BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Petition No. VIII-2024-18

In the Matter of

Suncor Energy (U.S.A.), Inc., Commerce City Refinery,
Plant 1 (West) & Plant 3 (Asphalt Unit)

Permit No. 96OPAD120

Issued by the Colorado Department of Public Health and Environment

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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 September 6, 2024 (the Petition) from Center for Biological Diversity and Sierra Club (the Petitioners), 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. 96OPAD120 (the Permit) issued by the Colorado Department of Public Health and Environment (CDPHE) to the Suncor Energy (U.S.A.), Inc., Commerce City Refinery, Plant 1 (West) & Plant 3 (Asphalt Unit) (Suncor Plants 1 and 3) in Adams County, Colorado. The Permit was issued pursuant to title V of the CAA, 42 U.S.C. §§ 7661–7661f, and 5 Code of Colorado Regulations (CCR) 1001-5, Part C. *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 and objects to the issuance of the Permit. Specifically, the EPA grants in part and denies in part Claims 1 and 3 and grants the rest of the claims.

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. The state of Colorado submitted a title V program governing the issuance of operating permits in 1993. The EPA granted interim approval of Colorado's

title V operating permit program in January 1995 and full approval in August 2000. *See* 60 Fed. Reg. 4563 (Jan. 24, 1995) (interim approval); 61 Fed. Reg. 56368 (Oct. 31, 1996) (revising interim approval); 65 Fed. Reg. 49919 (Aug. 16, 2000) (full approval). This program is codified in 5 CCR 1001-5, Part C.

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 and objects to the issuance of a permit, 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. If a final permit has been issued prior to the EPA's objection, the permitting authority should determine whether its response to the EPA's objection requires 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 revision 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).

C. New Source Review

The major New Source Review (NSR) program encompasses two core types of preconstruction permit requirements for major stationary sources. Part C of title I of the CAA establishes the Prevention of Significant Deterioration (PSD) program, which applies to new major stationary sources and major modifications of existing major stationary sources for pollutants for which an area is designated as

attainment or unclassifiable for the national ambient air quality standards (NAAQS) and for other pollutants regulated under the CAA. 42 U.S.C. §§ 7470–7479. Part D of title I of the Act establishes the major nonattainment NSR (NNSR) program, which applies to new major stationary sources and major modifications of existing major stationary sources for those NAAQS pollutants for which an area is designated as nonattainment. 42 U.S.C. §§ 7501–7515. The EPA has two largely identical sets of regulations implementing the PSD program. One set, found at 40 C.F.R. § 51.166, contains the requirements that state PSD programs must meet to be approved as part of a state implementation plan (SIP). The other set of regulations, found at 40 C.F.R. § 52.21, contains the EPA's federal PSD program, which applies in areas without a SIP-approved PSD program. The EPA's regulations specifying requirements for state NNSR programs are contained in 40 C.F.R. § 51.165.

While parts C and D of title I of the Act address the major NSR program for major sources, section 110(a)(2)(C) addresses the permitting program for new and modified minor sources and for minor modifications to major sources. The EPA commonly refers to the latter program as the "minor NSR" program. States must also develop minor NSR programs to, along with the major source programs, attain and maintain the NAAQS. The federal requirements for state minor NSR programs are outlined in 40 C.F.R. §§ 51.160 through 51.164. These federal requirements for minor NSR programs are less prescriptive than those for major sources, and, as a result, there is a larger variation of requirements in EPA-approved state minor NSR programs than in major source programs.

The EPA has approved Colorado's PSD, NNSR, and minor NSR programs as part of its SIP. *See* 40 C.F.R. § 52.320(c) (identifying EPA-approved regulations in the Colorado SIP). Colorado's major and minor NSR provisions, as incorporated into Colorado's EPA-approved SIP, are contained in portions of 5 CCR 1001-5, Parts B and D.

III. BACKGROUND

A. The Suncor Plants 1 and 3 Facility

Suncor Energy (U.S.A.), Inc. owns and operates the Commerce City Refinery, located north of Denver in Adams County, Colorado. The refinery consists of Plants 1 and 3 (also known as the West Plant and Asphalt Unit) as well as Plant 2 (also known as the East Plant). The entire refinery constitutes a single "major source" for title V purposes but operates under separate title V permits. The current Petition specifically challenges the title V permit for Plants 1 and 3. Suncor Plants 1 and 3 form an integrated petroleum refinery producing a wide range of finished petroleum products, including gasoline, jet fuel, diesel fuel, fuel oil, liquified petroleum gas, vacuum residue, and sulfur. The facility emits various pollutants from numerous emission units, including (as relevant here) particulate matter (PM), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and sulfur dioxide (SO_2). In addition to title V, the facility is subject to various other CAA requirements, including New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants (NESHAP), NSR preconstruction permitting requirements, and SIP requirements.

B. Permitting History

Suncor first obtained a title V permit for Plants 1 and 3 in 2004, which was renewed in 2012. On September 16, 2016, Suncor applied to renew the Plants 1 and 3 permit. Before processing that

application for a renewal permit (which is the subject of the present Petition), CDPHE processed two other permit actions that bear noting.

First, CDPHE finalized a revision to the title V permit for Suncor Plants 1 and 3 on February 22, 2018. On April 17, 2018, the EPA received a petition challenging the issuance of that revised permit. The EPA issued an order denying that petition on December 20, 2018. *In the Matter of Suncor Energy*, Order on Petition No. VIII-2018-5 (Dec. 20, 2018). The issues in that order are not directly relevant to the present title V renewal permit or Petition.

Second, CDPHE processed a renewal of the title V permit for Suncor Plant 2. Following an objection by EPA Region 8 on March 25, 2022, CDPHE finalized that permit on September 1, 2022. On October 11, 2022, the EPA received two petitions challenging the issuance of that permit. The EPA issued an order granting in part and denying in part those petitions on July 31, 2023. *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 (July 31, 2023) (*Suncor Plant 2 Order*), available at *https://www.epa.gov/system/files/documents/2023-08/Suncor%20Plant%202%20Order_07-31-23.pdf*. The issues in one of those petitions and the resulting *Suncor Plant 2 Order* overlap significantly with the issues in the current Petition, as discussed further in Section IV of this Order.

Regarding the renewal permit for Plants 1 and 3 (which is the subject of the present Petition), on May 9, 2022, CDPHE published public notice of a Draft Permit, which was subject to a public comment period that ran until July 13, 2022. On May 24, 2024, CDPHE submitted the Proposed Permit, along with its responses to public comments (RTC),[10] to the EPA for its 45-day review. The EPA's 45-day review period ended on July 8, 2024, during which time the EPA did not object to the Proposed Permit. CDPHE issued the final title V renewal permit for Suncor Plants 1 and 3 on July 9, 2024. The Permit was accompanied by a final Technical Review Document (TRD), also dated July 9, 2024.

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 expired on July 8, 2024. Thus, any petition seeking the EPA's objection to the Permit was due on or before September 6, 2024. The Petition was submitted on September 6, 2024. Therefore, the EPA finds that the Petitioners timely filed the Petition.

[10] CDPHE provided its responses to public comments in separate documents, each of which generally responds to comments submitted by a different party. Unless otherwise noted, references in Section IV of this Order to CDPHE's "RTC" address CDPHE's responses to comments submitted by Earthjustice on behalf of the Elyria-Swansea Neighborhood Association, Globeville, Elyria-Swansea Coalition, Colorado Latino Forum, GreenLatinos, Center for Biological Diversity, and Sierra Club.

D. Environmental Justice

The EPA used EJScreen[11] to review key demographic and environmental indicators within a five-kilometer radius of the Suncor Commerce City Refinery. This review showed a total population of approximately 69,262 residents within a five-kilometer radius of the facility, of which approximately 71 percent are people of color and 36 percent are low income. In addition, the EPA reviewed the EJScreen Environmental Justice Indexes, which combine certain demographic indicators with 13 environmental indicators. The following table identifies the Environmental Justice Indexes for the five-kilometer radius surrounding the facility and their associated percentiles when compared to the rest of the State of Colorado.

EJ Index	Percentile in State
Particulate Matter 2.5	95
Ozone	92
Nitrogen Dioxide	88
Diesel Particulate Matter	95
Toxic Releases to Air	93
Traffic Proximity	95
Lead Paint	92
Superfund Proximity	96
RMP Facility Proximity	96
Hazardous Waste Proximity	96
Underground Storage Tanks	89
Wastewater Discharge	93
Drinking Water Non-Compliance	83

In the Petition, the Petitioners assert that "each of the grounds for objection discussed in this petition must be viewed through the lens of environmental justice, consistent with Executive Order 12898." Petition at 11. The Petitioners specifically argue that "there is a compelling need for EPA to devote increased, focused attention to ensure that the permit complies with all Title V requirements . . . ." *Id*. (*citing In the Matter of United States Steel Corp., Granite City Works*, Order on Petition No. V2011-2 at 4–6 (Dec. 3, 2012) (*U.S. Steel Granite City Works II Order*).

The EPA is committed to advancing environmental justice and incorporating equity considerations into all aspects of the agency's work.[12] The EPA appreciates and takes seriously the Petitioners' concerns regarding the potential impacts of emissions from the Suncor Refinery on communities living near the facility, as well as the Petitioners' desire that the facility's title V permit contains sufficient provisions to comply with the CAA. The EPA has thoroughly reviewed and evaluated the Petition, giving focused

[11] 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*. The information herein is based on an October 15, 2024, report using EJScreen version 2.3.

[12] *See, e.g., U.S. Steel Granite City Works II Order* at 5; Executive Order 12898 (Feb. 11, 1994). More recently, Executive Orders 13990, 14008, and 14096, signed by President Biden on January 20, 2021, January 27, 2021, and April 21, 2023, respectively (among other Executive Orders), affirm the federal government's commitment to environmental justice.

attention to the adequacy of permit conditions. As explained in Section IV of this Order, the EPA is granting the Petition where the Petitioners have demonstrated that the Permit fails to comply with the CAA.

Given the environmental justice concerns that CDPHE has previously identified associated with this facility, the EPA recommends that in responding to this order CDPHE undertake enhanced outreach and community engagement throughout its permitting process. Doing so in a manner consistent with 40 C.F.R. § 70.7(h) will promote the protection of public health in these communities and will further the goals of the title V permitting program.

IV. EPA DETERMINATIONS ON PETITION CLAIMS

A. Claim 1: The Petitioners Claim That "EPA Must Object to the Permit's Reliance on the AP-42 Section 1.4 Emission Factor for Particulate Matter Because EPA Has Already Determined that CDPHE Had Not Justified Reliance on this Factor, the Factor Fails to Ensure Compliance."

Petition Claim: The Petitioners' first three claims address permit terms that allow Suncor to demonstrate compliance with emission limits by calculating emissions using the EPA's AP-42 emission factors.[13] *See* Petition at 13–30. Before presenting these individual claims, the Petitioners raise various general issues related to the use of AP-42. *See id.* at 13–16.

The Petitioners observe the EPA's statement (in the introduction to AP-42) that AP-42 emission factors represent long-term average values that may differ significantly from source to source, and that the EPA advises against using the emission factors for compliance determinations. *Id*. at 13–14. Additionally, the Petitioners state that the EPA affirmed this position and cautioned against using AP-42 emission factors in a November 2020 Enforcement Alert,[14] which characterized AP-42 emission factors as a "last resort." *Id*. at 14–15.

The Petitioners acknowledge that, in the *Suncor Plant 2 Order*, the EPA stated that determining what emission factor to apply to a unit "is inherently a context specific, case-by-case inquiry." *Id*. at 15 (quoting *Suncor Plant 2 Order* at 25). The Petitioners address two threshold issues concerning the burdens on the Petitioners and CDPHE related to this case-by-case inquiry. *Id*. First, the Petitioners assert that "[w]hen EPA evaluates whether CDPHE has adequately responded to Petitioners' comments, EPA must do so in light of the fundamental lack of any evidence that CDPHE analyzed the reliability of proposed emission factors or whether onsite measurements were required to assure compliance." *Id*. Second, the Petitioners assert that "in evaluating whether Petitioners have met their demonstration burden, EPA must consider the limited information available to Petitioners compared to CDPHE." *Id*. at 15–16. The Petitioners claim that requiring more specific proof than that provided in the

[13] AP-42 is EPA's compilation of air emission factors. AP-42 contains emission factors and process information for more than 200 air pollution source categories, developed and compiled from source test data, material balance studies, and engineering estimates. Specific sections of AP-42 may be accessed at *https://www.epa.gov/airemissions-factors-and-quantification/ap-42-compilation-air-emissions-factors*.

[14] EPA, Enforcement Alert: EPA Reminder About Inappropriate Use of AP-42 Emission Factors, Pub. No. EPA 325-N-20-001 (November 2020) ("AP-42 Enforcement Alert"), available at *https://www.epa.gov/sites/production/ files/2021-01/documents/ap42-enforcementalert.pdf*.

Petition "would be an insurmountable obstacle" for them. *Id*. at 16. The Petitioners allege that the lack of more specific monitoring data in the public record renders them unable "to determine (1) how close Suncor's emissions are to its permitted limits, or (2) estimate whether correcting an emission factor is likely to trigger a permit exceedance." *Id*.

In Claim 1, the Petitioners claim that CDPHE has not adequately justified the Permit's reliance on an AP-42 Section 1.4 emission factor for PM emissions from heaters, boilers, and the Sulfur Recovery Unit tail gas incinerator. *See id*. at 16–22. According to the Petitioners, 11 permit terms rely on this emission factor to assure compliance with applicable PM emission limits on a variety of emission units. *Id*. at 21 (citing Permit Conditions 11.1, 13.1, 14.1, 15.1, 16.1, 18.1, 19.1, 20.1.1, 21.1, 27.1, and 28.2). The Petitioners claim that reliance on this emission factor results in the Permit failing to include "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit." *Id*. at 20–21 (quoting 40 C.F.R. § 70.6(c)(1); 5 CCR 1001-5, Part C, V.C.16.a). The Petitioners also claim that CDPHE's "permitting record fails to contain a sufficient 'statement that sets forth the legal and factual basis for the draft permit conditions' justifying the use of unreliable AP-42 emission factors." *Id*. at 21 (quoting 40 C.F.R. § 70.7(a)(5)).

According to the Petitioners: "(1) EPA already determined in the East Plant Order that CDPHE had not adequately justified its reliance on those emissions factors, and (2) CDPHE has not provided any further justification for relying on those emission factors here." *Id*. at 16.[15]

The Petitioners note that the AP-42 emission factor for PM is rated "D," which is considered below average and unreliable. *Id*. at 17, 20. The Petitioners further observe that in the *Suncor Plant 2 Order*:

> *First*, EPA agreed with the petitioners that refinery gas may differ significantly from natural gas and, as a result, "emissions of PM (and other pollutants) may vary significantly between natural gas and refinery fuel gas." Specifically, EPA noted PM emissions could vary based on several factors, including "sulfur content in the refinery fuel gas" and "presence of other emission controls on individual combustion units, both of which could contribute to increased condensable PM formation."
>
> *Second*, EPA rejected CDPHE's justification for concluding that the PM factor was "conservative." EPA noted that while CDPHE claimed that past performance tests for Title V permits showed PM emissions below the Section 1.4 factor, (1) CDPHE did not "identify or describe any of the data," and (2) it was not necessarily relevant because it relies on units burning natural gas instead of refinery fuel gas.
>
> *Third*, EPA noted that the total PM emission factor in AP-42 is rated "D" in large part [due] to condensable PM emissions, and "condensable PM emissions are most likely to be impacted by any differences between natural gas combustion and refinery fuel gas combustion."

[15] The Petitioners claim that the EPA's conclusions in the *Suncor Plant 2 Order* apply here "in full force . . . because Petitioners are challenging use of the same emission factor on the same category of emission units." Petition at 18. The Petitioners also assert that "the bulk of CDPHE's response is copied almost verbatim from the justification in the East Plant Response to Comments, which EPA expressly rejected in the East Plant Order." *Id*.

Id. at 17 (quoting *Suncor Plant 2 Order* at 37); *see id*. at 20 (similar arguments "largely mirroring the discussion in the East Plant petition" that gave rise to the EPA statements quoted above).

Here, the Petitioners recognize CDPHE's statement that it "investigated whether the AP-42 emission factor was consistent with other available data for [refinery fuel gas]-fired combustion sources"—specifically, "the USEPA WebFire database and RACT/BACT/LAER Clearinghouse (RBLC) BACT determinations"—and found emission factors "ranging from 7.14 to 8.70 lb/MMscf in those databases, versus 7.6 lb/MMscf in AP-42." *Id*. at 19 (quoting RTC at 15). The Petitioners assert that the data that CDPHE relies upon does not support the state's conclusion, since CDPHE "found boilers and process heaters with emission factors more than 14% higher than the AP-42 factor, but it does not explain why the lower AP-42 factor is more appropriate here." *Id*. The Petitioners also state that "the results of this review are not in the permit record and the public is required to merely accept the CDPHE's conclusions." *Id*. More specifically, the Petitioners assert: "CDPHE does not explain (i) how many records it found, (ii) how units were reviewed, (iii) how much lower the performance test results were than the AP-42 test results, or (iv) whether any performance tests reviewed showed PM emissions higher than the AP-42 estimate." *Id*. Additionally, the Petitioners contend that they were unable to recreate CDPHE's results using the same databases. *Id*. The Petitioners instead state that they "identified at least one PM emission factor included in those databases that was substantially higher than those identified by CDPHE." *Id*. (citing Petition Ex. 14).

The Petitioners also observe that in the *Suncor Plant 2 Order*:

> EPA noted that CDPHE's general justification that it relies on AP-42 factors because of "the infeasibility of conducting stack tests" is not necessarily applicable to the fuel gas combustion devices at-issue in the requested objection. Specifically, EPA explained that "[i]t seems likely that stack testing may be possible for at least some of the affected units, and the record contains no explanation for why CDPHE rejected this approach for these units."

Id. at 17 (quoting *Suncor Plant 2 Order* at 37). Here, the Petitioners assert that "CDPHE does not even address or consider requiring stack tests for these units," which the Petitioners claim are likely available for most if not all of the emission units at issue. *Id*. at 19–20.

The Petitioners address other portions of CDPHE's RTC. *See id.* at 18–19. The Petitioners question the basis for CDPHE's statement that PM emissions are generally related to poor combustion. *Id*. at 18. The Petitioners also contest the relevance of fuel-use restrictions and a separate limit on PM emissions in Permit Condition 36.1, which the Petitioners state would allow significantly higher emissions than contemplated by AP-42 Section 1.4. *See id*. at 18–19.

The Petitioners conclude that the EPA must object to the Permit, and that the EPA should direct CDPHE to require regular performance tests to establish accurate emission factors for PM, and then to supplement those stack tests with parametric monitoring. *Id*. at 21–22.

EPA Response: For the following reasons, the EPA grants in part and denies in part this Petition claim and objects to the issuance of the Permit.

All title V permits must include testing, monitoring, recordkeeping, and reporting requirements that are sufficient to assure compliance with all applicable requirements and permit terms. 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1); 5 CCR 1001-5, Part C, V.C.16.a.

The Petitioners identify 11 permit terms that direct Suncor to use the AP-42 Section 1.4 emission factor for PM emissions from natural gas combustion when calculating PM and PM_{10} emissions from Suncor's emission units. Of these 11 permit terms, only nine permit terms rely on that emission factor to assure compliance with legally binding limitations on PM and PM_{10} emissions. Specifically, Conditions 13.1, 14.1, 15.1, 16.1, 18.1, 19.1, 20.1.1, 21.1, and 27.1 all impose a similar set of requirements on various combustion units at Plants 1 and 3. For each of these conditions, the Permit specifies limitations on PM and PM_{10} emissions, and indicates, for example:

> For PM [and] PM10 . . . , compliance with the annual limitations shall be monitored by calculating monthly emissions from each boiler using the emission factors in the above table (from AP-42, Section 1.4. dated 7/98, Table 1.4-2, converted to lb/MMBtu by dividing by 1020 Btu/scf as noted in footnote a) and the monthly fuel consumption (as required by Condition 13.5) in the equation below:
>
> Emissions (Tons/Month) = [EF (lbs/MMBtu) x fuel usage (MMBtu/month)]/2000 (lbs/ton)
>
> Monthly emissions from each boiler shall be calculated by the end of the subsequent month and used in a twelve-month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

Permit Condition 13.1.1 (emphasis removed); *see* Permit Conditions 14.1, 15.1, 16.1, 18.1, 19.1, 20.1.1, 21.1, and 27.1.

For these nine permit terms, the Petitioners have demonstrated that the record is unclear regarding whether this emissions calculation methodology based on the AP-42 Section 1.4 emission factor is sufficient to assure compliance with the relevant PM and PM_{10} emission limits.

As the Petitioners observe, the EPA confronted a similar claim in the *Suncor Plant 2 Order*, which involved challenges to the use of the same AP-42 emission factor for similar types of units that combust refinery fuel gas. *See Suncor Plant 2 Order* at 35–37. There, the EPA concluded that "the Petitioners have demonstrated that it may not be appropriate for the units combusting refinery fuel gas to rely on the AP-42 emission factor associated with combusting natural gas." *Id*. at 37. The discussion supporting the EPA's conclusion in that order is instructive here. *See id*. at 36–37. For present purposes, the following statements are particularly relevant:

> CDPHE did not adequately justify its conclusion that the PM emission factor in AP-42 is expected to be conservative. CDPHE does not identify or describe any of the data upon which this conclusion is based.
> ***

> Additionally, it is not clear whether CDPHE's response . . . that AP-42 emission factors are used due to the infeasibility of conducting stack tests . . . is relevant or applicable to the combustion sources at issue in Claim 3. It seems likely that stack testing may be possible for at least some of the affected units, and the record contains no explanation for why CDPHE rejected this approach for these units.
> ***
> CDPHE must amend the permit record and/or Permit to ensure that the Permit assures compliance with the relevant PM emission limits . . . . CDPHE may be able to accomplish this by further explaining why the AP-42 emission factor for PM in Section 1.4, Table 1.4-2 is sufficiently representative of emissions from the cited emission units (or is sufficiently conservative), addressing the issues discussed in EPA's Response. CDPHE should also consider whether it is necessary to revise the Permit to include additional stack testing or other means of obtaining a more representative emission factor.

Id. at 37.

CDPHE's record associated with the Permit for Plants 1 and 3 is similar, but not identical, to the record the EPA found objectionable in the *Suncor Plant 2 Order*. The most important difference is that CDPHE's RTC for Plants 1 and 3 includes the following (which was absent from the Plant 2 permit record the EPA previously considered):

> The Division also investigated whether the AP-42 emission factor was consistent with other available data for RFG-fired combustion sources. For refinery process heaters and boilers not equipped with SCR, the USEPA WebFire database and RACT/BACT/LAER Clearinghouse (RBLC) BACT determinations were in agreement with the AP-42 emission factor (ranging from 7.14 to 8.70 lb/MMscf in those databases, versus 7.6 lb/MMscf in AP-42). There were no other publicly available emission factors or performance test data for PM emissions for flares that could be evaluated.

RTC at 15. This additional information provided by CDPHE could *potentially* support CDPHE's decision to rely on this AP-42 emission factor for purposes of demonstrating compliance, particularly *if* the underlying data represented actual stack test results from refinery process heaters and boilers that were similar in design to those at Suncor and which combusted refinery fuel gas with similar characteristics as the gas combusted at Suncor. However, as the Petitioners indicate, neither the EPA nor the public can assess whether the data upon which CDPHE relies is representative of emissions from Suncor's combustion units at issue here, since CDPHE did not provide the data in the permit record. From CDPHE's description of the data, it seems unlikely that all of the data would support CDPHE's reliance on this emission factor. For example, it is not clear how information from the RBLC clearinghouse—which generally compiles final decisions about e*mission limits* established *prior to* the construction or modification of the emission units at issue—would provide any information reflecting actual *stack test results* from similarly situated boilers or heaters.

The remainder of CDPHE's RTC on this issue appears nearly identical to the RTC that the EPA found objectionable in the *Suncor Plant 2 Order*, and suffers the same flaws. *See* RTC at 13–14; *Suncor Plant 2 Order* at 36–37; Petition Ex. 13.[16]

Notably, as the Petitioners state, Petition at 19–20, CDPHE does not provide any direct explanation for why CDPHE does not consider it necessary (or, for example, feasible) to require stack testing as a means of establishing a more representative emission factor for PM from the boilers, heaters, and other combustion units at issue in Claim 1. Instead, CDPHE's RTC regarding PM cross-references the state's RTC regarding NO_x, which addresses the feasibility of conducting stack tests for NO_x emissions from two specific units (among other things). *See* RTC at 18, 16–17.[17] The EPA's response to Claim 2 explains why the EPA does not view that part of CDPHE's discussion to be persuasive with respect to the NO_x limits at issue in Claim 2. *See infra* pp. 17–20. To the extent CDPHE intended to rely on a similar line of reasoning to dismiss the feasibility of stack testing for PM emissions at the boilers, heaters, and other combustion units at issue in Claim 1, the EPA's response to Claim 2 also applies here.

Overall, the record is inadequate for the EPA to determine whether the Permit contains sufficient provisions to assure compliance with the PM and PM_{10} emission limits in Permit Conditions 13.1, 14.1, 15.1, 16.1, 18.1, 19.1, 20.1.1, 21.1, and 27.1. Therefore, the EPA grants the Petition with respect to those permit terms. 40 C.F.R. § 70.8(c)(3)(ii).

In contrast to the nine permit terms that rely on AP-42 emission factors as the primary means of demonstrating compliance with PM and PM_{10} emission limits, Conditions 11.1 and Condition 28.2 (cited by the Petitioners) do not include any limitations on PM emissions. Instead, the Permit states, for example: "Note that PM [and] PM_{10} . . . emission limits are not included in the permit for process heater H-6 but emissions from these pollutants shall be calculated and reported on revised APENs submitted for the unit." Permit Condition 11.1; *see* Permit Condition 28.2. Because there are no underlying applicable requirements (*i.e.*, emission limits) that rely on the AP-42 emission factors for PM for compliance assurance, any problems associated with the AP-42 emission factors for PM would not cause the Permit to fail to assure compliance with any applicable requirements. Thus, the EPA denies Claim 1 with respect to those two permit terms.

Direction to CDPHE: CDPHE must amend the permit record and/or Permit to ensure that the Permit assures compliance with the relevant PM and PM_{10} emission limits on the boilers, heaters, and other combustion sources governed by Permit Conditions 13.1, 14.1, 15.1, 16.1, 18.1, 19.1, 20.1.1, 21.1, and 27.1.

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[16] The RTC contains one additional line of reasoning, which was not present in the Suncor Plant 2 record. *See* RTC at 18 ("PM emissions from combustion of gaseous fuels are generally related to poor combustion, or combustion byproducts. Emission of PM from gaseous fuels is generally low, particularly when compared with liquid or solid fuels. Emission units in the permit contain fuel use restrictions for this reason, and all mentioned emission units comply with the Colorado Regulation No. 1 particulate matter limit for fuel burning equipment by complying with Permit Condition 36.1."). The EPA generally agrees with the Petitioners that this explanation about PM emissions, the fuel use restrictions, and the PM limit in Regulation No. 1 and Condition 36.1 do not appear particularly relevant to whether calculations based on the AP-42 emission factor are sufficient to assure compliance with the PM and PM_{10} limits at issue.

[17] More specifically, CDPHE's RTC states: "The Division notes its discussion above regarding the use of AP-42, generally. The Division's rationale regarding NO_x, above, applies to this comment with respect to . . . PM emissions as well." RTC at 18.

CDPHE may be able to accomplish this by further explaining why the AP-42 emission factor for PM in Section 1.4, Table 1.4-2 is sufficiently representative of emissions from the relevant emission units (or is sufficiently conservative). If this conclusion is based, for example, on stack test data from similar combustion units at other refineries, CDPHE should include any such underlying data in the permit record.

Alternatively, CDPHE should consider whether it is necessary to revise the Permit to include additional stack testing or other means of obtaining a more representative emission factor. See the EPA's direction regarding Claim 2 for more information about stack testing feasibility considerations.

B. Claim 2: The Petitioners Claim That "EPA Must Object to the Permit's Reliance on AP-42 Emission Section 1.4 Emission Factor for NO_x Emissions from Combustion Units Because CDPHE's Explanation is Unreasonable and Unsupported by the Record."

Petition Claim: The Petitioners claim that CDPHE has not adequately justified the Permit's reliance on AP-42 Section 1.4 emission factors for NO_x emissions from two heaters. *See* Petition at 22–26.

The Petitioners identify two permit terms that rely on AP-42 emission factors to assure compliance with applicable NO_x emission limits on Heater H-6 (0.049 lb/MMBtu emission factor) and Heater H-13 (0.098 lb/MMBtu emission factor). *Id*. at 22, 23, 24 (citing Permit Conditions 11.1, 14.1). The Petitioners claim that the reliance on these emission factors results in the Permit failing to include "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit." *Id*. at 23 (quoting 40 C.F.R. § 70.6(c)(1); 5 CCR 1001-5, Part C, V.C.16.a). The Petitioners also claim that CDPHE's "permitting record fails to contain a sufficient 'statement that sets forth the legal and factual basis for the draft permit conditions' justifying the use of unreliable AP-42 emission factors." *Id*. at 24 (quoting 40 C.F.R. § 70.7(a)(5)). For support, the Petitioners present several arguments. *See id.* at 23–26.

First, the Petitioners repeat their concern, discussed in Claim 1, that it is not appropriate to rely on emission factors developed for units burning natural gas when estimating emissions from units (like the heaters here) that burn refinery fuel gas. *Id*. at 24. The Petitioners assert that the EPA recognized that emissions from refinery fuel gas combustion can vary from emissions from natural gas combustion. *Id*. (citing *Suncor Plant 2 Order* at 25). The Petitioners address CDPHE's position "that any difference in emission factors between refinery gas and natural gas is resolved because (1) pollutant emission differences would be based on differing heat content of the gases, and (2) CDPHE sets emission calculations based on 'the heat content of the fuel being combusted' and not the volume of fuel being used." *Id*. at 25–26 (quoting RTC at 14). The Petitioners contend that "CDPHE's argument is based on the unsupported assumption that differences in pollutant emissions between refinery fuel gas and natural gas are based solely on the heat content differences between the two gases." Again, the Petitioners argue that this is contrary to the conclusions in the EPA's *Plant 2 Order*, which focused on differences based on the chemical content of the gas, and the presence of emission controls. *Id*. (citing *Suncor Plant 2 Order* at 36–37).

Second, the Petitioners contend that "performance tests on other heaters and boilers at the refinery demonstrate that Section 1.4 NO_x emission factors are unreliable to estimate emissions from the refinery." *Id*. at 22. The Petitioners indicate that a 2018 performance test of Boiler B-4 demonstrated

NO_x emissions 68 percent higher than the corresponding AP-42 Section 1.4 emission factor, notwithstanding that the emission factor at issue was rated "A" (the most reliable factor rating). *Id*. Similarly, the Petitioners indicate that a 2002 performance test on Heater H-33 demonstrated NO_x emissions over 60 percent greater than the AP-42 Section 1.4 emission factor, notwithstanding that the emission factor at issue was rated "B" (the second most reliable rating). *Id*. at 23. The Petitioners claim that these examples illustrate the weaknesses of relying on AP-42 to estimate NO_x emissions from Heaters H-6 and H-13. *Id*. The Petitioners argue that CDPHE misinterpreted and did not respond to the Petitioners' comments asserting that that these performance test results evidence the unreliability of the AP-42 Section 1.4 NO_x emission factors for fuel combustion units at the refinery. *Id*. at 24. The Petitioners further argue that "CDPHE cites to no performance tests at the refinery showing other units emitting emissions in-line with AP-42 factors." *Id*.

Third, the Petitioners claim that reliance on the AP-42 factors relevant to Heaters H-6 and H-13 is particularly troubling because of the low rankings of those factors (rated D and B, respectively). *Id*. at 23.

Finally, the Petitioners address CDPHE's position that NO_x emissions from Heater H-6 are "too low" to qualify for testing requirements under a Colorado regulation,[18] and that additional monitoring on this heater is "not pragmatic." *Id*. at 25 (quoting RTC at 17). The Petitioners argue: "CDPHE does not explain how it determines when monitoring is 'pragmatic' or how its 'pragmatic' standard fits with its obligation to require adequate monitoring to 'assure compliance.'" *Id*. The Petitioners observe that the emission limit on Heater H-6 is 3.06 tons per year. *Id*. (citing Permit Cond. 11.1). After noting a separate fuel usage limit (citing Permit Condition 11.5), the Petitioners argue that if the emission factor was off by even one percent, the facility would violate its emission limit. *Id*.

The Petitioners conclude that the EPA must object to the Permit, and that EPA should direct CDPHE to require regular performance tests to establish accurate emission factors for NO_x, and then to supplement those stack tests with parametric monitoring. *Id*. at 26.

EPA Response: For the following reasons, the EPA grants this Petition claim and objects to the issuance of the Permit.

Claim 2 involves permit terms that function similarly to those discussed in Claim 1. Process Heater H-6 and Process Heater H-13 are subject to limitations on NO_x emissions of 3.09 tons per year and 2.89 tons per year, respectively. Instead of requiring any stack testing (or other direct monitoring of emissions), the Permit directs Suncor to demonstrate compliance with these limits by calculating emissions using fuel usage data and AP-42 emission factors. Permit Conditions 11.1, 14.1. The Petitioners have demonstrated that the record is unclear regarding whether this emissions calculation methodology is sufficient to assure compliance with the NO_x emission limits.

In responding to public comments, CDPHE attempts to justify this compliance demonstration regime based on three lines of reasoning. First, CDPHE addresses public concerns about the different combustion profiles of refinery fuel gas (at the Suncor units) and natural gas (which the AP-42 emission factor addresses). CDPHE provides a relatively extensive technical explanation for why the Permit's

[18] The Petitioners characterize CDPHE's discussion of the Colorado testing requirement as "non-sensical," because the testing regulation at issue does not apply to any units burning refinery fuel gas. Petition at 25.

emissions calculation methodology "accounts for this potential discrepancy between refinery fuel gas and natural gas" in the context of NO_x emissions by "accounting for the heat content of the fuel being combusted." RTC at 14. The Petitioners offer essentially no substantive rebuttal to CDPHE's position on this particular issue. Instead, the Petitioners' arguments on this issue rely almost exclusively on the EPA's statements in the *Suncor Plant 2 Order*. But the EPA's *Plant 2 Order* specifically addressed technical considerations related to how combusting refinery fuel gas could involve greater PM emissions—not NO_x emissions—compared to combusting natural gas. The Petitioners' limited discussion on this topic does not itself undermine CDPHE's use of the AP-42 Section 1.4 emission factors for NO_x. However, as explained below, the Petitioners have demonstrated problems with the other two aspects of CDPHE's justification for using these emission factors.

Second, CDPHE acknowledges concerns that actual stack test results from boilers and heaters at Suncor Plants 1 and 3 have shown much higher emissions than those predicted by relatively highly-rated AP-42 emission factors, thereby undermining confidence in these emission factors for other boilers and heaters at the refinery (which rely on lower-rated emission factors). CDPHE's only direct response to these comments is dismissive, stating: "The Commenters refer to deviations in several emission units as evidence that AP-42, Section 1.4 shouldn't be used. However, these deviations are operational issues and do not inherently invalidate the emission factors." RTC at 16.[19] CDPHE offers no further explanation or support for this idea. CDPHE's references to "deviations" and "operational issues" are unclear. For example, it is unclear whether these references were intended to suggest that the cited stack test results were anomalous and do not reflect the normal emissions from the boilers and heaters at issue, or that the emissions from those units normally *do* align with the corresponding AP-42 emission factors. In any case, as the Petitioners state, CDPHE provides no information (from stack tests at Suncor or similarly situated units elsewhere) that would indicate that the AP-42 emission factors used for NO_x emissions accurately reflect emissions from Suncor's boilers and heaters, either generally or with respect to Heaters H-6 and H-13 specifically. Overall, this aspect of CDPHE's rationale fails to support CDPHE's reliance on the Section 1.4 emission factors for NO_x.

Third, CDPHE dismisses the need for stack testing from Heaters H-6 and other units due to the relatively low emission limits on these units:

> Given the relatively small NO_x limit for H-33 at 1.72 tons per year, it would be an imprudent allocation of resources to impose additional monitoring. Though the Division agrees, in principle, that it would be ideal that continuous monitoring or regular stack testing data would be available for all emission units, it is not feasible due to the resource intensive nature of such requirements.
> ***
> Regarding H-6, H-28, and H-30, the same rationale applies. H-28 and H-30 are subject to Colorado Regulation No. 7, Part E, Section II.A.4 for process heaters and included in the permit are stack testing requirements (or the option for CEMS to demonstrate compliance) as the Commenters have requested. Emissions from H-6 are too low to

[19] CDPHE's RTC goes on to justify the monitoring requirements associated with the specific boilers and heaters that experienced higher-than-expected stack test results. *See* RTC at 16–17. But as the Petitioners point out, that was not the point of these public comments. Rather, as CDPHE elsewhere acknowledges, RTC at 17, the point was to illustrate that the AP-42 emission factors are a weak predictor of NO_x emissions at Suncor's combustion units.

> qualify for this Regulation No. 7 testing requirement, and the Division believes it is not pragmatic, as discussed above, to include additional monitoring for this unit.

RTC at 16–17.

In summary, CDPHE relies on the "relatively small NO_x limit" applicable to Heater H-6 as the basis for its conclusion that it would be "imprudent" or "not feasible" or "not pragmatic" to impose stack testing requirements. RTC at 16–17.[20] The EPA understands CDPHE's reluctance to mandate stack testing when doing so might provide little environmental benefit. In general, it may be reasonable for a permitting authority to consider, among other things, the magnitude of emissions and the economic and technical feasibility of different testing and monitoring requirements when determining which compliance assurance requirements to impose in a title V permit. *However, any such considerations must be evaluated in the appropriate context: determining which requirements are necessary to assure compliance with all applicable requirements and permit terms*. *See* 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1); 5 CCR 1001-5, Part C, V.C.16.a.[21]

Determining what conditions are necessary to assure compliance with an underlying emission limit is a context-specific, case-by-case inquiry. To aid permitting authorities and the public in this fact-specific exercise, the EPA has identified a non-exhaustive list of factors that may be relevant. *See In the Matter of CITGO Refining and Chemicals Co., L.P., West Plant*, Order on Petition No. VI-2007-01 at 7–8 (May 28, 2009) (*CITGO Order*). Of these factors, the "likelihood of a violation" is most relevant to CDPHE's present justification. Put simply, it may not be necessary to impose stringent testing and monitoring requirements in order to assure compliance with a limit that the facility is not likely to violate. As the EPA has explained in the context of using emission factors to demonstrate compliance: "If it is unlikely (or impossible) for a facility to violate a limit that contains a substantial margin of compliance, then inaccuracies in the emission factors used to calculate emissions may not have any significant impact on the facility's ability to demonstrate compliance with that limit." *Suncor Plant 2 Order* at 26 n.36.

Longstanding EPA guidance explores this "likelihood of a violation" concept in the context of equipment with relatively insignificant emissions. In White Paper Number 2, the EPA explained:

> The EPA believes that the permitting authority in general has broad discretion in determining the nature of any required periodic monitoring. The need for this discretion is particularly evident in the case of generally applicable requirements, which tend to cover [insignificant emission units] as well as significant emissions units. The requirement to include in a permit testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor with respect to all emissions units and applicable requirement situations. It does not require extensive testing or monitoring to assure compliance with

[20] CDPHE does not specifically discuss Heater H-13 in its discussion about relatively low NO_x emission limits. However, as the Petitioners state, Petition at 25 n.118, the same analysis would presumably apply to Heater H-13.

[21] The question presented here is whether the Permit contains sufficient compliance assurance provisions to satisfy title V. These requirements apply independently of any Colorado regulations that might mandate stack testing in particular circumstances, such as Colorado Regulation No. 7. *See* RTC at 16–17. In other words, the fact that Heaters H-6 and H-13 are not subject to stack testing requirements under that regulation says little about whether stack testing requirements are necessary to satisfy the compliance assurance requirements under title V.

> the applicable requirements *for emissions units that do not have significant potential to violate emissions limitations* or other requirements under normal operating conditions. In particular, where the establishment of a regular program of monitoring would not significantly enhance the ability of the permit to assure compliance with the applicable requirement, the permitting authority can provide that the status quo (i.e., no monitoring) will meet § 70.6(a)(3)(i). . . .
>
> The EPA's policy on [insignificant emission unit] monitoring needs is based on its belief that [insignificant emission units] typically are associated with inconsequential environmental impacts and *present little potential for violations* of generically applicable requirements, and so may be good candidates for a very streamlined approach to periodic monitoring.

White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program at 32 (Mar. 5, 1996) (emphasis added). Critically, this discussion in White Paper Number 2 was based on the premise that insignificant emission units have a low potential (*i.e.*, likelihood) for violating a certain type of applicable requirement.

At bottom, *evaluating the likelihood of a violation requires a comparison of the facility's actual or potential emissions to the underlying limit*. For example, as discussed in White Paper Number 2, if a facility's actual or potential emissions are low, but the limit is high, then the likelihood of violation will be low, and less stringent compliance assurance provisions may be permissible. On the other hand, if a facility's actual or potential emissions approach or exceed the limit, then the likelihood of violation will be higher, and more stringent compliance assurance provisions may be necessary.

Thus, the fact that an emission *limit* is relatively low does not, in and of itself, mean that less testing or monitoring is necessary in order to assure compliance with the limit. To the contrary, in some cases, a low emission limit (*e.g.*, one that substantially restricts a facility's emissions) may be associated with a high likelihood of violation, giving rise to the need for *more* stringent testing or monitoring.

Here, as the Petitioners indicate, if Heater H-6 was operated at the level allowed by the Permit (combusting up to its annual fuel usage limit of 126,144 MMBtu/year), then its annual emissions would be exactly at the 3.09 tons per year limit on NO_x. *See* Permit Conditions 11.1, 11.5.[22] This means that, based on permitted operating conditions, there is little to no headroom in the emission limit. Thus, if Heater H-6 operates at the levels allowed by the Permit, and if the AP-42 emission factor underestimates NO_x emissions by even a small amount, then Suncor could, in fact, exceed its emission limit while reporting compliance.

This discussion illustrates why focusing on the magnitude of an emissions limit alone—as CDPHE has done—is not, in and of itself, a sufficient justification for concluding that no additional testing or monitoring is necessary to assure compliance. Without additional context, CDPHE's justification is

[22] The relationship between the Permit terms is as follows: fuel use limit (126,144 MMBtu/year) * AP-42 emission factor (0.049 lbs/MMbtu) = emission limit (3.09 tons/year) * 2000 lbs/ton. Note that the fuel use limit (126,144 MMBtu/year) reflects the stated capacity of Heater H-6 (14.4 MMBtu/hr) * 8760 hours/year. In other words, the annual fuel use limit appears to reflect continuous operation of Heater H-6 at its maximum heat input.

insufficient to support CDPHE's decision to rely on AP-42 emission factors instead of stack testing for Heaters H-6 and H-13.

In rejecting the Petitioners' request for continuous monitoring or regular stack testing, CDPHE also contends that these requirements are "not feasible due to the resource intensive nature of such requirements." RTC at 16. But CDPHE does not provide any reasons for why such a stack testing approach would be infeasible or particularly resource intensive, for example due to technical or engineering considerations for Heaters H-6 and H-13. Thus, the EPA cannot adequately evaluate CDPHE's statement that stack tests on combustion units like boilers or heaters are infeasible or particularly "resource intensive."

In sum: (i) CDPHE has not sufficiently addressed evidence suggesting that NO_x emissions from boilers and heaters at Suncor are likely to exceed the levels predicted by AP-42 Section 1.4 emission factors; (ii) CDPHE provides no further evidence indicating that the AP-42 Section 1.4 emission factors applicable to Heaters H-6 and H-13 are representative of emissions from those or similar units; and (iii) CDPHE's justifications for not imposing stack testing requirements (due to the relatively low emission limits at issue, or feasibility concerns) are incomplete and unconvincing. For these reasons, the record is inadequate for the EPA to determine whether the Permit contains sufficient provisions to assure compliance with the NO_x emission limits on Heaters H-6 and H-13, as reflected in Permit Conditions 11.1 and 14.1. Therefore, the EPA grants the Petition with respect to those permit terms. 40 C.F.R. § 70.8(c)(3)(ii).

Direction to CDPHE: CDPHE must amend the permit record and/or Permit to ensure that the Permit assures compliance with the relevant NO_x limits on Heaters H-6 and H-13.

CDPHE may be able to accomplish this by further explaining why the AP-42 Section 1.4 emission factors for NO_x are sufficiently representative of emissions from the relevant emission units (or are sufficiently conservative). If this conclusion is based, for example, on stack test data from similar combustion units at other refineries, CDPHE should include any such underlying data in the permit record.

Alternatively, CDPHE should consider whether it is necessary to revise the Permit to include additional stack testing or other means of obtaining a more representative emission factor. To the extent CDPHE rejects stack testing requirements based on considerations related to the low emissions from these units (or the low emission limits that apply to these units), CDPHE must explain such considerations in the context of its compliance assurance obligations. For example, CDPHE could consider emission levels in light of the "likelihood of a violation" factor. To the extent CDPHE rejects stack testing requirements based on a conclusion that stack testing is not feasible from Heaters H-6 or H-13, it should provide an explanation of the technical, safety, or engineering considerations underlying this conclusion.

C. Claim 3: The Petitioners Claim That "EPA Must Object to the Permit's Reliance on AP-42 Section 1.4 Emission Factor for VOC and CO Emissions Because CDPHE's Explanation is Unreasonable and Unsupported by the Record."

Petition Claim: The Petitioners claim that "CDPHE's reliance on AP-42 factors . . . to calculate VOC and CO emissions the Process Heaters, Process Boilers, and the Sulfur Recovery Unit tail gas incinerator (H-

25) . . . fails to ensure compliance and is unreasonable and unsupported by the record." Petition at 26; *see id*. at 26–30.

The Petitioners identify eight permit terms that rely on an AP-42 emission factor to assure compliance with applicable VOC emission limits on a variety of boilers, heaters, and a sulfur recovery tail gas unit. *Id*. at 27 (citing Permit Conditions 13.1, 16.1, 18.1, 19.1, 20.1, 21.1, 27.1, and 28.2[23]). Similarly, the Petitioners identify 12 permit terms that purportedly rely on an AP-42 emission factor to assure compliance with applicable CO emission limits on a similar collection of boilers, heaters, and the sulfur recovery tail gas unit. *Id*. at 29–30 (citing Permit Conditions 11.1, 13.1.1, 14.1, 15.1 16.1, 17.1, 18.1, 19.1.1, 20.1.1, 21.1, 27.1, and 28.2). The Petitioners claim that the reliance on these emission factors results in the Permit failing to include "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit." *Id*. at 29 (quoting 40 C.F.R. § 70.6(c)(1); 5 CCR 1001-5, Part C, V.C.16.a). The Petitioners also claim that CDPHE's "permitting record fails to contain a sufficient 'statement that sets forth the legal and factual basis for the draft permit conditions' justifying the use of unreliable AP-42 emission factors." *Id*. (quoting 40 C.F.R. § 70.7(a)(5)). For support, the Petitioners present several arguments:

First, regarding both VOC and CO, the Petitioners reference the NO_x performance tests discussed in Claim 2, which the Petitioners assert "raise substantial questions about the reliability of [AP-42] Section 1.4 [emission factors] applied to fuel combustion units at the refinery." *Id*. at 27. The Petitioners note that the VOC factor is rated C, and is therefore even less reliable than the NO_x factors discussed in Claim 2. *Id*. The Petitioners note that the CO factor is rated B, but contend that the NO_x factors rated A and B still substantially underestimated NO_x emissions. *Id*. at 28.

Second, for both VOC and CO, the Petitioners take issue with the fact that AP-42 "Section 1.4 applies the same factor to all units while applying substantially different NO_x factors depending on the unit's characteristics." *Id*. at 27; *see id*. at 28. Regarding VOC, the Petitioners argue that "[i]t is nonsensical to conclude that each of these units will have the same VOC emissions while the NO_x emission estimates and monitoring vary so substantially." *Id*. at 27. The Petitioners rely on various passages from AP-42 Section 1.4 that indicate that VOC emissions depend on combustion efficiency. *Id*. The Petitioners further argue that combustion efficiency can be reduced by the addition of NO_x control systems. *Id*. Regarding CO, the Petitioners make similar arguments, based on the inverse relationship of CO and NO_x emissions. *Id*. at 28 (citing AP-42 Section 1.4 and RTC at 14).

The Petitioners also reference other issues with the use of AP-42 emission factors, including the general unreliability of emission factors and prior EPA statements indicating that concerns about the feasibility of performance tests do not necessarily apply to the combustion units at issue here. *Id*. at 27–28.

The Petitioners indicate that CDPHE's RTC states, without explanation, that "[t]he Division's rationale regarding NO_x [] applies to this comment with respect to VOC, CO, and PM emissions as well." *Id*. at 30 (quoting RTC at 18). The Petitioners then repeat CDPHE's assertion that "the emission factors, and monitoring for VOC, CO, and PM for the emission units mentioned . . . are adequate to monitor compliance with permit limits." *Id*. (quoting RTC at 18). The Petitioners repeat their concern regarding

[23] The Petition cites Permit Condition 28.1. This appears to be a typographical error, as the relevant requirements are included in Permit Condition 28.2.

the reliance on single emission factors for VOC and CO, while the NO_x emission factor varies among units, and claim that "CDPHE's response is arbitrary and unreasonable without further explanation" on this issue. *Id*.

The Petitioners conclude that the EPA must object to the Permit, and that the EPA should direct CDPHE to require regular performance tests to establish accurate emission factors for VOC and CO, and then to supplement those stack tests with parametric monitoring. *Id*. at 30.

EPA Response: For the following reasons, the EPA grants in part and denies in part this Petition claim and objects to the issuance of the Permit.

Claim 3 involves permit terms that function similarly to those discussed in Claims 1 and 2. A variety of boilers, heaters, and a sulfur recovery tail gas unit are subject to annual limits on VOC emissions. *See* Permit Conditions 13.1.1, 16.1, 18.1, 19.1.1, 20.1.1, 21.1, 27.1.1, and 28.2. The same units, plus several additional units, are subject to annual limits on CO emissions. *See* Permit Conditions 11.1, 13.1.3, 14.1, 15.1, 16.1, 17.1, 18.1, 19.1.1, 20.1.1, 21.1, 27.1.4, and 28.2. For many of these units and limits, instead of requiring any stack testing (or other direct monitoring of emissions), the Permit directs Suncor to demonstrate compliance with these limits by calculating emissions using fuel usage data and AP-42 emission factors. Regarding the VOC limits, this includes all eight of the permit conditions identified by the Petitioners. *See* Permit Conditions 13.1.1, 16.1, 18.1, 19.1.1, 20.1.1, 21.1, 27.1.1, and 28.2. Regarding the CO limits, this includes six of the 12 permit conditions identified by the Petitioners. *See* Permit Conditions 11.1, 14.1, 15.1, 16.1, 18.1, and 19.1.1. For these permit terms, the Petitioners have demonstrated that the record is unclear regarding whether this emissions calculation methodology is sufficient to assure compliance with the relevant VOC and CO emission limits.

The Petitioners' primary criticism of these VOC and CO emission factors is that they are one-size-fits-all, despite the fact that the units at issue have physical characteristics that may differentially impact combustion efficiency and, therefore, VOC and CO emissions. The Petitioners contrast this with the Permit's treatment of NO_x, where units with different characteristics use different emission factors.

Other than acknowledging the public comments stating these concerns, CDPHE's RTC does not directly address this issue. In fact, CDPHE's permit record contains essentially no analysis specifically justifying the use of the AP-42 emission factors for VOC and CO from the affected emission units. Instead, CPDHE's RTC cross-references its discussion of AP-42 emission factors for NO_x, and includes a general conclusion statement that refers to VOC and CO without any explanation specific to those pollutants. *See* RTC at 18.[24] CDPHE's general statements are not responsive to the specific issues raised in public comments regarding VOC and CO emission factors; nor do they otherwise explain why CDPHE considers the AP-42 emission factors sufficient to assure compliance with the relevant VOC and CO limits; nor do they explain why CDPHE rejected requests to impose stack testing for the affected units. CDPHE's RTC is silent regarding the one size-fits-all approach to VOC and CO emission factors. In general, it is unclear whether or how CDPHE's justifications related to the AP-42 emission factors for

[24] More specifically, CDPHE's RTC states: "The Division notes its discussion above regarding the use of AP-42, generally. The Division's rationale regarding NO_x, above, applies to this comment with respect to VOC, CO, and PM emissions as well. . . . Commenters do not provide further reasoning as to why the draft permit's monitoring of individual emission units is insufficient. The Division asserts that the emission factors, and monitoring for VOC, CO, and PM for the emission units mentioned in this section are adequate to monitor compliance with permit limits." RTC at 18.

NO_x relate to the sufficiency of AP-42 emission factors for VOC and CO. Regarding stack testing, it is possible that CDPHE's general reference to its RTC on NO_x was intended to justify its decision not to require any stack testing for VOC or CO emissions at the boilers, heaters, and other combustion units at issue in Claim 3. If so, the EPA's response to Claim 2 also applies here. Moreover, the EPA observes that not all of the emission units implicated by Claim 3 have "relatively low emission limits," particularly with respect to CO emissions.

Overall, the record is inadequate for the EPA to determine whether the Permit contains sufficient provisions to assure compliance with the VOC emission limits in Permit Conditions 13.1.1, 16.1, 18.1, 19.1.1, 20.1.1, 21.1, 27.1.1, and 28.2, and the CO emission limits in Permit Conditions 11.1, 14.1, 15.1, 16.1, 18.1, and 19.1.1. Therefore, the EPA grants the Petition with respect to those permit terms. 40 C.F.R. § 70.8(c)(3)(ii).

In contrast to the aforementioned permit terms that rely on AP-42 emission factors as the primary means of demonstrating compliance with VOC and CO emission limits, several of the permit terms identified by the Petitioners do not rely on AP-42 emission factors. Specifically, Permit Conditions 13.1.3 and 27.1.4 both require CO CEMS. The Petitioners present no basis to question the sufficiency of that compliance assurance methodology. Permit Condition 17.1 relies on a CO emission factor from an underlying preconstruction permit, and Conditions 20.1.1, 21.1, and 28.2 rely on a CO emission factor provided by the manufacturer. The Petitioners present no basis to question the sufficiency of any of those emission factors (the Petitioners' challenges to emission factors all relate exclusively to the use of AP-42 emission factors). Thus, the EPA denies Claim 3 with respect to those permit terms.

Direction to CDPHE: CDPHE must amend the permit record and/or Permit to ensure that the Permit assures compliance with the VOC emission limits in Permit Conditions 13.1.1, 16.1, 18.1, 19.1.1, 20.1.1, 21.1, 27.1.1, and 28.2, and the CO emission limits in Permit Conditions 11.1, 14.1, 15.1, 16.1, 18.1, and 19.1.1.

CDPHE may be able to accomplish this by further explaining why the AP-42 Section 1.4 emission factors for VOC and CO are sufficiently representative of emissions from the relevant emission units (or are sufficiently conservative). If this conclusion is based, for example, on stack test data from similar combustion units at other refineries, CDPHE should include any such underlying data in the permit record.

Alternatively, CDPHE should consider whether it is necessary to revise the Permit to include additional stack testing or other means of obtaining a more representative emission factor. See the EPA's direction regarding Claim 2 for more information about stack testing feasibility considerations.

D. Claim 4: The Petitioners Claim That "EPA Must Object to CDPHE's Failure to Require, Without Adequate Justification, that Suncor's Process Hazard Analysis Process Assess Whether Additional Emergency Shutdown Capability is Necessary."

Petition Claim: The Petitioners summarize their claim as follows:

> EPA must object to the Permit because it fails, without adequate justification, to require Suncor to analyze whether further shutdown capability is required. As explained herein,

> EPA's East Plant Order required CDPHE to consider whether additional operational requirements were necessary for the permit to assure Suncor's compliance, given Suncor's extensive history of continuing permit violations. Specifically, EPA required CDPHE to explain why additional measures raised by petitioners were not necessary to assure compliance, including measures suggested in a third-party root cause analysis required by a state enforcement settlement. Here, while CDPHE did incorporate some of the suggestions from that report, it failed to (1) require an analysis of additional emergency shutdown capability, despite the central role of that suggestion in the report, and (2) explain why that provision was not necessary.

Petition at 31; *see* Petition at 31–38.

The Petitioners discuss legal provisions and prior EPA statements regarding the requirement that title V permits include conditions necessary to assure compliance with applicable requirements. *See id*. at 31–33; 35–37. In summary, the Petitioners recount that:

> In response to the East Plant petition, EPA accepted the Petitioner's contention that permits "*can* be used to establish 'such other conditions as necessary to assure compliance with' underlying applicable requirements." It stated that the "***key is determining whether such additional measures are necessary***," and explained its view that "the 'such other conditions as are necessary' language of CAA § 504(a) [] provide[s] a backstop[25] to impose additional permit requirements in extraordinary situations where traditional mechanisms—namely, supplemental monitoring and the enforcement process—prove insufficient to ensure that a source complies with all applicable requirements."

Id. at 32 (quoting *Suncor Plant 2 Order* at 14).

The Petitioners further observe that in the *Suncor Plant 2 Order*, the EPA objected to the Plant 2 permit because the petitioners there "demonstrated that the permit record is unclear regarding whether additional permit terms are necessary to assure compliance with all applicable requirements." *Id*. (quoting *Suncor Plant 2 Order* at 17). The Petitioners repeat the EPA's conclusion that, "[c]ritically, CDPHE's response neglects to address the key question: whether the Permit can be said to assure compliance without additional measures and, if not, whether these operational requirements the Petitioners recommend are necessary to assure compliance with the relevant [fluid catalytic cracking unit, or FCCU] limits." *Id*. (quoting *Suncor Plant 2 Order* at 20). The Petitioners observe that this decision was based on "what appears to be Suncor's consistent history of noncompliance, and the fact that Suncor has continued to report CO and opacity exceedances at the FCCU in the second half of 2021, even after installation and commissioning of the FCCU automated shutdown system." *Id*. at 33 (quoting *Suncor Plant 2 Order* at 20).

Here, the Petitioners claim that similar circumstances exist with respect to requirements applicable to the FCCU at Plants 1 and 3: "EPA's previous determination that CDPHE must analyze whether additional operational requirements are necessary to assure compliance, given Suncor's compliance

[25] The quotation included in the Petition includes the word "backdrop," which appears to be a typographical error. The word used in the EPA's *Suncor Plant 2 Order* is "backstop."

history, applies in full force to this Objection because Suncor's compliance history for the West Plant mirrors its compliance history with the East Plant." *Id*. at 35. More specifically, the Petitioners assert: "Suncor's West Plant has consistently and substantially failed to comply with its permit conditions over the last five years (and beyond). Notably, just like the East Plant, Suncor's West Plant FCCU has continued to violate requirements even after purported upgrades to its emergency shutdown equipment in 2021." *Id*.; *see id*. at 6–8 (identifying exceedances related to CO and opacity limits on the Plants 1 and 3 FCCU).

The Petitioners discuss various recommendations included in a third-party report (the Suncor Root Cause Investigation Report, included as Petition Ex. 15), which recommended measures to prevent future violations of the site's permit. *See id*. at 33–34. The Petitioners acknowledge that in response to public comments, CDPHE added several operational requirements to the Plants 1 and 3 Permit, including requirements derived from the Suncor Root Cause Investigation Report. *Id*. at 31, 37.[26] The Petitioners focus on one recommendation from the Suncor Root Cause Investigation Report that CDPHE did *not* include in the Permit, and which the Petitioners contend is necessary to assure compliance: ensuring that Suncor's Process Hazards Analysis "includes an assessment by Suncor technical experts whether further emergency shutdown capability is warranted." *Id*. at 34 (quoting Suncor Root Cause Investigation Report at 31). The Petitioners assert:

> The recommended assessment of shutdown capability in its Process Hazards Analysis is particularly important. It could assist in assuring that Suncor complies with applicable requirements, especially since shutting down quickly during a malfunction event is critical to avoiding emission limit violations. Its importance is further demonstrated by the fact that, far from being a standalone recommendation, it was actually a sub-part of the recommendation that Suncor adopted as a binding requirement in its Implementation Plan.

Id.

Here, the Petitioners claim that "CDPHE failed to respond specifically to the comment regarding the emergency shutdown requirement" and failed to explain why this requirement was not necessary to assure compliance. *Id*. at 37; *see id*. at 35. The Petitioners argue:

> CDPHE's response is particularly puzzling because it did adopt several of the other recommendations from the Suncor Root Cause Investigation. CDPHE claims that it "spen[t] a significant amount of time evaluating the Implementation Plan in light of violations that occurred at Suncor Plants 1 and 3 in 2021 through 2022," and added two new Conditions: 38.13 and 38.14, that "were reasonably calculated to address cultural and organizational issues identified by the third party conducting the root cause analysis." Specifically, these provisions largely adopted the digitization and training recommendations discussed above and in Petitioners' comments. However, CDPHE did not adopt the recommended Process Hazard Analysis change, did not respond to Petitioner's comments requesting that change, and did not explain why it chose to adopt other recommendations without adopt the Process Hazard Analysis recommendation.

[26] The Petitioners state that the Suncor Root Cause Investigation Report covered issues at Plant 2 and Plants 1 and 3. *Id*. at 35 n.159.

Id. at 37–38 (quoting RTC at 9).

The Petitioners conclude that the "EPA must object and require CDPHE to add a condition to the Permit that requires Suncor to engage in an appropriate Process Hazards Analysis process that includes an assessment of whether development of further emergency shutdown capability is warranted." *Id*. at 38.

EPA Response: For the following reasons, the EPA grants this Petition claim and objects to the issuance of the Permit.

This claim involves essentially the same factual and legal underpinnings as Claim 1 of the EPA's *Suncor Plant 2 Order*. *See Suncor Plant 2 Order* at 9–21. There, the EPA detailed CDPHE's obligation (and authority) to ensure that all title V permits contain enforceable conditions that assure compliance with all applicable requirements, pursuant to CAA § 504(a), 40 C.F.R. § 70.6(a)(1), and 5 CCR 1001-5, Part C, V.C.1. The EPA also detailed the relatively limited, extraordinary circumstances in which a permitting authority like CDPHE would be required to rely on CAA § 504(a) to establish, for the first time, enforceable operating restrictions through the title V permitting process. *See Suncor Plant 2 Order* at 13–17. The EPA concluded in the *Suncor Plant 2 Order* that specific, persistent issues related to noncompliance at the Suncor Plant 2 FCCU warranted consideration of this legal authority. *See id*. at 19–20. The EPA further concluded that CDPHE had failed "to address the key question: whether the Permit can be said to assure compliance without additional measures and, if not, whether these operational requirements the Petitioners recommend are necessary to assure compliance with the relevant FCCU limits." *Id*. at 20; *see id*. at 16–20.

Here, the Petitioners allege that the same compliance issues persist regarding the Plants 1 and 3 FCCU CO and opacity limits, and the Petitioners request that CDPHE consider adding similar requirements to the Permit (from the same Suncor Root Cause Investigation Report) in order to better assure Suncor's compliance with those limits. The Petitioners' allegation of compliance issues appears to be uncontested by CDPHE, and, in fact, CDPHE added some of the requested requirements to the Permit. *See* RTC at 9. CDPHE's discussion of these changes reads, in full:

> The implementation plan requirements regarding the Plant 2 FCCU were included in the renewed Plant 2 permit. Suncor is required to install both an automated shutdown system for the Plant 2 FCCU, and install a [programmable logic controller, or PLC] and upgraded valves. These items were added to Suncor's Plant 2 renewed Title V permit, as appropriate, as the Commenters have noted. As described in the Implementation Plan, the Plant 1 FCCU already contains a PLC, and Suncor committed to and performed upgrades to the automated shutdown system for the Plant 1 FCCU during the spring 2021 plant turnaround. Additionally, the Division added a new requirement for Suncor to develop an operating and maintenance plan for its FCCU automated shutdown system, which should further assist in preventing excess emission events (see Condition 22.15 for additional information).
>
> The Division will not be including the voluntary measures identified in the Implementation Plan. These measures are not considered applicable requirements from the Compliance

> Order on Consent. However, the Division did spend a significant amount of time evaluating the Implementation Plan in light of violations that occurred at Suncor Plants 1 and 3 in 2021 through 2022. Consistent with the Implementation Plan and that review, the Division added new conditions regarding training that the Division determined were reasonably calculated to address cultural and organizational issues identified by the third party conducting the root cause analysis. See the new Conditions 38.13 and 38.14.

RTC at 9.

The EPA agrees with CDPHE that these requirements are not "applicable requirements" and are not something that would typically be included in a title V permit. However, that is not the issue here. The issue raised in comments, and again in the Petition, is whether additional operating requirements are necessary to assure compliance with permit terms (CO and opacity limits) that *are* applicable requirements, given the relatively extraordinary circumstances present here. *See* 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1), 5 CCR 1001-5, Part C, V.C.1.

Notably, as the Petitioners correctly state, CDPHE did not add to the Permit any new requirements related to one particular measure that public commenters asserted was necessary to assure compliance with the CO and opacity limits: an assessment of shutdown capability as part of the facility's Process Hazards Analysis (based on the Root Cause Investigation Report). CDPHE's RTC does not directly address this request and contains no explanation for CDPHE's apparent conclusion that such a requirement was not necessary to assure compliance with the limits on CO and opacity from the FCCU. *See* RTC at 9. Given CDPHE's failure to address this comment and explain whether this additional operational requirement would be necessary to assure compliance, the record is inadequate for the EPA to determine whether the Permit assures compliance with all applicable requirements. 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1), 5 CCR 1001-5, Part C, V.C.1. Accordingly, the EPA grants Claim 4. 40 C.F.R. § 70.8(c)(3)(ii).

Direction to CDPHE: CDPHE must evaluate whether additional operational requirements are necessary to assure compliance with the limits on CO and opacity from the FCCU, or whether the Permit can be said to assure compliance without these measures. At a minimum, CDPHE must amend the permit record to explain the technical basis for this position. In particular, CDPHE should address whether the specific measure requested in public comments (and again in the Petition)—an assessment of shutdown capability as part of the facility's Process Hazards Analysis—is necessary to assure compliance. If CDPHE determines that additional operational requirements are necessary to assure compliance, it should revise the Permit accordingly and explain the basis for its decision.

E. Claim 5: The Petitioners Claim That "EPA Must Object to the Permit Because the Division Failed to Model Modification 1.6 for Potential Violations of the NAAQS Without Adequate Justification and Failed to Offer Any Other Reasonable Basis for Determining That the Modification Will Not Cause or Contribute to NAAQS Violations."

Petition Claim: Claims 5, 6, and 7 all involve issues related to NSR permitting requirements. Before presenting these claims, the Petitioners assert:

> As a threshold matter, EPA already decided in its East Plant Order that the minor modifications are reviewable in a Title V petition because of the "unique structure of Colorado's NSR and Title V permitting programs." EPA concluded that it would "review the NSR-related claims . . . and will object to the Permit to the extent the Petitioners demonstrate that it does not comply with or assure compliance with the relevant 'applicable requirements' of the SIP or the requirements of part 70." EPA's conclusion applies with equal force to the present petition.

Petition at 39 (quoting *Suncor Plant 2 Order* at 46, 48).

In Claim 5, the Petitioners claim that CDPHE failed to adequately justify its conclusion that Modification 1.6 would not cause an exceedance of the 2010 1-hour NO_2 NAAQS. *See* Petition at 39–45. According to the Petitioners, the "EPA confirmed in its East Plant Order that 'specific questions concerning whether the modifications addressed in this title V permit renewal would cause an exceedance of the NAAQS are within the scope of issues subject to review.'" *Id*. at 39 (quoting *Suncor Plant 2 Order* at 53).

The Petitioners acknowledge that CDPHE "has some discretion regarding how it determines that a minor modification will not cause a NAAQS exceedance," and that CDPHE is not necessarily obligated to use air dispersion modeling to satisfy this requirement. *Id*. at 40. Nonetheless, the Petitioners claim that CDPHE's conclusion "must be justified in the supporting record for the permit." *Id*. (quoting *Suncor Plant 2 Order* at 56). Here, the Petitioners claim that CDPHE "failed to provide an adequate justification for finding that Modification 1.6 did not need to be modeled for exceedances of the 2010 1-hour [NO_2] NAAQS." *Id*.

The Petitioners observe that the short-term emissions increase from Modification 1.6 exceeded CDPHE's own modeling threshold, but CDPHE did not require modeling because the annual emissions increase associated with this modification was below a different threshold for NO_x—specifically, a 40 tons per year threshold set forth in CDPHE's PS Memo 10-01. *Id*. at 40–41 (citing TRD at 51).

The Petitioners first contest CDPHE's reliance on PS Memo 10-01. The Petitioners state:

> EPA has already concluded in the East Plant Order that CDPHE cannot rely on PS Memo 10-01 to conclude that a modification will not cause an exceedance of the NAAQS. The petitioners in the East Plant petition challenged CDPHE's use of PS Memo 10-01's 40 tpy threshold for determining that modifications would not cause a violation of the 2010 1-hour NO_2 NAAQS and SO_2 NAAQS. EPA granted the East Plant petition on that ground, finding that "CDPHE does not offer, and EPA cannot discern, any rational relationship between the 40 tpy thresholds in PS Memo 10-01 and a CDPHE's conclusion that the modifications would not cause a violation of the 1-hr SO_2 and NO_2 NAAQS."

Id. at 41 (quoting *Suncor Plant 2 Order* at 61). The Petitioners further elaborate on the EPA's decision in that case. *See id*. at 40–41.

Additionally, the Petitioners argue that the "conclusion that modeling was not required for Modification 1.6 also violates the Division's own modeling guidelines." *Id*. at 42. The Petitioners state that under CDPHE's modeling guidelines that have been in effect since May 2023, the modeling

thresholds for modifications in a nonattainment area or Disproportionately Impacted Community (like the area surrounding the Suncor Refinery) is 1.14 lbs/hour of NO_2. *Id*. Here, the Petitioners assert that Modification 1.6 would increase NO_2 emissions by 2.58 lbs/hour, and therefore CDPHE should have modeled these emissions based on its own guidance. *Id*.

The Petitioners address CDPHE's RTC, noting that CDPHE's response to the Petitioners' comment regarding Modification 1.6 was: "the Division refers to its detailed response to this issue that can be found in the Division's response to comments from PEER and CBD." *Id*. at 44 (quoting RTC at 45). The Petitioners argue: "Nothing in either [RTC] document addresses the Division'[s] reliance on PS Memo 10-01 to evaluate NAAQS compliance for Modification 1.6. Indeed, neither document addresses Modification 1.6 at all." *Id*. The Petitioners observe that CDPHE's separate document responding to comments from PEER addressed the reliance on PS Memo 10-01 in the context of a different modification—Modification 1.9—where the short-term emissions increase was below the 1.14 lbs/hour modeling threshold in CDPHE's newer guidance. *Id*. at 44–45 (citing PEER RTC at 4). The Petitioners state that CDPHE provided no response to comments related to Modification 1.6, which the Petitioners characterize as "particularly problematic because, unlike Modification 1.9, the emissions in Modification 1.6 would trigger modeling under the Division's [2023] modeling guideline." *Id*. at 45.

The Petitioners conclude that CDPHE violated a number of regulatory requirements related to NAAQS assessments, as contained within the Colorado SIP and Colorado's EPA-approved title V program. *See id*. at 42–44 (citing 5 CCR 1001-5, Part B, II.A.6, III.D.1.c; 5 CCR 1001-5, Part C, III.C.12, V.B.1, X.A.1, X.D.5.c–d; C.R.S. § 25-7-114.5(7)(a)(III); 40 C.F.R. § 70.7(a)(5)).

EPA Response: For the following reasons, the EPA grants this Petition claim and objects to the issuance of the Permit.

This claim involves similar factual and legal issues as those that the EPA addressed in part of its response to Claim 6 in the *Suncor Plant 2 Order*. *See Suncor Plant 2 Order* at 49–56, 61–62. As an initial matter, these NSR-related issues are reviewable in the present title V Petition response for reasons explained in the *Suncor Plant 2 Order*. *See id*. at 45–49, 53–55. The EPA continues to maintain that in many situations, it is not appropriate for the EPA to use the title V permitting process (including the petition process) to re-evaluate "applicable requirements" established through the title I NSR permitting process. Additionally, the NAAQS are not themselves title V "applicable requirements" with which a source must directly comply, and the promulgation of a NAAQS does not, in and of itself, automatically result in actionable measures applicable to a source.[27] Analysis addressing a source or project's impacts on the NAAQS is typically associated with the NSR (not the title V) permitting process.

However, there may be situations in which specific SIP regulations (or EPA-approved state part 70 regulations) give rise to an obligation to consider a source's or project's impact on the NAAQS through a title V permit proceeding. Such is the case here. Colorado's EPA-approved SIP regulations provide

[27] *See* 40 C.F.R. § 70.2 (definition of "applicable requirement"); 57 Fed. Reg. at 32276 ("Under the Act, NAAQS implementation is a requirement imposed on States in the SIP; it is not imposed directly on a source. In its final rule, EPA clarifies that the NAAQS and the increment and visibility requirements under part C of title I of the Act are applicable requirements for temporary sources only."); 56 Fed. Reg. at 21732–33 ("The EPA does not interpret compliance with the NAAQS to be an 'applicable requirement' of the Act."); *see also, e.g.*, *In the Matter of Lucid Energy Delaware, LLC, Frac Cat Compressor Station and Big Lizard Compressor Station*, Order on Petition Nos. VI-2022-5 & VI-2022-11 at 13 (Nov. 16, 2022).

that modifications at a facility that would be subject to minor NSR requirements can proceed without obtaining a title I minor NSR preconstruction permit, provided that the source obtains a minor modification to the facility's title V permit. 5 CCR 1001-5, Part B, II.A.6. When this permitting mechanism is used, Colorado's EPA-approved SIP and title V regulations collectively provide that CDPHE may only issue the title V permit if the source or activity will not cause an exceedance of the NAAQS. 5 CCR 1001-5, Part B, II.A.6 and III.D.1.c–d (SIP regulations); 5 CCR 1001-5, Part C, III.C.12.e, V.B.1, X.D.5.d (part 70 regulations). CDPHE does not contest that this requirement attaches to the modifications at issue here. *See* Response to CBD Comments at 5 ("Minor permit modifications processed through Title V also undergo review for compliance with the NAAQS."); Response to PEER Comments at 3 (similar statement). Further, the EPA agrees with the Petitioners that the present title V renewal permit appears to be the first such permit action in which these issues are reviewable.[28] For further discussion, see the *Suncor Plant 2 Order* at 53–55.

As the Petitioners acknowledge, CDPHE has some discretion regarding how it determines that a minor modification will not cause a NAAQS exceedance. Petition at 39; *see Suncor Plant 2 Order* at 55–56. But CDPHE must ensure that its determinations are based "on reasonable grounds properly supported on the record," and CDPHE's "exercise of discretion under [its] regulations [cannot be] unreasonable or arbitrary." *In the Matter of Appleton Coated, LLC*, Order on Petition Nos. V-2013-12 & V-2013-15 at 5 (Oct. 14, 2016) (*Appleton Order*).

Here, the Petitioners have demonstrated that CDPHE's justification concerning NO_x emissions from Modification 1.6 was not based "on reasonable grounds properly supported on the record" and appears "unreasonable or arbitrary." *Appleton Order* at 5. CDPHE's TRD explains the basis for its decision as follows:

> The increase in permitted . . . NO_X emissions as a result of these modifications . . . [is] 11.3 tons/yr . . . . Note that the increase in annual emissions for all pollutants and the increase in short-term emissions for all emissions, except NO_2, is below the modeling thresholds, thus modeling is not warranted with respect to those pollutants. The Division's Stationary Sources Program PS Memo 10-01 (begins on page 182) specifies that for minor sources with requested emissions below 40 tons/yr of NO_X . . . , that a compliance demonstration is not required for the short-term (hourly) . . . NO_2 national ambient air quality standard (NAAQS). Therefore a modeling analysis was not conducted for the 1-hr NO_2 NAAQS.

TRD at 51. The TRD also includes a table comparing the increase of permitted emissions of NO_2 (11.3 tons per year and 2.58 pounds per hour) against a "Modeling Threshold" (40 tons per year and 0.46 pounds per hour), which CDPHE attributes to CDPHE's May 2018 draft Modeling Guidelines. *Id*. Thus, the emissions increase associated with Modification 1.6 is lower than the long-term (40 ton per year) modeling thresholds contained in PS Memo 10-01, but higher than CDPHE's short-term (hourly)

[28] Under CDPHE's EPA-approved regulations, the EPA would normally expect this review process to occur during each individual title V permit modification action that proposes to approve each specific physical or operational change at the source. *See* 5 CCR 1001-5, Part C, X.F, X.H. Notwithstanding that this title V minor modification process would not involve the opportunity for public notice and comment, such minor modifications would still be subject to both the EPA's review and a public petition opportunity. 40 C.F.R. §§ 70.7(e)(2)(iv), 70.7(h), 70.8(a)(1), 70.12(a)(1). However, CDPHE does not appear to have separately approved the individual modifications at issue (either through NSR or title V). Instead, the present title V renewal permit appears to be the first permit in which the underlying NSR minor modifications at issue have been formally approved and incorporated into the title V permit, and the first such action subject to the public's review.

modeling thresholds contained in more recent guidance. Nonetheless, CDPHE did not pursue modeling of the emissions increase, based exclusively on the fact that the increase was below the annual thresholds in PS Memo 10-01.

The EPA confronted essentially the same fact pattern in the *Suncor Plant 2 Order*. There, the EPA concluded that it was unreasonable for CDPHE to rely on the thresholds in PS Memo 10-01, stating:

> CDPHE does not offer, and EPA cannot discern, any rational relationship between the 40 tpy thresholds in PS Memo 10-01 and a CDPHE's conclusion that the modifications would not cause a violation of the 1-hr SO_2 and NO_2 NAAQS. As the Petitioner observes, a September 2021 independent investigative report analyzing CDPHE's reliance on this memorandum made clear that PS Memo 10-01 lacked a proper justification. More specifically, that report found that PS Memo 10-01: (i) improperly relied on annual thresholds (designed for determining whether a project constitutes a major modification) as a minor source modeling threshold for 1-hour standards; (ii) directly conflicted with CDPHE's own analysis of the appropriate [significant impact levels] to be used for modeling (the thresholds in PS Memo 10-01 are 20 times higher than the [significant impact levels] established by CDPHE); and (iii) lacked a justified means of satisfying the relevant SIP requirement to ensure that permits do not cause an exceedance of the NAAQS. EPA agrees that CDPHE's reliance on PS Memo 10-01 is problematic for the reasons described in that report.
>
> Notably, following the September 2021 independent investigative report described above, CDPHE retired PS Memo 10-01. Notwithstanding these clear problems with PS Memo 10-01 and the fact that the state had retired this memo before the Permit was issued (or even proposed to EPA), CDPHE nonetheless maintained its reliance on PS Memo 10-01 in justifying its present permitting decisions. CDPHE suggests that it was appropriate to rely on the thresholds in PS Memo 10-01 because [t]he previous permitting decisions made for these modifications were based on policies in place at the time and those policies were consistent with the practices in many states across the country and EPA's own major source modeling requirements. This argument fails for several reasons. First, as explained previously, it is inaccurate to describe the various minor NSR modifications at issue as previous permitting decisions. The present title V renewal permit is the first permit action in which CDPHE has formally approved those modifications. Second, even if the modifications at issue had been formally authorized during a time preceding retirement of PS Memo 10-01, reliance on this memorandum would have arguably been unsupported and unreasonable, for the reasons discussed in greater detail in the September 2021 independent investigative report.

Suncor Plant 2 Order at 61–62 (internal quotations and citations omitted).

Similarly, here, one portion of CDPHE's RTC states: "As discussed in the TRD for this permit action, the individual modifications were evaluated in accordance with Division protocols in place at the time of evaluation concerning NAAQS compliance." RTC at 8. To the extent this general statement was intended to support CDPHE's reliance on PS Memo 10-01 in the Plants 1 and 3 permit action, the EPA finds it unpersuasive, for the aforementioned reasons explained in the *Suncor Plant 2 Order*.

No other portions of CDPHE's permit record provide a justification for relying on the modeling thresholds in PS Memo 10-01 to conclude that NO_x emissions from Modification 1.6 would not cause an exceedance of the NO_2 NAAQS. In responding to public comments from the Petitioners that challenged CDPHE's reliance on PS Memo 10-01 in the context of Modification 1.6, CDPHE does not directly address PS Memo 10-01, but instead refers to CDPHE's responses to the comments that were submitted by two other organizations. RTC 44–45. CDPHE's responses to the two other comments say nothing about CDPHE's reliance on PS Memo 10-01 for Modification 1.6. *See* Response to CBD Comments at 4–6; Response to PEER Comments at 2–4. As the Petitioners note, the closest CDPHE comes is a discussion of a different modification, where the emissions increase was not only below the unreasonably high thresholds in PS Memo 10-01, but also below the lower thresholds in more recent CDPHE guidance. *See* RTC at 4; Petition at 44–45. That discussion sheds no light on Modification 1.6, where the emissions increase is significantly higher than any of CDPHE's more recent short-term modeling thresholds.[29] CDPHE's permit record contains no further support for its conclusions regarding Modification 1.6.

Overall, the Petitioners have demonstrated that CDPHE's determination that Modification 1.6 would not cause a violation of the NO_2 NAAQS—which appears to rely exclusively on the thresholds in PS Memo 10-01—was not based "on reasonable grounds properly supported on the record" and appears "unreasonable or arbitrary." *Appleton Order* at 5; *see Suncor Plant 2 Order* at 62. Accordingly, the record is unclear as to whether CDPHE satisfied its obligations under 5 CCR 1001-5, Part B, II.A.6 and III.D.1.c–d, and 5 CCR 1001-5, Part C, III.C.12.e, V.B.1, X.D.5.d when issuing the title V Permit. Therefore, the EPA grants Claim 5. 40 C.F.R. § 70.8(c)(3)(ii).

Direction to CDPHE: CDPHE must re-evaluate whether it was correct to conclude that NO_x emissions from Modification 1.6 would not cause an exceedance of the NO_2 NAAQS, pursuant to 5 CCR 1001-5, Part B, II.A.6 and III.D.1.c–d, and 5 CCR 1001-5, Part C, III.C.12.e, V.B.1, X.D.5.d. As explained above, CDPHE has some discretion to determine precisely how to satisfy these regulations, but its determination must be reasonable and properly supported on the record. At a minimum, CDPHE must ensure that the permit record provides adequate documentation for CDPHE's conclusion that this project will not cause an exceedance of the NAAQS—more specifically, a justification not based on PS Memo 10-01. If CDPHE cannot justify its decision based on the information currently in the permit record, the state may decide that additional modeling is necessary for this modification. If CDPHE is unable to conclude that this modification would not cause an exceedance of the relevant NAAQS, CDPHE may need to consider imposing unit-specific limits to reduce emissions affecting the NAAQS.

F. Claim 6: The Petitioners Claim That "EPA Must Object Because the Permit Violates Applicable Requirements by Applying an Outdated Significance Threshold to Determine That Modification 1.6 was Minor."

Petition Claim: The Petitioners claim that "[t]he Permit improperly processed Modification 1.6 as a minor modification by relying on incorrect significance thresholds." Petition at 45; *see id*. at 45–49.

[29] As previously noted, the short-term emissions increase associated with Modification 1.6 is 2.58 lb/hr of NO_x. TRD at 51. This is significantly higher than the 0.46 lb/hr threshold in the draft 2018 modeling guideline referenced in the TRD, and also significantly higher than the applicable 1.14 lb/hr modeling threshold in more recent May 2023 minor NSR permitting guidance. *See* Response to PEER Comments at 4.

The Petitioners claim that "a minor source must undergo major stationary source permitting requirements if it becomes a major stationary source or major modification by relaxing an enforceable limit." *Id*. at 46 (quoting TRD at 49; citing 5 CCR 1001-5, Part D, V.A.7.b). The Petitioners assert that Modification 1.6 involved just such a relaxation in enforceable limits. *Id*. (citing TRD at 49–50).

The Petitioners claim that CDPHE did "not respond to Petitioner's comments regarding application of the relaxation requirement to Modification 1.6." *Id*. at 48. Instead, the Petitioners contend that CDPHE "incorrectly concluded that the relaxation issue 'does not appear to be relevant to this permit renewal.'" *Id*. (quoting RTC at 42).

The Petitioners claim that this relaxation in enforceable limits should have triggered NNSR because NO_x and VOC emissions after the relaxation exceeded the relevant significance level, which the Petitioners assert is 25 tons per year. *Id*. at 47. The Petitioners observe that in 2020, the significance threshold relevant to determining whether a modification is a "major modification" subject to NNSR changed from 40 tons per year to 25 tons per year of VOC and NO_x. *Id*. at 46. The Petitioners argue that because the relaxation in enforceable limits did not occur until the present title V renewal permit was finalized on July 9, 2024, the relaxation should have been evaluated based on the 25 ton per year significance level, instead of the 40 ton per year significance level that CDPHE applied. *Id*. at 47. For support, according to the Petitioners, the "EPA determined in the East Plant Order that the relaxation requirement in Colorado is triggered on 'the date a final permit action authorizes the change to the limitation' and not[] the date that construction began or, as CDPHE had argued, the date of permit application." *Id*. at 46 (quoting *Suncor Plant 2 Order* at 69–70).

The Petitioners conclude that CDPHE "improperly processed Modification 1.6 as a minor modification when it should have been processed as a major modification," thereby violating various requirements of the SIP and the title V program rules. *Id*. at 49; *see id*. at 47–48 (citing 42 U.S.C § 7511a(d); 5 CCR 1001-5, Part B, II.A.6; 5 CCR 1001-5, Part C, I.A.7, X.A.4–6; 5 CCR 1001-5, Part D, II.A.44.a, V.A.2; 40 C.F.R. § 70.7(a)(5)).[30]

EPA Response: For the following reasons, the EPA grants this Petition claim and objects to the issuance of the Permit.

This claim involves similar factual and legal issues as those that the EPA addressed in part of its response to Claim 7 in the *Suncor Plant 2 Order. See Suncor Plant 2 Order* at 63–66, 69–71. These issues are reviewable in the present title V Petition response for reasons explained in the *Suncor Plant 2 Order*. *See id*. at 45–49. In sum, the issues are reviewable due to the unique structure of Colorado's NSR and title V permitting programs; as a result of this unique structure, CDPHE did not previously issue any title I NSR permit that would establish the NSR-related "applicable requirements" of the SIP with respect to Modification 1.6. Thus, it is appropriate in this Order for the EPA to evaluate whether

[30] In addition to issues related to major NSR requirements, the Petitioners also assert that "by incorporating Modification 1.6 into the Permit as a minor modification, the Permit violates the applicable requirements that minor permit modification procedures may only be used where the modification (1) '[does] not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject[.]'" Petition at 47–48 (quoting 5 CCR 1001-5, Part C, X.A.4).

the title V permit contains all "applicable requirements" of the SIP, including the major NSR requirements that the Petitioners claim are applicable.

Modification 1.6 involved various changes to the gasoline benzene reduction (GBR) unit flare, including re-permitting the flare to use a different emission factor and increased emission limits and throughput limits. *See* TRD at 47–48. CDPHE analyzed whether these changes would trigger major NSR on two different bases. Only one of those bases is challenged by the Petitioners here. As relevant to NNSR, this type of major NSR applicability trigger—based on a "relaxation in any enforceable limitation"—is governed by a Colorado SIP provision that states the following:

> The requirements of Section V.A [governing major NNSR] shall apply at such time that any stationary source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation that was established after August 7, 1980 on the capacity of the source or modification to otherwise emit a pollutant, such as a restriction on hours of operation.

5 CCR 1001-5, Part D, V.A.7.b; *see also* 5 CCR 1001-5, Part D, VI.B.4 (similar SIP requirement for PSD); 40 C.F.R. §§ 51.165(a)(5)(ii), 51.166(r)(2), 52.21(r)(4).

CDPHE expressly evaluated Modification 1.6 under this "relaxation" provision. *See* TRD at 49–50, 55; Permit Condition 31.11 and Permit App'x L at 1–2. CDPHE concluded that the relaxation would not trigger NNSR because permitted emissions of both VOC and NO_x from the GBR project remained below the 40 ton per year NNSR significance level that CDPHE applied. TRD at 50; Permit App'x L at 1. CDPHE explained the basis for applying this significance level—as opposed to the lower 25 ton per year significance level that the Petitioners assert is required—as follows:

> [40 tons per year i]ndicates the [NNSR] significance level on the dates the initial permits were issued for the GBR project and the complete minor modification application for this modification to the GBR flare was submitted. Under the provisions of Colorado Regulation No. 3, Part X.I, a source is allowed to make the changes proposed in a complete minor modification application immediately after it is submitted (a construction permit is not required to construct or modify such source per Regulation 3, Part B, Section II.A.6). The area was classified as a serious ozone non-attainment area on January 27, 2020 and for minor modification applications submitted on and after that date, the significance level drops to 25 tons/yr of VOC or NO_X.

TRD at 50 n.7; Permit App'x L at 1–2 n.7. Thus, CDPHE's determination regarding the NNSR significance threshold to apply for both past and future modifications appears to be based primarily on the date that the source applied for a minor modification to its title V permit.

The EPA's *Suncor Plant 2 Order* explains why basing an NNSR applicability analysis on the significance thresholds that were in place when the facility submitted an application for a minor modification to the

facility's title V permit is incorrect. *See Suncor Plant 2* Order at 70–71.[31] The EPA maintains that the date that Suncor submitted its permit application is not relevant to an analysis of NNSR applicability based on the relaxation provisions in 5 CCR 1001-5, Part D, V.A.7.b.

The EPA acknowledges that in addition to CDPHE's erroneous reliance on the date of permit application submittal, the TRD also briefly refers to the significance levels that existed at the time the initial construction permit for the GBR project was issued. TRD at 50 n.7; Permit App'x L at 1–2 n.7. However, the permit record contains no further discussion of this concept.

Notably, in addressing public comments arguing that CDPHE should have evaluated Modification 1.6 against a 25 ton per year VOC and NO_x threshold for purposes of evaluating whether the relaxation triggered NNSR, CDPHE states: "this specific issue does not appear to be relevant to this permit renewal." RTC at 42. This response directly conflicts with CDPHE's TRD (and the Permit), in which the state acknowledges that this relaxation could form the basis for NNSR applicability. *See* TRD at 49–50, 55; Permit Condition 31.11 and Permit App'x L at 1–2. CDPHE offers no explanation for its apparent change in position, which appears incorrect.

Overall, the permit record before the EPA consists of an NNSR applicability analysis for the relaxation of the GBR flare limits that largely depends on (i) an erroneous reliance on the date that the source applied for a minor modification of its title V permit; (ii) a brief but unexplained reference to the date the source obtained its original NSR permit for the GBR project; and (iii) a non-responsive RTC that directly conflicts with the remainder of the permit record. Because CDPHE's NNSR non-applicability determination does not appear to be based "on reasonable grounds properly supported on the record," the EPA cannot determine whether the Plants 1 and 3 title V permit contains all NSR-related

[31] Specifically, the EPA explained: "CDPHE's apparent position that the relaxation occurred earlier—when the source submitted its permit application—is unpersuasive. As previously explained, CDPHE's minor modification regulations allow a source to begin implementing applied-for changes immediately after submitting a permit application, at its own risk. However, such action does not amount to final permit approval, which requires an additional step by CDPHE—a step that could involve changes to the source's proposed revisions. 5 CCR 1001-5, Part C, X.H, I. This lack of finality is particularly relevant to the type of change at issue here, as neither EPA's nor CDPHE's regulations allow sources to change limits taken to restrict major NSR applicability prior to a formal permit approval. In this situation, the existing limit in the permit does not officially change—and thus, relaxation of the limit is not fully effectuated—until a permitting authority formally approves the revised (relaxed) limit via final permit issuance." *Suncor Plant 2 Order* at 70–71. Here, too, no final action appears to have occurred with regards to the relaxation of the limits affecting the GBR project until the present title V permit for Plants 1 and 3 was renewed in July 2024. Additionally, as noted in the *Suncor Plant 2 Order*, CDPHE's (and the EPA's) title V regulations specifically prohibit the use of title V minor modifications for changes that would "violate any applicable requirement" (such as the terms of a preconstruction permit) or that would "seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include: . . . A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Act, including but not limited to modifications under Part 2 of the state Act (prevention of significant deterioration), Part 3 of the state Act (attainment), ..." 5 CCR 1001-5, Part C, X.A.1 and .4; *see also* 40 C.F.R. § 70.7(e)(2)(i)(A)(*1*) and (*4*). Although this issue was briefly raised as a basis for the EPA's objection to the Permit, Petition at 47–48, it was not raised in any public comments on this title V permit renewal, and thus cannot now be raised as a basis for the EPA's objection. 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d). Additionally, given that CDPHE did not ultimately finalize the relaxation using title V minor modification procedures—but rather used the title V renewal process to finalize this change—this concern is moot and presents no basis for the EPA's objection. Nonetheless, the EPA agrees with the Petitioners that, in general, this type of change would not properly be made using the title V minor modification procedures. This reinforces the EPA's conclusion that it would be especially unreasonable to consider this particular type of change—relaxing a limit taken to avoid major NSR applicability—to be final or effective at the time Suncor applied for a minor modification authorizing such change.

applicable requirements that may apply to the equipment at Plants 1 and 3 affected by Modification 1.6. *Appleton Order* at 5. Therefore, the EPA grants Claim 6. 40 C.F.R. § 70.8(c)(3)(ii).

Direction to CDPHE: CDPHE must ensure that its NNSR applicability determination concerning the relaxation of enforceable limitations associated with Modification 1.6 is consistent with the SIP and based on reasonable grounds properly supported on the record. At minimum, CDPHE must revise the permit record to reconcile the conflict between its RTC and TRD, to respond to relevant public comments, and to provide a justification for its decision that is not based on the NNSR applicability thresholds in place at the time that Suncor applied for a minor modification to its title V permit.

In the *Suncor Plant 2 Order*, the EPA suggested that CDPHE base its relaxation analysis under 5 CCR 1001-5, Part D, V.A.7.b on the applicability thresholds in place at the time the relaxation occurred—that is, the date the final title V permit was issued. However, this suggestion was based on an incomplete analysis of the timeframes that could be relevant to a relaxation analysis under 5 CCR 1001-5, Part D, V.A.7.b (and equivalent state rules governing PSD, and equivalent federal rules governing both NNSR and PSD). This portion of the *Suncor Plant 2 Order* considered the time of application and the time of the relaxation, and concluded the former was inappropriate. The EPA suggested CDPHE use the time of the relaxation by default, as it was the remaining option of the two considered. But the EPA did not specifically consider a third potential option: evaluating the relaxed limits against the major modification thresholds in place at the time of the original changes that were subject to the enforceable limits that have since been relaxed. Since this third option was not considered by the EPA at the time, the *Suncor Plant 2 Order* should not be read as precluding CDPHE from considering this option. Moving forward, if it can identify a justification for this option, CDPHE may consider basing its analyses under 5 CCR 1001-5, Part D, V.A.7.b on a comparison of the relaxed limit against the thresholds in place at the time of the original change. In any case, CDPHE must update its permit record to explain the basis for the date it uses in such a decision.

G. Claim 7: The Petitioners Claim That "EPA Must Object Because EPA Has Already Determined that CDPHE Failed to Justify Disaggregating Substantially Related Projects to Upgrade Refinery Flares to Comply with MACT CC Regulations and CDPHE Has Offer[ed] No Further Justification Here."

Petition Claim: The Petitioners claim that CDPHE failed to adequately justify its conclusion that Modification 1.6 should not be aggregated with other changes as a single project for purposes of determining whether the changes triggered major NSR. *See* Petition at 49–55.

The Petitioners state: "When determining whether emission increases from a modification are significant for major NSR applicability, the Division must evaluate whether the emissions increase should be aggregated with increases from other changes at the facility." *Id*. at 49 (citing 40 C.F.R. 52.21(b)(2)(i)). The Petitioners discuss statements from the EPA on the subject of project aggregation, which recommend an analysis of whether the changes at issue are "substantially related." *See id*. at 49–50 (citing 74 Fed. Reg. 2376, 2377 (Jan. 15, 2009)).

The Petitioners state that the EPA's objection in the *Suncor Plant 2 Order* addressed this same issue with respect to four flares across both the East and West Plants, including the Plant 1 Flare, the Plant 3 Flare, and the GBR Unit Flare (which are addressed by Modifications 1.5, 1.6, and 1.7 of the Plants 1

and 3 Permit). *Id*. at 50–51. The Petitioners repeat various arguments first raised in the petition on the Plant 2 Permit regarding why the Petitioners think the changes at issue should be aggregated as a single project. *See id*. at 52–54. The Petitioners repeat and summarize various EPA statements from the *Suncor Plant 2 Order*, in which the EPA rejected CDPHE's justification for not aggregating the changes to these flares. *See id*. at 51. The Petitioners note that the "EPA ordered the Division to 'further explain' its reasoning, explaining that '[t]he most relevant issue to EPA appears to be the potential physical interrelationship, interdependence, or interconnection between the flares that potentially serve the same process stream(s).'" *Id*. (quoting *Suncor Plant 2 Order* at 76–77).

The Petitioners claim: "EPA must object because (1) EPA already determined that the Division had not adequately justified its decision not to aggregate modifications to several refinery flares, including the modifications in Modifications 1.5, 1.6, and 1.7, and (2) the Division has provided no further justification for its aggregation decision in the West Plant Permit record." *Id*. at 49; *see id*. at 52. Specifically, the Petitioners assert that CDPHE's RTC provides no further justification for this decision, instead referring commenters back to the TRD for more detail. *Id*. (citing RTC at 50–51)). The Petitioners then observe that CDPHE's rationale in the TRD for the West Plant "is a carbon copy (with only procedural edits) of the Division's rationale in the East Plant TRD—which EPA already rejected in the East Plant Order." *Id*. (citing Petition Ex. 17; TRD at 43).

The Petitioners allege that if the changes had been properly aggregated, the collective emissions increases would have triggered major NSR requirements. *Id*. at 54. The Petitioners then discuss various ways in which the title V permit is deficient as a result of CDPHE's failure to properly evaluate major NSR applicability. *See id*. at 54–55 (citing 5 CCR 1001-5, Part B, II.A.6; 5 CCR 1001-5, Part C, I.A.7, X.A.4–6; 5 CCR 1001-5, Part D, V.A.2; 40 C.F.R. § 70.7(a)(5)).

EPA Response: For the following reasons, the EPA grants this Petition claim and objects to the issuance of the Permit.

This claim involves the same factual and legal underpinnings as Claim 8 of the EPA's *Suncor Plant 2 Order. See Suncor Plant 2 Order* at 72–77.[32] This claim concerns the exact same changes to the same equipment considered in the *Suncor Plant 2 Order*, and the same allegations related to whether these changes should be aggregated into a single project for purposes of evaluating major NSR applicability. The *Suncor Plant 2 Order* discusses the EPA's interpretation and policies on the subject of project aggregation. *See id*. at 74–75. The EPA's order includes a point-by-point discussion of the rationale provided by CDPHE to support its decision not to aggregate these changes. The EPA found that CDPHE's permit record did not sufficiently address several key factors related to this issue, including, in summary: (i) the lack of support for CDPHE's conclusion that changes to the flares at issue are not technically dependent on each other, given that the flares at issue are physically interconnected at least with respect to one waste stream; (ii) the lack of support regarding the absence of economic benefits or interrelationships, given that the upgrades provide an indirect benefit of avoiding noncompliance with revised subpart CC NESHAP requirements; and (iii) the lack of support regarding various other issues associated with the fact that all of the changes were motivated by updates to a NESHAP, including that the changes were initially planned together and involved similar changes to similar units on a similar timeframe. *See id*. at 75–76. Because CDPHE had not sufficiently addressed

[32] The issues in this claim are reviewable for the same reasons discussed in the *Suncor Plant 2 Order* and in the EPA's response to Claim 6 in this Order. *See Suncor Plant 2 Order* at 45–49; *see supra* pp. 33–34.

these factors, the EPA concluded that "CDPHE's decision was not based 'on reasonable grounds properly supported on the record' and was potentially 'unreasonable or arbitrary.'" *Id*. at 76 (quoting *Appleton Order* at 5).

Here, as the Petitioners state, CDPHE's TRD for Plants 1 and 3 contains the same justification that the EPA found objectionable in the *Suncor Plant 2 Order*. *See* TRD at 43–45. CDPHE's response to the Petitioners' public comments does not provide any further analysis, but instead points back to the TRD discussion. *See* RTC at 51. However, in a separate RTC responding to comments from EPA Region 8, CDPHE *did* provide some additional substantive analysis. *See* Response to EPA Comments at 1–3. Notably, this additional substantive analysis only addresses one of the several factors that the EPA has already concluded CDPHE did not sufficiently address, related to the fact that all of the flare changes were motivated by revisions to the subpart CC NESHAP. Specifically, CDPHE takes the position that a common regulatory compliance motivation "on its own does not demonstrate a substantially related economic or technical relationship between disparate emission units." *Id*. at 2. But even accepting, for the sake of argument, that a common regulatory compliance motivation would not "on its own" provide a basis for concluding that the changes to the flares at issue were substantially related, there are various other facts and factors that the EPA previously identified that might nonetheless establish a substantial relatedness between the changes at issue. CDPHE's additional analysis in the Plants 1 and 3 permit record still fails to provide any evaluation of those other factors. Overall, CDPHE's record remains incomplete and continues to be insufficient to justify CDPHE's non-aggregation decision, because it still fails to address concerns related to the other factors the EPA identified (summarized above and described in more detail in the *Suncor Plant 2 Order*).

In summary, CDPHE's decision on the project aggregation issue, as reflected in the Suncor Plants 1 and 3 permit record, was not based "on reasonable grounds properly supported on the record" and was potentially "unreasonable or arbitrary." *Appleton Order* at 5; *Suncor Plant 2 Order* at 76. Further, as a result of this incomplete record, the EPA cannot determine whether the Plants 1 and 3 title V permit contains all NSR-related applicable requirements that may apply to equipment at Plants 1 and 3. Therefore, the EPA grants Claim 7. 40 C.F.R. § 70.8(c)(3)(ii).

Direction to CDPHE: CDPHE must ensure that its NNSR applicability determination concerning the flare upgrades associated with Modifications 1.5, 1.6, and 1.7—including the decision not to aggregate those changes with similar changes to a flare at Suncor Plant 2—is based on reasonable grounds properly supported on the record. CDPHE should further explain its conclusions regarding the issues described in the EPA's *Suncor Plant 2 Order*. As previously noted, the most relevant issue to the EPA appears to be the potential physical interrelationship, interdependence, or interconnection between the flares that potentially serve the same process stream(s), but CDPHE should consider and explain all facts and factors relevant to its decision. The EPA recommends that the project aggregation analysis be clearly marked as such so it can be easily identified during any additional public comment period.

If, after further analysis, CDPHE concludes that the flare upgrades should be aggregated as a single project, CDPHE should evaluate the applicability of NNSR to that project and take any necessary permitting actions through the appropriate NSR permitting processes.

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 and object to the issuance of the Permit as described in this Order.

Dated: December 30, 2024

Michael S. Regan
Administrator