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United States Environmental Protection Agency
Docket Center
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RE: Reconsideration of Certain New Source and Startup/Shutdown Issues: National Emission Standards for Hazardous Air Pollutants From Coal and Oil-Fired Electric Utility Steam Generating Units (RIN 2060-AR62, Docket ID No. EPA-HQ-OAR-2009-0234).

The American Clean Skies Foundation (ACSF) is a non-profit organization founded to advance America's energy independence and promote measures to achieve a cleaner environment through the expanded use of natural gas, renewable energy, and energy efficiency. ACSF appreciates the opportunity to submit these comments on EPA's recent proposed rule that addresses, *inter alia*, the "Reconsideration of Certain New Source and Startup/Shutdown Issues: National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units" (hereafter referred to as the Reconsideration Proposed Rule).[1]

I. Executive Summary

ACSF has provided input on a variety of EPA and other rulemakings associated with power generation, including the initial proposed rule for what became EPA's Mercury and Air Toxics Standards (MATS).[2] ACSF considers this MATS rulemaking critical for achieving national public health goals by significantly reducing toxic air pollutants from coal and oil-fired

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[1] The Reconsideration Proposed Rule was published at 77 Fed. Reg. 71,323 (November 30, 2012).

[2] The initial proposed rule for the MATS was published at 76 Fed. Reg. 24,976 (May 3, 2011) (hereafter referred to as the Initial MATS Proposed Rule). This resulted in the final rule published at 77 Fed. Reg. 9,304 (February 16, 2012)(the "MATS Final Rule").

power plants. Notably, the MATS standards do not regulate natural-gas fueled power plants, as EPA found the toxic emissions from these power plants to be "negligible."[3]

In commenting on this Reconsideration Proposed Rule, ACSF makes two key points:

- EPA must require the consideration of fuel switching from coal and oil to natural gas at new units as a "beyond-the-floor" option – i.e., an alternative control measure that relies upon cleaner fuels to lower emissions beyond the baseline that can be achieved by applying the best pollution controls to existing fuels.[4]
- In addition, if necessary, EPA should re-propose the MATS rule for new units to fully incorporate fuel switching as such a beyond-the-floor option.

By overlooking fuel switching to natural gas as a beyond-the-floor option in the MATS Final Rule, EPA failed to achieve critical health and environmental benefits as required by the Clean Air Act. Fortunately, EPA now has the opportunity to address this deficiency and achieve the statutory mandate of limiting toxic air pollutants for new power plants to the maximum extent possible by requiring emission limits consistent with the use of clean-burning natural gas. This is a narrow but important correction by EPA.

Requiring the consideration of natural gas in this context would probably only impact a small number of newly proposed coal and oil fired units. These issues are further discussed below, following a brief summary of the previous MATS rulemaking and EPA's current request for comments.

II. Previous MATS Rulemaking and EPA's current request for comment

In the MATS rulemaking, EPA found that it is necessary and appropriate to regulate hazardous air pollutants (known as "HAPs," a particularly toxic group of pollutants) from coal and oil-fueled electric utility steam-generating units (EGUs).[5] The Initial MATS Proposed Rule discussed emission control options for these coal and oil-fired units to meet the requisite standards, including fuel switching to natural gas as a "beyond-the-floor" option. However, EPA ultimately rejected the fuel-switching option stating, regarding new units, that it did not believe

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[3] *See e.g.*, 76 Fed. Reg. 24,985.

[4] Under a standard adopted pursuant to Section 112(d) of the Clean Air Act, which requires "maximum achievable control technologies" (MACT), new sources must achieve, at a minimum, the same emissions level as is achieved by the best-controlled similar source. This is known as "the MACT floor." However, as discussed below, the law requires EPA to go "beyond the floor" – and set emission limits based on alternative compliance options, such as fuel-switching – where greater pollution reductions are achievable. In these comments, "coal" and "oil" units should be interpreted to include units that use fuel derived from coal and oil, including IGCC units and "solid oil-derived fuel-fired" units.

[5] 76 Fed. Reg. 24,986-25,020.

that to "effectively prohibit new construction of coal-fired EGUs ... is a reasonable approach."[6] ACSF, along with other parties, disagreed with and submitted comments on EPA's fuel switching analysis.[7]

Fortunately, EPA now has the opportunity to correct its failure to achieve the statutory mandate of limiting toxic air pollutants to the maximum extent possible by requiring emission limits consistent with fuel switching and the use of clean-burning natural gas. In particular, in the Reconsideration Proposed Rule, EPA states that:

> We request comment on all aspects of our beyond-the-floor analysis. Specifically, we solicit comment on whether there are any control technologies or HAP emission reduction practices that have been demonstrated to achieve HAP reductions at levels lower than the standards proposed in this notice consistently and in a cost-effective manner. Comments should include information on emissions, pollutant control efficiencies, operational reliability, current demonstrated applications, and costs.[8]

ACSF herein responds to the Reconsideration Proposed Rule's request for comment on its beyond-the-floor analysis.

III. Discussion

A. EPA erred in this reconsideration by not basing emission limits on fuel switching to natural gas as a "beyond-the-floor" requirement for new units.

The record demonstrates that EPA erred in MATS Final Rule, as well as this reconsideration, by not basing emission limits on fuel switching to natural gas as a "beyond-the-floor" requirement for new units. Clear legal precedent, and applicable statutory criteria, mandate that EPA set emission limits based on fuel switching to natural gas as a beyond-the-floor requirement for these new units, as a means of reducing toxic air pollutants to the maximum extent possible.[9]

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[6] 76 Fed. Reg. 25,048-49.

[7] Notably, the MATS Final Rule is devoid of any meaningful EPA responses to the comments suggesting that fuel switching is an appropriate "beyond-the-floor" option.

[8] 77 Fed. Reg. 71,327.

[9] ACSF incorporates by reference comments submitted to EPA during the initial MATS rulemaking that provide support for its arguments below regarding the availability of natural gas, cost effectiveness, non-air quality health and environmental impacts, the need for EPA to consider the use of cleaner fuels under

1. ***Clear legal precedent exists for basing emission limits on fuel switching as a "beyond-the-floor" requirement.***

EPA is correctly reconsidering the beyond-the-floor provisions as CAA Section 112(d)(2) (the beyond-the-floor provision) provides that EPA must require the "*maximum* degree of reduction" in HAPs "taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements." (emphasis added)

Furthermore, CAA Section 112(d)(2) specifies that eligible compliance options include "process changes, substitution of materials or other modifications," which terms clearly include changes to cleaner fuels such as natural gas. Furthermore, fuel switching has been identified as a means of reducing emissions that EPA must consider in reaching the "maximum degree of reduction" in emissions. *See Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 635 (D.C. Cir. 2000).[10]

Indeed, in the Initial MATS Proposed Rule EPA acknowledged that for proposed new fossil plants (such as coal units) "fuel switching to natural gas is a potential regulatory option."[11]

This Reconsideration Proposed Rule affords EPA the opportunity to correct one of the most significant errors in the finalized MATS rule—a failure to consider fuel switching as a "beyond-the-floor" option.

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the MACT standards, and the beyond-the-floor requirements. ACSF incorporates by reference comments including those of America's Natural Gas Alliance (Docket No. EPA-HQ-OAR-2009-0234-17810), Julander Energy Company (Docket No. EPA-HQ-OAR-2009-0234-18423), and the comments originally submitted by ACSF (Docket No. EPA-HQ-OAR-2009-0234-17852).

[10] Similarly, in another recent MACT case, the D.C. Circuit again specifically recognized fuel-switching as a MACT control option and admonished EPA for failing to adequately consider a factor similar to fuel switching (in this case, use of a different raw material type). *See Sierra Club v. EPA*, 479 F.3d 875, 882-83 (D.C. Cir. 2007). *See also, Cement Kiln Recycling Coalition v. EPA*, 255 F.3d 855, 864-65 (D.C. Cir. 2001)(requiring the consideration of emission control options similar to fuel-switching in the MACT context). EPA has also required fuel switching to natural gas to be considered in Prevention of Significant Deterioration (PSD) permitting, which under Clean Air Act section 169 requires—similar to the MACT standard—that stationary sources such as power plants achieve a "maximum degree of reduction" in emissions. *See e.g., In re: Cash Creek Generation, LLC*, Petition Nos. IV-2008-1 & IV-2008-2, 2009 EPA CAA Title V Lexis 4 (Dec. 15, 2009)(EPA rejected a state-issued permit for an IGCC plant because the state failed to justify not requiring a gas-fired plant instead); *In re Hibbing Taconite Company*, 2 E.A.D. 838, 1989 EPA App. Lexis 24 (July 19, 1989)(EPA rejected a permit for a taconite plant that failed to consider using natural gas instead of pet coke as a fuel in its operations).

[11] 76 Fed. Reg. 25,048.

2. ***Not requiring emission limits based on fuel switching to natural gas in this current reconsideration is inconsistent with statutory criteria and recent EPA rulemaking.***

In not requiring emission limits based on fuel switching from coal and oil to natural gas, EPA improperly assessed the relevant statutory criteria, as well as based its decision on an improper, non-statutory factor.

a. **Natural gas can clearly offer a "maximum degree of reduction" in emissions.**

As noted above, the beyond-the-floor provisions in CAA Section 112(d)(2) mandate that EPA require the "*maximum* degree of reduction" in HAPs.

The Initial MATS Proposed Rule recognized that HAP emissions from natural gas power plants are "negligible."[12] Since EPA recognized that natural gas is a MATS "regulatory option," and since it offers a greater "degree of reduction" than other compliance options identified in the MATS Final Rule, natural gas *ipso facto* offers the "maximum degree of reduction" and must be selected as the beyond-the-floor technology unless some other statutory criterion rules it out.

This analysis is consistent with other EPA rulemaking. In particular, since the Initial Proposed Rule, EPA has, in proposing new source greenhouse gas standards for EGUs (the "Power Plant GHG NSPS"), set emission levels for fossil-fueled new power plants consistent with natural gas combined cycle units as these gas units are the "best system of emission reduction."[13] These Power Plant GHG NSPS standards regulate a different type of pollution (carbon dioxide), but they are otherwise closely analogous in that they too regulate new power plants. This Power Plant NSPS finding that gas units are the "best system of emission reduction" in the NSPS context provides a strong presumption that natural gas offers the "maximum degree of reduction" in the MATS context, given that natural gas offers even *greater* comparative emission reductions of HAPs (versus carbon dioxide) as compared to coal and oil-fired units.[14]

Indeed, in the Power Plant NSPS, EPA proposed basically what ACSF asserts in these comments: that for new fossil fuel units (such as coal and oil units), emission limits should be

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[12] 76 Fed. Reg. 24,985. In fact, natural gas generation has zero or near zero emissions of pollutants regulated by the MATS, including mercury, hydrogen chloride, sulfur dioxide (which can serve as a surrogate limit for HCl), and particulate matter (regulated as a surrogate for non-mercury metallic HAPs).

[13] 77 Fed. Reg. 22,392, 22,394 (April 13, 2012).

[14] As noted above, natural gas generation has *zero* or near zero emissions of pollutants regulated by the MATS. By comparison, natural gas emits about 47% less GHGs than coal. *See e.g.*, Worldwatch Institute, *Comparing Life-Cycle Greenhouse Gas Emissions from Natural Gas and Coal* (August 2011), p.2, available at http://www.worldwatch.org/system/files/pdf/Natural_Gas_LCA_Update_082511.pdf.

based on those of natural gas plants. In either case, natural gas literally "sets the standard." And, if anything, since the MATS standards regulate a more toxic type of pollution, EPA should take an approach that is at least as stringent as that approach taken in the Power Plant GHG NSPS.

b. **Natural gas is cost-effective.**

CAA Section 112(d)(2) provides that EPA must consider the "costs of achieving" the maximum degree of HAPs emission reductions.

Here, the technology with the maximum degree of emission reduction is actually likely to be generally *less expensive* than the higher emitting option—to wit, a new coal-fired power plant. The EIA has found that the levelized capital cost of a new coal plant is over *three times* as expensive as for a natural gas combined cycle (NGCC) plant.[15]

Since the capital costs of a new natural gas power plant are generally lower than those for coal plants, the key remaining cost issue is fuel. Here, the EIA has found that the total *system* levelized cost, including fuel costs and other variable O&M, is significantly higher for a new coal unit than for a new NGCC unit.[16] Furthermore, in the Power Plant GHG NSPS, EPA expressly stated "*natural gas prices are expected to be competitive for the foreseeable future* and utilities are likely to rely heavily on natural gas to meet new demand for electricity generation."[17] By way of further support, the recent AEO 2013 Early Release predicts that natural gas prices will remain well below historical levels for the next 15+ years.[18]

Notably, the only fuel-switching cost information that EPA discussed in the original MATS proposed rule focused on the cost of fuel-switching at existing coal plants (versus the costs of retrofitting coal plants). The record is devoid of meaningful EPA analysis on a key point—the cost effectiveness of considering a cleaner fuel (i.e., natural gas) at *new*, yet-to-be built facilities. On this point EPA makes an unsupported reference to costs and then simply concludes in the Initial MATS Proposed Rule that "even if we determined that natural gas supplies were available in all regions, we would still not adopt this fuel switching option because it would effectively prohibit new construction of coal-fired EGUs and we do not think that is a

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[15] *See* EIA, *Levelized Cost of New Generation Resources in the Annual Energy Outlook 2012* (July 2012), p. 4, available at http://www.eia.gov/forecasts/aeo/pdf/electricity_generation.pdf.

[16] *Id.*

[17] 77 Fed. Reg. 22,413.

[18] *See* http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2013).pdf, p. 5 ("With increasing natural gas production, reflecting continued success in tapping the nation's extensive shale gas resource, Henry Hub spot natural gas prices remain below $4 per million Btu (2011 dollars) through 2018 in the AEO2013 Reference case," and rise to only $5.40 in 2030).

reasonable approach to regulating HAP emissions from EGUs."[19] As noted above, the costs of choosing a cleaner fuel for a new facility can be much lower than for building a higher-emitting facility, and, again, EPA has clearly recognized that "utilities are likely to rely heavily on natural gas to meet *new* demand for electricity generation."[20] It would only make sense then that EPA should consider and fully analyze these (new unit) costs.

c. **Natural gas is widely available.**

EPA has attempted to avoid natural-gas as a beyond-the-floor technology by implying that natural gas is not widely available.[21] EPA's analysis here in the MATS context is (1) factually inaccurate and unsupported, and (2) inconsistent with EPA pronouncements in other rules. For instance, EIA information shows that natural gas pipelines can be found all of the lower 48 states.[22] Similarly, DOE has found that natural gas is widely available to power plants, and that natural gas lines can "deliver fuel to power plants in most locations in the lower 48 states."[23] Additionally, EPA information in the MATS docket shows natural gas transmission in all of the lower 48 states.[24] Furthermore, the Power Plant GHG NSPS recognized that NGCC units "will be the predominant choice for new fossil fuel-fired generation."[25]

As poof of the widespread availability of natural gas, gas generation units are rapidly increasing in number. For instance FERC's latest Energy Infrastructure Update states that since the beginning of 2012, 82 natural gas units have been added with a total capacity of over 6,000

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[19] 76 Fed. Reg. 25,048-49.

[20] 77 Fed. Reg. 22,413 (emphasis added).

[21] 76 Fed. Reg. 25,048.

[22] *See* EIA, U.S. Natural Gas Pipeline Network, 2009 at http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/ngpipelines_map.html. EIA has further found that "U.S. natural gas pipeline network is a highly integrated transmission and distribution grid that can transport natural gas to and from nearly any location in the lower 48 States." *See* http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/index.html.

[23] DOE, National Electric Transmission Congestion Study (2009), p. 24, available at http://congestion09.anl.gov/documents/docs/Congestion_Study_2009.pdf.

[24] *See* EPA, *Documentation for EPA Base Case v.4.10 Using the Integrated Planning Model* (August 2010), Figure 10-3, p. 433.

[25] 77 Fed. Reg. 22,392.

MW, with natural gas units thus totaling approximately 43% of total U.S. electric generating capacity.[26]

Furthermore, pipeline laterals can be readily built to accommodate natural gas to new power plants. The Department of Energy has found that the U.S. natural gas pipeline network consists of some "250,000 miles of interstate transmission, plus approximately 75,000 miles of intrastate transmission."[27] Eminent domain authority for the construction of new interstate natural gas pipelines and natural gas storage also have "facilitated the robust growth of a continent-wide network" of natural gas delivery infrastructure.[28] And, it bears noting that the locations of proposed coal and oil power plants may already have natural gas readily available, as natural gas is often planned to be used as a fuel when starting up power plants such as following periods of maintenance or low demand.[29] In short, fuel switching to natural gas is cost effective and data from numerous sources indicate that gas is also readily available.

d. **Non-Air Quality Health and Environmental Impacts.**

CAA Section 112(d)(2) also requires that EPA consider the "non-air quality health and environmental impacts" when assessing the maximum degree of emission reduction. In addition to the air quality improvements of natural gas when compared to coal, natural gas power plants also provide non-air quality and environmental benefits. For instance, modern, natural gas combined cycle power plants use less water for cooling than a coal-fired power plant, as the combustion turbine components of NGCC facilities do not require intake water and NGCC generation is more efficient.[30] Natural gas units also do not generate coal "ash" and thus have no need for coal ash ponds, thereby eliminating concerns about coal ash disposal. Natural gas also has a much lower GHG footprint than coal on a full-fuel-cycle basis.[31]

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[26] FERC, Office of Energy Projects, Energy Infrastructure Update for November 2012, available at https://www.ferc.gov/legal/staff-reports/nov-2012-energy-infrastructure.pdf.

[27] Dep't of Energy, Fossil Energy, Transmission Distribution and Storage website, available at http://www.fe.doe.gov/programs/oilgas/delivery/index.html.

[28] *See e.g.*, MIT, *The Future of Natural Gas* (2011), p. 148, available at http://www.cleanskies.org.

[29] *See e.g.*, *In re: Cash Creek Generation, LLC*, supra.

[30] *See e.g.*, Worldwatch Institute, *How Energy Choices Affect Fresh Water Supplies: A Comparison of U.S. Coal and Natural Gas* (November 2010), p. 12. This report notes that the water used to generate a kilowatt-hour of electricity in NGCC plants is only about one-third of that required by a subcritical pulverized coal plant.

[31] "On average, U.S. natural gas-fired electricity generation emitted 47% less GHGs than coal. *See* e.g., Worldwatch Institute, *Comparing Life-Cycle Greenhouse Gas Emissions from Natural Gas and Coal* (August 2011), *supra*, p. 2.

Furthermore, the proposed Power Plant GHG NSPS specifically found that "compared to coal-fired EGUs, natural gas-fired EGUs have fewer nonair quality health and environmental impacts."[32] Despite this statement and the sources of information cited above (along with numerous others) EPA did not even mention the non-air quality health and environmental benefits available from the use of natural gas-fired EGUs.

In sum, natural gas provides significant non-air quality and environmental benefits compared to coal, and §112 *requires* that EPA consider these benefits when establishing "beyond-the-floor" emission limits for EGUs.

e. **Other considerations.**

The Reconsideration Proposed Rule requests comment, regarding beyond-the-floor options that it hadn't identified, on "pollutant control efficiencies, operational reliability, current demonstrated applications, and costs."[33] Fuel switching to natural gas excels under all of these considerations. Natural gas power plants have inherently higher efficiency than coal-fired power plants.[34] Natural gas power plants are also highly reliable.[35] Natural gas is an eminently "demonstrated" technology, as natural gas power is rapidly becoming a backbone of our electric grid.[36]

Natural gas plants are also operationally superior, able to ramp up and down more quickly, which allows them to better respond to electric power demand as well as provide

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[32] 77 Fed. Reg. 22,399.

[33] 77 Fed. Reg. 71,327.

[34] *See e.g.*, Joel N. Swisher, "The Business Case for Integrating Clean Energy Resources to Replace Coal," p. 7, available at http://www.cleanskies.org. Dr. Swisher notes that NGCC units "have relatively low heat rates, which translate into high fuel efficiency." The heat rates for existing NGCC units "are between 6,000 and 9,000 Btu/kWh (38-57% efficiency), with an average around 7,500 Btu/kWh (45% efficiency), while the heat rates for coal-fired steam plants are between 9,500 and 12,000 Btu/kWh (28-36% efficiency), with an average around 10,500 Btu/kWh (32% efficiency)."

[35] For instance, EIA has found that natural gas combined cycle plants have lower variable operations and maintenance (O&M) costs, and significantly lower fixed O&M costs, as compared to scrubbed new coal plants. *See* EIA's *Cost and Performance Characteristics of New Central Station Electricity Generating Technologies* prepared for the AEO2013 Early Release at http://www.eia.gov/forecasts/aeo/assumptions/pdf/table8_2_er.pdf.

[36] The "EPA and others project that NGCC will be the predominant choice for new fossil fuel-fired generation even absent this rule." 77 Fed. Reg. 22,392.

valuable load support for renewable energy.[37] With an increasing number of renewable sources connecting to the grid, natural gas generation can be used in "load following" to maintain grid reliability.[38]

3. ***The failure to base beyond-the-floor requirements on fuel switching to natural gas is currently being challenged in litigation over the MATS rule—including EPA's considering an impermissible consideration in rejecting fuel switching.***

Julander Energy is currently litigating EPA's flawed analysis of natural gas as a beyond-the-floor requirement. In its court brief, Julander Energy challenges EPA's failure to base beyond-the-floor requirements for new sources on fuel switching to natural gas. On this issue, Julander Energy correctly argues that "In concluding that fuel-switching is 'not reasonable' because it would prohibit construction of new coal-fired EGUs, EPA strayed outside the criteria in CAA §112."[39]

In support of its position, Julander appropriately cites *Motor Vehicle Manufacturers Association of the United States, Inc. v. State Farm Mutual Automobile Insurance Co.* There, the U.S. Supreme Court ruled that "Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."[40] Furthermore, as the Julander Brief further aptly notes:

> EPA's "reasons for action or inaction must conform to the authorizing statute", *Massachusetts v. EPA*, 549 U.S. 497, 533 (2007). For "beyond-the-floor" standards, §112(d)(2) requires EPA to "tak[e] into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements." Nothing in §112 allows EPA to reject an otherwise appropriate control option simply

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[37] *See e.g.*, Joel N. Swisher, "The Business Case for Integrating Clean Energy Resources to Replace Coal," *supra* p. 17 ("Flexible gas-fired generation is the key to reducing power sector CO_2 emissions, partly due to its low carbon intensity compared to coal, but especially because its flexibility enables carbon-free variable renewable sources").

[38] *Id.*

[39] Brief of Petitioner at 9, Julander Energy v. EPA, No. 12-1174 (D.C. Cir. Oct. 23, 2012) ("Julander Brief").

[40] *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

> because it would require new sources to use a particular fuel. Concluding that fuel-switching is "not reasonable" because it does so is "reasoning divorced from the statutory text." *Id.* at 532. *State Farm* error No. 1: "relyi[ng] on factors which Congress has not intended it to consider".[41]

Additionally, the D.C. Circuit has specifically stated that EPA should not rely on "policy objectives other than those enumerated in section 7412(d)" when making MACT control decisions.[42]

Moreover, Julander Energy correctly makes the same points made above in these comments, including:

- that "EPA offered no factual basis for concluding that there is not enough natural gas/infrastructure to supply new EGUs."[43]
- that "EPA ignored §112's requirement to consider collateral benefits of control options by not acknowledging fuel-switching's significant reduction in carbon dioxide ("CO_2") and other emissions."[44]

4. ***Several options exist for how to include natural gas in setting beyond-the-floor requirements for new units.***

Several options exist for how EPA can include natural gas in setting beyond-the-floor requirements for new units. EPA need not impose a burdensome, "one size fits all" approach that would prohibit the construction of any new coal (or oil) fueled units. Rather, EPA should ensure that any such new units meet emission limits commensurate with the maximum degree of reduction consistent with the Section 112(d) criteria—i.e., emissions based on natural gas units.[45] Possible approaches to reducing emission include the following.

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[41] Julander Brief at 10.

[42] *Cement Kiln Recycling Coal. v. EPA*, 255 F.3d at 872. *See also*, *North Carolina v. EPA*, 531 F.3d 896, 921 (D.C. Circuit 2009), where the D.C. circuit rejected an EPA rulemaking for considering a non-statutory factor, "an improper reason," that disfavored the use of natural gas in power plants. EPA should not, once again, rely on improper, non-statutory factors to disadvantage the use of cleaner fuels such as natural gas.

[43] Julander Brief at 9.

[44] *Id.*

[45] This approach not only obtains the environmental controls required by the MACT provisions, but is also practical as demonstrated in the Power Plant GHG NSPS, which required new fossil fuel-fired EGUs to meet a CO_2 pounds per megawatt-hour standard "*based on* the performance of widely used" NGCC

First, emission limits consistent with the use of natural gas would set the beyond-the-floor limits for new fossil plants *unless* a permit applicant can demonstrate that natural gas is unavailable. Such an assessment of "availability" would not be new. EPA has stated that a control technique is considered available if it "can be obtained by commercial channels or is otherwise available within the common sense meaning of the term."[46] As noted above, in many or most cases when a new power plant is proposed, natural gas will be commercially available.

Nevertheless, it is possible that a utility may site a new generation unit in a location without existing natural gas availability (or the ability to install relatively short lateral pipeline connections). Here, "availability" can be furthermore informed by §112(d)'s requirement to consider costs. EPA MACT Guidance suggests that cost effectiveness can be assessed as the ratio of total annual costs to the total amount of HAP removed (e.g., a $/ton cost-effectiveness assessment), and that "cost-effectiveness values falling within the range of previously acceptable MACT decisions are considered acceptable."[47] In this case, a natural gas combined-cycle unit would set the standard (i.e., would be the most cost effective) except in cases where (i) the costs of the gas unit plus necessary natural gas infrastructure *exceeds* the cost of a new coal unit equipped with the otherwise necessary control equipment (ii) by an incremental $/ton in HAP controls that is *greater than* other MACT determinations for other sources controlling the same pollutants. This approach is analogous to that which EPA undertook in its coal-to-gas analysis for existing units, but failed to pursue for new units.[48]

Alternatively, natural gas should be considered on a case-by-case basis as a potential MACT beyond-the-floor requirement, for all newly proposed coal and oil-fired power plants. Again, such a case-by-case review would not "effectively prohibit new construction of coal-fired EGUs" (even if this were a permissible consideration, which it is not). Rather, a case-by-case review would merely require the deployment of the most effective emission control technology for a fossil-fired baseload plant, whether that technology is a cleaner fuel such as natural gas, or some other technology. For each new EGU, the developer would need to provide an analysis of all possible options available and the level of emission reduction from each. EPA could then determine what the "maximum" emissions reduction should be for that unit. This process could

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technology. 77 Fed. Reg. 22,392 (emphasis added). Indeed, common treatment between the NSPS and MACT provisions here is particularly appropriate since section 112(c) provides that MACT regulatory categories, to the extent practicable, "shall be consistent with the list of source categories" regulated under the NSPS provisions. Since the MATS standards regulate a more toxic type of pollution, they should take an approach that is at least as stringent as that approach taken in the Power Plant GHG NSPS.

[46] *In re Mississippi Lime Co.*, 15 E.A.D. ___, PSD 11-01 (Aug. 9, 2011)(assessing BACT permitting requirements).

[47] U.S. EPA, "Guidelines for MACT Determinations under Section 112(j) Requirements," 6-4 to 6-5.

[48] EPA, *Coal-to-Gas Conversion (C2G) Technical Support Document* (March 4, 2011).

be similar to that currently required under the MACT provisions in CAA section 112(j) that are determined on a "case-by-case basis."[49]

Finally, as ACSF previously noted in its comments on the Initial MATS Proposed Rule, fossil fuel plants where natural gas is available could be considered as a "subcategory" for MACT standard-setting purposes. In this subcategory of units (where natural gas is available), the MACT beyond-the-floor limits would be based on the emissions of NGCC units.[50]

Importantly, none of these approaches is a prohibition on new coal plants. The above analysis would simply provide the standard to be met. If natural gas is "available" and "cost effective" in a particular location, then a new EGU sited in that location must meet the emission standard achieved by a natural gas combined-cycle unit.[51] If natural gas is "unavailable" or "not cost effective" in a particular location, then the standard could be set based on MACT floor units separately established for the particular subcategory of EGU.

B. ***If necessary, EPA should re-propose the MATS rule for new units to fully incorporate fuel switching as a beyond-the-floor option.***

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[49] As noted in the prior ACSF comments, the case-by-case consideration of alternative fuels should remain limited to types of alternative fossil fuel-fired electric generating units that generate a similar product—e.g., non-intermittent electric power that can be generated from the same site footprints proposed by the permit applicant. This is consistent with the proposed Power Plant GHG NSPS where EPA found that "all new fossil fuel-fired electricity generating units ... will be treated alike because they serve the same function, that is to serve baseload or intermediate demand." 77 Fed. Reg. 22,398.

[50] This approach is similar to the treatment of non-continental oil units in the MATS Final Rule. Commenters on the Initial MATS Proposed rule "from affected island EGUs requested that non-continental EGUs be subcategorized from continental EGUs *based on their lack of access to natural gas*." 77 Fed. Reg. 9,401 (emphasis added). EPA responded that it "agrees that the unique considerations faced by non-continental EGUs warrant a separate subcategory for these units" based on "a limited ability to obtain alternative fuels" in areas such as Guam, Hawaii, Puerto Rico, and the U.S. Virgin Islands. 77 Fed. Reg. 9,401-02 (emphasis added). Similarly, if a location in the continental U.S. is uniquely unable to access the U.S. continent-wide natural gas distribution network, then it could be excused from meeting MACT emission limits based on natural gas via subcategorization. Otherwise, natural gas should "set the standard" for MATS for new EGUs. Notably, since the MATS Final Rule only places *non-continental* units in a separate subcategory due to natural gas unavailability, EPA seems to itself have recognized that natural gas *is* generally available in the continental U.S.

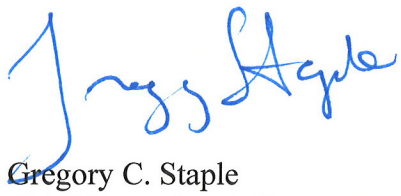
[51] Again, this is a similar approach that in EPA's recently proposed Power Plant GHG NSPS. Natural gas sets the emission standard, but a coal plant could still be deployed if emission controls can meet the limits commensurate with natural gas. And the fact remains that if natural gas is available and cost-effective, then at least one readily-available, EPA-recognized control technology exists—the use of natural gas itself.

If necessary, EPA should re-propose the MATS rule for new units to fully incorporate fuel switching as a beyond-the-floor option. EPA has not offered an adequate justification for failing to evaluate fuel switching in the MACT context for new units, as the statute compels. And the amount of emissions that could be prevented by fuel switching is significant, with tremendous health benefits. EPA must take the time to determine what the appropriate standards would be—likely based on the emissions of a natural gas combined-cycle unit. If EPA feels that it needs to re-propose the MACT beyond-the-floor requirements—so that affected parties have an opportunity to provide input on when natural gas should be considered not "available" or "cost effective"—then EPA should re-proposed the beyond-the-floor requirements. Because EPA already has much of the necessary information available, such action should not require significant time and should result in significant emission reductions and health benefits, at potentially little to no cost.

IV. Conclusion

In this Reconsideration Propose Rule, EPA has provided itself the opportunity to correct a major flaw with its original MATS rule. By overlooking fuel switching to natural gas as a "beyond-the-floor" option in the MATS Final Rule, EPA left significant environmental benefits on the table. Fortunately, EPA now has the opportunity to address this deficiency and achieve the statutory mandate of limiting toxic air pollutants to the maximum extent possible by requiring emission limits consistent with the use of clean-burning natural gas.

Sincerely,



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