

**BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

IN THE MATTER OF THE PROPOSED)
TITLE V/STATE OPERATING PERMIT NO 32-00055)
PERMIT SIGNIFICANT MODIFICATION FOR)
)
HOMER CITY GENERATION, L.P.)
INDIANA COUNTY, PA)
)
ISSUED BY THE PENNSYLVANIA)
DEPARTMENT OF ENVIRONMENTAL PROTECTION)
)

PETITION TO THE EPA ADMINISTRATOR TO OBJECT TO ISSUANCE OF THE
PROPOSED TITLE V OPERATING PERMIT SIGNIFICANT MODIFICATION FOR THE
HOMER CITY GENERATION COAL-FIRED POWER PLANT

Pursuant to Section 505 of the Clean Air Act, the Sierra Club (“the Club”) hereby petitions the Administrator of the United States Environmental Protection Agency (“EPA”) to object to the proposed permit significant modification for Title V Operating Permit No. 32-00055 (“Homer City Permit”) issued by the Pennsylvania Department of Environmental Protection (“DEP”) for the Homer City Generation, L.P. coal-fired power plant (“Homer City”) in Indiana County, Pennsylvania. The Clean Air Act (“CAA”) mandates that the EPA Administrator “shall issue an objection . . . if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of [the Clean Air Act].” 42 U.S.C. § 7661d(b)(2). The CAA also requires the EPA to grant or deny any such petition within sixty days of its filing. *Id.*

As shown below, the Homer City Permit does not comply with the CAA; therefore, the EPA Administrator must object to it. Specifically, the Homer City Permit included emission limits purportedly to comply with Reasonably Available Control Technology (“RACT”) requirements under the 1997 and 2008 ozone National Ambient Air Quality Standards (“NAAQS”) and Clean Air Act section 172(c); however, these revisions fail to comply with these requirements. Specifically, the permit revisions set emission limits with improper exemptions, and alternate emission limits that are inadequate to control pollution consistent with RACT. Sierra Club timely raised this objection in its comments on the Homer City Permit submitted to DEP on November 15, 2021. *See* Sierra Club, Sierra Club Comments on Proposed RACT Emission Limits for Homer City Generation L.P., TVOP-32-00055 (Nov. 15, 2021) (attached hereto as Exhibit 1) (“Sierra Club Comments”). This petition also responds to DEP’s responses to comments on the Homer City Permit from May 17, 2022. Pennsylvania Department of Environmental Protection, *Comments and Response Document*, (attached hereto as Exhibit 2) (“Comment Response Document”). EPA’s 45-day review period for the permit began on March 31, 2022 and ended on May 4, 2022, and the 60-day public petition period began on May 5, 2022 and ends July 5, 2022. Accordingly, this petition is timely. *See Title V Operating Permit Public*

Petition Deadlines in Region 3, EPA, <https://www.epa.gov/caa-permitting/title-v-operating-permit-public-petition-deadlines> (last visited July 3, 2022).

Background: The Legal Standard for RACT

RACT determinations and RACT-based emission limits are required by the Clean Air Act for areas failing to attain National Ambient Air Quality Standards (“NAAQS”). *See* 42 U.S.C. § 7502(c)(1). RACT is a technology-forcing standard intended to ensure that polluting sources are controlled consistent with available methods for reducing pollution. Critically, “RACT is not designed to rubber-stamp existing control methods.” *Sierra Club v. EPA*, 972 F.3d 290, 295 (3d Cir. 2020) (observing that RACT “is a technology-forcing mechanism.”). As the Third Circuit has recently determined, “[w]hen originally introducing the standard, the EPA noted that ‘the control agency, using the available guidance, should select the best available controls, deviating from those controls only where local conditions are such that they cannot be applied there and imposing even tougher controls where conditions allow.’” *Id.* (citing the Strelow Memo).¹

As a result, RACT is a stringent standard, designed to induce and require improvements in control technology and reductions in pollutant emissions. Indeed, EPA has long maintained that “RACT should represent the toughest level of control considering technological and economic feasibility that can be applied to a specific situation” and that “[a]nything less than this is by definition less than RACT.”²

RACT is defined as “the lowest emissions limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.”³ The RACT definition comprises two parts: (a) technological feasibility and (b) economic feasibility.

(a) Technological Feasibility

“The technological feasibility of applying an emission reduction method to a particular source should consider the source’s process and operating procedures, raw materials, physical plant layout, and any other environmental impacts such as water pollution, waste disposal, and energy requirements.”⁴

¹ Memorandum from Roger Strelow, Assistant Administrator for Air and Waste Management, U.S. EPA, to Regional Administrators, Regions I - X (Dec. 9, 1976) (hereinafter “Strelow Memo”), available at https://www3.epa.gov/ttn/naaqs/aqmguidance/collection/cp2/19761209_strelow_ract.pdf.

² Strelow Memo at 2.

³ State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 57 Fed. Reg. 55,620, 55,624/3 (Nov. 25, 1992); *see also Navistar Int’l Transp. Corp. v. United States EPA*, 941 F.2d 1339, 1343 (6th Cir. 1991) (“Since 1976, the EPA has interpreted reasonably available control technology to be the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.”) (quotations omitted).

⁴ U.S. EPA, State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Supplemental, 57 Fed. Reg. 18,070, 18,074 (Apr. 28, 1992).

(b) *Economic Feasibility*

As EPA has explained, “[e]conomic feasibility considers the cost of reducing emissions and the difference in costs between the particular source and other similar sources that have implemented emission reduction.”⁵ Specifically,

EPA presumes that it is reasonable for similar sources to bear similar costs of emission reductions. **Economic feasibility rests very little on the ability of a particular source to ‘afford’ to reduce emissions to the level of similar sources. Less efficient sources would be rewarded by having to bear lower emission reduction costs if affordability were given high consideration. Rather, economic feasibility for RACT purposes is largely determined by evidence that other sources in a source category have in fact applied the control technology in question.**⁶

Further, EPA has explained that RACT is not intended to enshrine existing control methods, but rather is technology-forcing.⁷ Thus, “[i]n determining RACT for an individual source or group of sources, the control agency, using the available guidance, should select the best available controls, deviating from those controls only where local conditions are such that they cannot be applied there and imposing even tougher controls where conditions allow.”⁸

Argument

A. The Exemptions for the 0.080 lbs/MMbtu and 0.070 lbs/MMbtu NO_x Limits Are Improper

Although the Sierra Club strongly agrees with the need for a short-term emission limit for NO_x emissions at Homer City as part of a proper RACT determination, the Homer City Permit’s exemptions to the 0.080 lbs/MMbtu daily NO_x limit otherwise applicable to Units 1 and 2 and the 0.070 lbs/MMbtu daily NO_x limit for Unit 3 are inconsistent with the requirements of RACT, contrary to the Clean Air Act, and run afoul of the Third Circuit’s decision in *Sierra Club v. EPA*.

In the draft version of the Homer City Permit, the otherwise-applicable daily limits of 0.080 lbs. NO_x/MMbtu for Homer City Units 1 and 2 and 0.070 lbs. NO_x/MMbtu for Homer City Unit 3 would not apply during startup, shutdown, or malfunction (“SSM”) events. As the Sierra Club pointed out in its comments on the draft permit (*see* Sierra Club Comments at 3-5), the supposed need for such exemptions was unexplained by DEP, such exemptions are in general inconsistent with the Clean Air Act, and the exemptions were effectively exactly what the Third Circuit had rejected in *Sierra Club v. EPA*, 972 F.3d 290 (3d Cir. 2020) when the Court examined DEP’s predecessor RACT SIP revision.

⁵ 57 Fed. Reg. at 18,074.

⁶ 57 Fed. Reg. at 18,074 (emphasis added).

⁷ Strelow Memo at 2.

⁸ *Id.*

However, DEP did fully remove the SSM exemption in the final Homer City Permit, and instead expanded it with a series of imprecise and vague additional exemptions:

These limits exclude, emissions during start-up and shut-down; operation pursuant to emergency generation required by PJM, including any necessary testing for such emergency operations; and during periods in which compliance with this emission limit would require operation of any equipment in a manner inconsistent with technological limitations, good engineering and maintenance practices, and/or good air pollution control practices for minimizing emissions.

Homer City Permit at 134, Emissions Restriction #001(a).

Accordingly, it is unclear exactly when Homer City would be exempt from the 0.080 and 0.070 lbs. NO_x/MMBtu limits. DEP's Comment Response Document decreases this clarity further: to determine whether or not Homer City was exempt from the daily NO_x limits, DEP

[W]ill evaluate the data and information to determine if it was *technically infeasible* during the requested time period for the unit to operate in a manner meeting the 0.080 or 0.070 lb/NO_x/ MMBtu limit. . . . [T]he Department requires Homer City Generating Station to keep records of and submit a report that details hourly load levels, heat input, ammonia injection rates, NO_x rates, total NO_x emissions, *whether or not they believe they are subject to the 0.080 or 0.070 lb NO_x/MMBtu limit*, SCR emission setpoint, and to clearly indicate all days in which emissions were above 0.080 or 0.070 lb NO_x/MMBtu . . .

Comment Response Document at 21 (emphasis added).⁹ The exemption is thus extremely hazily defined, and appears to turn on DEP's subjective evaluation of various data after it is submitted, informed in part by Homer City's *belief* as to whether or not the exemption is warranted, with almost no concrete or objective criteria for that evaluation indicated in the permit. This is improper.

First, as noted above, a RACT determination is intended to be technology-forcing, and is premised on technological and economic feasibility such that DEP "should select the best available controls, deviating from those controls only where local conditions are such that they cannot be applied there and imposing even tougher controls where conditions allow."¹⁰ However, there appears to be no justification for the exemption aside from DEP's claims in its Comment Response Document that emission limits need not apply all the time and a general theory that NO_x controls like the selective catalytic reduction ("SCR") systems in place at Homer City cannot be run continuously. DEP has failed to explain how or why the daily 0.080 and 0.070 lbs. NO_x/MMBtu limits cannot accommodate a few hours of uncontrolled operation when the SCR cannot be operated, particularly when, as DEP admits in its Comment Response Document, Homer City has proved historically capable of achieving much lower emission rates. *See, e.g.*, Comment Response Document at 23 (observing that during the 2005 ozone season,

⁹ Notably, the term "technically infeasible" appears nowhere in the Homer City Permit (let alone in Emission Restriction #001(a)).

¹⁰ Strelow Memo at 2.

Unit 1 “average daily NO_x rates were less than 0.060 lb NO_x/MMBtu” for 54 days);¹¹ *see also id.* at 22 (detailing a comment from EPA observing that the Homer City units “have demonstrated far better performance than 0.070 lb/MMBtu in the past” and that because “the limit is intended to apply during periods of optimal operation, EPA expects it to be more in line with lower limits achieved in the past”).

Indeed, by suggesting that the contours of the exemption may turn on whether or not DEP determines that achieving the limit on this or that day is “technically infeasible,” DEP appears to be bootstrapping the definition of RACT into an emission limit that is supposed to effectuate RACT. Instead of setting an emission limit that is “the toughest level of control considering technological and economic feasibility that can be applied to a specific situation”¹² on the front end, DEP apparently intends to determine whether or not the daily NO_x rates for Homer City are RACT on a revolving case-by-case basis on the back end. This is improper.

Second, although the final Homer City Permit removed the “malfunction” portion of the SSM exemption from the draft permit, SSM exemptions are in general inconsistent with the Clean Air Act. As EPA has recently reconfirmed,¹³

SIP provisions cannot include exemptions from emission limitations for excess emissions during SSM events. This has been the EPA’s explicitly stated interpretation of the CAA with respect to SIP provisions since the 1982 SSM Guidance, and the Agency has reiterated this important point in the 1983 SSM Guidance, the 1999 SSM Guidance and the 2001 SSM Guidance.

U.S. EPA, State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA’s SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction 80 Fed. Reg. 33,840, 33,889 (June 12, 2015) (emphasis added). Giving Homer City an exemption during startup and shutdown events from the 0.080 and 0.070 lbs/MMbtu NO_x emission rates is thus not approvable as RACT.¹⁴

¹¹ DEP also tries to argue that historical low emissions data for Homer City are somehow less relevant by vaguely pointing to hypothesized subsequent “unknown changes at the facility” that could perhaps have impacted how effective Homer City’s NO_x controls are, and by “suggesting” that achieving low emission rates maybe “caused significant maintenance issues for Homer City,” without identifying any actual evidence or record of such maintenance issues. *See* Comments Response Document at 7, 23. Needless to say, DEP cannot justify emission limits with imaginary data and conjecture—that is the very definition of arbitrary and capricious agency action.

¹² Strelow Memo at 2.

¹³ *See* U.S. EPA, Memorandum from Janet McCabe to Regional Administrators re: Withdrawal of the October 9, 2020 Memorandum Addressing Startup, Shutdown, and Malfunctions in State Implementation Plans and Implementation of the Prior Policy (Sept. 30, 2021) *available at* <https://www.epa.gov/system/files/documents/2021-09/oar-21-000-6324.pdf>.

¹⁴ Nor does the existence of the proposed applicable-at-all-times 0.45 lbs/MMbtu and 0.27 lbs/MMbtu emission “limits” for Units 1 and 2 and Unit 3, respectively, exempt the proposed exemption: as explained below, those proposed limits are well-above Homer City’s current operations; they are effectively no limits at all.

Finally, the proposed daily NOx rate exemption suffers from the same flaws that the Third Circuit objected to in *Sierra Club v. EPA*. There, the Court vacated EPA’s approval of a very similar 600-degree inlet temperature exemption to otherwise applicable NOx emission limits Pennsylvania had included in a RACT SIP submission. In so doing, the Court noted that the exemption weakened NOx emission limits without DEP or EPA having provided an explanation as to “why it is necessary at all” (972 F.3d at n.94). Similarly, the Court considered the inability of the public and DEP to readily determine whether or not the exemption applied to be fatal: “[w]ithout a record of inlet temperature data at the time of emission, ***it will be impossible to ascertain***” whether or not a source was actually complying. *Id.* at 307 (emphasis added).

Here, the proposed revisions do not contain any clear definitions shedding light on when exactly complying with the daily NOx limits would necessitate “operation of any equipment in a manner inconsistent with technological limitations, good engineering and maintenance practices, and/or good air pollution control practices for minimizing emissions,” thereby triggering the exemption. As such, it is likewise “impossible to ascertain” whether Homer City is in compliance with the daily NOx limits—a situation on all fours with that in *Sierra Club v. EPA*. *Id.* at 307; *see also* 40 C.F.R. § 70.6(a)(3)(i)(B) (requiring Title V permits to include “monitoring to yield reliable data from the relevant time period that are ***representative of the source’s compliance*** with the permit”) (emphasis added). The exemption is thus improper, and EPA should object to its inclusion in the Homer City Permit.

In face of this, DEP argues that the “recordkeeping and reporting” requirements of Pennsylvania law will mean that “reports” of when “it is not technically feasible for a Unit to operate the SCR” and “any Department responses to them” will be “available to the public.” Comment Response Document at 56. But this gets the inquiry backwards. DEP is charged with setting RACT-consistent NOx emission limits for Homer City, not deferring RACT determinations about technical feasibility to later ad hoc “reports” and “responses” that DEP may collect and generate in the future. Criteria for compliance must be set on the front end, and DEP’s failure to do that here necessitates an objection from EPA.

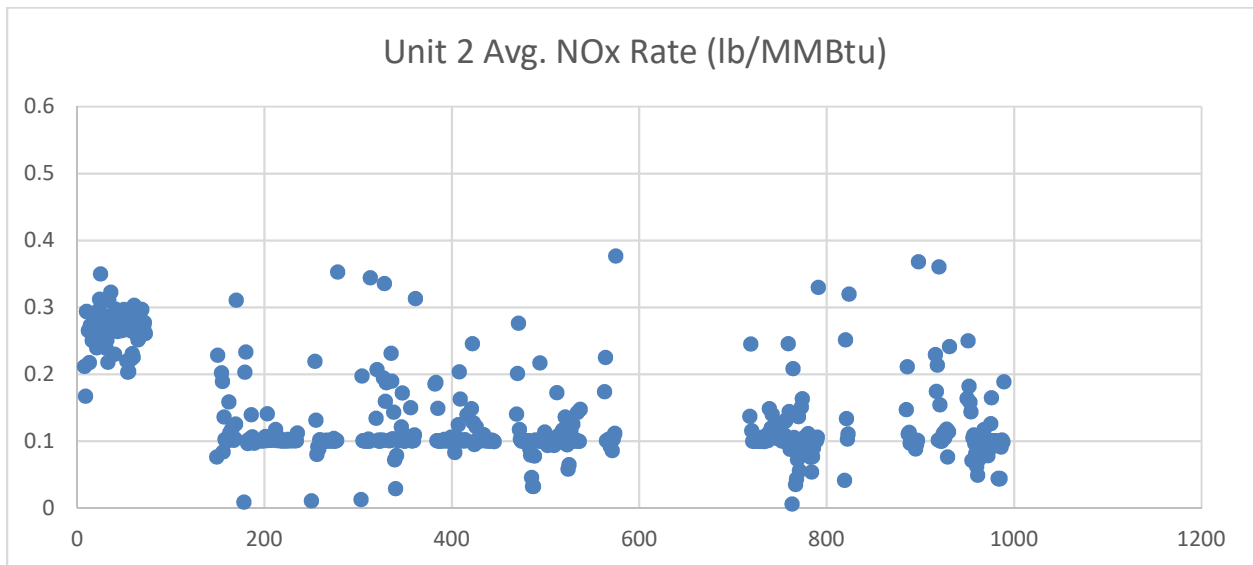
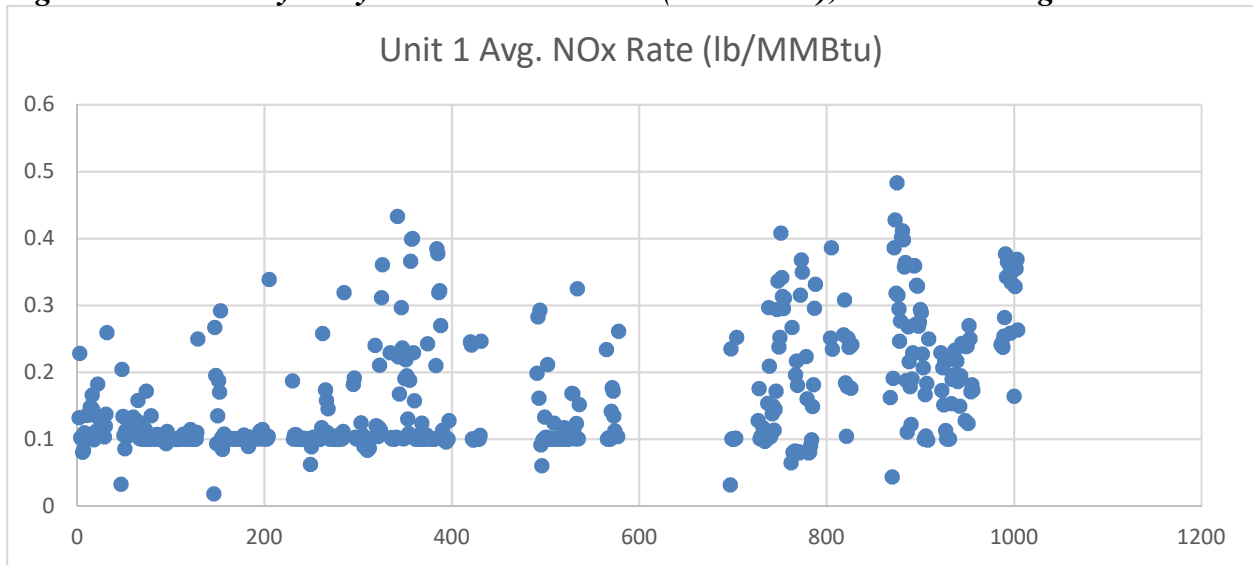
B. The Higher 0.45 lbs/MMbtu and 0.27 lbs/MMbtu Daily Emission Limits Are Effectively No Limits at All

The Homer City Permit also includes a daily 0.45 lbs/MMbtu NOx emission limit for Homer City’s Units 1 and 2 and a 0.27 lbs/MMbtu NOx limit for Unit 3 that, unlike the lower 0.080 lbs/MMbtu and 0.070 lbs/MMbtu limits, would apply continuously even during the exemption discussed in Section A, *supra*. *See* Homer City Permit at 134, Emission Restriction #001(b). However, these limits are really nothing of the sort, as Homer City’s normal NOx emission rates virtually never cross those thresholds, as *Sierra Club* pointed out in its comments. *See* *Sierra Club* Comments at 5-7.

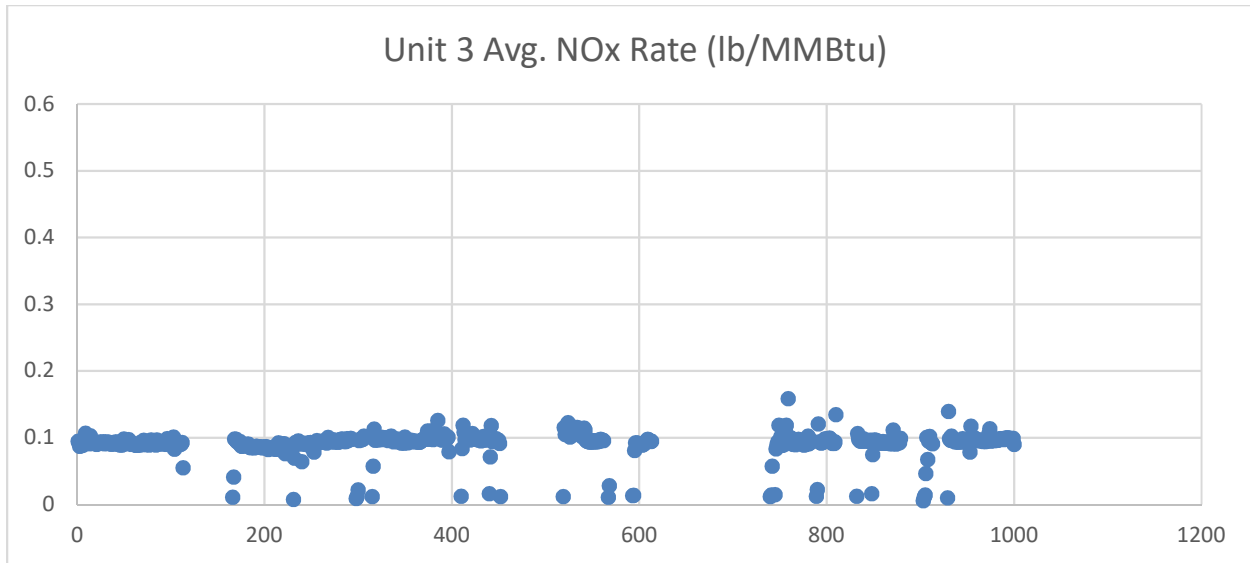
As the Third Circuit has held, “RACT is not designed to rubber-stamp existing control methods.” *Sierra Club v. EPA*, 972 F.3d at 295. Instead, it is intended to be technology-forcing: RACT limits should be set at levels that ensure the “best available” performance unless “local conditions are such that they cannot be applied.” *Id.*

Here, a quick review of the daily NOx emission rates from Homer City's Units 1-3 reveals that the proposed limits of 0.45 lbs/MMBtu for Units 1 and 2 and 0.27 lbs/MMBtu for Unit 3 is no real constraint on Homer City's emissions.

Figure 1: Homer City Daily NOx Emission Rates (lbs/MMBtu), 1/1/2019 through 9/30/2021¹⁵



¹⁵ Data taken from U.S. EPA, Air Markets Program Database, at <https://ampd.epa.gov/ampd/>. Please see Exhibit 3, attached hereto.



As the data in Figure 1 demonstrates, the vast, vast majority of days involve Homer City’s Units 1 and 2 getting nowhere near the proposed 0.45 lbs/MMbtu limit. Indeed, of the combined 1,068 operating days between the two Units that occurred between January 1, 2019 and September 30, 2021, *only one single day* involved an emission rate that exceeded the proposed limit.¹⁶ Indeed, on more than 90% of all operating days, Homer City Units 1 and 2 were actually below the 0.27 lbs/MMbtu limit proposed for Unit 3.¹⁷ Unit 3, in turn, never once exceeded the proposed 0.27 lbs/MMbtu limit, and in fact, for the time period examined, achieved emission rates of less than *half* the proposed limit a whopping 99.7% of the time.¹⁸ Moreover, 90% of operating days for Unit 3 involved emission rates of 0.10 lbs/MMbtu or less.¹⁹

Given that Homer City’s units essentially never emitted anywhere near the permit’s limits even in the absence of any emission limit incentivizing Homer City to keep its emissions below such thresholds, the 0.45 lbs/MMbtu and 0.27 lbs/MMbtu limits do little more than “rubberstamp” Homer City’s existing behavior. They are, accordingly, inconsistent with RACT.

In response, DEP argues that these emission limits are representative of Homer City’s NOx emission rates when it is not running its SCR controls. *See* Comment Response Document at 57 (claiming the emission limits are based “on the technical and economic feasibility of the . . . technology employed when it is not technically feasible to operate SCR controls”). But this argument fails for two reasons. First, as the data in Figure 1, *supra*, shows, Homer City’s coal units essentially *never* emit at rates even approaching the limits, even on days in which the facility has, for whatever reason, elected to bypass its SCR controls (as indicated by average NOx emission rates well above the 0.050 to 0.060 emission rate achieved when SCR is operated, but still well below the daily limits DEP includes here). Thus, the limits merely “rubberstamp” existing control methods. Second, and relatedly, DEP appears to fundamentally misunderstand

¹⁶ The day in question was May 24, 2021, and the Unit was Unit 1—Unit 2 *never* exceeded the proposed limit during the period examined. *See* Exhibit 3.

¹⁷ *See id.*

¹⁸ *See id.*

¹⁹ *See id.*

RACT—rather than set emission limits consistent with operation of control technology that is reasonably available (or, as is the case here, *actually* available in the form of Homer City’s SCR systems), DEP persists in setting alternate emission limits for occasions when Homer City’s SCR is operated and occasions when it is bypassed, and deferring into the future any decision as to which set of limits actually governed on any given day of emissions. This is improper.

Conclusion

For the foregoing reasons, the EPA should object to the Homer City Permit and order DEP to revise the permit’s NOx emission limits to be consistent with the requirements of RACT, so that they no longer violate the Clean Air Act.

Respectfully Submitted,

/s/

Zachary M. Fabish
Senior Attorney
The Sierra Club
50 F Street NW, 8th Floor
Washington, DC 20001
zachary.fabish@sierraclub.org