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BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	)
	) PETITION FOR OBJECTION
The Clean Air Act Title V	)
Revised Operating Permit	) PERMIT REVISION #V20678.R02
For the Salt River Project	)
Desert Basin Generating Station	)
Pinal County, Arizona	)

PETITION FOR OBJECTION TO THE TITLE V PERMIT REVISION FOR SALT RIVER PROJECT'S DESERT BASIN GENERATING STATION PROPOSED FOR ISSUANCE ON SEPTEMBER 2, 2021 AND FINALIZED ON DECEMBER 27, 2021

Pursuant to section 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. § 70.8(d), Sierra Club hereby petitions the Administrator of the United States Environmental Protection Agency ("EPA") to object to the Title V Operating Permit Revision proposed for issuance by Pinal County, State of Arizona, for Salt River Project's ("SRP") Desert Basin Generating Station ("DBGS") on September 2, 2021 and issued as final on December 27, 2021 (Permit Revision #V20678.R02 ("Permit" or "Final Permit")).[1] Sierra Club described the deficiencies in the draft permit in detailed written comments filed with Pinal County on October 4, 2021.[2]

The Salt River Project Agricultural Improvement and Power District ("SRP") has proposed to install two new natural gas-fired simple cycle combustion turbines (units "SCCT4" and "SCCT5") at the existing Desert Basin Generation Station that is located in Casa Grande, Pinal County, Arizona. The new gas-fired simple cycle turbines will have a combined generating capacity of 99 megawatts ("MW"). The existing generating facility at DBGS consists of two gas-fired combined cycle combustion turbines with generating

[1] Pinal County Permit Revision No. V20678.R02, Exhibit 1 hereto.
[2] Sierra Club comment letter on Draft Permit dated October 4, 2021, Exhibit 2 hereto.

capacity of 577 MW. The existing facility is a major emitting facility for nitrogen oxides ("NOx"), particulate matter (PM10 and PM2.5), and carbon monoxide ("CO").[3] The DBGS is located in the part of Pinal County that is designated as nonattainment for PM10, and the area is designated as attainment or unclassifiable for all other criteria pollutants.

Because the existing DBGS facility is a major emitting facility for PM10 and PM2.5, among other pollutants,[4] any modification that would increase emissions by an amount equal to or greater than major modification significance levels would trigger applicability of prevention of significant deterioration ("PSD") permitting requirements for PM2.5 or, for PM10, nonattainment new source review ("NNSR") permitting requirements as a major modification to the DBGS. Because SRP is proposing to add new emission units, the evaluation of emissions increases due to the modification is based on the "potential to emit" of the new combustion turbines.[5]

The information in SRP's permit application makes clear that, based on the hourly emission rates of each of the two new simple cycle combustion turbines and the expected emissions during startup and shutdown, the new simple cycle turbines would increase emissions by an amount equal to or greater than major modification significance levels assuming continual operation throughout the year.[6] More specifically, the two new simple cycle combustion turbines have the potential to emit over 40 tons/year PM 10 and PM 2.5 which exceeds the applicable significance levels of 15 and 10 tons per year respectively.[7] The two new simple cycle combustion turbines also have the

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[3] Exhibit 3, Final Technical Support Document ("TSD") for Permit V20678.R02.

[4] *See,* Exhibit 1, Permit #V20678.R01 at 5.

[5] *See,* PCAQCD Reg. §§ 1-3-140(79) (definition of major modification), 86 (definition of net emissions increase), 3(c). (definition of "actual emissions" for any emissions unit which has not begun normal operations), 104 (definition of potential to emit). *See also* Ariz. Admin. Code §§ R18-2-402(D)(4), R18-2-401(2)(c) (definition of "baseline actual emissions"), R18-2-101(74) (definition of "major modification"), R18-2-101(109) (definition of "potential to emit").

[6] *See* Exhibit 2, Sierra Club comment letter on Draft Permit dated October 4, 2021, at 4. *See also*, SRP Permit Application at 4-4, table 4-2, pdf 36, Exhibit 4.

[7] *See,* Exhibit 4 SRP Permit Application at 4-4 tbl. 4-2, pdf 36. *See also,* Exhibit 2, p. 4 (Sierra Club comment letter).

potential to emit greater than the Arizona minor new source review permitting exemption threshold of 7.5 tons per year of PM10 and 5.0 tons per year of PM2.5.[8]

The Final Permit purports to create federally enforceable PM10/PM2.5 limits on the new simple cycle combustion turbines to avoid NNSR and PSD permitting requirements as a major modification, as well as to avoid applicability to minor new source review permitting requirements in Ariz. Admin. Code § R8-2-334(A)(3).[9] The Final Permit includes limits on combined PM10 and PM2.5 emissions from the two new combustion turbines of 4.99 tons per 12-month rolling total sum.[10] These emission limits were voluntarily requested by SRP in its permit application.[11] The Final Permit does not require any air pollution control equipment to limit PM10 or PM2.5 emissions. The Final Permit does not require continuous emissions monitoring for compliance with the PM10/PM2.5 emission cap. Instead, the only monitoring for PM10/PM2.5 required by the Final Permit is performance testing that would be conducted once every five years.[12]

Legal Background and Initial Argument.

Pinal County's Failure to Set Forth a Consistent Legal Basis.

PCAQCD Code of Regulations ("PCAQCD Reg.") § 3-1-060(B)(5) states that the PCAQCD Control Officer "shall provide a statement that sets forth the legal and factual basis for the proposed permit conditions including references to the applicable statutory or regulatory provisions."[13] Sierra Club's comment letter noted that Pinal County failed to identify the legal basis for the draft permit.[14] In response, Pinal County admitted that it administers: "SIP-approved PSD and minor-NSR programs"; "an EPA-approved Title V program"; " an EPA-approved 'synthetic minor' rule that allows a source to request voluntary, EPA-reviewed, federally enforceable limitations"; and, "[d]elgated authority

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[8] *See* Ariz. Admin. Code §R18-2-101(99). *See also,* §R18-2-334.A.3. (applicability to Arizona's minor new source review rules).
[9] Exhibit 1, Final Permit at 8 § 5(C).
[10] Exhibit 1, Final Permit at 9 §5(C).
[11] Exhibit 4, Permit Application at 4-4.
[12] Exhibit 1, Final Permit at 22 § 6(C)(5).
[13] *See also*, Ariz. Admin. Code § R18-2-304(I)(4).
[14] Exhibit 2, pp. 1-2 (Sierra Club comment letter) and Exhibit 5, p. 1 (Responsiveness Summary).

received from EPA for GHG 40 CFR 52.21 and 40 CFR 124…."[15] Pinal County also alleged that, "[a] portion of PCAQCD major source permitting rules do not reflect current EPA and ADEQ regulation and County level Nonattainment NSR program is not approved, therefore, the ADEQ Delegation Agreement is in effect to provide continued local permitting authority."[16] Pinal County then states that "[t]he draft permit relies on PCAQCD authority….[with certain listed exceptions]."[17] The Responsiveness Summary then confusingly states, "…the regulations applicable to the draft permit are ADEQ's…"[18] However, the Final Permit cites to both Arizona regulation and Pinal County regulation as the legal source for various Final Permit requirements.[19]

Pinal County's Final Permit violates PCAQCD Reg. § 3-1-060(B)(5) because it fails to "provide a statement that sets forth the legal and factual basis for the proposed permit conditions including references to the applicable statutory or regulatory provisions." More specifically, the Final Permit, Technical Support Document ("TSD"), and Responsiveness Summary fail to clearly and consistently state whether Arizona regulations, Pinal County regulations, or the more stringent of both regulations govern the specific provisions of the permit. EPA should object to the Title V permit for Pinal County's failure to clearly and consistently state the legal authority for the Final Permit, and all provisions therein.

Nevertheless, for the reasons stated below, it is Sierra Club's position that ***both*** the Pinal County and Arizona regulations are applicable to the Final Permit, with the more stringent of the two regulations governing.

The More Stringent of the County and Arizona Regulations Apply.

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[15] Exhibit 5, p. 1 (Responsiveness Summary).
[16] *Id.* See also, the Technical Support Document, Exhibit 3, p. 8 ("[s]ince Pinal County's new source rules are not approved in the State Implementation Plan for the area, ASEQ's permitting regulations apply for major sources that are in Pinal County under a delegation agreement."
[17] *Id.*
[18] *Id*. at p. 6.
[19] For example, see page 8, Section 5.C. of the Final Permit identifying both Pinal County Regulation §3-1-084 and Arizona Code R18-2-306.01.A and B as the legal authority for the PM 10/PM 2.5 FEPs for SCC44 and SCCT5. Exhibit 1.

The relevant provision of the ADEQ Delegation Agreement referred to above states the following:

> The following standards of performance apply, where indicated, to the delegated Functions and Duties listed in Subpart A [of Appendix C, Pinal County Air Quality Management]…
> 2. All permits shall include the elements set forth in [Arizona Administrative Code (A.A.C.)] R18-2-306, 309, and 325, and shall be processed according to A.A.C. R18-2-304 and 307, or locally applicable air quality rules, whichever is more stringent.
> 3. All new major sources and major modifications to existing sources shall be processed according to A.A.C. Title 18, Chapter 2, Article 4, as applicable, or locally applicable air quality rules, whichever is more stringent.
> 4. All permit revisions, reopenings renewals, transfers, or other permit changes shall be processed according to R18-2-317, 318, 319, 320, 321, 322, and 323 or locally applicable air quality rules, whichever is more stringent.[20]

Thus, the Agreement delegates to Pinal County permitting and enforcement jurisdiction over major sources in the County, including Desert Basin Generating Station.[21] The language of the Delegation Agreement makes clear that the more stringent of the County or State regulations is applicable to permit revisions, such as Desert Basin. Thus, for those permitting requirements for which the County has comparable rules, the County rules would apply to the extent the rules are more stringent than the corresponding Arizona rules. However, the Arizona rules would apply if they are more stringent.

The Need for Production and/or Operational Limits in the FEPs.

One central issue in this Petition is whether the Final Permit legally limits the potential to emit PM10 and PM2.5 in order to avoid major NNSR, PSD, and

[20] The Delegation Agreement provided to Sierra Club by PCAQCD is labelled "Appendix C, Pinal County Air Quality Management." Pinal County did not produce the full document to Sierra Club, of which Appendix C is a part. *See,* Exhibit 6, page 2 § D (2)-(4) (emphasis added).
[21] *Id.* at 1 § A(1) (Exhibit 6).

minor source review. Pinal County's rules make clear that, in order to reduce the potential to emit, such limits must be "federally enforceable" and include production or operational limits in addition to emission limits. Specifically, "potential to emit" is defined in Section 1-3-140(104) of Pinal County's rules as follows:

> The maximum capacity of a stationary source to emit a pollutant, excluding secondary emissions, under its physical and operational design. Any physical or operational limitation of the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation it would have on emissions is federally enforceable.[22]

PCAQCD Reg. § 3-1-084 pertains to voluntarily accepted federally enforceable provisions ("FEPs"). This County rule states:

> A permit may, for the purpose of creating federally enforceable conditions that limit the potential emissions of a source, designate as a "federally enforceable provision" ("FEP Limit") any emission limit <u>in conjunction with a production limit and/or operational limit expressed in the permit</u>. A FEP Limit must be permanent, quantifiable and enforceable as a practical matter, and shall be at least as stringent as otherwise applicable limitations and requirements under either the SIP or pertinent provision of the Clean Air Act (1990), and shall not operate to relieve any other legal restriction on emissions.[23]

Both PCAQCD Regulation 1-3-140 and Regulation 3-1-084 are EPA-approved portions of the SIP. 40 C.F.R. §52.120(c). Pinal County's statement that these rules "are not approved in the State Implementation Plan for the area" is legally incorrect and requires EPA to object to the Title V permit.[24] In fact, Pinal County relied on PCAQCD Regulation 3-1-084 as a legal basis for its PM 10/PM2.5 FEPs in the Final Permit.[25] Since these Pinal County regulations are

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[22] PCAQCD Reg. § 1-3-140(104).
[23] *Id.* § 3-1-084(1) (emphasis added).
[24] Exhibit 3, p. 8 (TSD).
[25] Exhibit 1, p. 8, § 5.C. (Final Permit).

more stringent than corresponding State requirements, they are applicable to the Final Permit.

To be exempt from PSD or NNSR permitting based on federally enforceable emission limitations, the definition of "potential to emit" requires first that "potential to emit" reflect the maximum capacity to emit a pollutant. Second, it requires that, to the extent that the applicant or agency claims that maximum capacity to emit is constrained in any way, the constraint must be explicitly set forth in the permit as a physical or operational limit—i.e., a specific limit on fuel, hours of operation, or pollution control equipment operating parameters—that is federally enforceable and practically enforceable.[26] The Court has interpreted the definition of potential to emit in the federal PSD permitting rules of 40 C.F.R. § 52.21(b)(4), which Pinal County's definition mirrors, to require restrictions on operating hours or production levels or types of material combusted, rather than simply imposing limits on tons of pollutants emitted per year. *See*, *United States v. Louisiana-Pacific Corporation*, 682 F. Supp. 1122, 1133 (D. Colo. 1987)("blanket" restrictions on actual emissions cannot be considered in determining potential to emit). Of particular relevance here, the Court in *Louisa-Pacific* held that permit conditions which simply limited carbon monoxide emissions to 78 tons per year ("tpy") and volatile organic compound emissions to 101.5 tons per year should **not** be considered in determining "potential to emit" because these blanket emission restrictions, unlike limitations on hours of operation, fuel consumption, or production, "would be virtually impossible to verify or enforce." *Id.*

Courts have emphasized the need to ensure that any constraints assumed on potential to emit are grounded in enforcement reality. *Louisiana-Pacific*, 682 F. Supp. *See*, *Weiler v. Chatham Forest Products*, 392 F. Supp. 532, 535 (2d Cir. 2004) ("In short, then, a proposed facility that is physically capable of emitting major levels of the relevant pollutants is to be considered a major emitting facility under the Act unless there are legally and practicably enforceable mechanisms in place to make certain that the emissions remain below the relevant levels"). The *Louisiana-Pacific* court described "potential to emit" as "the cornerstone of the entire PSD program," and observed that allowing illusory and unenforceable limits to curtail potential to emit would

[26] See PCAQCD Reg. § 1-3-140(104). See also Ariz. Admin. Code § R18-2-101(109); 40 C.F.R. §§ 51.165(a)(1)(iii), 51.166(b)(4), 52.21(b)(4).

create a loophole that could effectively wipe out PSD requirements entirely. *Louisiana-Pacific*, 682 F. Supp. at 1133.

Shortly after the *Louisiana-Pacific* decision discussed above, on June 13, 2989 EPA issued guidance on limiting potential to emit.[27] In this final guidance, EPA made clear, consistent with the *Louisiana-Pacific* decision, that to be federally enforceable the limitations must be enforceable as a practical matter. EPA stated that proper limits on potential to emit must include a production or operational limitation in addition to an emission limitation "where the emission limitation does not reflect the maximum emissions of the source operating at full design capacity without pollution control equipment."[28] Restrictions on production or operation would include limitations on the amount of fuel combusted, hours of operation, or conditions that require the source to install and operate air pollution control technology to a specified emission rate or to a specified efficiency level. As discussed more fully below, EPA stated that there are only two exceptions to the prohibition on using blanket emission restrictions to limit potential to emit, neither of which apply here for the PM10/PM2.5 emission limits.

With respect to operational or emission limitations, EPA requires the compliance period for such limitations be as short as possible and not exceed one month.[29] Specifically, EPA stated "[t]he requirement for a monthly limit prevents the enforcing agency from having to wait for long periods of time to establish a continuing violation before initiating an enforcement action."[30] EPA stated that a limit spanning a longer timeframe should only be allowed in "rare" cases, such as for sources with "substantial and unpredictable annual variation in production."[31] In such cases, rolling 12-month limits may be acceptable, but "[u]nder no circumstances would a production or operation limit expressed on a

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[27] Memorandum from Terrell E. Hunt and John S. Seitz, EPA on Guidance on Limiting Potential to Emit in New Source Permitting (June 13, 1989) (attached as Exhibit 7) [hereinafter "1989 Guidance on Limiting Potential to Emit"].
[28] *Id*. at 5-6.
[29] *Id*. at 9; see also Memorandum from Director, Stationary Source Compliance Div. on Time Frames for Determination of Applicability to New Source Review to Bruce Miller, Acting Chief, Air Programs, Region IV (Mar. 13, 1986) (attached as Exhibit 8).
[30] Exhibit 7, June 1989 Guidance on Limiting Potential to Emit at 9.
[31] *Id.*

calendar year annual basis be considered capable of legally restricting potential to emit."[32]

In response, Pinal County claims that imposition of a production or operational limit for PM10/PM2.5 is discretionary, and not mandatory, under State or County rules.[33] Pinal County also claims that the Final Permit's emission limitations for PM10 and PM2.5, along with the related monitoring and record keeping of such emissions, meet county and state regulations, are practically enforceable and will ensure that such emissions will remain below the NSR/PSD exemption thresholds. As discussed below, Sierra Club has commented that the Final Permit must include production and/or operation limits in order to meet County and State regulations to exempt the turbines from nonattainment New Source Review, Prevention of Significant Deterioration, and Minor Source Permitting Requirements and to ensure the Potential to Emit PM10 and 2.5 are practically enforceable. The Final Permit fails to contain the required production and/or operational limits and therefore does not ensure exemption from NNSR/PSD/Minor Source or the practical enforceability of PM10 and 2.5 emission limits.

Petition Claim 1:
The Administrator Must Object to the Final Permit Because it Fails to Properly Limit The Potential to Emit PM10 and PM2.5 to Ensure that the New Simple Cycle Turbines are Legally Exempt from Nonattainment New Source Review, Prevention of Significant Deterioration, and Minor Source Permitting Requirements.

Rationale provided by Pinal County as to Why the Potential to Emit PM10 and PM 2.5 Are Properly Limited to Exempt the New Turbines from NNSR, PSD, and Minor Source Permitting Requirements: Pinal County responded that: 1) the final permit contains both an emissions limitations for PM10 and PM2.5 and monitoring and record keeping requirements sufficient to readily determine compliance with the emission limitations;[34] 2) the emission limits in the Final Permit effectively limit the PTE of the source below thresholds;[35] and, 3) specific limitations on hours of operation or production is discretionary and is not

[32] *Id.* at 10.
[33] Exhibit 5, p. 6 (Responsiveness Summary).
[34] Exhibit 5, pp. 2, 5, (Responsiveness Summary).
[35] *Id.* at pp. 5 and 9-10.

necessary for the emission limits to be enforceable as a practical matter or to limit Potential to Emit to below Significance Levels.[36]

Relevant Conditions in the 2021 Permit: As discussed more fully below, Sierra Club has commented that the Final Permit must include production and/or operation limits to lawfully exempt the turbines from nonattainment New Source Review, Prevention of Significant Deterioration, and Minor Source Permitting Requirements and to ensure the Potential to Emit PM 10 and 2.5 are practically enforceable. Despite these comments, Pinal County's Final Permit does not include production or operational limits restricting the Potential to Emit PM10 or PM2.5. Instead, the Final Permit only includes limits on combined PM10 and PM2.5 emissions from the two new combustion turbines of 4.99 tons per 12-month rolling total sum which will be monitored once every 5 years through performance testing.[37]

Detailed Demonstration of Permit Deficiency

A. The Final Permit for the DBGS New Simple Cycle Combustion Turbines Does Not Include Limitations on Production or on Operation Which Are Required to Limit Potential to Emit PM10 and PM2.5 to Less than Major Modification Significant Levels.

Pinal County's rules make clear that, in order to reduce the potential to emit, limits must be "federally enforceable" and include production or operational limits in addition to emission limits. Specifically, "potential to emit" is defined in Pinal County's rules as follows:

> The maximum capacity of a stationary source to emit a pollutant, excluding secondary emissions, under its physical and operational design. Any physical or operational limitation of the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation it would have on emissions is federally enforceable.[38]

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[36] *Id.* at p. 6
[37] Exhibit 1, p. 8, § 5.C.1. (Final Permit).
[38] PCAQCD Reg. § 1-3-140(104).

PCAQCD Reg. § 3-1-084 contains the requrements for voluntarily accepted federally enforceable provisions ("FEPs"). This county rule states:

> A permit may, for the purpose of creating federally enforceable conditions that limit the potential emissions of a source, designate as a "federally enforceable provision" ("FEP Limit") any emission limit in conjunction with a production limit and/or operational limit expressed in the permit. A FEP Limit must be permanent, quantifiable and enforceable as a practical matter, and shall be at least as stringent as otherwise applicable limitations and requirements under either the SIP or pertinent provision of the Clean Air Act (1990), and shall not operate to relieve any other legal restriction on emissions.[39]

Because SRP is clearly requesting limits on potential to emit on a voluntary basis to avoid PSD and NNSR for the source, the requirements for a FEP under Regulation 3-1-084.1 apply. Pinal County's Response to Comments admits that the PM 10/PM 2.5 limits are FEPs by stating it "has required all of the FEPs to be permanent, quantifiable, and enforceable for all the NSR pollutants."[40] Further, Pinal County's Final Permit relies on "Codes §§ 3-1-084, R18-2-306.01.A and B" in establishing the PM10/PM 2.5 emission limits for SCCT4 and SCCT5.[41] PCAQD Reg. § 3-1-084 has been approved by EPA as part of the State Implementation Plan ("SIP"),[42] thus these requirements for creating FEP limits are "applicable requirements" under the Title V permitting program.[43]

The State permitting regulations include similar requirements on creating practically enforceable emission limits that clearly would apply to the limits on potential to emit that that SRP has requested, given that Arizona has "original

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[39] *Id.* § 3-1-084(1) (emphasis added).
[40] Exhibit 5, p. 6 (Responsiveness Summary).
[41] Exhibit 1, p. 8, § 5.C. (Final Permit).
[42] 40 C.F.R. §52.120(c), Table 8. *See also* EPA-approved SIP for Arizona, "EPA Approved Pinal County APCD Regulations Compilation (pdf) October 2021" at pdf page 89 of 242, available at https://www.epa.gov/system/files/documents/2021-11/epa-approved-pinal-county-az-aqcd-regulations-compilation-2021-10.pdf.
[43] *See* PCAQCD Reg. § 1-3-140(15) and Ariz. Admin. Code §R18-2-101(16) (definition of "applicable requirement"). See also 40 C.F.R. §70.2 (subsection 1 of definition of "applicable requirement").

jurisdiction" over the DBGS permit. First, Ariz. Admin. Code § R18-2-306.01(A)-(B), regarding "Permits Containing Voluntarily Accepted Emission Limitations and Standards," provides that:

> A. A source may voluntarily propose in its application, and accept in its permit, emissions limitations, controls, or other requirements that are permanent, quantifiable, and otherwise enforceable as a practical matter in order to avoid classification as a source that requires a Class I permit or to avoid one or more other applicable requirements. For the purposes of this Section, "enforceable as a practical matter" means that specific means to assess compliance with an emissions limitation, control, or other requirement are provided for in the permit in a manner that allows compliance to be readily determined by an inspection of records and reports.
> B. In order for a source to obtain a permit containing voluntarily accepted emissions limitations, controls, or other requirements, the source shall demonstrate all of the following in its permit application:
> 1. The emissions limitations, controls, or other requirements to be imposed for the purpose of avoiding an applicable requirement are at least as stringent as the emissions limitations, controls, or other requirements that would otherwise be applicable to that source, including those that originate in an applicable implementation plan; and the permit does not waive, or make less stringent, any limitations or requirements contained in or issued pursuant to an applicable implementation plan, or that are otherwise federally enforceable.
> 2. All voluntarily accepted emissions limitations, controls, or other requirements will be permanent, quantifiable, and otherwise enforceable as a practical matter.[44]

This rule has also been approved as part of the Arizona SIP[45] and is therefore an applicable requirement under the Title V permitting regulations.

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[44] Ariz. Admin. Code. § R18-2-306.01(A)-(B) (emphasis added).

[45] 40 C.F.R. §52.120(c), Table 2. *See also* EPA-approved SIP for Arizona, EPA Approved Arizona Administrative Code Title 18 Articles 1 through 6 (pdf) (October 2021) at pdf page 47 of 119, available at

Under either Pinal County or State rules and the Arizona SIP, the emission limits of the Final Permit that are intended to limit potential to emit must therefore meet specific requirements of these County and State rules for creating federally and practically enforceable emission limits.

PCAQCD Reg. § 3-1-084 pertaining to voluntarily accepted FEPs is clearly intended to ensure that limits on potential to emit are consistent with the definition "potential to emit" in the PSD and NNSR permitting programs and to ensure that restrictions on potential to emit are practically enforceable. Arizona's definition of "potential to emit" in Ariz. Admin. Code § R18-2-101.109, and the Arizona provisions in Ariz. Admin. Code §§ R18-2-306.01 are also intended to ensure practical enforceability of emission limits intended to limit potential to emit of an emissions unit or a source. The Final Permit for the new DBGS simple cycle combustion turbines does not include any limits on the production rate of the new turbines or on the hours of operation of the new turbines. The Final Permit only includes limits on combined PM10 and PM2.5 emissions from the two new combustion turbines of 4.99 tons per 12-month rolling total sum.[46] These limits are not consistent with the federal, State, and County definition of "potential to emit" which requires production or operating hour limitations to limit potential to emit, and it is inconsistent with the *Louisiana-Pacific* court decision finding blanket restrictions on annual emissions inconsistent with the definition of annual emissions and impossible to enforce. *Louisiana-Pacific*, 682 F. Supp. at 1133.

As discussed above, EPA has taken the position that production or operation limits are necessary to limit the potential to emit. To reiterate, in its June 13, 1989 guidance issued after the *Louisiana-Pacific* decision, EPA stated that proper limits on potential to emit must include a production or operational limitation in addition to an emission limitation "where the emission limitation does not reflect the maximum emissions of the source operating at full design capacity without pollution control equipment."[47] SRP's permit application makes clear that the 4.99 ton per year PM10/PM2.5 emission limitation for the new combustion turbines does not reflect the unlimited potential to emit PM10/PM2.5 of the two new simple cycle turbines which SRP identified as

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https://www.epa.gov/system/files/documents/2021-11/arizona-administrative-code-title-18-articles-1-6-compilation-2021-10.pdf.

[46] Exhibit 1, at 8 §5(C)(Final Permit).

[47] Exhibit 7, June 1989 Guidance on Limiting Potential to Emit at 5-6.

40.20 tons per year.[48] Therefore, to comply with EPA's guidance, the Final Permit must include a production or operational limit. In a 2002 objection to a Title V permit for the Quebecor World Franklin plant, EPA objected to a Title V permit for imposing a blanket emission limit without operational restrictions like those contemplated here.[49]

In response to Sierra Club's citation to the *Louisiana-Pacific* decision, Pinal County responded that "[t]he voluntary accepted limits for both PM10 and PM2.5 in the draft permit are not blanket emissions without enforcement mechanisms [because]…[t]he draft permit includes specific monitoring and record keeping requirements which are specific means to assess compliance with the emission limitations that will allow compliance to be readily determined by inspection of records and reports required by R18-2-306.01."[50] This argument ignores that EPA's Guidance only recognizes two exceptions to the prohibition on using blanket emission restrictions to limit potential to emit, neither of which apply here for the PM10/PM2.5 emission limits. One exception pertains to surface coating operations and the other exemption applies when setting operating parameters for control equipment is infeasible. With the latter exception, a permit that includes "short term emission limits (e.g., lbs per hour) would be sufficient to limit potential to emit provided that such limits reflect the operation of the control equipment, and the permit includes requirements to install, maintain, and operate a continuous emission monitoring (CEM) system and to retain CEM data, and specifies that CEM data may be used to determine compliance with the emission limit."[51] Pinal County's Final Permit fails to require short term emission limits, operation of control equipment, or PM CEMS. As such, neither exception is applicable.

In addition, the limits in the Final Permit on PM10 and PM2.5 emissions do not comply with Regulation 3-1-084(1). As noted, the delegation agreement requires PCAQCD to apply the state or local rules, whichever are more stringent. As stated above, this County rule expressly requires a production limit and/or operational limit in conjunction with an emission limit to be expressed in the permit to create a federally enforceable provision to limit potential to emit. In its Responsiveness Summary, PCAQCD appears to view

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[48] See Exhibit 4, Permit Application at pdf 36.
[49] See U.S. EPA Objection to Proposed Title V Permit for Quebecor World Franklin located in Franklin, Kentucky (Aug. 29, 2002) (attached as Exhibit 9).
[50] Exhibit 5, p. 5 (Responsiveness Summary).
[51] Exhibit 7, at p. 8 (EPA Guidance).

the requirement for a production and operation limit as optional and discretionary.[52] Pinal County's interpretation of Regulation 3-1-084(1) is legally deficient and unpersuasive. Again, Pinal County Regulation 3-1-084(1) states the following:

> A permit may, for the purpose of creating federally enforceable conditions that limit the potential emissions of a source, designate as a "federally enforceable provision" ("FEP Limit") any emission limit in conjunction with a production limit and/or operational limit expressed in the permit. A FEP Limit must be permanent, quantifiable and enforceable as a practical matter, and shall be at least as stringent as otherwise applicable limitations and requirements under either the SIP or pertinent provision of the Clean Air Act (1990), and shall not operate to relieve any other legal restriction on emissions.

A plain reading of the regulation reveals that the term "may" gives Pinal County initial discretion to employ a FEP in a permit. However, once a FEP limit is designated, it must be "in conjunction with a production limit and/or operational limit expressed in the permit." To read the regulation otherwise would ignore EPA Guidance and the Louisiana-Pacific decision requiring imposition of a production and/or operational limit. EPA should reject Pinal County's attempt to "re-write" the rule through a response to comments.

Further, not only does the Final Permit omit the necessary production or operational limits, but the other pollutant limits on potential to emit imposed in the Final Permit reflect a much higher level of operating hours than reflected by the 4.99 ton per year limit on PM10/PM2.5 emissions from the new turbines. Thus, the NOx or CO emission limits would not effectively limit hours of operation of the new combustion turbines. Indeed, based on the stated hourly emission rates of the turbines in SRP's permit application, the PM10 and PM2.5 would effectively be the most restrictive emission limits for the new turbines by a significant amount. This is demonstrated in the table below.

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[52] Exhibit 5, Responsiveness Summary, p. 6 ("[s]pecific limitations on hours of operation or production are not necessary…" and ""[t]his definition does not signify that FEP must include a mandatory production and or operational limit…."

Table 2: Calculation of Average Hours of Operation Per Turbine to Comply with the 12-Month Emission Limits of the Final Permit[53]

Pollutant	Emission Limit in Draft Permit for the Two New Combustion Turbines, tons/12-month period	Normal Operation of One CT, lb/hr	Average Hours of Operation Per Turbine During Normal Operation to Comply with Ton Per Year Emission Limit, hours/year	Average Hours of Operation Per Turbine to Comply with Ton Per Year Limit, Assuming 200 Startup and Shutdown Events Per Year Per Turbine, hours/year[54]
PM10	4.99	4.54	1,099	1,134
PM2.5	4.99	4.54	1,099	1,134
NOx	19.99	3.90	5,126	4,452
VOC	19.99	3.90	5,126	5,247
CO	49.99	6.70	7,461	6,757

The average hours of operation at each new turbine that could occur is based on the proposed annual emission limit for the two turbines combined divided by SRP's stated hourly emission rate of each turbine (multiplied by two to reflect the hourly emissions from both turbines).[55] However, this calculation of average hours of operation that could occur at each turbine based on the ton per 12-month period emission limit does not take into account startup or shutdown emissions, which are higher than normal emissions for most pollutants. Based on SRP's 200 startup and shutdown events per year listed in its permit application, which we assume was 200 startup and shutdown events per turbine, and based on SRP's stated duration of each startup and shutdown

[53] This Table 2 is from Sierra Club's October 4, 2021 comment letter. Exhibit 2 hereto. The underlying calculations for this table are provide in Exhibit 10 hereto.

[54] Note that these average hours reflect that startup and shutdown emissions are higher for some pollutants (i.e., NOx and CO) and lower for other pollutants (PM10/PM2.5 and VOCs) compared to the normal operation emission rates of those pollutants. *See,* Exhibit 4, Permit Application at pdf 36.

[55] *See, Id.*

(30 minutes and 9 minutes, respectively),[56] we calculated a somewhat reduced average hours of operation that the 12-month emission limits of the Final Permit reflect on average at each turbine with the results provided in the right hand column of Table 2. Table 2 above demonstrates why limits on production or on hours of operation, in addition to an emissions limit, must be imposed on the new combustion turbines to effectively limit their potential to emit to less than PSD or NNSR significant levels and to lawfully exempt the new turbines from PSD (for PM2.5 emissions) and from NNSR (for PM10 emissions).

For all of these reasons, the Final Permit for the DBGS new simple cycle combustion turbines fails to include the necessary and specifically mandated (by both County and State permitting regulations) limitations on operating hours and/or production, in addition to the emission limits, to limit potential to emit PM10 and PM2.5 to less than major modification significant levels. EPA must object to the Final Permit because it fails to include the applicable requirements of Article 4 of Title 18, Chapter 2 of Arizona's administrative code including the NNSR requirements of Ariz. Admin. Code § R18-2-403 for PM10 emissions and the PSD permitting of Ariz. Admin. Code § R18-2-406 for PM2.5, as well as the County rules for PSD at PCAQCD Reg. §§ 3-3-250.

B. The Final Permit Fails to Ensure that the Proposed PM10 and PM2.5 Emission Limits for the New DBGS Simple Cycle Combustion Turbines Are Practically Enforceable.

For any emission limit to be considered as effectively limiting the potential to emit of the new units to less than major modification significant levels, the emission limit must be practically enforceable. EPA states in a 1995 guidance document the following regarding the criteria for limits to be enforceable as a practical matter:

> In general, practical enforceability for a source-specific permit term means that the provision must specify (1) a technically accurate limitation and the portions of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, annually); and (3) the method to determine compliance including appropriate monitoring, record keeping and reporting.[57]

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[56] *Id.*

[57] *See*, Memorandum from Kathie Stein, Director, EPA Air Enforcement Div. on Guidance and Enforceability Requirements for Limiting the Potential to

More specifically, EPA states that potential to emit limitations "must be technically sufficient to provide assurance to EPA and the public that they actually represent a limitation on the potential to emit."[58] The fact that all other pollutant emission limits of the Final Permit would allow significantly more hours of operation of the turbines than PM10/PM2.5 limits as demonstrated in Table 2 above does not give assurance to the public that the 4.99 ton per year limits are technically accurate or sufficient. Thus, the 4.99 ton per year limit on PM10/PM2.5 emissions from the new simple cycle combustion turbines does not meet the first criteria for creating practically enforceable limits.

EPA's 1995 guidance also states that the test methods and monitoring, recordkeeping, and reporting requirements be specified and that the permit must clarify which methods are used for making a direct determination of compliance with the potential to emit limitations.[59] The Final Permit does not require continuous emissions monitoring for compliance with the PM10/PM2.5 emission caps, and even if it did, such PM CEMs would not measure condensable PM10/PM2.5 and thus would not accurately account for total PM10/PM2.5 emissions. The Final Permit requires that 12-month total emissions be calculated based on the use of emission factors. Section 6(G)(5)(c) of the Final Permit lists PM10/PM2.5 emission factors for non-startup periods that must be used "until superseded by the results of subsequent performance testing."[60] The PM10/PM2.5 emission factor is 0.011 pounds per MMBtu heat input for non-startup periods is based on information provided by the vendor. However, SRP's permit application does not include any turbine vendor information to support this assumed emission rate, so there is no evidence in the administrative record supporting the accuracy of the emission factor. As EPA made clear in its Piedmont Green Power LLC Order, if a state wants to utilize emission factors to determine emissions, the permit record must support the selected emission factors and explain why it will be practically

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Emit though SIP and §112 Rules and General Permits at 6 (Jan. 25, 1995), available at https://www.epa.gov/sites/default/files/2015-08/documents/potoem.pdf [hereinafter "January 1995 Memo on Potential to Emit Limits"] (attached as Exhibit 11).

[58] *Id.* at 8.

[59] *Id.*

[60] Exhibit 1, pp. 24-25 (Final Permit).

enforceable.[61] Pursuant to 40 C.F.R. §70.12(a)(2), this petition raises a claim that "the permit, ***permit record,*** or permit process is not in compliance with applicable requirements or requirements under this part" (emphasis added). Under 40 C.F.R. §70.13, the administrative record includes, "…all materials available to the permitting authority that are relevant to the permitting decision…." EPA must object to the Final Permit because the permit record does not contain information supporting the 0.011 PM10/PM2.5 emission factor.

In response, Pinal County claims the "[m]onthly monitoring requirements to show compliance with the proposed voluntarily accepted emission limits is permanent, quantifiable, and practically enforceable as required by A.C.C. §R18-2-306.01(b)(2)."[62] This response ignores that the Final Permit only requires this performance testing to be done once every five years.[63] Such infrequent testing is wholly inadequate to ensure accurate compliance assessments with the 12-month rolling PM10/PM2.5 cap on emissions from the two new simple cycle turbines that is meant to allow the units to avoid PSD/NNSR permitting.[64] Like the EPA Administrator's Order in the Yuhuang Chemical Title V Petition, reliance on a single stack test performed once every five years does not ensure the practical enforceability of a Title V emission limit. This is especially true when, as here, there are no other permit conditions that, in combination, ensure compliance with the emission limit. The Final Permit does not contain any other requirements to ensure compliance with the PM10/PM2.5 limits. The practical enforceability of the PM10/PM2.5 limits is also undercut by the fact that the other emission limits in the Final Permit reflect operating at much higher operating hours as shown in Table 2 herein.

Such infrequent testing is also inconsistent with Pinal County and Arizona permitting requirements which require "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the

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[61] Exhibit 12 hereto, Piedmont Green Power, Petition No. IC-2015-2LLC, p. 15 (Administrator's Order 12/13/2016)

[62] Exhibit 5, p. 9 (Responsiveness Summary).

[63] *Id.* at 21 § 6(C)(5).

[64] *See,* Exhibit 13 hereto (Yuhuang Chemical Inc. Methanol Plant, Petition No. VI-2015-03, Order Responding to the Petitioners' request for Objection to the Issuance of a Title V Operating Permit, pp. 20-21 (EPA Administrator McCarthy Order 8/31/16)); *See also,* Exhibit 14, Fort James Camas Mill, Petition No. X-1999-1, p. 17 EPA Administrator Browner 12/22/2000).

source's compliance with the permit…."[65] For PM10/PM2.5 emissions, there are not other types of monitoring that can be done. The Final Permit states that "[a]s a surrogate for monitoring actual PM10 emissions for all units, Permittee shall on a monthly basis, calculate the quantity of emissions, by multiplying the aggregate fuel flows/heat input by the corresponding PM10 emission factors established in the performance tests conducted during the permit term, or otherwise defined in the permit."[66] This is a confusing and unlawful provision. First, this provision indicates it applies to "all units," but the 4.99 ton per year cap only applies to the two new simple cycle combustion turbines. Second, it requires that the quantity of emissions be based on the "aggregate fuel flows/heat input," which presumably means the total of fuel flows/heat input to each turbine including the existing combined cycle units. Third, this permit provision also does not specifically require that each turbine's PM10 emission factor be used to multiply by its portion of the aggregate fuel flows/heat input by, given that a PM10/PM2.5 emission factor should be determined for each unit at the plant. These ambiguities undermine SRP's ability to effectively comply, and more importantly, the County's ability to practically enforce the permit limits because they muddy the waters on how SRP should be calculating PM10/PM2.5 emissions. Even disregarding this lack of clarity in the permit terms for calculating PM10/PM2.5 emissions, a stack test conducted once every five years cannot be considered as sufficient to yield reliable data to ensure continuous compliance with the 4.99 ton per year limits on PM10/PM2.5 emissions from the two new simple cycle turbines. Pinal County never provided a meaningful response to this comment. This failure to respond to comments is a separate and independent basis for EPA to object to the Final Permit.[67]

The Final Permit further provides that "[o]nce initial performance testing has been performed per Section §6.A of this permit, the highest PM/PM10/PM2.5 emission factor for non-startup periods for such simple cycle combustion turbine shall be used until superseded by the results of subsequent performance testing."[68] This also impedes the practical enforcement of the emission limits. The permit specifies the test methods of "Part 60, App. A, Ref. Method 5 and Method 202 for condensable PM," but the permit also allows the use of "equivalent methods as approved by the District pursuant to the test plan

[65] PCAQCD Reg. § 3-1-081(A)(3)(b). *See also* Ariz. Admin. Code §§ R18-2-306(A)(3)(c).
[66] Exhibit 1 at 24 § 6(G)(5)(a).
[67] 40 C.F.R. § 70.7(h)(6).
[68] Exhibit 1, Final Permit at 24 § 6(G)(5)(c).

required below."[69] By leaving the determination of "equivalent methods" to the District's discretion, which allows compliance to be based on a yet to be specified method, the Final Permit fails to ensure that the provisions to assess compliance with the 4.99 ton per year PM10/PM2.5 limit are replicable or verifiable as required by law. . Ariz. Admin. Code §§ R18-2-306.02(C)(2) and (E) require replicable procedures for creating federally enforceable emission caps. Ariz. Admin. Code § R18-2-301(17) defines "replicable" as "with respect to methods or procedures, sufficiently unambiguous that the same or equivalent results would be obtained by the application of the method or procedures by different users." In this case, the alternative test method is not specified in the permit, the procedure for approval of the test method as equivalent is not specified in the permit, and the permit does not provide any indication that public or EPA review of any equivalent test method would apply.

Both Pinal County's rules and Arizona's rules require permits with voluntarily requested emission limits to avoid an applicable requirement include terms and conditions to be practically enforceable.[70] The terms of the Final Permit do not ensure practical enforceability of the 4.99 tons per year PM10/PM2.5 emissions cap on the two new simple cycle turbines for the reasons discussed above. Incorporation of limits on hours of operation and/or production that are consistent with the 4.99 ton per year PM10/PM.25 emission caps, in addition to more frequent performance testing and clearer, more defined recordkeeping and reporting are necessary to ensure that PM10/PM2.5 emissions are sufficiently limited to less than the major modification significance levels of the PSD and NANSR permitting requirements.

For the reasons discussed above, the Final Permit does not adequately limit potential to emit PM10 or PM2.5 below major modification significance levels in accordance with County and Arizona rules. Specifically, the Final Permit fails to include a production or operational limit on potential to emit PM10 and PM2.5 and fails to ensure that its proposed mass emission limits are practically enforceable. Therefore, EPA must object to the Permit because it fails to include the applicable requirements[71] of Article 4 of Title 18, Chapter 2

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[69] *Id.* at 19 § 6(A)(1).

[70] PCAQCD Reg. § 3-1-084(1); Ariz. Admin. Code §§ R18-2-306.01(A), R18-02-0306.02(C)(2).

[71] These NNSR and PSD permitting requirements are part of the EPA-approved Arizona SIP and are thus applicable requirements under the Title V permitting program. As defined in 40 C.F.R. § 70.2, "Applicable requirement means… (1)

of Arizona's administrative code including the NNSR requirements of Ariz. Admin. Code § R18-2-403 for PM10 emissions and the PSD permitting of Ariz. Admin. Code § R18-2-406 for PM2.5, as well as the County rules for PSD at PCAQCD Reg. §§ 3-3-250.

C. *The Final Permit Fails to Properly Evaluate Applicability for the Two New Simple Cycle Turbines Under Arizona's Minor New Source Review Permitting Requirements.*

In addition to seeking to avoid major modification requirements for PM10/PM2.5, SRP's permit application requests the limits on potential to emit of the two new simple cycle combustion turbines to be under the "Permitting Exemption Thresholds" under Ariz. Admin. Code § R18-2-99 for PM10/PM2.5 as well as NOx, VOCs, and CO.[72] The permitting exemption thresholds define applicability to Arizona's minor NSR permitting requirements in Ariz. Admin. Code § R18-2-334. Specifically, Ariz. Admin. Code § R18-2-334 applies to any minor NSR modification to a Class I source, unless such modification is subject to PSD or NANSR permitting requirements. SRP and PCAQCD claim that the two new simple cycle combustion turbines are exempt from Arizona's minor NSR provisions for all pollutants based on the emission limits in the Final Permit on NOx, VOCs, CO, and PM/PM10/PM2.5. Yet, the terms of the permit do not satisfy the State criteria to limit potential to emit.

In the definition of "minor NSR modification" in Ariz. Admin. Code § R18-2-301(12), "potential to emit" is defined as the lower of a "source's or

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Any standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under title I of the Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in part 52 of this chapter…." *In re Columbia Generating Station*, Order in Response to Petition No. V-2008-1 (EPA, Oct. 8, 2009), at 3, available at https://www.epa.gov/title-v-operating-permits/order-denying-granting-part-columbia-gerating-station-pardeeville; , definition of "Applicable requirement," subparagraph (a). The requirements of the NNSR and PSD programs, contained in the Arizona state implementation plan, are just such "applicable requirements." *Sierra Club v. United States Env't Prot. Agency*, 964 F.3d 882, 891 (10th Cir. 2020) ("The regulatory definition of this term ['applicable requirements'] unambiguously refers to all requirements in a state's implementation plan, such as Utah's requirement for major NSR. ").

[72] Exhibit 4, Permit Application at 1-1, 4-4.

emission unit's potential to emit or its allowable emissions."[73] In R18-2-101(109), "Potential to emit" is defined as:

> [T]he maximum capacity of a stationary source to emit a pollutant, excluding secondary emissions, under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation or the effect it would have on emissions is legally and practically enforceable by the Department or a county under A.R.S. Title 49, Chapter 3; any rule, ordinance, order or permit adopted or issued under A.R.S. Title 49, Chapter 3 or the state implementation plan.

Allowable emissions are defined in Ariz. Admin. Code § R18-2-101(13) as "the emission rate of a stationary source calculated using both the maximum rated capacity of the source, unless the source is subject to federally enforceable limits which restrict the operating rate or hours of operation, and the most stringent of" the applicable standards set forth in 40 CFR Parts 60, 61, or 63; the applicable existing source performance standard approved for the Arizona SIP ("State Implementation Plan"); or the emission rate specified in any federal rule or federally enforceable permit condition.

The proposed rolling 12-month ton per year emission caps over the two new simple cycle turbines of the Final Permit do not satisfy either of these definitions. The proposed emission caps do not reduce the "potential to emit" or "allowable emissions" because there are no limits on operating hours or production rate, and the permit does not definitively require operation of the planned NOx and CO controls, i.e., SCR and oxidation catalyst. There is no proposed pollution control equipment for PM/PM10/PM2.5. In addition, EPA has interpreted this same definition of "potential to emit" in the major source permitting rules as requiring practically enforceable emission limitations. While the Final Permit does require continuous monitoring of NOx and CO emissions data from the new simple cycle turbines, there is no such continuous monitoring required for PM/PM10/PM2.5 or VOCs. As discussed above, the Final Permit has not created practically enforceable limitations on emissions of PM10 or

[73] Ariz. Admin. Code § R18-2-301(12)(e)(i).

PM2.5. For similar reasons, the Final Permit also fails to create practically enforceable emission limits on VOC emissions.

Beyond these definitional problems, the Final Permit fails to satisfy Ariz. Admin. Code §§ R18-2-306.01 and R18-2-306.02, which also applies to emission limits that are intended to avoid Arizona's minor NSR requirements and that are intended to cap emissions of the two new turbines combined. Neither SRP nor PCAQCD has evaluated whether the proposed emission limits comply with these requirements, and a careful review demonstrates that the Final Permit falls short of meeting them.

In addition, Ariz. Admin. Code § R18-2-306.01(B)(1) requires that the emission limits imposed to avoid an applicable requirement "are at least as stringent as the emissions limitations…that would otherwise be applicable to the source." However, as demonstrated in Table 2 above, the limits on potential to emit of the two new simple cycle turbines are based on varying levels of operating hours. The limits on NOx, CO, and VOCs are effectively less stringent than the limits on PM/PM10/PM2.5 because, if the units operated at the number of hours that could be effectively allowed under the NOx, CO and VOC limits, the units would not comply with the PM/PM10/PM2.5 emission limits. The only other explanation for the large discrepancy in allowed operating hours under the different pollutant emission limits is that new simple cycle turbines' hours of operation will be limited by the more stringent PM10/PM2.5 emission limits. This circumstance, however, would allow SRP to not operate the planned SCR and oxidation catalyst controls to achieve the company's projected emission rates based on the less stringent NOx and CO emission limits. For example, assuming the turbines are limited to 1,051 hours of operation per year per turbine, based on the PM10/PM2.5 limit and SPR's stated PM10/PM2.5 emission rates, the new simple cycle turbines could emit NOx at 5 times higher rate than the 3.90 lb/hr NOx rate that SRP identified in its permit application[74] and still comply with the 19.99 ton per year two-unit limit. That would allow the units to either not operate the SCRs all of the time or to operate the SCRs to achieve a much lower NOx removal efficiency across its SCR systems than what SRP assumed in indicating the 3.90 lb/hour NOx emission rate of the new turbines or would allow SRP to not operate the SCRs on a consistent basis.[75] VOC emissions could also be increased by a similar

[74] Exhibit 4, Permit Application at 4-4, pdf 34.

[75] Based on GE information on the LM6000PC turbines to be installed at DBGS, the uncontrolled NOx rate to the SCR systems would be 25 parts per

amount (i.e., five times higher than SRP's stated 3.90 lb/hour VOC emission rate). For CO, assuming the turbines are effectively limited to 1,051 hours of operation per year per turbine, the new simple cycle turbines could emit CO at a 40 times higher rate than the 6.70 lb/hr CO rate that SRP identified in its permit application[76] and still comply with the 49.99 ton per year two-unit limit. Thus, the new turbines could also be allowed under these limits, assuming the PM10/PM2.5 limit was more restrictive, to not operate its oxidation catalyst to reduce CO and VOCs. The "at least as stringent" requirement of Ariz. Admin. Code § R18-2-306.01(B)(1) underscores the need for permit provisions limiting potential to emit to avoid applicable permitting requirements to also require operating hour/production limits and/or operation of proposed pollution control equipment. By allowing SRP to avoid minor NSR permitting by imposing limits on potential to emit, the County is allowing the modified DBGS to avoid the ambient air quality impact requirements of Ariz. Admin. Code § R18-2-334(C)(2), and yet the inconsistency in the basis for the various pollutant limits would allow the new simple cycle turbines to not operate their NOx, CO, and VOC pollution controls for a significant period of time or to not operate the controls to SRP's assumed control efficiency. This is yet another issue that Pinal County failed to specifically respond to Sierra Club's comments, and another independent basis for EPA to object to the Final Permit.

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million. See LM6000 aeroderivative gas turbine, GE Gas Power, https://www.ge.com/gas-power/products/gas-turbines/lm6000 (last visited Oct. 1, 2021). That equates to approximately 0.1 lb/MMBtu NOx rate. SRP's stated hourly NOx rate of 3.90 lb/hour at each turbine reflects a NOx emission rate of 0.009 lb/MMBtu at maximum heat input, which equates to approximately a 2.0 to 2.5 ppm controlled NOx rate. Note that a 2.0 to 2.5 ppm NOx rate is commonly required as BACT for simple cycle turbines. This reflects 90-92% removal efficiency across the SCR. But, if the PM10/PM2.5 limits would limit operating hours to, on average, 1051 hours per year, the two new turbines could emit at 19.02 lb/hr and comply with the 19.99 ton per year two unit NOx cap. That emission rate reflects an average NOx rate of 0.044 lb/MMBtu, meaning the SCRs on average would only need to reduce NOx by roughly 56% or the SCRs could be operated for some of the time at 90-92% control and not operate at all at other times.

[76] Exhibit 4, Permit Application at 4-4, pdf 34.

With respect to Ariz. Admin. Code § R18-2-306.02,[77] the Final Permit does not meet the following requirements of this rule due to many of the same flaws discussed above. This rule applies to permit applicants requesting an emissions cap for any combination of emission units and thus applies to this permit for which SRP has requested emission limits that would apply as a cap over the two proposed simple cycle combustion turbines (Units SCCT4 and SCCT5). In order to justify an emissions cap, the terms and conditions of the permit must "contain replicable procedures to ensure that the emissions cap is enforceable as a practical matter…." The Final Permit does not meet these criteria, as follows:

- The permit lacks "replicable procedures" as required by Ariz. Admin. Code § R18-2-306.02(C)(2). R18-2-301(17) defines "replicable" as "with respect to methods or procedures, sufficiently unambiguous that the same or equivalent results would be obtained by the application of the method or procedures by different users." The Final Permit would allow "equivalent" test methods to be used to measure compliance with the emission limits.[78] With this director's discretion provision, the permit terms do not ensure that the provisions to assess compliance with the ton per year emissions limit on PM/PM10/PM2.5, or VOCs are replicable because it allows compliance to be based on a yet to be specified test method. In this case, the alternative test method is not specified in the permit, and the procedure for approval of the test method as equivalent is not spelled out in the permit, and the permit does not provide any indication that public or EPA review of any equivalent test method would apply.

- Ariz. Admin. Code § R18-2-306.02(C)(2) requires that the term "enforceable as a practical matter" means that permit limits "impose "an objective and quantifiable operational or production limit or require the use of in-place air pollution control equipment." Yet, the Final Permit

[77] Pinal County claimed it "could not [respond to] comment on A.C.C. §R18-2-306.02 (A)-(C), Establishment of an Emissions Cap as this code is expired and is not applicable." Exhibit 5 p. 9 (Responsiveness Summary). Pinal County fails to provide any citation or legal support for its claim that A.C.C. §18-2-306.02 is expired and inapplicable in whole or in part. To the contrary, A.C.C. §18-2-306.02 remains in the EPA approved SIP in its entirety. 40 C.F.R. § 52.120(c). As such, it is an applicable requirement to the Final Permit.

[78] Exhibit 1, Final Permit at 19 § 6(A)(1).

meets neither of these criteria. There are no operational or production limits specifically required by the permit. Further, there are no conditions of the permit that specifically require the use of the in-place control equipment such as the SCR system for the control of NOx or the oxidation catalyst for the control of CO or VOCs. For the reasons discussed in the above discussion of R18-2-306.01(B)(1), it is imperative for the protection of public health as well as to ensure practical enforceability of the emission limits, that the permit impose limits on operating hours or production and/or definitively require operation of the SCR and oxidation catalyst to meet the level of pollution control assumed in SRP's permit application.

- In addition, the permit conditions for monitoring PM, PM10, and PM2.5 as well as VOCs are not sufficient to comply with R18-2-306(A)(3), as required by Ariz. Admin. Code § R18-2-306.02, because they only require stack testing once every five years.[79] In addition, the monitoring and recordkeeping requirements are unclear and relevant terms are undefined as discussed above. Those deficiencies undermine the practical enforceability of the emission limits.

For all of these reasons, the proposed limits on potential to emit NOx, CO, VOCs, and PM/PM10/PM2.5 do not meet Arizona criteria to properly limit potential to emit, nor do the rules meet the requirements of Ariz. Admin. Code §§ R18-2-306.01 which applies to the proposed emission limits. Therefore, the limits on these pollutants are not sufficient to exempt the units from Arizona's minor NSR permitting provisions in Ariz. Admin. Code § R18-2-334. EPA must object to the Permit because it fails to include the applicable requirements of Ariz. Admin. Code § R18-2-334, including the requirement meet reasonably available control technology ("RACT") and the requirement to demonstrate that emissions from the minor modification would not interfere with attainment or maintenance of any ambient air quality standard in Article 2 of Chapter 2 of Title 18 of the Ariz. Admin. Code, Pursuant to Ariz. Admin. Code §R18-2-334(C). These minor NSR permitting requirements are part of the EPA-

[79] *Id.* at 22 § 6(C)(5)(i).

approved Arizona SIP[80] and are thus applicable requirements under the Title V permitting program.[81]

Petition Claim 2:

The Permit Fails to Ensure that the Modified Desert Basin Won't Interfere with Attainment or Maintenance of the Ambient Air Quality Standards.

Rationale provided by Pinal County as to Why it Did Not Ensure that the Permit Revision Would Not Interfere with Attainment or Maintenance of Ambient Air Quality Standards: In its Responsiveness Summary, PCAQCD states, "[s]ince the source has chosen to take federally enforceable limits to stay below the significance emissions thresholds and avoid major modification, Codes §§R18-2-406, R18-2-407, 3-3-250 and 3-3-260 are not applicable to the new units."[82]

Relevant Conditions in the 2021 Permit: Because PCAQCD found that "Codes §§R18-2-406, R18-2-407, 3-3-250 and 3-3-260 are not applicable to the new units" it did not require a showing that the Final Permit will not interfere with attainment or maintenance of NAAQS. As such, there are no relevant conditions in the permit specifically ensuring attainment or maintenance of the NAAQS.

Detailed Demonstration of Permit Deficiency

Neither SRP nor PCAQCD provided any analysis of the modified DBGS's impacts on attainment or maintenance of the National Ambient Air Quality Standards. PCAQCD's Technical Support Document for the Final Permit states that "[s]ince the proposed project does not result in a significant emission increase, an air quality impact analysis is not required."[83] As discussed above and in Sierra Club's comment letter, the Final Permit does not adequately limit potential to emit to ensure that a significant emission increase of PM10 or PM2.5 will not occur as a result of the new combustion turbines. Accordingly, an air quality analysis is required for issuance of this permit pursuant to

[80] 40 C.F.R. §52.120(c), Table 2.
[81] Ariz. Admin. Code § R18-2-101.16.a. (definition of "applicable requirement" and 40 C.F.R. §70.2).
[82] Exhibit 5, p. 11 (Responsiveness Summary)
[83] Exhibit 3, TSD at 10 § 4.

PCAQCD Reg. §§ 3-3-250(A)(5)(b) and 3-3-260(A)(2), and Ariz. Admin. Code §§ R18-2-406(A)(5) and R18-2-407. Additionally, Ariz. Admin. Code § R18-2-406(A)(5)(a)-(b) requires that an air impact analysis be done by the permit applicant in order to:

> [D]emonstrate that allowable emission increases from the proposed…major modification, in conjunction with all other applicable emission increases or reductions, including secondary emissions, for all pollutants listed in R18-2-218(A), and including minor and mobile sources for oxides of nitrogen and PM10…would not cause or contribute to concentrations of conventional air pollutants in violation of any ambient air quality standard in Article 2 of this Chapter in any air quality control region…or would not contribute to an increase in ambient concentrations for a pollutant by an amount in excess of the significance level for such pollutant in any adjacent area in which Arizona primary or secondary ambient air quality standards for that pollutant are being violated.

The pollutants listed in Ariz. Admin. Code § R18-2-218(A) are those for which PSD increments have been established including PM2.5, PM10, SO2, and NOx. Thus, if the addition of the two new simple cycle turbines at DBGS triggers PSD permitting for PM2.5, a modeling analysis would be required for NOx, PM10, and SO2, in addition to PM2.5.

In addition, as discussed above and in Sierra Club's comment letter, the Final Permit does not adequately limit potential to emit to ensure that Arizona's minor NSR rules do not apply. Ariz. Admin. Code § R18-2-334(C) requires either that SRP implement reasonably available control technology ("RACT") or that an ambient air quality assessment be done to demonstrate that the emissions from the minor NSR modification will not interfere with attainment or maintenance of the ambient air quality standards. Even if RACT is implemented in lieu of modeling, the determination of RACT requires a modeling analysis because RACT is based on the "necessity of imposing the controls in order to attain and maintain a national ambient air quality standard". Ariz. Admin. Code § R18-2-101(117)(a).

For these reasons, PCAQCD should not have issued a Final Permit for the two new simple cycle turbines without an analysis indicating the modified

facility would not cause or contribute to a violation of any ambient air quality standard.

CONCLUSION

The following table identifies the provisions in the Final Permit relating to the two new gas fired simple cycle combustion turbines, Units SCCT4 and SCCT5, that are deficient for the reasons stated above.

Conditions of Desert Basin Final Permit that Fail to Properly Limit Potential to Emit and Fail to Ensure Practical Enforceability of Emission Limits

Condition No.	Page number	Description	Deficiency
4.A.4.	7	Requires Continuous Emissions Monitoring Systems (CEMs) for Units SCCT4 and SCCT5.	This condition does not require CEMs for PM10 or PM2.5.
5.C.1	8	Limits the combined PM/PM10/PM2.5 emissions from SCCT4 and SCCT5 to 4.99 tons per 12-month rolling total sum (combined for normal operation and startup/shutdown duration)	These limits are not sufficient to limit potential to emit without the permit also imposing limits on production or operating hours, and the limits are not practically enforceable.
5.C.2-4	8	Limits the combined emissions of Units SCCT4 and SCCT5 to 19.99 tons per year NOx, 19.99 tons per year VOCs, and 49.99 tons per year CO.	These limits are not sufficient to exempt Units SCCT4 and SCCT5 from minor NSR requirements without the permit also imposing limits on production or operating hours. In addition, the limits on VOC emissions are not practically enforceable.
6.A.1	18-19	Requirements for initial performance testing of units SCCT4 and SCCT5	Allows for use of unspecified "equivalent methods" to EPA reference test methods which must be approved at the discretion of Pinal County

6.A.4.b.	19	Requirement to submit initial test report to Pinal County for approval and "shall specifically define that the following pollutants meet the emission limits specified in §5.C. of this permit…PM10 emission rates, defined as a function of heat input."	The emission limits in §5.C. of the permit are in units of tons per 12-months, and are not defined "as a function of heat input." Further, §6.A.4.b. only pertains to PM10 and there is no similar condition for PM2.5. The permit lacks clarity and is not practically enforceable.
6.C.1.	20	Requirements for subsequent performance testing of units SCCT4 and SCCT5	Allows for use of unspecified "equivalent methods" to EPA reference test methods which must be approved at the discretion of Pinal County
6.C.4.b.	21	Requirement to submit test report to Pinal County for approval and states "the Test Report…shall… specifically define…PM10 emission rates, defined as a function of heat input."	§6.C.4.b. only pertains to PM10 and there is no similar condition for PM2.5.
6.C.5.i.	21	Requires performance tests to be repeated within 5 years of the previous performance test.	Performance tests conducted only once every five years are not sufficient to ensure continuous compliance with the PM10/PM2.5 and VOC emission limits in §5.C.1. of the Final Permit and, without CEMs (such as are required for NOx and CO), such infrequent testing does not ensure practical enforceability of the emission limits in §5.C.1. of the Final Permit.
6.G.4.	23-24	Requires Permittee to	Condition is confusing as

		calculate VOC emissions on a monthly basis "by multiplying the aggregate fuel flows/heat input by the corresponding VOC emission factors defined in the performance tests conducted during the permit term." Requires 0.009 lb/MMBtu VOC emission factor be used for non-startup periods until initial performance test, then requires the highest VOC emission factor to be used until superseded by the results of subsequent performance testing. Requires 5.1 lb/MMBtu VOC emission factor for startup and shutdown event combined.	written and appears to apply to all units at Desert Basin, not just the new units SCCT 4 and SCCT5, but the emission cap only applies to those two units. There are other existing emission units at the source (two combined cycle combustion turbines and two heat recovery steam generators). Also, this condition does not clearly require each turbine's tested emissions factor be used to calculate emissions.
6.G.5.	24-25	Requires Permittee to "on a monthly basis, calculate the quantity of emissions, by multiplying the aggregate fuel flows/heat input by the corresponding PM10 emission factors established in the performance tests conducted during the permit term, or otherwise defined in [the] permit." Requires for Units SCCT4 and SCCT5 that 0.011 lb/MMBtu PM10/PM2.5 emission factor be used for non-startup periods until initial performance test, then requires the highest	Condition is confusing as written and appears to apply to all units at Desert Basin, not just the new units SCCT 4 and SCCT5, but the emission cap only applies to those two units. There are other existing emission units at the source (two combined cycle combustion turbines and two heat recovery steam generators). Also, this condition does not clearly require each turbine's tested emissions factor be used to calculate emissions.

		PM/PM10/PM2.5 emission factor to be used until superseded by the results of subsequent performance testing. Requires 5.1 lb/MMBtu PM10/PM2.5 emission factor for startup and shutdown event combined.	
6.H. and I	26-27	Defines excess emissions for NOx and SO2 for Units SCCT4 and SCCT5 based on 40 C.F.R. Part 60, Subpart KKKK, §§60.4380(b) and 60.4385.	Fails to also define "excess emissions" for limits on potential to emit taken to avoid PSD, NNSR, and minor source permitting.
6.K.2.	27	Permittee shall record in a permanent logbook for inclusion in semi-annual report emissions of PM10 and VOCs (among other pollutants), total natural gas consumed, and number of startup and shutdown cycles for each unit.	This does not make clear that the rolling 12-month total emissions of PM10 and VOCs must be included, and also does not indicate that heat input to each turbine be included nor does it specifically require PM2.5 emissions to be reported.
6.N. & Appendix A	28 35-36	General Compliance Reporting – requires a semi-annual report containing the information required to be recorded pursuant to this permit. Appendix A contains an example semi-annual report.	Neither this provision nor Appendix A require specific reporting of emissions of Units SCCT4 and SCCT5 per rolling 12-month period for SCCT4 or SCCT5 (Appendix A only requires hours of normal run time and cycles of startup and shutdown). Otherwise, Appendix A only requires plantwide emissions reporting for PM10 (nothing for PM2.5), VOCs, and other pollutants,

			presumably just for the 6 months covered by the report.
9	29	Any permit noncompliance is grounds for enforcement action; permit termination, revocation and reissuance, or revision, or denial of a permit renewal application and "may additionally constitute a violation of the Clean Air Act,"	Permit should more specifically state that violations of the limits in §5.C. could require permitting of Units SCCT4 and SCCT5 as a major modification or as subject to minor NSR permitting.

In summary, for the reasons stated above, we request that EPA object to Pinal County's DBGS Title V Revision Permit.

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s/ John Barth
Attorney at Law
P.O. Box 409
Hygiene, CO 80533
(303) 774-8868
barthlawoffice@gmail.com
Counsel for Sierra Club

s/ Louisa Eberle
Sierra Club
Staff Attorney
1536 Wynkoop St. # 200
Denver, CO 80202
(415) 977-5753
Louisa.eberle@sierraclub.org

EXHIBITS TO PETITION

1. Final Permit
2. Sierra Club Comment letter 10/4/21
3. Pinal County Technical Support Document
4. SRP Permit Application
5. Pinal County Responsiveness Summary
6. Delegation Agreement
7. EPA Guidance 6/13/89
8. EPA Memo 3/13/86
9. EPA Title V Objection-Quebecor
10. Table 2 calculations
11. EPA Memo January 1995

12. Piedmont Title V Order
13. Yuhuang Chemical Title V Order
14. Fort James Title V Order

cc: By email: airquality@pinal.gov
Pinal County Air Quality Control District
31 N. Pinal Street, Building F
Florence, AZ 85132

By email (Kelly.Barr@srpnet.com)
Kelly Barr
Associate General Manager & Chief Strategy, Corporate Services & Sustainability Executive
Salt River Project
1500 N. Mill Avenue
Tempe, AZ 85281