BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Petition No. IX-2023-8

In the Matter of

Salt River Project Agricultural Improvement and Power District,
Agua Fria Generating Station

Permit No. P0009346

Issued by the Maricopa County Air Quality Department

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ORDER GRANTING IN PART AND DENYING IN PART A PETITION FOR OBJECTION TO A TITLE V OPERATING PERMIT

I. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) received a petition dated June 1, 2023 (the Petition) from Sierra Club (the Petitioner), pursuant to section 505(b)(2) of the Clean Air Act (CAA or Act), 42 United States Code (U.S.C.) § 7661d(b)(2). The Petition requests that the EPA Administrator object to operating permit No. P0009346 (the Permit) issued by the Maricopa County Air Quality Department (MCAQD) to the Salt River Project Agricultural Improvement and Power District (SRP) Agua Fria Generating Station (Agua Fria, AFGS, or the facility) in Maricopa County, Arizona. The Permit was issued pursuant to title V of the CAA, 42 U.S.C. §§ 7661–7661f, and MCAQD Air Pollution Control Regulations Rule 210. *See also* 40 Code of Federal Regulations (C.F.R.) part 70 (title V implementing regulations). This type of operating permit is also known as a title V permit or part 70 permit.

Based on a review of the Petition and other relevant materials, including the Permit, the permit record, and relevant statutory and regulatory authorities, and as explained in Section IV of this Order, the EPA grants in part and denies in part the Petition requesting that the EPA Administrator object to the Permit.

II. STATUTORY AND REGULATORY FRAMEWORK

A. Title V Permits

Section 502(d)(1) of the CAA, 42 U.S.C. § 7661a(d)(1), requires each state to develop and submit to the EPA an operating permit program to meet the requirements of title V of the CAA and the EPA's implementing regulations at 40 C.F.R. part 70. Maricopa County submitted a title V program governing the issuance of operating permits in 1993, followed by several amendments. After granting interim approval of Maricopa County's title V operating permit program in 1996, the EPA granted full approval

of Maricopa County's title V operating permit program in 1996. 66 Fed. Reg. 63175 (Dec. 5, 2001). This program, which became effective on November 30, 2001, is codified in portions of MCAQD Rules 100, 110, 120, 200, 210, 220, 230, 280, 370, 400, and Appendix B.

All major stationary sources of air pollution and certain other sources are required to apply for and operate in accordance with title V operating permits that include emission limitations and other conditions as necessary to assure compliance with applicable requirements of the CAA, including the requirements of the applicable implementation plan. 42 U.S.C. §§ 7661a(a), 7661b, 7661c(a). The title V operating permit program generally does not impose new substantive air quality control requirements, but does require permits to contain adequate monitoring, recordkeeping, reporting, and other requirements to assure compliance with applicable requirements. 40 C.F.R. § 70.1(b); 42 U.S.C. § 7661c(c). One purpose of the title V program is to "enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements." 57 Fed. Reg. 32250, 32251 (July 21, 1992). Thus, the title V operating permit program is a vehicle for compiling the air quality control requirements as they apply to the source's emission units and for providing adequate monitoring, recordkeeping, and reporting to assure compliance with such requirements.

B. Review of Issues in a Petition

State and local permitting authorities issue title V permits pursuant to their EPA-approved title V programs. Under CAA § 505(a) and the relevant implementing regulations found at 40 C.F.R. § 70.8(a), states are required to submit each proposed title V operating permit to the EPA for review. 42 U.S.C. § 7661d(a). Upon receipt of a proposed permit, the EPA has 45 days to object to final issuance of the proposed permit if the EPA determines that the proposed permit is not in compliance with applicable requirements under the Act. 42 U.S.C. § 7661d(b)(1); *see also* 40 C.F.R. § 70.8(c). If the EPA does not object to a permit on its own initiative, any person may, within 60 days of the expiration of the EPA's 45-day review period, petition the Administrator to object to the permit. 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d).

Each petition must identify the proposed permit on which the petition is based and identify the petition claims. 40 C.F.R. § 70.12(a). Any issue raised in the petition as grounds for an objection must be based on a claim that the permit, permit record, or permit process is not in compliance with applicable requirements or requirements under part 70. 40 C.F.R. § 70.12(a)(2). Any arguments or claims the petitioner wishes the EPA to consider in support of each issue raised must generally be contained within the body of the petition.[1] *Id.*

The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting authority (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d); *see also* 40 C.F.R. § 70.12(a)(2)(v).

[1] If reference is made to an attached document, the body of the petition must provide a specific citation to the referenced information, along with a description of how that information supports the claim. In determining whether to object, the Administrator will not consider arguments, assertions, claims, or other information incorporated into the petition by reference. *Id*.

In response to such a petition, the Act requires the Administrator to issue an objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the Act. 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(c)(1).[2] Under section 505(b)(2) of the Act, the burden is on the petitioner to make the required demonstration to the EPA.[3] The petitioner's demonstration burden is a critical component of CAA § 505(b)(2). As courts have recognized, CAA § 505(b)(2) contains both a "discretionary component," under which the Administrator determines whether a petition demonstrates that a permit is not in compliance with the requirements of the Act, and a nondiscretionary duty on the Administrator's part to object where such a demonstration is made. *Sierra Club v. Johnson*, 541 F.3d at 1265–66 ("[I]t is undeniable [that CAA § 505(b)(2)] also contains a discretionary component: it requires the Administrator to make a judgment of whether a petition demonstrates a permit does not comply with clean air requirements."); *NYPIRG*, 321 F.3d at 333. Courts have also made clear that the Administrator is only obligated to grant a petition to object under CAA § 505(b)(2) if the Administrator determines that the petitioner has demonstrated that the permit is not in compliance with requirements of the Act. *Citizens Against Ruining the Environment*, 535 F.3d at 677 (stating that § 505(b)(2) "clearly obligates the Administrator to (1) determine whether the petition demonstrates noncompliance and (2) object *if* such a demonstration is made" (emphasis added)).[4] When courts have reviewed the EPA's interpretation of the ambiguous term "demonstrates" and its determination as to whether the demonstration has been made, they have applied a deferential standard of review. *See, e.g.*, *MacClarence*, 596 F.3d at 1130–31.[5] Certain aspects of the petitioner's demonstration burden are discussed in the following paragraph. A more detailed discussion can be found in the preamble to the EPA's proposed petitions rule. *See* 81 Fed. Reg. 57822, 57829–31 (Aug. 24, 2016); *see also In the Matter of Consolidated Environmental Management, Inc., Nucor Steel Louisiana*, Order on Petition Nos. VI-2011-06 and VI-2012-07 at 4–7 (June 19, 2013) (*Nucor II Order*).

The EPA considers a number of criteria in determining whether a petitioner has demonstrated noncompliance with the Act. *See generally Nucor II Order* at 7. For example, one such criterion is whether a petitioner has provided the relevant analyses and citations to support its claims. For each claim, the petitioner must identify (1) the specific grounds for an objection, citing to a specific permit term or condition where applicable; (2) the applicable requirement as defined in 40 C.F.R. § 70.2, or requirement under part 70, that is not met; and (3) an explanation of how the term or condition in the permit, or relevant portion of the permit record or permit process, is not adequate to comply with the corresponding applicable requirement or requirement under part 70. 40 C.F.R. § 70.12(a)(2)(i)–(iii). If a petitioner does not identify these elements, the EPA is left to work out the basis for the petitioner's objection, contrary to Congress's express allocation of the burden of demonstration to the petitioner in CAA § 505(b)(2). *See MacClarence*, 596 F.3d at 1131 ("[T]he Administrator's requirement that [a title V petitioner] support his allegations with legal reasoning, evidence, and references is reasonable and

[2] *See also New York Public Interest Research Group, Inc. v. Whitman*, 321 F.3d 316, 333 n.11 (2d Cir. 2003) (*NYPIRG*).
[3] *WildEarth Guardians v. EPA*, 728 F.3d 1075, 1081–82 (10th Cir. 2013); *MacClarence v. EPA*, 596 F.3d 1123, 1130–33 (9th Cir. 2010); *Sierra Club v. EPA*, 557 F.3d 401, 405–07 (6th Cir. 2009); *Sierra Club v. Johnson*, 541 F.3d 1257, 1266–67 (11th Cir. 2008); *Citizens Against Ruining the Environment v. EPA*, 535 F.3d 670, 677–78 (7th Cir. 2008); *cf. NYPIRG*, 321 F.3d at 333 n.11.
[4] *See also Sierra Club v. Johnson*, 541 F.3d at 1265 ("Congress's use of the word 'shall' . . . plainly mandates an objection *whenever* a petitioner demonstrates noncompliance." (emphasis added)).
[5] See also Sierra Club v. Johnson, 541 F.3d at 1265–66; Citizens Against Ruining the Environment, 535 F.3d at 678.

persuasive.").[6] Relatedly, the EPA has pointed out in numerous previous orders that general assertions or allegations did not meet the demonstration standard. *See, e.g.*, *In the Matter of Luminant Generation Co., Sandow 5 Generating Plant*, Order on Petition Number VI-2011-05 at 9 (Jan. 15, 2013).[7] Also, the failure to address a key element of a particular issue presents further grounds for the EPA to determine that a petitioner has not demonstrated a flaw in the permit. *See, e.g.*, *In the Matter of EME Homer City Generation LP and First Energy Generation Corp.*, Order on Petition Nos. III-2012-06, III-2012-07, and III-2013-02 at 48 (July 30, 2014).[8]

Another factor the EPA examines is whether the petitioner has addressed the state or local permitting authority's decision and reasoning contained in the permit record. 81 Fed. Reg. at 57832; *see Voigt v. EPA*, 46 F.4th 895, 901–02 (8th Cir. 2022); *MacClarence*, 596 F.3d at 1132–33.[9] This includes a requirement that petitioners address the permitting authority's final decision and final reasoning (including the state's response to comments) where these documents were available during the timeframe for filing the petition. 40 C.F.R. § 70.12(a)(2)(vi). Specifically, the petition must identify where the permitting authority responded to the public comment and explain how the permitting authority's response is inadequate to address (or does not address) the issue raised in the public comment. *Id*.

The information that the EPA considers in determining whether to grant or deny a petition submitted under 40 C.F.R. § 70.8(d) generally includes, but is not limited to, the administrative record for the proposed permit and the petition, including attachments to the petition. 40 C.F.R. § 70.13. The administrative record for a particular proposed permit includes the draft and proposed permits; any permit applications that relate to the draft or proposed permits; the statement required by § 70.7(a)(5) (sometimes referred to as the "statement of basis"); any comments the permitting authority received during the public participation process on the draft permit; the permitting authority's written responses to comments, including responses to all significant comments raised during the public participation process on the draft permit; and all materials available to the permitting authority that are relevant to the permitting decision and that the permitting authority made available to the public according to § 70.7(h)(2). *Id.* If a final permit and a statement of basis for the final permit are available

[6] *See also In the Matter of Murphy Oil USA, Inc.*, Order on Petition No. VI-2011-02 at 12 (Sept. 21, 2011) (denying a title V petition claim where petitioners did not cite any specific applicable requirement that lacked required monitoring); *In the Matter of Portland Generating Station*, Order on Petition at 7 (June 20, 2007) (*Portland Generating Station Order*).

[7] *See also Portland Generating Station Order* at 7 ("[C]onclusory statements alone are insufficient to establish the applicability of [an applicable requirement]."); *In the Matter of BP Exploration (Alaska) Inc., Gathering Center #1*, Order on Petition Number VII-2004-02 at 8 (Apr. 20, 2007); *In the Matter of Georgia Power Company*, Order on Petitions at 9–13 (Jan. 8, 2007) (*Georgia Power Plants Order*); *In the Matter of Chevron Products Co., Richmond, Calif. Facility*, Order on Petition No. IX-2004–10 at 12, 24 (Mar. 15, 2005).

[8] *See also In the Matter of Hu Honua Bioenergy*, Order on Petition No. IX-2011-1 at 19–20 (Feb. 7, 2014); *Georgia Power Plants Order* at 10.

[9] *See also, e.g.*, *Finger Lakes Zero Waste Coalition v. EPA*, 734 Fed. App'x *11, *15 (2d Cir. 2018) (summary order); *In the Matter of Noranda Alumina, LLC*, Order on Petition No. VI-2011-04 at 20–21 (Dec. 14, 2012) (denying a title V petition issue where petitioners did not respond to the state's explanation in response to comments or explain why the state erred or why the permit was deficient); *In the Matter of Kentucky Syngas, LLC*, Order on Petition No. IV-2010-9 at 41 (June 22, 2012) (denying a title V petition issue where petitioners did not acknowledge or reply to the state's response to comments or provide a particularized rationale for why the state erred or the permit was deficient); *Georgia Power Plants Order* at 9–13 (denying a title V petition issue where petitioners did not address a potential defense that the state had pointed out in the response to comments).

during the agency's review of a petition on a proposed permit, those documents may also be considered when determining whether to grant or deny the petition. *Id*.

If the EPA grants a title V petition, a permitting authority may address the EPA's objection by, among other things, providing the EPA with a revised permit. 42 U.S.C. § 7661d(b)(3), (c); 40 C.F.R. § 70.8(d); *see id*. § 70.7(g)(4); 70.8(c)(4); *see generally* 81 Fed. Reg. at 57842 (describing post-petition procedures); *Nucor II Order* at 14–15 (same). In some cases, the permitting authority's response to an EPA objection may not involve a revision to the permit terms and conditions themselves, but may instead involve revisions to the permit record. For example, when the EPA has issued a title V objection on the ground that the permit record does not adequately support the permitting decision, it may be acceptable for the permitting authority to respond only by providing an additional rationale to support its permitting decision.

When the permitting authority revises a permit or permit record in order to resolve an EPA objection, it must go through the appropriate procedures for that revision. The permitting authority should determine whether its response is a minor modification or a significant modification to the title V permit, as described in 40 C.F.R. § 70.7(e)(2) and (4) or the corresponding regulations in the state's EPA-approved title V program. If the permitting authority determines that the modification is a significant modification, then the permitting authority must provide for notice and opportunity for public comment for the significant modification consistent with 40 C.F.R. § 70.7(h) or the state's corresponding regulations.

In any case, whether the permitting authority submits revised permit terms, a revised permit record, or other revisions to the permit, and regardless of the procedures used to make such revision, the permitting authority's response is generally treated as a new proposed permit for purposes of CAA § 505(b) and 40 C.F.R. § 70.8(c) and (d). *See Nucor II Order* at 14. As such, it would be subject to the EPA's 45-day review per CAA § 505(b)(1) and 40 C.F.R. § 70.8(c), and an opportunity for the public to petition under CAA § 505(b)(2) and 40 C.F.R. § 70.8(d) if the EPA does not object during its 45-day review period.

When a permitting authority responds to an EPA objection, it may choose to do so by modifying the permit terms or conditions or the permit record with respect to the specific deficiencies that the EPA identified; permitting authorities need not address elements of the permit or the permit record that are unrelated to the EPA's objection. As described in various title V petition orders, the scope of the EPA's review (and accordingly, the appropriate scope of a petition) on such a response would be limited to the specific permit terms or conditions or elements of the permit record modified in that permit action. *See In the Matter of Hu Honua Bioenergy, LLC*, Order on Petition No. VI-2014-10 at 38–40 (Sept. 14, 2016); *In the Matter of WPSC, Weston*, Order on Petition No. V-2006-4 at 5–6, 10 (Dec. 19, 2007).

III. BACKGROUND

A. The Agua Fria Facility

SRP owns and operates an electricity generating station, known as the Agua Fria Generating Station, located in Glendale, Maricopa County, Arizona. The existing facility consists of three boilers and three

simple cycle combustion turbines, each of which is fueled predominantly by natural gas (with the capability to use fuel oil in emergencies), among other units. This permitting action addresses the installation of two additional natural gas-fired simple cycle combustion turbines (Units 7 and 8). The facility is a major stationary source for title V purposes and is subject to various New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants, SIP requirements, and preconstruction permitting requirements. MCAQD considers the facility to be an area source (as opposed to a major source) of hazardous air pollutants (HAP) because the company has taken restrictions on its potential emissions of HAP to remain below the 10 ton per year threshold for any single HAP and 25 tons per year threshold for all HAP combined.

The EPA used EJScreen[10] to review key demographic and environmental indicators within a 5-kilometer radius of the Agua Fria facility. This review showed a total population of approximately 169,766 residents within a 5-kilometer radius of the facility, of which approximately 65 percent are people of color and 44 percent are low income. In addition, the EPA reviewed the EJScreen Environmental Justice Indices, which combine certain demographic indicators with 13 environmental indicators. The following table identifies the Environmental Justice Indices for the 5-kilometer radius surrounding the facility and their associated percentiles when compared to the rest of the State of Arizona.

EJ Index	Percentile in State
Particulate Matter 2.5	86
Ozone	81
Diesel Particulate Matter	87
Air Toxics Cancer Risk	83
Air Toxics Respiratory Hazard	85
Toxic Releases to Air	85
Traffic Proximity	81
Lead Paint	69
Superfund Proximity	68
RMP Facility Proximity	82
Hazardous Waste Proximity	85
Underground Storage Tanks	75
Wastewater Discharge	71

B. Permitting History

SRP first obtained a title V permit for the Agua Fria facility in 2000, which was last renewed in 2016. On November 24, 2020, and April 30, 2021, SRP applied for a title V permit renewal and a permit modification to support the installation of the two new simple cycle combustion turbines. Following a public comment period on a draft title V renewal permit, MCAQD submitted a proposed permit to the EPA on November 19, 2021, which MCAQD finalized on December 9, 2021. The Petitioner filed a petition for objection to that permit on February 28, 2022 (the 2022 Petition).

[10] EJScreen is an environmental justice mapping and screening tool that provides the EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators. *See https://www.epa.gov/ejscreen/what-ejscreen*.

On July 28, 2022, the EPA granted multiple claims in the 2022 Petition and objected to the permit. *See In the Matter of Salt River Project Agricultural Improvement and Power District, Agua Fria Generating Station*, Order on Petition No. IX-2022-4 (July 28, 2022) (*SRP Agua Fria I Order*). The EPA's response to Claim 5 of the 2022 Petition is relevant to the present Petition. In Claim 5, the Petitioner claimed that MCAQD was required to provide the public an opportunity to review and comment on emission limits—added after the close of the initial comment period—taken to avoid classification as a major source of HAP, which would have triggered requirements in 40 C.F.R. part 63, subpart YYYY. *Id*. at 24. In response, the EPA stated the following:

> Here, when MCAQD provided the Draft Permit for public comment, it did not include requirements of 40 C.F.R. part 63 subpart YYYY on the two new turbines. The Draft TSD stated simply: "This regulation applies only to major sources of hazardous air pollutants. SRP's Agua Fria Generating Station is an area source of HAPs, therefore this regulation does not apply." No other portion of the Draft Permit or Draft TSD explained the basis for this statement. In response to public comments questioning this conclusion, MCAQD did *not* explain that the source's unrestricted [potential to emit, or PTE] was below the major source thresholds (*e.g.*, based on emission calculations in the existing permit record), or that existing permit terms effectively restricted the source's PTE below the major source thresholds, such that subpart YYYY was not applicable. Instead, MCAQD created new permit terms designed to limit PTE in order to ensure that the facility would not be an area source of HAPs. This emission limit-based mechanism of restricting PTE below the HAP major source thresholds was an entirely new and fundamentally different approach to limit the source's PTE to avoid subpart YYYY applicability, and this approach could not reasonably have been anticipated from the Draft Permit and Draft TSD. Accordingly, it was not a logical outgrowth of the Draft Permit and public comments, and the public should have been given an opportunity to review these new permit terms. Thus, the EPA grants the Petition with respect to this issue.

Id. at 25–26 (footnotes and citations omitted). The *SRP Agua Fria I Order* directed MCAQD to provide the public an opportunity to comment on the newly created limits and associated monitoring, recordkeeping, and reporting conditions that were designed to restrict Agua Fria's HAP PTE. *Id*. at 26.[11]

In response to the *SRP Agua Fria I Order*, MCAQD made various revisions to the permit and permit record and provided the public an opportunity to comment on these changes, including the permit terms related to HAP PTE, thus resolving the EPA's objection to Claim 5 of the 2022 Petition. MCAQD published notice of a draft permit on October 5, 2022, subject to a public comment period that ran until November 4, 2022. On February 17, 2023, MCAQD submitted a new proposed permit (2023 Proposed Permit), along with its responses to public comments (RTC, also called a "Responsiveness Summary" by MCAQD), to the EPA for its 45-day review. The EPA's 45-day review period ended on April 3, 2023, during which time the EPA did not object to the 2023 Proposed Permit. MCAQD issued the final title V renewal permit for the Agua Fria facility on May 2, 2023, accompanied by a final Technical Support Document (TSD).

[11] Claim 5 of the 2022 Petition and the corresponding discussion in the *SRP Agua Fria I Order* focused exclusively on the permit *process* related to the permit terms designed to limit the facility's HAP PTE and did not address the sufficiency of the permit terms themselves. *SRP Agua Fria I Order* at 26, n.39. By contrast, as discussed in Section IV of this Order, the present Petition challenges the sufficiency of the permit terms related to limiting the facility's HAP PTE.

C. Timeliness of Petition

Pursuant to the CAA, if the EPA does not object to a proposed permit during its 45-day review period, any person may petition the Administrator within 60 days after the expiration of the 45-day review period to object. 42 U.S.C § 7661d(b)(2). The EPA's 45-day review period for the 2023 Proposed Permit expired on April 3, 2023. Thus, any petition seeking the EPA's objection to the 2023 Proposed Permit was due on or before June 2, 2023. The Petition was received June 1, 2023, and, therefore, the EPA finds that the Petitioner timely filed the Petition.

IV. DETERMINATIONS ON CLAIMS RAISED BY THE PETITIONER

The Petition includes a single claim, alleging that Agua Fria has the potential to emit HAP in excess of major source emission thresholds, and accordingly that the requirements of 40 C.F.R. part 63, subpart YYYY, are applicable to the new Unit 7 and Unit 8 turbines. Petition at 3, 13. Specifically, the Petitioner claims that the facility's emissions of a single HAP (formaldehyde) could exceed 10 tons per year, and that "the Final Permit fails to properly limit [PTE] of [HAP] from the Agua Fria plant to less than major source levels." *Id*. at 3; *see id*. at 9, 15.

There are two parts to this claim, corresponding to the two independent rationales upon which MCAQD based its conclusion that Agua Fria is an area source (not a major source) of HAP. The Petitioner summarizes these two subclaims as follows:

> MCAQD claims the Agua Fria Generating Station is an area source of HAPs based on final permit conditions regarding operating capacity factors for Unit 1–6 and also based on final permit conditions limiting HAP emissions. Sierra Club contends that [1] the permit conditions regarding operating capacity factors are not enforceable limits and [2] that the permit conditions limiting HAP emissions from Agua Fria Generating Station are not practically enforceable.

Id. The following sections address each of these subclaims in turn.

Subclaim 1: Heat Input Limitations

Petition Claim: In the first part of its claim, the Petitioner challenges MCAQD's position that Agua Fria's PTE is limited by physical and operational restrictions on annual heat input. *See* Petition at 4, 6–9. Specifically, the Petitioner challenges MCAQD's reliance on Permit Condition 22, which states, in part:

> The Permittee shall operate electric generating units 1–6 at or below 10 percent calendar year annual capacity factor, and meet the following requirements, in order to qualify for the exemptions of subsection [b] of this Permit Condition . . .
> c. If any unit 1–6 is operated at an annual heat input which exceeds the corresponding limit specified in subsection [a.ii] of this Condition, then the Permittee must comply with one of the Increments of Progress options as specified in Rule 322 section 402 by either installing air pollution control equipment or removing the unit(s) from service.

Id. at 7 (quoting Petition Ex. 1, Permit at 16).

The Petitioner observes that 40 C.F.R. § 63.2 defines "potential to emit" as:

> [T]he maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary 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 . . . enforceable.

Id. at 7 (quoting 40 C.F.R. 63.2). The Petitioner emphasizes that any limitations on PTE must be enforceable. *Id*. at 8. The Petitioner then presents various reasons why Permit Condition 22 is not enforceable, and thus does not effectively restrict the facility's PTE.

First, the Petitioner contends that Permit Condition 22 "is not written as a clear limit on annual heat input capacity of each unit." *Id*. The Petitioner argues that the permit term is "written in a flexible 'either-or' manner," as it allows the source to "either comply with the 10% annual heat input capacity limits or meet the [nitrogen oxides, NO_x] and [carbon monoxide, CO] emission limitations of Rule 322." *Id*. The Petitioner observes that Permit Condition 22 "is written as an exemption from Rule 322 [Reasonably Available Control Technology, RACT] requirements" for NO_x and CO, and not to create an area source of HAP. *Id*. at 9. The Petitioner argues that if the limit established in Permit Condition 22 was meant to be a permanent limit on heat input of Units 1-6, MCAQD should have incorporated the limit into Permit Condition 21, which houses the "Requirements for Units 1–6." *Id*. at 8.

Second, the Petitioner claims that the limits on annual heat input in Permit Condition 22(a) and (a)(ii) limit heat input on a calendar year annual basis, which "do not meet a core requirement for practical enforceability," *i.e.*, that the timeframe must be as short as possible and generally not exceed one month. *Id*. (citing Petition Exs. 9 and 10).[12] The Petitioner notes MCAQD's acknowledgement that the 10 percent capacity factor of Permit Condition 22.a.ii, which applies on a calendar year basis, "could allow for a maximum capacity factor of 20% on a rolling 12-month basis." *Id*. at 10 (quoting TSD at 6).[13]

Third, the Petitioner claims that the Permit does not contain appropriate monitoring, recordkeeping, and reporting requirements. *Id*. at 8. Specifically, the Petitioner alleges that Permit Condition 22 "does not specifically require the monitoring and recordkeeping of heat input or heat value of the fuels," and that it does not contain a clear data reporting requirement. *Id*. The Petitioner further alleges that Permit Condition 22(a)(iii) allows "different options of how compliance is to be determined . . . instead of clearly defining how compliance with the heat input limits is determined." *Id*.

[12] Petition Ex. 9 is a 1995 EPA memo on PTE (Kathie A. Stein, Guidance an Enforceability Requirements for Limiting Potential to Emit through SIP and §112 Rules and General Permits at 9 (Jan. 25, 1995)), and Ex. 10 is a 1989 EPA guidance on limiting PTE (Memorandum, Terrell E. Hunt and John S. Seitz, *Limiting Potential to Emit in New Source Permitting* at 9–10 (June 13, 1989)).

[13] The Petitioner further observes that MCAQD assumed a 20 percent capacity factor for Units 1–6 when calculating potential HAP emissions. *Id*. (citing Petition Exs. 3 and 7).

Fourth and finally, the Petitioner claims that the Permit must make clear that "violations of the permit are considered violations of the state and federal requirements and result in the source being subject to major source requirements." *Id*. at 8–9 (citing Petition Ex. 9).

EPA Response: For the following reasons, the EPA grants in part and denies in part the Petitioner's request for an objection on this subclaim.

MCAQD relies in part on Permit Condition 22 to restrict the facility's HAP PTE below the major source thresholds. Specifically, MCAQD states:

> By definition any enforceable physical or operational limitation in the Proposed Permit is treated as part of the source's design. There are several physical and operational limitations included in the permit for the sources at AFGS. In regard to units 1–6 specifically, Permit Condition 22.a limits the capacity factor of Units 1–6 to 10% annually per Rule 322. Permit Condition 22.a.ii includes allowable heat input limits per unit that represent the 10% capacity factor . . . .

RTC at 7. In other words, Permit Condition 22.a.ii lists "annual heat input limit[s]," expressed in MMBtu, for Units 1–6 and explains how the limits are calculated.[14] These limits correspond to 10 percent of each unit's annual capacity factor.

In order for an operational limitation, such as a heat input limit, to be considered part of a facility's design for purposes of calculating PTE, "the limitation or the effect it would have on emissions" must be "enforceable." 40 C.F.R. § 63.2 (definition of PTE); *see also* 40 C.F.R. § 70.2 (same); MCAQD Rule 100 § 200.102 (limitations on PTE must be "legally and practically enforceable"). The Petitioner has demonstrated that the "annual heat input limits" in Permit Condition 22 cannot be relied upon to restrict the Agua Fria facility's HAP PTE from Units 1–6 because they are not sufficiently enforceable as a legal or practical matter. Two of the Petitioner's arguments are persuasive.

First, the Petitioner has demonstrated that these "annual heat input limits" are not binding, independently enforceable limitations with which the source is legally required to comply. Instead, these "limits" are presented as a precondition for qualifying for an exemption from RACT requirements on NO_x and CO. For example, Permit Condition 22 (titled "Partial Exemption for NO_x and CO from Units 1–6") states the following:

> The Permittee shall operate electric generating units 1–6 at or below 10 percent calendar year annual capacity factor . . . *in order to qualify for the exemptions* in [Permit Condition 22.b]:
> ***
> *All equipment operated under this exemption* shall have an annual heat input limit associated with that equipment that corresponds to the 10 percent calendar year annual capacity factor.
> ***

[14] The limits are as follows: Units 1 and 2: 1,097,628 MMBtu; Unit 3: 1,713,456 MMBtu; Unit 4: 989,004 MMbtu; Units 5 and 6: 979,368 MMBtu. Permit at 15.

> *If a unit complies with [the heat input limits in Permit Condition 22.a]*, the unit is exempt from the emission limitations of Rule 322 for [NO_x] and [CO].

Permit at 15 (Permit Conditions 22.a, 22.a.ii, 22.b) (emphasis added).

If Agua Fria does not want to take advantage of this exemption, the Permit allows the facility to comply with alternative requirements. Specifically, the Permit states:

> If any unit 1–6 is operated at an annual heat input which exceeds the corresponding limit specified in subsection [a.ii] of this Condition, then the Permittee must comply with one of the Increments of Progress options as specified in Rule 322 section 402 by either installing air pollution control equipment or removing the unit(s) from service.

Permit at 16 (Permit Condition 22.c); *see also* RTC at 7.

In other words, if Agua Fria does not comply with the "annual heat input limits" specified in Permit Condition 22.a.ii., this would not necessarily result in an enforceable violation of the Permit. Because the facility is not specifically required to comply with these heat input limits, these limits are not independently legally enforceable, and thus cannot be treated as part of the facility's design for purposes of calculating PTE.[15]

Second, the Petitioner has demonstrated that even if the heat input limits were legally enforceable, they are not enforceable as a practical matter because they appear to apply on a calendar year basis. The EPA has long explained that limitations expressed on a calendar year basis are not enforceable as a practical matter, and that limits designed to restrict PTE must be expressed on a shorter time frame (at a minimum, on a rolling 12-month basis), so that compliance can be readily determined. *See, e.g.*, *In the Matter of Yuhuang Chemical, Inc.*, Order on Petition No. VI-2015-03 at 17, 27 (Aug. 31, 2016) (*Yuhuang I Order*); Memorandum, Terrell E. Hunt and John S. Seitz, *Limiting Potential to Emit in New Source Permitting* at 9–10 (June 13, 1989). Here, the Permit describes the Condition 22 limits for each unit as an "annual heat input limit . . . that corresponds to the 10 percent calendar year annual capacity factor." Permit at 15 (Permit Condition 22.a.ii). On its face, the Permit is ambiguous as to the precise time frame associated with this "annual" limit. MCAQD's permit record, however, clarifies that "the 10% capacity factor is a calendar year limit." TSD at 5.[16] The calendar year annual heat input limits

[15] Essentially, Agua Fria is required to comply with one of the three options contained within Permit Condition 22: either (i) meet the limitations on heat input, (ii) meet the Rule 322 limitations on NO_x and CO by installing air pollution control equipment, or (iii) shut down the units. Viewed in the collective, these requirements *are* legally enforceable, in that the facility is legally obligated to satisfy one of these three options. In theory, the collective set of alternative compliance pathways could be used to restrict PTE, but only to the extent of the least restrictive of the three alternatives. For example, if the Rule 322 limitations and controls on NO_x and CO would result in a lower HAP PTE than the limitations on heat input, then the heat input limits could potentially be relied upon when calculating PTE. But the Permit does not specifically define the nature of any limits under Rule 322, and nothing in the permit record explains the effect, if any, the Rule 322 limitations or controls—which relate to NO_x and CO emissions, not HAP emissions—would have on the facility's HAP PTE. Thus, as currently written, the collective set of alternative requirements in Permit Condition 22 cannot be relied on to restrict HAP PTE.

[16] MCAQD further concedes: "The calendar-year 10% capacity factor could allow for a maximum capacity factor of 20% on a rolling 12-month basis." TSD at 5. Accordingly, MCAQD did not actually rely on the specific heat input limits in Permit Condition 22 when calculating PTE, but instead doubled the heat inputs (to correspond to a 20% annual capacity factor) when calculating PTE. *Id*.

in Permit Condition 22 are not enforceable as a practical matter and cannot be treated as part of the facility's design for the purpose of calculating or restricting PTE.

For the foregoing two reasons, the EPA grants this part of the Petition and objects to the Permit.

The Petitioner's remaining arguments are less persuasive. First, the Petitioner does not demonstrate that the Permit lacks sufficient monitoring to assure compliance with the requirements in Permit Condition 22. Permit Condition 22.a.iii states: "Compliance with the heat input limit shall be demonstrated by multiplying the higher heating value (MMBtu/mass or MMBtu/volume of gas) by the fuel use (mass or volume of gas)." Permit at 15. The Petitioner criticizes the Permit's allowance of different options when demonstrating compliance with the heat input limits. But the only "options" presented in Permit Condition 22.a.iii are to base emission calculations on either the mass or the volume of gas combusted. The Petitioner does not present any arguments or analysis explaining why these differing options are problematic from a compliance assurance perspective.

The Petitioner also argues that "Condition 22 does not specifically require the monitoring and recordkeeping of heat input or heat value of the fuels, and there is not clear requirement [sic] for reporting this data to MCAQD." Petition at 8. However, the Petitioner neglects to acknowledge that Permit Condition 22.a.iii specifically explains how heat input is calculated; again, this is determined by multiplying fuel use by the fuel's higher heating value. *See* Permit at 15. The Petitioner also neglects to acknowledge Permit Condition 47.f, which requires Agua Fria to "keep daily records of the type . . . and amount of fuel used in each steam unit and each combustion turbine." Permit at 35. The Petitioner also neglects to acknowledge Permit Condition 51, which requires the submission of semiannual monitoring reports. Permit at 36.[17] The Petitioner does not present any arguments for why any additional requirements are necessary, *e.g.*, to determine or define the precise heating values of various fuels. Overall, the Petitioner has not demonstrated that these permit conditions are collectively insufficient to assure compliance with the restrictions on heat input.

Second, the Petitioner is incorrect to suggest that the Permit must make clear that violations of these limits will result in the source being subject to major source requirements. *See* Petition at 8–9. As the EPA explained in the *SRP Agua Fria I Order* in response to a similar allegation from the same Petitioner:

> Finally, regarding the Petitioner's brief claim that the Permit must specify the consequences of violating the rolling 12-month emission limits, the Petitioner provides no citation to, or analysis of, any legal authority that would require a title V permit to contain such a provision. In general, title V permits are written to assure *compliance* with the terms of the permit and need not anticipate all possible results of *noncompliance* with permit terms. The consequences of any future noncompliance with existing permit terms are more properly handled through the enforcement process. *See In the Matter of Drummond Co., Inc., ABC Coke Plant*, Order on Petition No. IV-2019-7 at 8 (June 30, 2021). Accordingly, this portion of the Petition is denied.

[17] *See supra* note 8 and accompanying text.

SRP Agua Fria I Order at 19.[18] Thus, these additional arguments do not present a basis for the EPA's objection, and the EPA denies this part of the Petition.

Direction to MCAQD: MCAQD must ensure that any limitations that are considered when calculating the facility's HAP PTE are enforceable as a legal and practical matter. Specifically, if MCAQD wishes to base PTE calculations on restrictions on heat input of Units 1–6, then the Permit must be revised to state those restrictions in an enforceable manner. For example, the heat input limits currently embodied within Permit Condition 22.a.ii could be re-written as independently enforceable limits, as opposed to preconditions for qualifying for an exemption from RACT requirements.[19]

Additionally, any permit limits upon which MCAQD relies to restrict PTE must feature an appropriate compliance time period. For example, MCAQD could establish limitations on the heat input to Units 1–6 that are expressed as a rolling twelve-month limit (similar to the rolling 12-month emission limits discussed in Subclaim 2). The permit record should include a justification for why this frequency is appropriate for the emissions units at Agua Fria.

Alternatively, MCAQD could recalculate the source's HAP PTE from Units 1–6 without taking into account the restrictions in Permit Condition 22 that lack sufficient enforceability.

Subclaim 2: Emission Limitations

Petition Claim: In the second part of its claim, the Petitioner challenges MCAQD's position that facility-wide limitations on HAP emissions are sufficient to ensure that Agua Fria remains an area source of HAP. *See* Petition at 10–17. The Petitioner observes that Permit Condition 18.d establishes a 9.0 tons per year limit on any single HAP and 22.5 tons per year on combined HAP. *Id*. at 3, 12. The Petitioner argues that the Permit does not contain sufficient requirements to assure compliance with these HAP emission limits. *Id*. at 13 (citing 40 C.F.R. § 70.6(c)(1)). Put another way, the Petitioner argues that the Permit lacks conditions sufficient to "ensure practical enforceability of the 9.0 tons/year single HAP and 22.5 tons/year combined HAP limit of 22.5 tons/year emission limits of Condition 18.d of the Final Permit." *Id*. at 12.

The Petitioner addresses two permit terms that state how HAP emissions will be calculated for purposes of demonstrating compliance with the facility-wide HAP emission limits. *Id*. at 10 (citing Permit Conditions 47.a.ii and 48.d.i). The Petitioner observes that these provisions direct AFGS to

[18] The Petitioner's argument relies on 1995 EPA guidance, and it is worth noting that the Petitioner takes this guidance out of context. *See* Petition at 8–9 (citing Petition Ex. 9). This guidance relates to state rules related to general permits, and not to the required content of individual site-specific title V permits. The guidance does not state *that permits must make clear* that violations of the permit result in the source triggering major source requirements. Instead, the guidance discusses the consequences of noncompliance with synthetic minor limits established by rule. The guidance also elaborates on the discussion selectively quoted by the Petitioner, noting that "violating a 'synthetic minor' requirement . . . *may* result in the source being treated as a major source under Titles I and V.." Kathie A. Stein, Guidance an Enforceability Requirements for Limiting Potential to Emit through SIP and §112 Rules and General Permits at 9 (Jan. 25, 1995) (emphasis added); *see id*. at 10 (repeatedly qualifying this conclusion regarding the consequences of noncompliance with the word "may" and "potential enforcement").

[19] If MCAQD does not wish to make the heat input limits independently enforceable, and wants to continue to provide alternative compliance mechanisms—*e.g.*, the requirements in Rule 332 related to controlling NO_x and CO emissions—the Permit must clearly define those requirements and the permit record must quantify how such requirements on other pollutants have the effect of restricting the facility's HAP PTE. *See* 85 Fed. Reg. 73854, 73864 (Nov. 19, 2020).

calculate HAP emissions based on fuel usage and the appropriate emission factors found on EPA's WebFIRE online emission factor repository. *Id*. The Petitioner states that it conducted a review of WebFIRE and found that the repository relies on EPA's AP-42 emission factors for HAP. *Id*. at 11. Specifically, after inputting the Source Classification Code for "Internal Combustion Engines; Electric Generation; Natural Gas; Turbine," the Petitioner claims that there are 35 emission factors that include HAP such as formaldehyde, and the emission factors generally all refer to EPA's emission factors in AP-42, Section 3.1. *Id*. The Petitioner challenges several aspects of this compliance demonstration methodology.

First, the Petitioner offers general criticisms of using AP-42 emission factors. The Petitioner notes that the "Emission Factor Applicability" discussion on the WebFIRE webpage states, among other things, that "site-specific emissions estimates based on emission factors will include *significant data uncertainty. Such uncertainties can easily range over more than one order of magnitude in determining emissions from any one specific facility.*" *Id*. at 12 (quoting Petition Ex. 13[20]) (emphasis in Petition). Because Permit Conditions 47.a.ii and 48.d.i rely on AP-42 emission factors that the EPA states have significant uncertainty, the Petitioner claims that they are insufficient to ensure the practical enforceability of the HAP emission limits. *Id*.

Second, the Petitioner provides an "example of the inherent uncertainty in the EPA AP-42 emission factors," focusing on the AP-42 emission factor for formaldehyde. *Id*. at 13. The Petitioner states that WebFIRE identifies a formaldehyde emission factor of 7.10×10^{-4} lb/MMBtu for uncontrolled gas turbines[21] and that MCAQD relied on this factor in its HAP PTE calculations. *Id*. at 11 (citing TSD; Petition Ex. 12 (printout from WebFIRE detailing the formaldehyde emission factor)). The Petitioner further observes that the AP-42 emission factors for HAP from uncontrolled natural gas-fired stationary gas turbines "are derived from units operating at high loads (≥80 percent load) only." *Id*. at 13 (citing Petition Ex. 14, AP-42, Chapter 3, Table 3.1-3, note b).

The Petitioner claims that the EPA's background report for its AP-42 emission factors for Stationary Gas Turbines identifies a different formaldehyde emission factor for uncontrolled natural gas-fired gas turbines operating at all loads: 3.12×10^{-3} lb/MMBtu. *Id*. at 14 (citing Petition Ex. 15, Emission Factor Documentation for AP-42 Section 3.1 at Table 3.4-1). The Petitioner states that according to the EPA's AP-42 background report, the all-loads formaldehyde emission factor was based on 33 test results, which the Petitioner asserts "is more than the number of tests for any HAP in Table 3.4-1 of the Background Document." *Id*. at 14 (citing Petition Ex. 15).

Moreover, because the all-loads factor is 4.4 times higher than the high-loads factor, the Petitioner argues that if MCAQD used this all-loads formaldehyde emission factor in its calculation of formaldehyde emissions for Units 4, 5, and 6, then Agua Fria's PTE for formaldehyde could exceed the 10 tons per year single-HAP major source threshold. *Id*. at 14–15. Thus, the Petitioner concludes that "actual HAP emissions from the Agua Fria units could be higher than the EPA WebFIRE emission factor," and that emissions of formaldehyde "could exceed the major source threshold." *Id*. at 15.

[20] Petition Ex. 13 is a printout of an EPA webpage, available at https://cfpub.epa.gov/webfire/fire/view/Applicability.html.
[21] The Petitioner claims that neither the TSD nor Permit identify any controls for Units 4, 5, and 6, which are natural gas-fired turbines. Petition at 14 (citing TSD at 1).

Third, the Petitioner also argues that WebFIRE (and AP-42) does not include an emission factor for all of the HAP emitted by natural gas-fired turbines, including hexane. *Id*. at 16 (citing Petition Ex. 11 and AP-42 Section 3.1 at 3.1-13). The Petitioner argues that hexane is a component of the emissions from the combustion of natural gas. *Id*. For support, the Petitioner notes that EPA's AP-42 includes an emission factor for hexane from natural gas-fired boilers. *Id*. (citing AP-42 at Table 1.4-3). The Petitioner also claims that the Bay Area Air Quality Management District (BAAQMD) in California includes emission factors for several HAP that are not included in WebFIRE, including hexane.[22] *Id*. (citing Petition Ex. 17).[23]

In summary, the Petitioner asserts that the Permit "only requires emission factors in the EPA's WebFIRE to be used to assess compliance with the facility-wide HAP emission limits," and accordingly that the Permit does not identify emission factors for all HAP. *Id*. at 16. Thus, the Petitioner argues that the Permit "fails to ensure that all HAP are accounted for in determining compliance with the facility-wide HAP emission limits," rendering the Permit legally defective and insufficient to assure compliance with the facility-wide HAP emission limits. *Id*. at 16–17 (citing 40 C.F.R. § 70.6(c)(1)).

EPA Response: For the following reasons, the EPA grants in part and denies in part the Petitioner's request for an objection on this subclaim.

As MCAQD explains:

> In addition to the physical and operational limitations that are included in the permit, the permit further includes explicit facility-wide emissions limit [sic] for both total HAPs and any single HAP. These enforceable emission limits further ensure that HAP emissions will not exceed the major source thresholds for either total or single HAPs.

RTC at 8. Specifically, Permit Condition 18.d states: "The Permittee shall not allow facility-wide HAP emissions into the atmosphere to exceed the following limits:" 22.5 tons total HAP per rolling twelve-month period, and 9.0 tons of any single HAP per rolling twelve-month period. Permit at 12. The Permit further specifies how Agua Fria will demonstrate compliance with these limits:

> i. Pursuant to Permit Condition 18.e,[24] the Permittee shall generate a record each calendar month of hazardous air pollutant (HAP) emissions from all generating units for the previous month and for the preceding 12 consecutive months. The Permittee shall maintain a record of the emissions quantities for those monthly and rolling 12-month period total calculations, to demonstrate compliance with the emission limitations under Permit Condition 18.d.
> ii. Emissions calculations for all generating units, and pursuant to Permit Condition 18.e, shall be based on fuel usage and the appropriate emission factor from the EPA's online

[22] The Petitioner also claims that WebFIRE does not include emission factors for seven other HAP including "arsenic, beryllium, cadmium, manganese, mercury, propylene(propane), and xlyenes[sic]." Petition at 16.
[23] Exhibit 17 is the BAAQMD Toxic Air Contaminant Emission Factor Guidelines, Appendix A (Aug. 2020), available at *https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/tac_emission_factor_guidance_appendixa_august_2020-pdf.pdf?la=en*.
[24] Permit Condition 18.e states: "The 12-month rolling total facility-wide HAP emissions shall be calculated monthly by the end of the following month by summing the emissions over the most recent 12 calendar months. The Permittee shall keep this emission record on-site for inspection or submittal upon request." Permit at 12.

emission factor repository, retrieval, and development tool (WebFIRE) for each HAP for each fuel type that was used.

Id. at 32 (Permit Condition 47.a); *see also id*. at 35 (similar requirements for emergency engines in Permit Condition 48.d), 36 (similar requirements for gasoline storage and dispensing in Permit Condition 49.e), 37 (requirement in Permit Condition 51.a.vii that semiannual monitoring reports include "[e]missions calculations necessary to determine compliance with the facility-wide HAPs emission limits in Permit Condition 18.d").

The Petitioner has demonstrated that these conditions are insufficient to assure compliance with the facility-wide HAP emission limits because they "fail[] to ensure that all HAP are accounted for in determining compliance with the facility-wide HAP emission limits." Petition at 16.

The CAA requires the regulation of over 180 different HAP. *See* 42 U.S.C. § 7412(b)(1); 40 C.F.R. §§ 63.60–63.69. Not all of these HAP are emitted in appreciable quantities by all types of emission units. Thus, facilities do not necessarily need to quantify emissions of every single HAP in order to demonstrate (and assure) compliance with emission limits on total HAP, or on any single HAP, or to ensure that such limits are enforceable as a practical matter. However, to achieve these ends, a permit must require the quantification of any HAP emitted in significant enough quantities to be relevant to compliance with such limits. *See In the Matter of Hu Honua Bioenergy*, Order on Petition No. IX-2011-1 at 18–19 (Feb. 7, 2014) (requiring a state to "ensure that the source-wide total HAP and individual HAP emission limits of less than 25 tpy and 10 tpy, respectively . . . are enforceable" by revising the permit to clarify that "all actual individual HAP and total HAP emissions must be considered in determining compliance with those limits.").

Here, the Permit does not specifically identify which HAP are limited, or which must be quantified, referring instead generically to "total HAPs" and "any single HAP."[25] Nonetheless, the Permit's compliance demonstration requirements implicitly result in the inclusion (and exclusion) of specific HAP in the emission calculations used to demonstrate compliance with the HAP limits. Specifically, because the Permit requires Agua Fria to use "the appropriate emission factor from the EPA's online emission factor repository, retrieval, and development tool (WebFIRE) for each HAP for each fuel type that was used," the Permit only requires Agua Fria to quantify emissions of HAP for which WebFIRE contains an emission factor. Permit at 32 (Permit Condition 47.a.ii). As relevant to natural gas-fired turbines, WebFIRE does not include emission factors for hexane. Thus, the Permit imposes no obligation for Agua Fria to quantify emissions of hexane from the natural gas-fired turbines (or other HAP that have no emission factor on WebFIRE).

Whether this is a problem depends largely on the presence (and magnitude) of hexane emissions from the facility's natural gas-fired turbines. Although the EPA has not yet developed an AP-42 emission factor for hexane from natural gas-fired turbines, the Petitioner is correct that hexane can be emitted from both boilers and turbines combusting natural gas.[26] Although the EPA does not expect hexane

[25] Although the Permit is not explicit as to which HAP are covered by the emission limits in Permit Condition 18.d, the term "*any* single HAP" is naturally read to limit the emissions of *all* HAP, without exclusions.

[26] Notably, the EPA does have an AP-42 emission factor for hexane from natural gas-fired boilers. Based on this factor, MCAQD estimates that hexane is the source's single highest-emitted HAP, based on emissions from the facility's natural gas-fired boilers alone (*i.e.*, excluding hexane emissions from all of Agua Fria's turbines). *See* Petition Ex. 7 and RTC at 7.

emissions from natural gas-fired turbines to equal that from boilers (due to significant differences in how these types of units operate), the limited available data suggests that hexane may be emitted in substantial quantities from natural gas-fired turbines. For example, emission factors adopted by BAAQMD (and cited by the Petitioner) estimate that hexane is the third-largest HAP emitted from natural gas-fired turbines.[27] Additionally, National Emissions Inventory data evaluated during the EPA's latest Risk and Technology Review for stationary combustion turbines suggested that hexane could be the first-, second-, or third-highest-emitted HAP from natural gas-fired turbines.[28]

The permit record contains no support for MCAQD's assumption to the contrary—that hexane will not be emitted from Agua Fria's natural gas-fired turbines, and consequently that hexane emissions do not need to be quantified when demonstrating compliance with the facility-wide HAP emission limits.

Overall, given the existing data suggesting that gas-fired turbines may emit hexane in appreciable quantities and the lack of any evidence to the contrary in the permit record, the Permit cannot be said to assure compliance with emission limits on this HAP (or combined HAP) without requiring Agua Fria to quantify hexane from all units when demonstrating compliance with those limits. Put another way, the Permit's failure to require Agua Fria to quantify hexane emissions from gas-fired turbines renders the single-HAP and combined-HAP emission limits unenforceable as a practical matter and thus ineffective to limit PTE.[29] The EPA therefore grants this part of the Petition.

Beyond this issue, the Petitioner has not demonstrated that the Permit's reliance on WebFIRE fails to assure compliance with the facility-wide emission limits on single and combined HAP. The Petitioner first offers general criticisms of the Permit's reliance on emission factors in WebFIRE—which are based on AP-42—due to the inherent uncertainty associated with AP-42 emission factors. *See* Petition at 11–12. As the EPA has repeatedly explained, although AP-42 emission factors are not the preferred means of demonstrating compliance with permit limits in many situations, determining whether a particular emission factor is sufficient to assure compliance with a particular emission limit is necessarily a fact-specific inquiry. *E.g.*, *In the Matter of Suncor Energy (U.S.A.), Inc., Commerce City Refinery, Plant 2 (East)*, Order on Petition Nos. VIII-2022-13 & VIII-2022-14 at 24–27 (July 31, 2023) (citing and discussing various other orders). Thus, to demonstrate a basis for the EPA's objection to a title V permit, a petitioner must provide some fact-specific analysis that demonstrates that specific emission factors are insufficient to assure compliance with specific applicable requirements or permit terms. Simply reciting the EPA's general cautionary statements regarding AP-42 is insufficient to demonstrate that any particular application of AP-42 is impermissible or insufficient to assure compliance. Therefore, the Petitioner's general criticisms of AP-42 fail to demonstrate a basis for the EPA's objection to the Permit.

The Petitioner's only specific challenge to a WebFIRE/AP-42 emission factor concerns the emission factor for formaldehyde from uncontrolled natural gas-fired turbines (Agua Fria Units 4, 5, and 6). The

[27] The n-hexane emission factor adopted by BAAQMD is based on the California Air Toxics Emission Factor (CATEF). *See* Petition Ex. 17 at 10. The EPA offers no judgment on the technical validity or reliability of the specific numerical emission factors adopted by BAAQMD and CATEF.

[28] *See* Memorandum, Emissions Data Used for Stationary Combustion Turbines Risk and Technology Review (RTR) Modeling Files at 6, 7, 8 (March 4, 2019), available at *https://www.regulations.gov/document/EPA-HQ-OAR-2017-0688-0067*.

[29] The Petitioner has not demonstrated that the same conclusion is necessary with respect to the other HAP identified by the Petitioner. The Petitioner offers no substantive discussion of the presence or magnitude of emissions of these other HAP from natural gas-fired turbines. *See* Petition at 16.

Petitioner is correct that, *if* the source were required to calculate formaldehyde emissions for Units 4, 5, and 6 using the all-loads emission factor from the EPA's AP-42 background document—instead of the high-loads emission factor from WebFIRE and AP-42 itself—then the facility's reported emissions would be higher. However, the Petitioner does not directly allege, much less demonstrate, *why* the facility should be required to use the all-loads emissions factor. The Petitioner does not describe or analyze the operations of these turbines or present any type of fact-specific basis that would demonstrate that the all-loads factor is more representative or reliable than the high-loads factor.[30]

It is also worth noting that the EPA did not adopt the all-loads emission factor into the final AP-42 section for combustion turbines (or into WebFIRE). Instead, the EPA adopted the high-loads factor for this type of turbine. As explained in the EPA's background documentation for AP-42 Section 3.1 Stationary Gas Turbines, "Gas turbines are typically operated at high loads . . . to achieve maximum thermal efficiency and peak combustor zone flame temperatures." *See* Petition Ex. 15 at 3.6. The Petitioner presents no evidence to suggest that the Units 4, 5, and 6 turbines do not operate at high loads. The Petitioner also ignores the fact that the Permit is intended to restrict operations of the Agua Fria turbines to operating at 10 percent annual capacity;[31] this restriction suggests that these turbines are used as peaking units that run intermittently but at high operating loads.

Overall, the Petitioner fails to demonstrate that it was inappropriate for MCAQD to rely on the EPA's default high-loads emission factor for purposes of demonstrating compliance with the facility-wide limits on HAP emissions (or in initially calculating formaldehyde PTE). Thus, the EPA denies this part of the Petition.

Direction to MCAQD: MCAQD must ensure that the facility quantifies all relevant HAP from all emissions units when demonstrating compliance with the facility-wide single-HAP and combined-HAP emission limits. Specifically, MCAQD cannot, without further support, presume that hexane is not emitted from these turbines. Unless MCAQD can sufficiently justify its decision not to require quantification of hexane emissions from these turbines (*e.g.*, based on testing or similarly reliable data or analysis), MCAQD must revise the Permit to require Agua Fria to quantify hexane when demonstrating compliance with the facility-wide HAP limits. The EPA appreciates the challenges in doing so, given the lack of EPA-published emission factors for hexane from natural gas-fired turbines. MCAQD may wish to consider requiring stack testing to obtain representative site-specific emission factors. Or, to the extent MCAQD considers other preexisting emission factors sufficiently reliable and representative to use for this purpose, it must justify this decision in the permit record.

[30] The only portion of the Petition that might be read to suggest that the all-loads factor is preferable is the Petitioner's statement that the all-loads emission factor for formaldehyde was based on more test results than any other factors. This argument may have been intended to suggest that the all-loads factor is more reliable or accurate than the high-loads factor. But if so, this argument neglects to acknowledge that both emission factors have the same "A" rating, meaning that both factors are similarly reliable. The more important issue is whether one of these factors is more representative of Agua Fria's operations than the other.

[31] See the EPA's response to Subclaim 1 for more discussion about the limitations on operating capacity.

V. CONCLUSION

For the reasons set forth in this Order and pursuant to CAA § 505(b)(2) and 40 C.F.R. § 70.8(d), I hereby grant in part and deny in part the Petition as described in this Order.

Dated: JAN 3 0 2024

Michael S. Regan
Administrator