majority of the industry uses that particular technology);<sup>226</sup>

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<sup>224</sup> *See Asarco, Inc. v. EPA*, 578 F.2d 319, 330-31 (D.C. Cir. 1978) (J. Levanthal, concurring) (“[T]he flexibility to distinguish between classes of new sources may serve to authorize a differential in the standards applicable to new and modified equipment in those cases where warranted by cost differences and cost-benefit analysis. This approach would not permit the Administrator to immunize a modified facility (one type of new source) from regulation under a performance standard, but would permit an alternative course that promotes the underlying statutory concept of progressively bringing all pollution sources within the constraint of performance standards.”).

<sup>225</sup> *See City of Painesville*, 644 F.2d at 1191-92 (noting that “legislative history weighs heavily against the [source’s] position” where source that had not commenced construction at the time of the proposed standard argued it was not a “new source”).

<sup>226</sup> 42 Fed. Reg. 22,506, 22,507 (May 3, 1977).

*Standards of Performance for Coal Preparation and Processing Plants: Supplemental Proposal* (setting more lenient standard for modified sources based on “physical layout,” while recognizing that reconstructed sources, as well as new sources, can “take design options into account” and therefore could meet a stricter standard);<sup>227</sup> *Standards of Performance for Coal Preparation and Processing Plants: Final Rule* (same);<sup>228</sup> *Standards of Performance for Petroleum Refineries: Final Rule* (setting more lenient fine particulate standards for modified or reconstructed fluid catalytic cracking units based on detailed analysis of existing refineries and cost of compliance).<sup>229</sup> When EPA has distinguished a class of sources based on cost, it has done so based on detailed information on *additional* costs to a facility, not costs previously spent on a particular design. Moreover, EPA did not exempt some new sources entirely.<sup>230</sup> Finally, unlike here, EPA undertook a detailed investigation of costs.

In this rulemaking, EPA does not purport to analyze the expenditures of the potential transitional sources, how far along they are in the design process, or whether it would be more costly for these projects to meet the standard compared with other yet-to-be constructed plants. EPA explicitly admits that it does not know whether the proposed standard would be “so costly and disruptive as not to be BSER” for any particular source. 77 Fed. Reg. at 22,423. EPA must base its decisions on fact rather than conjecture. As detailed above, the record demonstrates that sources on EPA’s proposed list do not meet EPA’s own standards for distinguishing them – i.e., plants that have a permit meeting PSD requirements, are committed to a particular design, and “nearly ready to commence construction.” Thus, EPA lacks a factual basis for distinguishing these sources from other new sources. Nor could EPA possibly develop such facts, given the true status of the plants described above.

EPA also relies on a series of “practical problems” to justify its failure to develop a separate standard for what it calls transitional sources. 77 Fed. Reg. at 22,426. These practical difficulties, as well as EPA’s point that there are only a small group of sources

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<sup>227</sup> 74 Fed. Reg. 25,304, 25,306-09 (May 27, 2009).

<sup>228</sup> 74 Fed. Reg. 51950, 51953 (Oct. 8, 2009).

<sup>229</sup> 73 Fed. Reg. 35,838, 35,845-47 (June 24, 2008).

<sup>230</sup> In the Lime Kilns standard, it is not clear EPA claimed to be excluding any new lime plants, since EPA projected that all new kilns would be rotary. See *National Lime Ass’n v EPA*, 627 F.2d 416, 426 n.28 (D.C. Cir. 1980) (“It is expected that as supplies of natural gas and oil become more expensive or unavailable, all new kilns would be rotary lime kilns designed to burn coal”); 42 Fed. Reg. 22,506, 22,507 (“virtually all the new kilns that have been built in the last few years have been of the rotary type.... [T]he present trend is to build and operate rotary kilns whenever possible.”). Moreover, the exclusion of non-rotary kilns from the lime standards was not part of the challenge to the standards. The D.C. Circuit’s approval of EPA’s action in that rulemaking therefore is not confirmation that EPA has free reign to exclude certain new sources from the new source standards.

at issue, many of which may never begin construction, only serve to underscore why the sources should simply be included with the rest of the new sources under Congress's bright line standard. By carving out a group of fossil fuel-fired EGUs based solely on the timing of their project development, EPA creates unnecessary complications and uncertainty.

EPA's final rational for exempting transitional sources is that, if constructed, they eventually will be covered by standards for existing plants to be issued under Section 111(d), "eliminating any prospect of a regulatory gap of any material concern." 77 Fed. Reg. at 22,427. This rationale ignores both the Act's bright line definition of "new source" and the policy reasons for including any plant that has not "commenced construction" at the time of the proposal in that definition. The sources EPA has identified as "transitional" are, by definition, pre-construction and are therefore still able to make major design choices at a lower cost than plants that are already built and operating. EPA has recognized that "[i]t is much easier, both in technical and practical terms, to consider the air quality impacts and pollution control requirements of a major new source of air pollution before it has been constructed and has begun operation rather than after."<sup>231</sup> Likewise, Courts have recognized that requiring control technology *at the time of construction* is fundamental to the NSPS program. *See Sierra Club v. Costle*, 657 F.2d 298, 325 (D.C. Cir. 1981) ("The standards must to the extent practical force the installation of all the control technology that will ever be necessary on new plants at the time of construction when it is cheaper to install. . .").

In addition, EPA cannot rely on regulations implementing Section 111(d) to cover these sources because EPA has not taken action to issue those regulations, in spite of its legal obligation to do so. Implementing the existing source regulations could take years even after EPA issues them, and any standard that eventually applies to existing sources will be limited by the opportunities available to reduce emissions from existing plants. For sources that emit millions of tons of CO<sub>2</sub> annually, the delay in imposing emission standards coupled with the more limited scope of the existing source standard creates a regulatory gap of substantial concern to the protection of human health and the environment.

### **3. Potential Enforcement Difficulties Would Compound the Problems With the "Transitional Source" Proposal.**

EPA's "Transitional Source" proposal is unwise because, in addition to the concerns discussed above, it suffers from a number of additional practical problems. EPA sets a deadline of April 13, 2013 for the "potential transitional sources" to

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<sup>231</sup> *Requirements for the Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans*, 54 Fed. Reg. 27,274-01, 27,281 (June 28, 1989).

“commence construction,” as that term is defined by NSPS rules, in order to be classified as a “transitional source”. EPA reasons that this “12-month period, serv[es] as a surrogate for the missing information,” i.e., “which of these sources have incurred costs and material commitments to the extent that a 1,000 lb CO<sub>2</sub>/MWh standard would be so costly and disruptive as not to be BSER.” 77 Fed. Reg. at 22,422-23.

In fact, due to ineffective enforcement of the definition of “commence construction,” a plant’s ability to meet this standard may have no bearing on whether meeting the standard would be costly and disruptive. Past experience shows that states may consider even an isolated incident of pouring concrete, digging a hole, or corresponding with contractors, to be “commencing construction” even though the activity does not meet the regulatory definition. Although this problem is not unique to the so-called transitional sources, the exemption provides extra incentive for sources to try to game the definition, and demonstrates that commencement of construction is not a reasonable “surrogate” for sunk costs.. 77 Fed. Reg. at 22,422. As defined in the NSPS regulations,

Commenced means, with respect to the definition of ‘new source’ in section 111(a)(2) of the Act, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

40 C.F.R. § 60.2. “Construction means fabrication, erection, or installation of an affected facility.” *Id.* “Affected facility means, with reference to a stationary source, any apparatus to which a standard is applicable.” *Id.*

The NSPS rules contain no mechanism enabling EPA to ensure that this definition is correctly applied. EPA does not explain in the proposal how applicability determinations would be made or enforced for the transitional sources. By all appearances, sources would determine for themselves whether or not they have “commenced construction.” If the source concludes otherwise, it would not report on its compliance with the NSPS.<sup>232</sup> The first time EPA, or the public, would be able to review whether a source has correctly self-identified as “transitional” and therefore

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<sup>232</sup> Any “affected facility”, i.e., a facility “to which a standard is applicable” must notify EPA of commencement of construction within 30 days of such date. 40 §§ CFR 60.1, 60.2, 60.7(a)(1). EPA’s proposed regulatory language, 40 § C.F.R. 60.5510(b)(3), states that transitional sources commencing construction within one year are not affected facilities. *See also* 40 CFR § 60.8(b) (“Within 60 days of achieving maximum production rate, but not later than 180 days after start-up, the owner or operator must conduct a performance test to demonstrate compliance *with the applicable standard.*”).

exempt from the NSPS, would be during the Title V permitting process. In many states, this occurs only after a plant completes construction.<sup>233</sup>

This lack of oversight is extremely troubling given past experience in both the NSPS and the PSD contexts. The examples below demonstrate that facilities will attempt to interpret “commence construction” exceedingly broadly to access the exemption, and that some states may condone interpretations that violate regulatory language and EPA guidance. Furthermore, in states where EPA has delegated its Clean Air Act authority, EPA does not have a ready mechanism to enforce the legally correct interpretation.

- **Preparatory, Planning and Procurement Activities.** Companies seeking to take advantage of the exemption of new sources from other NSPS programs have interpreted the terms “program of construction” and “contractual obligation to undertake ... a continuous program of construction” very broadly, spawning litigation over EPA applicability determinations. For example, Sierra Pacific Power argued that its expenditures on planning and procurement, without associated physical construction activity, were sufficient to “commence construction” because it constituted a “program” of construction. *Sierra Pacific Power Co. v. EPA*, 647 F.2d 60 (9th Cir. 1981).

Another example – from the PSD context – is the Beech Hollow plant in Pennsylvania, which counted a long list of preparatory and planning activities such as site grading work, preparation of a project site layout, and fuel and water feasibility studies as “construction” under the PSD regulations.<sup>234</sup>

Also in Pennsylvania, the Wellington plant, which originally received approval of its PSD permit in 2005, has kept its permit “alive” for the last seven years with nothing

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<sup>233</sup> Because it would certainly be more costly for a plant to discover that it must meet the NSPS for greenhouse gases at that time, EPA may not permit such an approach. See *Sierra Club v. Costle*, 657 F.2d 298, 325 (D.C. Cir. 1981) (“The standards must to the extent practical force the installation of all the control technology that will ever be necessary on new plants at the time of construction when it is cheaper to install”).

<sup>234</sup> Letter from J. Katz, Director, Air Protection Division, U.S. EPA Region 3, to G. Jugovic, Director, Southwest Regional Office, Pennsylvania Dep’t of Env’tl Protection (Nov. 9, 2009), attached as **Ex. 71**; Letter from R. Bologna, Principal, Robinson Power Company, LLC to B. Hatch, Air Quality Program, Southwest Regional Office, Pennsylvania Dep’t of Env’tl Protection, (Sep. 23, 2009), attached as **Ex. 72** (detailing purported “construction” activities).

more than earthmoving activities, an underground piping system, engineered fill and drainage system, and steel pilings to support a coal hopper.<sup>235</sup>

- **Contractual Obligation.** Companies have likewise attempted to interpret the “contractual obligation” method of commencing construction very broadly. In *Potomac Electric Power Co (Pepco). v. EPA*, 650 F.2d 509 (4th Cir. 1981), Pepco claimed that its mere communications with suppliers had created a binding obligation under traditional contract law principles, and thus exempted the company from new NSPS regulations.
- **Isolated Bursts of Minimal Construction.** The Two Elk plant was originally proposed 16 years ago, in 1996. After several extensions on the construction deadline in its 1998 permit, the plant obtained a PSD permit in 2003 on condition that it finally commence construction by May 2005. Shortly before the deadline, Two Elk hired a contractor to pour a concrete slab for its stack foundation, and executed a contract for a boiler.<sup>236</sup> Just two months later, in July 2005, it ordered construction to stop for lack of funding and it slowed design and engineering activities to a minimal pace.<sup>237</sup> The state found, nonetheless, that Two Elk’s activities in 2005 were sufficient to commence construction as defined in PSD regulations<sup>238</sup> Seven years later, the project proponents have made no further progress on the plant itself.<sup>239</sup> (This

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<sup>235</sup> See, .e.g, Penn. Dept. Env’tl. Protection, Plan Approval Extension (June 27, 2008), attached as **Ex. 73**.

<sup>236</sup> Order Granting Motion to Dismiss, Wyoming Environmental Quality Council, Docket No. 02-2601, ¶4 (July 18, 2005), attached as **Ex. 74**; Wyoming Department of Environmental Quality Memorandum re: Two Elk Site Inspection (May 31, 2005), attached as **Ex. 75**.

<sup>237</sup> See E-mail from C. Cool (Bechtel) to Foster Wheeler, Re: Reduction in Workload & Staffing (July 28, 2005), attached as **Ex. 76** (ordering boiler contractor to “immediately reduce workload and staffing levels”); Two Elk Generating Facility, Interim NTP Progress Report No. 3 (August 2005), attached as **Ex. 77** (noting that “all engineering efforts have slowed to a minimal pace,” and “all construction efforts are on hold”).

<sup>238</sup> Joint Stipulated Settlement Agreement, Wyoming Environmental Quality Council, Docket No. 07-2601, at 2, attached as **Ex. 63, supra**; Order Granting Motion to Dismiss, Wyoming Environmental Quality Council, Docket No. 02-2601, ¶4 (July 18, 2005), attached as **Ex. 74, supra**.

<sup>239</sup> Two Elk Quarterly Progress Report, First Quarter 2012 (April 13, 2012), attached as **Ex. 61, supra**, at 2 (“PacifiCorp acknowledges receipt, on March 27, 2012, of Two Elk Generation Partners, LP’s [‘Interconnection Customer’] written notice of suspension of all work by PacifiCorp associated with the construction and installation of facilities and/or upgrades for Interconnection Customer’s proposed 250/285 MW Large Generating Facility . . . The current suspension directly affects the milestone dates . . .”),

example demonstrates that EPA's proposed one-year deadline for "commencing" construction may bear no relation whatsoever to the reality of whether a plant is on its way to being constructed and completed.)

Similarly, Franklin County Power of Illinois tried to maintain the validity of a PSD permit essentially by digging a 15-foot deep hole at its construction site, which was later filled in, and by entering into a memorandum agreement with Black & Veatch outlining their "intent" to develop an engineering, procurement, and construction ("EPC") contract. *Sierra Club v. Franklin County Power of Illinois, LLC*, 546 F.3d 918, 924 (7th Cir. 2008).

None of these interpretations are consistent with existing EPA regulations and guidance, yet state regulatory agencies did not enforce the correct interpretation. Although citizen groups or EPA ultimately did so in some of these examples, that opportunity may not be available for the proposed transitional sources until the issuance of a Title V permit, likely after completion of construction. In any case, such litigation is costly for both citizens and the sources at issue, particularly if a court were to determine a plant is subject to the NSPS after it has been fully constructed. EPA has not pointed to any mechanism to enforce the correct definition of "commence construction" at a meaningful point in the process.

The test proposed by EPA also runs counter to Congress's judgment that proposed NSPS should not provide a perverse incentive for sources to rush to construct to avoid meeting the standard. The construction window does just that; sources would have an incentive to push half-baked projects to commence construction by the deadline. This would inevitably lead to bad decisions, ill-advised capital investments, and costly litigation, all of which ultimately places a burden on ratepayers, shareholders, or members in the case of cooperatives. Extending that deadline for any reason would do nothing to ameliorate these problems, but would rather increase the number of sources rushing their projects through. These are the very consequences Congress sought to avoid in enacting the definition of "new source" in Section 111(a)(2).<sup>240</sup> By enacting a bright-line standard, Congress avoided this uncertainty and the wasteful

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and 3 ("no final agreements for drilling water supply wells and/or exploratory boring have been finalized"); Wyoming Department of Environmental Quality Memorandum re: Two Elk Power Plant Site Visit (May 16, 2011), attached as **Ex. 60**, *supra* ("No definite time frames for the power line relocation or the water well drilling were discussed.").

<sup>240</sup> Senate Report, S. Rep. No. 91-1196 (1970) ("The overriding purpose of [Section 111] would be to prevent new air pollution problems, and toward that end, maximum feasible control of new sources at the time of their construction is seen by the committee as the most effective and, in the long run, the least expensive approach.") (emphasis added).

costs associated with it, and removed the perverse incentive to rush – and then interrupt – construction activities.

## **B. Modified Sources**

Section 111 directs EPA to set standards of performance for “new sources,” § 111(b)(1)(B), which are defined to include modified sources, § 111(a)(2). *See also* 40 C.F.R. § 60.1. Nonetheless, in the current proposal, “EPA is not proposing standards of performance for NSPS modifications for GHGs.” 77 Fed. Reg. at 22421. EPA’s explanation for this decision is that most foreseeable modifications will be pollution control and efficiency projects, and that EPA has questions about the effect of these activities. *Id.* at 22400. EPA has provided no reason to assume that pollution control projects would lead to an increase in the maximum hourly emissions rate for GHS under the as-yet unproposed NSPS for modified sources. EPA’s remaining reasons for not proposing a standard for modified units are equally insufficient, because efficiency projects will likely be undertaken in compliance with the very rule in question and because EPA already has information sufficient to support promulgation of a standard for modified sources. Finally, EPA’s proffered legal justification for excluding modified sources rests on a strained interpretation of the statute. Accordingly, EPA should promptly set an appropriate standard for modified sources.

### **1. EPA Provides No Basis For Assuming that Pollution Control Projects Will Necessarily Entail “Modifications”**

Existing regulations define “modification” to mean an increase in the mass of pollutant emitted per hour of operation. 40 C.F.R. § 60.14(a)-(b), (h). EPA states that “Based on current information, most of the projects that we believe EGUs are most likely to undertake in the foreseeable future that could increase the maximum achievable hourly rate of CO<sub>2</sub> emissions would constitute pollution control projects.” 77 Fed. Reg. at 22400. EPA has not substantiated this assertion, or explored whether pollution control options are readily available that would enable compliance with CAA rules without resulting in an increase in the amount of CO<sub>2</sub> emitted per hour of operation. Although some options for pollution control technology would increase hourly emissions over what they otherwise would be, other options are available that would not increase emissions. Accordingly, EPA cannot assume without substantiation that facilities that undertake pollution control projects—whether voluntarily or pursuant to other CAA rules—will undergo a “modification” as currently defined by section 111.<sup>241</sup> Nor can EPA

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<sup>241</sup> Of course, even if pollution control projects *do* increase hourly CO<sub>2</sub> emissions, existing NSPS regulations provide that these projects are not “modifications” for purposes of the NSPS program. 40 C.F.R. § 60.14(e). As EPA notes, the DC Circuit has held that a similar regulation in the PSD program violated the text of the statute, and the DC Circuit’s reasoning calls the NSPS pollution control project exemption into

use such an unsupported assumption as a justification for failing to propose a standard for modified sources.

The specific pollution control projects existing sources are most likely undertake are those needed to comply with the CSAPR and MATS rules. Admittedly, some specific options for pollution control technology would increase hourly emissions over what they otherwise would be by introducing an additional CO<sub>2</sub> emission stream, typically from a reagent used in the pollution control. Other technologies exist, however, that do not involve added CO<sub>2</sub> emissions. Sulfur dioxide can be removed without increasing CO<sub>2</sub> emissions by choosing the proper reagent—for example, calcium hydroxide Ca(OH)<sub>2</sub> in dry scrubbers or lime in wet scrubbers. Mercury can be removed with activated carbon injection without increasing CO<sub>2</sub> emissions, because the injected carbon is generally not combusted and does not form CO<sub>2</sub>—instead, this carbon is largely captured by the facility’s particulate control devices, with the remainder emitted as particulate carbon. Absent an investigation of these and other technologies, EPA cannot assume that compliance with CSAPR, MATS, and other CAA programs inevitably entails an increase in hourly CO<sub>2</sub> emissions.

Even if a pollution control project does increase hourly CO<sub>2</sub> emissions when considered in isolation, a facility has other options to offset this increase at the facility-wide level and thereby avoid a modification. For example, a facility may install offsetting efficiency improvements. EPA rested on a similar offsetting option in setting the NSPS for cement kilns. There, EPA adopted a single NO<sub>x</sub> standard for new and modified sources. EPA did not discuss whether existing sources that undertook a modification could in fact achieve the NO<sub>x</sub> standard; instead, EPA merely noted available pollution control technology would allow existing sources to zero out any net emission increases that they would otherwise have, thereby avoiding becoming “modified” sources and triggering the standard. *Portland Cement Ass’n*, 665 F.3d at 190 (citing *ASARCO, Inc. v. EPA*, 578 F.2d 319, 328–29 (D.C. Cir. 1978)). Here, we do not suggest that the standard for modified sources should be the same as the standard for new sources. Instead, we merely note that EPA has previously recognized that existing sources have this option to avoid undergoing “modifications,” and we urge EPA to acknowledge and investigate this option here.<sup>242</sup>

Even where pollution control projects introduce a parasitic load and reduce a facility’s net electrical output, this need not lead to an increase in hourly emissions since the regulations specify that the maximum hourly emission rate is to be determined as kg/hr

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question. 77 Fed. Reg. 22421 (discussing *New York v. EPA*, 413 F.3d 3, 40 (D.C. Cir. 2005)). Environmental commenters contend that even without relying on this exemption, options exist to allow pollution control projects to be undertaken without undergoing a “modification” for purposes of section 111.

<sup>242</sup> Furthermore, because EPA has not provided any discussion of what the standard for modified sources could or will be, EPA has provided no reason to believe that a source that does undergo a modification will face an unreasonable or onerous burden.

not lb/MWh. Thus, while installation of pollution control equipment may reduce the net electrical output of the facility and decrease the efficiency of the facility as expressed in pounds of CO<sub>2</sub> emitted per net megawatt hour produced, this change does not in itself cause an increase in hourly CO<sub>2</sub> emissions.

Accordingly, EPA cannot assume without substantiation that pollution control projects will constitute modifications under existing 40 C.F.R. § 60.14. *See also Environmental Defense v. Duke Energy*, 549 U.S. 561, 575-76 (2007) (discussing EPA's authority to define "modification" for purposes of section 111). Although environmental commenters do not necessarily support the current regulatory definition of "modification," EPA has not announced any intention of amending this regulation.

### **1. EPA's Concern Regarding Projects to Increase Efficiency Is Unwarranted**

EPA expresses a separate concern that facilities will undertake "equipment changes to meet the requirements of this rulemaking and that may have the effect of increasing the sources' maximum hourly achievable emission rate, even while decreasing actual emission rate." 77 Fed. Reg. at 22421 (emphasis added). The meaning of this passage is unclear. EPA has not proposed any obligations on existing sources, so it is unclear how *this rulemaking* could require any existing facility to make equipment changes. Even if EPA were to impose efficiency standards on existing sources, EPA has not explained how the possibility of changes taken to comply with a CO<sub>2</sub> specific-rule could problematically trigger obligations under that same rule.<sup>243</sup> It may be that EPA is concerned that existing sources will be required to take actions pursuant to as-yet unproposed 111(d) guidelines for CO<sub>2</sub> emissions, and that these actions will result in an increase in hourly emissions. In any event, because EPA has not proposed a 111(d) guideline, any such concern would be premature.

### **2. EPA Has Not Identified An Information Deficit That Precludes Setting A Standard for Modified Sources**

EPA's remaining explanation for why it is not proposing a standard for modified sources is a purported lack of information. 77 Fed. Reg. 22421. EPA states that it lacks information regarding "types of physical or operational changes sources may undertake," "the amount of increase in CO<sub>2</sub> emissions from those changes," "types of control actions sources could take to reduce emissions" (including availability and cost

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<sup>243</sup> Although there may be situations where controlling one pollutant results in an increase in emission of another pollutant, where this rule regulates CO<sub>2</sub>, as measured by a single standard, and nothing else, there is no apparent possibility of conflicting obligations.

thereof), and “the types of sources and types of changes at issue that could provide the basis for a proposal for efficiency measures.” *Id.*

But EPA already has information regarding measures that existing EGUs may take to increase efficiency and the costs of these measures. This data, together with EPA’s authority to “compensate for a shortage of data through the use of other qualitative methods, including the reasonable extrapolation of a technology’s performance in other industries,” *Lignite Energy Council v. U.S. E.P.A.*, 198 F.3d 930, 934 (D.C. Cir. 1999), provide information sufficient for setting a standard for modified sources. Although EPA broadly contends that it lacks “an adequate base of information to propose standards of performance for modifications,” 77 Fed. Reg. at 22421, EPA does not assert that there is no “adequately demonstrated” BSER for modified sources.

### **3. The Phrase “Which Will Be Applicable To Such Source” in § 111(a)(2) Is Not A Grant of Agency Discretion**

EPA offers a circular reading of the statutory text to argue that it has legal authority to decline to set a standard for modified sources. In enacting section 111(a)(4), Congress stated its intent to regulate emissions from modified sources. *See also Wisconsin Elec. Power Co. v. Reilly*, 893 F.2d 901, 909 (7th Cir. 1990) (reviewing legislative history and summarizing the role of modifications as a trigger for obligations under the NSPS and PSD programs). EPA states that a source is not a modified source unless EPA has proposed to regulate it as such. Specifically, EPA states that a source is not a “modified source” unless, at the time the modification occurs, “there is a proposed or final ‘standard of performance under this section *which will be applicable to such source.*’” 77 Fed. Reg. 22421 (quoting CAA § 111(a)(2)) (emphasis added). EPA concludes that if it chooses not to propose a standard of performance that would be applicable to the source, the source cannot be a modified source, and that EPA therefore has no obligation to regulate it. For the reasons we explain in discussing transitional sources above, this strained interpretation of section 111(a)(2) is at odds with the mandatory language regarding EPA’s obligation to promulgate standards for categories of sources. EPA has authority to set a standard or standards for modified sources that differs from the standard for new sources,<sup>244</sup> but EPA cannot simply choose to exempt modified sources from the standard-setting process. Notably, EPA recently acknowledged that the text of these provisions and the policy concerns underlying the statute require EPA to

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<sup>244</sup> *See Asarco, Inc. v. EPA*, 578 F.2d 319, 330-31 (D.C. Cir. 1978) (concurring opinion, J. Levanthal) (“[T]he flexibility to distinguish between classes of new sources may serve to authorize a differential in the standards applicable to new and modified equipment in those cases where warranted by cost differences and cost-benefit analysis. This approach would not immunize a modified facility (one type of new source) from regulation under a performance standard, but would permit an alternative course that promotes the underlying statutory concept of progressively bringing all pollution sources within the constraint of performance standards.”)

set standards for modified sources in conjunction with standards for new sources. *National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plant*, 75 Fed. Reg. 54970, 54996 (Sept. 9, 2010) (rejecting industry's request to exempt modified kilns from the new standard).

#### **4. EPA Can Not Rely on Section 111(d) Guidelines that EPA Has Yet to Propose**

EPA states that excluding modified sources from the proposed standard is acceptable because any excluded sources will become “existing” sources subject to as-yet unproposed 111(d) guidelines. If EPA had proposed 111(d) guidelines in conjunction with the proposed 111(b) rule, then EPA's rationale might have had a stronger justification. EPA's current proposal, however, together with the suggestion that it will promulgate 111(d) guidelines at an unspecified future time, does not comport with the obligation to regulate emissions from modified sources.

#### **5. Conclusion**

Joint Environmental Commenters believe that EPA should have proposed a standard for modified sources in conjunction with its standard for new sources. We recognize, however, the EPA also has an obligation to promulgate a final rule promptly. The most reasonable course for EPA therefore is to adopt a standard for “new” sources, and to propose and finalize a standard that applies to modified sources as soon as possible.

#### **C. Reconstructed Sources**

Although the text of section 111 refers only to new and modified sources, EPA's implementing regulations define “reconstruction” as a subcategory of modification. 40 C.F.R. § 60.15. Reconstruction is “the replacement of components of an existing facility to such an extent that . . . the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility.” *Id.* § 60.15(b). EPA does not propose to set a standard of performance for reconstructed sources. As with modified sources, EPA asserts that it lacks information that would inform such a standard, and that if EPA proposes a standard that does not apply to reconstructed sources, then under section 111(a)(2), EPA is not required to regulate these sources. Our comments above regarding EPA's rationale for excluding modified sources apply with equal force to reconstructed sources.

Indeed, failing to set a standard for reconstructed risks drastically weakening the effectiveness of the rule. If reconstructed sources are excluded from the standard, a person wishing to construct a new plant could take an existing facility, demolish

everything but a few parts, and then construct a new plant reusing these existing facilities—including a plant substantially larger than the old facility. Under the existing regulations this would be a “reconstruction,” and under EPA’s proposal, this effectively new facility would be wholly exempt from the new standard. By exempting such reconstructed units from compliance with the standard, the proposal leaves these sources “free to increase emissions without application of [BSER],” in derogation of EPA’s section 111 responsibilities. Cement NSPS, 75 Fed. Reg. at 54996.

## **VI. Relationship with Other CAA Programs**

Joint Environmental Commenters understand and share EPA’s intention that the promulgation of performance standards for CO<sub>2</sub> under § 111 not affect the emission thresholds established in the Tailoring Rule<sup>245</sup> that determine applicability of the Prevention of Significant Deterioration permitting program. Joint Environmental Commenters are confident that EPA has the tools to easily address any concerns regarding the impact of this rule on PSD applicability. We encourage the Agency to include regulatory language in the final NSPS providing that the applicability of the Tailoring Rule thresholds is unaffected by the promulgation of any NSPS for greenhouse gas emissions. One helpful clarification, for example, would be to add a clear statement to these final regulations stating that the NSPS applicability trigger in the PSD regulations governing “[r]egulated NSR pollutant” at 40 C.F.R. §§ 51.166(b)(49)(ii); 52.21(b)(50)(ii) incorporates the tailoring thresholds.

### **A. EPA Must Act Without Delay To Curb CO<sub>2</sub> Emissions From Existing Power plants Under Section 111(d)**

We conclude these comments by reminding EPA that the new source standard, important as it is, does not complete the agency’s job of protecting the American people from dangerous power plant pollution. EPA also has the obligation under Section 111(d) of the Clean Air Act and the agency’s own regulations, 40 C.F.R. §§ 60.20-29, to cut the 2.3 billion tons of dangerous carbon pollution from the existing fleet of power plants.

For greenhouse gases, Section 111(d) also requires standards for existing sources. Specifically, Section 111(d) applies when the existing sources in a category emit a pollutant that is not covered under Sections 108 (criteria air pollutants for which national ambient air quality standards (NAAQS) are established) or Section 112 (hazardous air pollutant standards). That is the case for the CO<sub>2</sub> emitted from the nation’s existing power plants. According to EPA’s Database on 2010 Greenhouse Gas

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<sup>245</sup> 75 Fed. Reg. 31,514 (June 3, 2010).

Emissions from Large Facilities,<sup>246</sup> 1,562 power plants reported emitting a total of 2.326 billion metric tons CO<sub>2</sub>-equivalent of greenhouse gases, nearly all of which was CO<sub>2</sub>.

Section 111(d) addresses the authority to set standards for these existing plants. EPA's regulations implementing § 111(d) require that the agency issue an "emissions guideline" setting forth what the agency considers BSER for existing sources that "reflects the application of the best system of emission reduction (considering the cost of such reduction) that has been adequately demonstrated for designated facilities, and the time within which compliance with emission standards of equivalent stringency can be achieved."<sup>247</sup>

The states then have time limits for adopting state plans that apply the emission guideline by implementing performance standards for existing sources.<sup>248</sup> As under Section 110, EPA has the responsibility to establish federal plans containing acceptable performance standards if state plans are not submitted on time or if they fail to meet the requirements set out in the emission guidelines.<sup>249</sup>

States and environmental organizations brought suit against EPA in 2006 when the agency formally refused to set standards for CO<sub>2</sub> emissions when it reviewed and revised the NSPS for EGUs. In 2007, after the Supreme Court rejected EPA's position in *Massachusetts v. EPA*, the Court of Appeals for the District of Columbia Circuit remanded the power plant rulemaking to EPA for action consistent with the Supreme Court's decision that the Clean Air Act does cover the greenhouse gas pollution that drives climate change. After a long delay, and response to notice from the state and environmental litigants that they would return to court to compel action unreasonably delayed, EPA entered a settlement agreement with the litigants providing a schedule for proposing and taking final action on standards under both §§ 111(b) and (d).<sup>250</sup>

In 2011, the Supreme Court specifically referred to EPA's commitments to acting under the § 111, its regulations, and the settlement agreement to establish standards for CO<sub>2</sub> emissions from both new and existing power plants. *American Electric Power Co. v. Connecticut*, 131 S.Ct. 2527, 2537-38 (2011) (footnote omitted):

Section 111 of the Act directs the EPA Administrator to list "categories of stationary sources" that "in [her] judgment ... caus[e], or contribut[e]

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<sup>246</sup> <http://ghgdata.epa.gov/ghgp/main.do>.

<sup>247</sup> 40 C.F.R. § 60.22(b)(5).

<sup>248</sup> 40 C.F.R. § 60.23.

<sup>249</sup> Section 111(d)(2) states that EPA: "shall have the same authority ... to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under section 110(c) of this title in the case of failure to submit an implementation plan."

<sup>250</sup> <http://epa.gov/carbonpollutionstandard/settlement.html>

significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.” § 7411(b)(1)(A). Once EPA lists a category, the agency must establish standards of performance for emission of pollutants from new or modified sources within that category. § 7411(b)(1)(B); see also § 7411(a)(2). And, most relevant here, § 7411(d) then requires regulation of existing sources within the same category. For existing sources, EPA issues emissions guidelines, see 40 C.F.R. § 60.22, .23 (2009); in compliance with those guidelines and subject to federal oversight, the States then issue performance standards for stationary sources within their jurisdiction, § 7411(d)(1).

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EPA is currently engaged in a § 7411 rulemaking to set standards for greenhouse gas emissions from fossil-fuel fired power plants. To settle litigation brought under § 7607(b) by a group that included the majority of the plaintiffs in this very case, the agency agreed to complete that rulemaking by May 2012. 75 Fed.Reg. 82392.

Although the litigants agreed to several extensions of that schedule, EPA has not acted in conformity with that schedule. While EPA has proposed standards for new sources under § 111(b) – the standard on which we comment today – the agency has not yet taken action under § 111(d) for existing sources.

It is urgent that EPA not only complete this rulemaking by promulgating the § 111(b) standards for new power plants, but that the agency act without further delay to meet its commitments under § 111(d) and the settlement agreement, by proposing, taking comment on, and promulgating the required emission guideline for existing sources, which triggers the state plan requirements summarized above. Significant and affordable reductions can and must be made in the 2.3 billion tons of heat-trapping CO<sub>2</sub> pollution from existing power plants, and EPA must get on with that job without further delay.

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**To:** lisapjackson [Ex. 6 - Personal Privacy] ina McCarthy/DC/USEPA/US@EPA[]  
**From:** Peter Iwanowicz  
**Sent:** Thur 12/23/2010 6:51:35 PM  
**Subject:** Excellent news  
12-23-10 DEC Applaudes EPA'S Announcement Of A New Rulemaking Process For Greenhouse Gas Emissions 10-195.pdf

Attached is our statement on the GHG emissions rulemaking..nice work.

Also, FYI...I was not asked to stay on in the new administration. I am looking at some things that might have me down in Washington, DC. We let you know where and when I resurface.

Happy holidays to you and to your families.

Peter



New York State Department of Environmental Conservation

David A. Paterson, Governor

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Peter M. Iwanowicz, Acting Commissioner

**For Release: IMMEDIATE**

Thursday, December 23, 2010

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## **DEC APPLAUDES EPA'S ANNOUNCEMENT OF A NEW RULEMAKING PROCESS FOR GREENHOUSE GAS EMISSIONS**

The New York State Department of Environmental Conservation (DEC) applauds today's U.S. Environmental Protection Agency (EPA) announcement of intent to set emission standards for greenhouse gas emissions from new power plants. EPA has announced the settlement of a lawsuit brought by New York and other states to compel the EPA to use its existing authority under the Clean Air Act to reduce greenhouse gas pollution from new and existing power plants.

With regard to existing power plants, EPA has agreed to commence a process that will lead to state regulation of emissions from those plants, something that New York and its partners in the Regional Greenhouse Gas Initiative are doing already.

"In New York, we have taken action to combat the unacceptable threat posed by climate change, with the knowledge that well-designed climate policies provide diverse societal benefits ranging from economic development and job creation to energy security and better air quality." Acting Commissioner Peter Iwanowicz said. "EPA and the states can leverage these successful efforts to build a federal-state partnership that achieves maximum emission reductions in a cost-effective, efficient and non-duplicative manner."

In today's announcement, EPA is committing to a schedule for setting guidelines for state regulation of emissions from existing power plants. In setting such guidelines, Acting Commissioner Peter Iwanowicz said that "EPA should allow states to utilize and, if necessary, enhance programs like the regional greenhouse gas initiative that reduce global warming pollution and accelerate the clean energy technologies of tomorrow, as long as those programs achieve EPA's emission reduction goals."

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10-195