September 6, 2024

VIA Central Data Exchange

US EPA
Office of Air Quality Planning and Standards
Air Quality Policy Division
Attn: Operating Permits Group Leader
109 T.W. Alexander Dr. (C-504-01)
Research Triangle Park, NC 27711

VIA EMAIL

Colorado Air Pollution Control Division
c/o Carissa Money
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
APCD-SS-B1
Denver, Colorado 80246-1530
carissa.money@state.co.us
cdphe_apcd_airpermitcomments@state.co.us

VIA EMAIL

Suncor Energy (U.S.A.), Inc.
c/o Bernd Haneke
5801 Brighton Blvd.
Commerce City, CO 80022
bhaneke@suncor.com

Re: **Colorado Department of Public Health and Environment's Clean Air Act (CAA) Renewal of Title V Permit 96OPAD120 Suncor Energy, Inc. Plants 1 & 3 (West Plant)**

Pursuant to 40 C.F.R. §§ 70.8(d), 70.12, Center for Biological Diversity and Sierra Club ("Petitioners") hereby petition the United States Environmental Protection Agency ("EPA") to object to the Colorado Department of Public Health and Environment's ("CDPHE")[1] renewal Title V Permit No. 96OPAD120 for Plant 1 and Plant 3 of the Suncor Energy, Inc. petroleum refinery ("West Plant") located at 5800 Brighton Blvd., Commerce City, CO 80022, Adams County.

[1] The Air Pollution Control Division ("Division") of the Colorado Department of Public Health and Environment is the Colorado agency responsible for issuing Title V operating permits. In this petition, the "Division" and "CDPHE" may be used interchangeably.

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I. Introduction

The Suncor refinery is a 98,000-barrel-per-day refinery that produces gasoline, diesel fuel, and paving-grade asphalt.[2] The refinery includes the West Plant (Plants 1 and 3) and Plant 2 ("East Plant") and. The massive 230-acre facility looms over neighborhoods in Commerce City and north Denver and chokes the air with pollutants known to cause respiratory problems and to exacerbate heart conditions.[3] Suncor has a long history of violating air pollution limits and has been subject to repeated enforcement actions.[4] A significant portion of the oil produced at the refinery comes from thick "tar" sands in Canada, the processing of which can emit particularly high levels of toxic air pollution.[5]

The West Plant Permit, renewed by CDPHE on July 9, 2024,[6] allows Suncor's West Plant to emit 159 tons per year ("tpy") of particulate matter ("PM"), 302 tpy of sulfur dioxide ("SO_2"), 479 tpy of nitrogen oxides ("NO_x"), 592 tpy of carbon monoxide ("CO"), and 561 tpy of volatile organic compounds ("VOCs") each year.[7] These permitted levels include an increase of 80 tpy of CO and 40 tpy of VOC beyond the prior applicable permit's levels from the GBR Unit Project, which "required refiners to reduce the benzene concentration in gasolene."[8] Additionally, the permitted levels include an increase of 15 tpy of PM, 76 tpy of CO, and 40 tpy of VOCs beyond the prior applicable permit's levels from the Clean Fuels Project, meant to "meet the federal requirements to produce low-sulfur gasoline and diesel fuel."[9]

The increased allowable emissions from the West Plant Permit come from multiple sources. *First*, some of these increases come from CDPHE allowing Suncor to emit even more pollutants into the already burdened neighborhoods around the

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[2] Suncor, *Refining*, https://www.suncor.com/en-ca/about-us/refining (last visited August 19, 2024).

[3] Bruce Finley, *Suncor Refinery North of Denver Faces State Review of Outdated Permits, Plans $300 Million Push to Be "Better Not Bigger,"* Denver Post (Nov. 29, 2020), https:// www.denverpost.com/ 2020/11/29/suncor-oil-refinery-permit-renewals-closure-pollution/.

[4] *See, e.g.*, Colo. Dep't of Pub. Health & Env't, *Enforcement Actions Against Suncor*, https:// cdphe.colorado.gov/enforcement-actions-against-suncor (last visited August 19, 2024).

[5] Bruce Finley, *Suncor Oil Refinery's "Operational Upset" Spurs Call for Increased State Protection* (Dec. 13, 2019), https://www.denverpost.com/2019/12/13/suncor-refinery-emissions-pollution/; Nat. Res. Def. Council, *NRDC Issue Brief – Tar Sands Crude Oil: Health Effects of a Dirty and Destructive Fuel* 5 (2014), https://www.nrdc.org/sites/default/files/tar-sands-health-effects-IB.pdf.

[6] Colorado Department of Public Health and Environment, Operating Permit, Suncor Energy (USA), Inc. — Commerce City Refinery, Plants 1 (West) & Plant 3 (Asphalt Unit), renewed July 9, 2024, ("West Plant Permit" or "Permit") (Ex. 01).

[7] Technical Review Document for Operating Permit 095OPAD120, Suncor Energy (USA), Inc. — Commerce City Refinery, Plants 1 & 3 (West Plant), published July 9, 2024, 4 ("West Plant Permit TRD" or "TRD") (Ex. 02).

[8] West Plant Permit at Appx. L, 1.

[9] *Id.* at Appx L, 3, 7.

refinery. *Second*, other increases stem from CDPHE's approval of updated emission factors and calculation methodologies.[10] These increases highlight the inaccuracy of Suncor's existing monitoring, emission factors, and compliance demonstrations. In real-world terms, this means that, for decades, Suncor has been emitting far more pollutants than the CDPHE originally thought, leading to Suncor's efforts to partially correct these shortcomings by updating its compliance demonstrations and securing higher emission limits. This deeply troublesome iterative process of raising Suncor's permitted limits to reflect the refinery's already-excessive emissions could be avoided by improved monitoring (including requiring continuous emissions monitoring systems ("CEMS") wherever technically feasible), accurate emission factors based on performance tests, and adjustments for excess emissions released during startup, shutdown, and malfunction ("SSM") events. These upgrades would all improve the accuracy of Suncor's reported emissions, allowing the CDPHE to correctly monitor Suncor's emissions.

A. Suncor Primarily Harms Disproportionately Impacted Communities—Including Members of the Petitioner Groups—Resulting in Severe Environmental Justice Problems

Residents of the neighborhoods adjacent to Suncor—the north Denver neighborhoods of Elyria, Swansea, and Globeville and Commerce City in Adams County—face some of the greatest environmental health risks in Colorado.[11] In addition to the Suncor refinery, the 928-megawatt Cherokee Generating Station, which recently switched from coal- to gas-fired generation, is located immediately to the northwest of Suncor.[12] Superfund sites are just blocks from people's homes and less than half a mile from an elementary school.[13] Scattered among residential buildings and single-family homes are a wood treatment facility, roofing products manufacturer, many solvent-based industries, and a pet food manufacturing facility.[14] Freight trains filled with coal and petroleum refining products frequently

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[10] *See, e.g.*, West Plant Permit TRD at 63 (Modification 1.8, revising emission factors for Boiler B4).

[11] See generally Katherine L. Dickinson et al., Who Bears the Cost?: North Denver Environmental Justice Report and Data Audit (2022), https://www.greenlatinos.org/colorado.

[12] Gretchen Armijo & Gene C. Hook, Denver Dep't of Env't Health, *How Neighborhood Planning Affects Health in Globeville and Elyria Swansea* 21, 24 (2014) ("Health Impact Assessment"), https://www.denvergov.org/content/dam/denvergov/Portals/746/documents/HIA/HIA%20Composite%20Report_9-18-14.pdf.

[13] EPA, *Superfund Sites in Reuse in Colorado*, https://www.epa.gov/superfund-redevelopment-initiative/superfund-sites-reuse-colorado (last visited August 19, 2024); EPA, *Superfund Site Information: ASARCO, Inc. (Globe Plant)* https://cumulis.epa.gov/supercpad/cursites/ccontinfo.cfm?id=0800078 (last visited August 19, 2024); EPA, *Superfund Site: Vasquez Boulevard and I-70 Denver, CO*, https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0801646 (last visited August 19, 2024).

[14] Health Impact Assessment 21, 24; WE ACT for Env't Just., *Assisting Congress to Better Understand Environmental Justice* 35 (2013), https://www.sipa.columbia.edu/file/3172/download?token=gHKXRCd2.

travel through the communities, expelling coal dust from the uncovered cars and amplifying the near constant industrial din.[15] Two heavily trafficked highways, Interstate 70 and Interstate 25, bisect the neighborhoods, and further exacerbate air pollution problems.[16] Overall, industrial and commercial uses cover more than 70% of the neighborhoods, twice as much as the Denver average.[17] Independent community air quality monitoring shows that air pollution levels in the north Denver/south Commerce City area tend to be higher than other comparable metro area sites to the northwest across a range of pollutants.[18] Every day, residents face significant threats to their health from air pollution in their neighborhoods, such as spikes of high levels of particulate matter that exceed EPA's proposed health standards.[19]

The communities surrounding the Suncor Refinery are considered "Disproportionately Impacted Communities" under Colorado's Environmental Justice Act, H.B. 21-1266, Colo. Rev. Stat. ("C.R.S.") § 24-4-109(2)(b)(ii).[20] Indeed, at least 85 percent of communities in Colorado are less environmentally burdened than those surrounding the Suncor Refinery according to the Colorado EnviroScreen Tool.[21] According to EPA's recent analysis of the area around the Suncor Refinery, 69,570 residents live within a five-kilometer radius,[22] with the nearest residential home less than half a mile from the refinery. EPA determined that 72 percent of those residents are people of color and 37 percent are economically disadvantaged.[23] Additionally, EPA found that the area falls within some of the highest percentiles on all 13 of EPA's EJScreen Environmental Justice Indicators: (1) Particulate Matter, 96%; (2) Ozone, 89%; (3) Diesel Particulate

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[15] Colo. Dep't of Transp., *Colorado Freight and Passenger Rail Plan* 34 (2018), https://www.codot.gov/about/committees/trac/Agendas-and-Minutes/2018/july-13-2018/03-b1-sfprp-draft-final_-july-tc.

[16] Health Impact Assessment at 19–21.

[17] *Id.* at 19.

[18] Kati Weis, *New Commerce City Air Pollution Monitoring Program Leaves Some Community Members Both "Validated" and "Frustrated"*, CBS Colorado (Oct. 7, 2022), https://www.cbsnews.com/colorado/news/commerce-city-air-pollution-monitoring-leaves-some-community-members-validated-and-frustrated/.

[19] *Id.*

[20] *See* Colo. Dep't of Pub. Health & Env't, Disproportionately Impacted Communities (DRAFT Version September 2021), https://www.arcgis.com/home/item.html?id=7d0cf560b11e41f0a4d323c4e6c90e0b (last visited Oct. 4, 2022) (showing census blocks groups immediately adjacent to Suncor qualify as Disproportionately Impacted Communities for one or more categories based on percentage of residents who are housing-cost burdened, low-income, or people of color).

[21] CDPHE, Colorado EnviroScreen, https://teeo-cdphe.shinyapps.io/COEnviroScreen_English/#map, (last visited May 22, 2024).

[22] Colo. Dep't of Pub. Health & Env't, *Order Granting in Part and Denying in Part Petitions for Objection to a Title V Operating Permit, Permit No. 95OPAD108*, (July 31, 2023) ("EPA Order (2023)"), at 7, (Ex. 03) https://www.epa.gov/system/files/documents/2023-08/Suncor%20Plant%202%20Order_07-31-23.pdf.

[23] *Id.*

Matter, 95%; (4) Air Toxics Cancer Risk, 97%; (5) Air Toxics Respiratory Hazard, 97%; (6) Toxic Releases to Air, 94%; (7) Traffic Proximity, 87%; (8) Lead Paint, 92%; (9) Superfund Proximity, 96%; (10) RMP Facility Proximity, 96%; (11) Hazardous Waste Proximity, 96%; (12) Underground Storage Tanks, 89%; and (13) Wastewater Discharge, 91%.[24] Further, a recent study demonstrated that people of color in Denver are exposed to higher levels of air pollution.[25] These inequities in North Denver, where people of color are disproportionately burdened by air pollution, are driven by decades of inequitable city planning practices such as redlining and other exclusionary zoning laws.[26]

The 80216-zip code, which includes the Elyria, Swansea, and Globeville neighborhoods, as well as part of south Commerce City, was ranked the most polluted zip code in the United States.[27] Emissions from the Suncor Refinery are a major contributor to the pollution in North Denver and Commerce City. In 2020 alone, the refinery emitted approximately 20 tons of hazardous air pollutants, 500 tons of CO, 650 tons of NOx, 125 tons of PM, 450 tons of VOCs, and 230 tons of SO_2.[28] The health risks created by these pollutants threaten the already susceptible nearby residents who have among the highest rates of several diseases associated with air pollution, including asthma, cardiovascular disease, and diabetes.[29]

Complicating matters for community members attempting to understand and address Suncor's pollution problems, the refinery has two separate Title V air permits: one for its East Plant (Plant 2) and one for its West Plant (Plants 1 & 3). Environmental and community groups have long called for a single permit to ensure that the CDPHE comprehensively assesses the direct and cumulative impacts of all the pollution from Suncor's operations and its effects on community health, and they continue to urge for all permitting requirements to be included in a single permit, reviewed under the same deadlines.

The environmental justice problems are further heightened here because Suncor is located within the Denver-Metro North Front Range nonattainment area for the 2008 and 2015 ozone National Ambient Air Quality Standards ("NAAQS").

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[24] *Id.*

[25] Alexander C. Bradley, et. al., *Air Pollution Inequality in the Denver Metroplex and its Relationship to Historical Redlining*, 58 Env'tl Sci. & Tech. 4226, 4231 (2024).

[26] *Id.* at 4232–33.

[27] Amanda Horvath, How a Denver neighborhood became one of the most polluted zip codes in America, Rocky Mountain PBS (November 7, 2023), https://www.rmpbs.org/blogs/rocky-mountain-pbs/80216-polluted-zip-code-timeline.

[28] Enforcement and Compliance History Online, *Air Pollutant Report*, Env't Prot. Agency, (last visited September 6, 2024), https://echo.epa.gov/air-pollutant-report?fid=110032913024.

[29] Gretchin Armijo & Gene C. Hook, Denver Dep't of Env't Health, *How Neighborhood Planning Affects Health in Globeville and Elyria Swansea*, 16–17 (2014) ("Health Impact Assessment"), https://www.denvergov.org/content/dam/denvergov/Portals/746/documents/HIA/HIA%20Composite%20Report_9-18-14.pdf.

EPA downgraded the area to serious nonattainment for the 2008 standard on January 27, 2020, triggering a lower significance threshold of 25 tpy VOC and NO_x.[30] Further, EPA has announced an imminent downgrade of the area to severe nonattainment for the 2008 standard and moderate nonattainment for the 2015 standard.[31] Worse yet, the CDPHE's draft State Implementation Plan for the 2015 standard acknowledges that the area is unlikely to attain the 2015 standard by 2024, resulting in an expected downgrade to serious nonattainment.[32] Suncor's West Plant permitted emissions of ozone-precursors, including NO_x and VOCs, contribute to the unhealthy levels of ozone in the county and the disparate cumulative impacts of pollution borne by nearby residents.

Members of the Petitioners—including Center for Biological Diversity and Sierra Club—live, work, go to school and places of worship, and engage in recreational activities near Suncor, and they are exposed to and otherwise harmed by air pollution from the refinery. These harms show no sign of abating.

1. Center for Biological Diversity

Center for Biological Diversity is a nonprofit, 501(c)(3) conservation organization. The Center for Biological Diversity's mission is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and waters, and public health through science, policy, and environmental law. Based on the understanding that the health and vigor of human societies and the integrity and wildness of the natural environment are closely linked, the Center for Biological Diversity is working to secure a future for animals and plants hovering on the brink of extinction, for the ecosystems they need to survive, and for a healthy, livable future for all of us. The Center has more than 89,000 members, including over 3,100 members in Colorado.

2. Sierra Club

Sierra Club's mission is to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives. In addition to helping people from all backgrounds explore nature and our outdoor heritage, Sierra Club works to promote clean energy, safeguard the health of our communities, protect wildlife, and preserve our remaining wild places through grassroots activism, public education, lobbying, and legal action. Sierra

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[30] *See* Finding of Failure to Attain and Reclassification of Denver Area for the 2008 Ozone National Ambient Air Quality Standard, 84 Fed. Reg. 70,897 (Dec. 26, 2019) (effective date Jan. 27, 2020).

[31] Determinations of Attainment by the Attainment Date, 87 Fed. Reg. 60,926, 60,927 (Oct. 7, 2022).

[32] Colo. Dep't of Pub. Health & Env't and Regional Air Quality Council, State Implementation Plans for the Denver Metro and North Front Range Ozone Nonattainment Area: Proposed Severe and Moderate SIP Revisions, 5-47 (Aug. 5, 2022) (Ex. 04).

Club currently has more than 842,510 members nationwide, and more than 24,825 members in Colorado.

B. Suncor, Already a Large Source of Pollution, Frequently Exceeds Its Emission Limits—Further Burdening the Surrounding Communities

Suncor's West Plant frequently exceeds its emissions limits, as Table 1 below shows. For example, in the five years from 2019 through 2023, Suncor reported exceedances of the allowable concentration of CO in the Fluid Catalytic Cracking Unit ("FCCU") Regenerator vent that totaled at least 733 hours.[33] These exceedances occurred during three-quarters of the quarterly reporting periods—at least sixteen out of twenty quarters. Similarly, Suncor exceeded the allowable opacity concentration from the FCCU during more than half of the quarterly reporting periods from 2016 to July 2022 (at least fourteen out of twenty quarters).[34] The FCCU is far from the only problematic source of emissions. Over that same period, Suncor reported at least 1,150 hours of H_2S emissions exceeding the allowable concentration in the flare header, occurring during all but one of the twenty quarters.[35]

Table 1. Number and Total Hours of Exceedances, West Plant 1& 3 Flares and FCCU

	Hydrogen Sulfide (Flare)		**Carbon Monoxide (FCCU)**		**Opacity (FCCU)**	
	162 ppmv, 3-hr rolling average basis[36]		500 ppmv, corrected to 0% O_2, 1-hr average basis[37]		20% six-minute block average basis[38]	
Year	**No.**	**Hours**	**No.**	**Hours**	**No.**	**Hours**
2023	24	233	22	319	111	105.2
2022	24	357	10	69	6	0.5
2021	21	137	12	123	22	5.3
2020	19	173	18	151	34	37.3
2019	30	250	19	71	36	65.4

[33] *See* Compilation of Suncor Quarterly Excess Emissions Reports (Q1 2019 through Q4 2023) (Ex. 05). Per Consent Decree H-01-4430, the allowable concentration of CO in the FCCU Regenerator vent is 500 ppmv, 1-Hour average (0% O_2 Corrected). *See id.*

[34] Per Colorado Regulation No. 1, the allowable opacity concentration from the FCC is 20% (6-minute block average).

[35] Per NSPS Subpart J/Ja, the permitted allowable concentration of H2S in the flare header is 0.1 gr/dscf (162 ppmv, 3-hour rolling average).

[36] Per NSPS Subpart Ja.

[37] Per Consent Decree and NSPS Supbart Ja.

[38] Per 5 C.C.R. § 1001-3:II.A.1 (Reg. 1).

Suncor's problems with exceeding emission limits, deviating from applicable requirements, and failing to comply with its permit conditions—show no sign of abating. Further, the above exceedances are just a snapshot of Suncor's emissions problems. In 2023 alone, Suncor reported over 1,660 hours of emissions exceedances at the West Plant. Meanwhile, Plant 2—which is inappropriately considered to be separate from the West Plant (Plant 1 and 3)—has recorded additional exceedances and deviations.[39]

Suncor also reports more frequent upsets—specifically, consent decree reportable incidents—than many comparable refineries, according to a recent analysis from EPA.[40] The report shows that, between 2016 and 2020, Suncor reported 10 acid gas flaring incidents—the second-most out of the twelve refineries examined, and far ahead of the refinery with the third-most incidents, which had only 4. Only one refinery, the HollyFrontier El Dorado, had more incidents in the same period. But HollyFrontier El Dorado the refinery's operating capacity is more than 50% **greater** than Suncor's.[41] In addition, Suncor had the most tail gas incidents of any other refineries in the same period, with a whopping 20 incidents; the refinery with the next-most incidents had only 13 tail gas incidents.[42] Several refineries that are considerably larger than Suncor had zero incidents.[43] And for hydrocarbon flaring, Suncor reported 17 incidents over the 5-year period.[44]

Suncor's compliance history has not improved since the public comment period on the Draft Permit. For each type of incident described in EPA's analysis, the data shows that Suncor's incidents continue with the same frequency.[45] Similarly, the number and extent of exceedances at the main flare and FCCU have shown no trend of improvement. *See* Tbl. 1, above. The lack of improvement at the FCCU is especially disturbing because, pursuant to an enforcement settlement, in April 2021 Suncor made upgrades to the FCCU intended to improve its compliance.[46] Yet the FCCU has continued to emit excess emissions after April 2021, including 319 hours of excess CO emissions and 105 hours of excess opacity in the fourth quarter of 2023. [47] The automated shutdown system, while necessary, is

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[39] *See* Compilation of Suncor Quarterly Excess Emissions Reports, *supra* note 33.

[40] EPA, Suncor Refinery Data Analysis (obtained by Earthjustice on Aug. 25, 2022) (Ex. 06).

[41] *See id.* at 1 (reporting Suncor's operable capacity as 103,000 bpcd and El Dorado's as 162,000 bpcd).

[42] *Id.* at Tbl. 3.

[43] *Id.* at Tbls 3, 1.

[44] *Id.* at Tbl. 4.

[45] *See id.* at Tbls. 2–4.

[46] Letter from Donald Austin, VP Commerce City Refinery, to Colo. Dep't of Pub. Health & Env't and the Colorado Dep't of Law (Apr. 12, 2021) ("Suncor Implementation Plan and Additional Voluntary Measures") (Ex. 07).

[47] *See* Compilation of Suncor Quarterly Excess Emissions Reports.

therefore insufficient to address Suncor's problem of excess emissions: more action is essential.

In light of Suncor's persistent pollution and operational problems, EPA and the CDPHE have opened fourteen enforcement cases against Suncor since 2011. As Table 2 below shows, these enforcement cases found numerous monitoring and LDAR violations, excess hydrogen sulfide in the fuel gas, and unlawful venting from API separators.[48] Despite these continued enforcement efforts, Suncor has yet to show that it is capable of operating within existing permit limits.

Table 2. CDPHE Enforcement Cases Against Suncor 2011–2022[49]

Case No.	Violation	Opened	Closed	Penalty	Source Report
2011-049	NESHAP Subpart FF & NSPS Subpart QQ	8/6/11	Not provided	$100,000	Q3 2013
2013-029	RACT Violations	2/19/13	12/18/15	$0	Q1 2016
2013-135	Multiple violations at East & West Plants	8/22/13	7/31/18	$0	Q3 2018
2014-122	Reporting & Emissions	12/3/14	6/7/17	$46,785	Q3 2015 & Q2 2017
2014-123	Reporting & Emissions	12/3/14	6/7/17	$171,240	Q2 2017
2016-119	Emissions & Recordkeeping	6/8/16	Not provided	$31,290	Q1 2017
2017-092	Emissions & monitoring violations	8/29/17	8/3/21	$163,080	Q3 2017, Q2 2018, Q3 2021
2018-100	Emission & monitoring violations	9/11/18	Not provided	$0	Q3 2018, Q2 2019, Q3 2019
2019-049	Failure to control emissions	3/6/19	5/28/19	$3,500	Q1 2019, Q2 2019
2019-097	Emissions, monitoring, APEN, permitting violations	6/24/19	Not provided	$0	Q2 2020, Q1 2020

[48] *See, e.g.*, Case Nos. 2019-097 & 2019-194 at 58–68 (effective date Mar. 6, 2020); Case No. 2018-100 at 10–14 (effective date June 24, 2019), https://cdphe.colorado.gov/enforcement-actions-against-suncor.

[49] *See* Colo. Dep't of Pub. Health & Env't, *Enforcement Action Reports*, https://cdphe.colorado.gov/compliance-and-enforcement/enforcement-action-reports (last visited August 20, 2024).

2019-171	Failure to Control Emissions	10/1/19	Not provided	$3,500	Q3 2019, Q4 2019, Q2 2020
2019-194	Emissions & monitoring violations	12/11/19	Not provided	$1,215,810	Q1 2020
2021-082	Emission limit, failure to control emissions, monitoring and work practice violations	8/2/21	8/3/2021	$163,080	Q3 2021
2022-076	Emissions & testing violations	5/19/22	2/5/2024	$2,245,200	Q1 2022 & Q2 2024

C. Permitting History

EPA approved the Colorado operating permit program on August 16, 2000. 65 Fed. Reg. 49,919. The Air Pollution Control Division ("Division") of the Colorado Department of Public Health and Environment is the Colorado agency responsible for issuing Title V operating permits. The requirements of the Colorado operating permit program are set forth in Colorado's Air Quality Control Program, C.R.S. § 25-7-114 et seq., and its implementing regulations, 5 C.C.R. § 1001-5:C et seq. (Part C of Regulation No. 3).

CDPHE has issued one Title V permit for the East Plant and another permit for the West Plant. At issue in this Petition is the Title V permit for the West Plant. The West Plant Title V Permit was first issued on August 1, 2004. The permit has been revised five times, most recently on July 9, 2024.

In May of 2022, CDPHE issued a draft renewal permit for the West Plant for public comment ("Draft Permit") and a supporting technical review document. On July 13, 2022, Petitioners submitted timely comments on the Draft Permit to CDPHE, which are attached as Exhibit 08 to this Petition and incorporated in full ("2022 West Plant Comments").[50]

CDPHE (1) issued a response to Petitioners' comments on the Draft Permit ("Response to Comments" or "RTC")[51] and (2) sent a proposed permit to EPA on

[50] Elyria-Swansea Neighborhood Ass'n et al., Public Comments on Proposed Title V Operating Permit for Suncor Energy (U.S.A.), Inc. Commerce City Refinery – Plants 1 and 3 (West) – Adams County, (96OPAD120) (Jul. 13, 2022) ("2022 West Plant Comments") (Ex. 08).

[51] Colo. Dep't of Pub. Health & Env't, Response to Comments on Draft Renewal Operating Permit #96OPAD120 (May 24, 2024) ("RTC") (Ex. 09).

May 24, 2024, with a 45-day review period for EPA ending on July 8, 2024.[52] CDPHE issued the final Permit and TRD on July 9, 2024. This Petition to Object is timely filed within 60 days of EPA's failure to raise objections during its review period. *See* 42 U.S.C. § 7661d(b)(2).[53]

II. Standard of Review

Under the Clean Air Act, "any person" may petition EPA to object to the issuance of a permit "within 60 days after the expiration of [EPA's] 45-day review period." 42 U.S.C. § 7661d(b)(2); *see also* 40 C.F.R. § 70.8. Each objection in the petition must have been "raised with reasonable specificity during the public comment period provided for in § 70.7(h) of this part, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period." 40 C.F.R. § 70.8(d). Any objection included in the petition "must be based on a claim that the permit, permit record, or permit process is not in compliance with applicable requirements or requirements [of 40 C.F.R. Part 70]." 40 C.F.R. § 70.12(a)(2).

Upon receipt of a petition, EPA "*shall* issue an objection within [60 days] if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of this chapter, including the requirements of the applicable implementation plan." 42 U.S.C. § 7661d(b)(2) (emphasis added).[54] When deciding whether a petitioner has met this demonstration requirement, EPA will evaluate the entirety of the permit record, including the statement of basis and Response to Comments.[55]

III. Grounds for Objection

As explained in detail in the sub-sections below, Petitioners request that EPA object to the Permit on several grounds comprised of additional individual objections.

First, the Permit improperly relies on AP-42 Section 1.4 emissions factors to calculate compliance with emission limits on fuel gas combustion units without any reasonable analysis of their reliability. EPA's position is that AP-42 factors are unreliable for permitting and should only be used as a last resort. EPA has stated that determining when emission factors are appropriate is a fact and context

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[52] Email from Michael Boydston, Senior Assistant Regional Counsel, EPA Region 8, to Ian Coghill (July 10, 2024, 08:24 MT) (Ex. 10).

[53] *See also id*.

[54] *See also* 40 C.F.R. § 70.8(c) ("The Administrator will object to the issuance of any proposed permit determined by the Administrator not to be in compliance with applicable requirements or requirements under this part.").

[55] *See* Order Responding to Petition Requesting Objection to the Issuance of Title V Operating Permit, *In re Valero Refining-Texas, L.P.*, Petition No. VI-2021-8, at 62 (June 30, 2022) ("*Valero* Order").

specific analysis, yet there is no evidence in the permitting record that CDPHE performs this analysis or considers whether site-specific methods of determining compliance are required to assure compliance. CDPHE relies on the Section 1.4 factors despite (1) EPA's prior determination that CDPHE had not justified relying on certain factors, (2) onsite evidence that Section 1.4 factors significantly underestimate emissions.

Second, EPA must object based on Suncor's abysmal compliance history. While it adopts some additional operational measures, the Permit fails to require Suncor's process hazard analysis to assess whether additional emergency shutdown capability is necessary, and CDPHE fails to provide adequate justification for the lack of requirement.

Third, the Permit improperly incorporates minor modifications that (1) were not properly evaluated for NAAQS compliance, and/or (2) should have been treated as major modifications. limits. CDPHE failed to model one modification, in violation of its current modeling policy, based on an abrogated, illegal modeling policy. CDPHE also (1) applied an outdated significance threshold to determine that a modification with relaxed emission requirements was not a major modification, and (2) failed to aggregate substantially related modifications to the refinery's flares, relying on a justification that EPA previously rejected.

As an initial matter, it is important to recognize 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. In light of the severe harms from Suncor and other sources of pollution in the Disproportionately Impacted Communities surrounding the refinery, *see* Sections I.A–I.B, above, there is a compelling need for EPA to devote increased, focused attention to ensure that the permit complies with all Title V requirements—especially by ensuring that monitoring and emission calculation requirements are adequate to assure compliance with the limits for Suncor, and ensuring that limits are not unlawfully inflated for periods of startup, shutdown, and maintenance.[56]

EPA has already recognized the significant environmental justice problems for communities surrounding Suncor. In its Objection to the Initial Proposed Permit for the East Plant, EPA agreed "that the location of the Suncor facility raises significant environmental justice concerns, as illustrated by the severity of pollution

[56] *See, e.g.*, *In the Matter of United States Steel Corp. – Granite City Works*, Order on Petition No. V-2011-2, at 4–6 (Dec. 3, 2012) ("*Granite City Works* Order") (because of "potential environmental justice concerns" raised by the fact that "immediate area around the [] facility is home to a high density of low-income and minority populations and a concentration of industrial activity," "[f]ocused attention to the adequacy of monitoring and other compliance assurance provisions [was] warranted") (citing in part to Executive Order 12898 (Feb. 11, 1994)).

and described health impacts facing the communities living in proximity to the Suncor site."[57] EPA also noted that "the impacts related to [Suncor] may raise civil rights concerns."[58] While CDPHE completed a Disparate Impacts Analysis for the West Plant Permit, that analysis was deficient, as explained by both EPA and Petitioners in their respective comments on the West Plant draft permit.[59]

In light of these environmental justice problems, Executive Order 12898 informs EPA's review of the adequacy of Clean Air Act requirements—including Title V monitoring requirements for facilities in low-income communities or communities of color that are overburdened by pollution, like the community surrounding Suncor's Commerce City refinery.[60] More specifically, in the *Granite City Works* Order, EPA recognized that (a) Executive Order 12898 "focuses federal attention on the environmental and human health conditions of minority populations and low-income populations with the goal of achieving environmental protection for all communities;" (b) Title V "can help promote environmental justice … through the requirements for monitoring, compliance certification, reporting and other measures intended to ensure compliance with applicable requirements;" and (c) "[f]ocused attention to the adequacy of monitoring and other compliance assurance provisions is warranted" when the "immediate area around the [relevant] facility is home to a high density of low-income and minority populations and a concentration of industrial activity."[61]

As EPA has elsewhere recognized, the "determination whether monitoring is adequate in a particular circumstance generally is a context-specific determination,

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[57] EPA Objection to Suncor Energy, Inc. Plant 2 Title V Operating Permit, (March 25, 2022) at 1 (Ex. 11).

[58] *Id.*

[59] Comments by EPA and the Petitioners were submitted on July 13, 2022, to the Division regarding Suncor's West Plant Draft Title V Operating Permit.

[60] *See Granite City Works* Order at 4–6.

[61] In a Title V order issued at the eleventh hour before the recent change in presidential administrations, EPA asserted that it had no obligation to "conduct an EJ analysis during any of the permit actions at issue." *In the Matter of AK Steel Dearborn Works*, Order on Petition No. V-2016-16, at 18 (Jan. 15, 2021) ("*AK Steel* Order"). EPA reached a similar conclusion in an order issued in 2019. *See In the Matter of Piedmont Natural Gas, Inc.-Wadesboro Compressor Station,* Order on Petition No. IV-2014-13 (March 20, 2019) ("*Piedmont Natural Gas* Order") at 10. Even if those orders were correctly decided (which Petitioners do not concede), they are inapposite here. Rather than addressing monitoring, reporting, and recordkeeping requirements or unlawful loopholes for startup, shutdown, and maintenance periods, the 2021 order addressed a claim that no agency had analyzed the disproportionate impact of the increased emissions permitted by the preconstruction and operating permits at issue, *AK Steel* Order at 16–19, and the 2019 order similarly addressed a claim requesting the evaluation of cumulative or secondary impacts of the facility at issue, *Piedmont Natural Gas* Order at 9–11. Further, these orders did not address EPA's prior *Granite City Works* order, where the agency, citing Executive Order 12898, correctly concluded that potential environmental justice concerns warranted "[f]ocused attention to the adequacy of monitoring and other compliance assurance provisions." *Granite City Works* Order at 4–6.

made on a case-by-case basis."[62] As part of that case-by-case determination, environmental justice factors, including the demographics of the surrounding community and amount of pollution burden borne by the community, are factors that must be considered in assessing whether a particular facility's monitoring and emission calculation methods are adequate to ensure compliance with the relevant applicable requirements.

In communities that are disproportionately impacted by large amounts of pollution—such as the north Denver and Commerce City communities around Suncor—it is especially important to ensure that members of the surrounding community can determine whether a facility that is releasing pollution that threatens their health is actually meeting its limits, and that those limits are not unlawfully inflated for periods of maintenance, startup, and shutdown. EPA thus must fulfill its responsibilities to ensure that Suncor's East Plant Title V permit fully complies with the Clean Air Act and to protect the overburdened, low-income communities of color near Suncor from disproportionate harms of air pollution from the refinery.

A. Objections Related to AP-42 Emission Factors

To estimate emissions and assess compliance with pollutant limits, the Permit relies extensively on default emission factors from EPA's AP-42, Compilation of Air Pollutant Emissions Factors (5th ed. 1995), [hereinafter "AP-42"]. As explained below, AP-42 factors are unreliable for estimating emissions from Suncor and cannot adequately assure compliance with emission limits. EPA has explicitly acknowledged that there are many flaws and shortcomings inherent to the use of AP-42; EPA accordingly cautions users to take those flaws into account. These caveats, however, are neither recognized nor acknowledged in the permit renewal by CDPHE, and as a result, the emissions estimates derived from the use of AP-42 factors—the critical foundation of the permit—are deeply flawed.

EPA has stated that AP-42 should not be used for permitting. In the introduction to AP-42, EPA stated: "Use of these factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by EPA."[63] EPA explains that AP-42 "emission factors essentially represent an average of a range of emission rates" and are "generally **assumed to be representative of long-term averages** for all facilities in the source category

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[62] *In the Matter of Northeast Maryland Waste Disposal Authority-Montgomery County Resource Recovery Facility*, Order on Petition No. III-2019-2 (Dec. 11, 2020) ("*MCRRF* Order").

[63] EPA, Introduction to AP-42 8–10 (5th ed. 1995), https://19january2021snapshot.epa.gov/sites/static/files/2020-09/documents/c00s00.pdf; *see also* EPA Order at 24 ("With respect to emission factors based on AP-42, the Petitioners correctly observe that EPA generally does not recommend using AP-42 emission factors for compliance demonstrations, and EPA has characterized such use as a "last resort.").

(i.e., a population average)."[64] As a result, "approximately half of the subject sources will have emission rates greater than the emission factor," meaning that "**a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance.**"[65] EPA continues:

> Average emissions differ significantly from source to source and, therefore, emission factors frequently may not provide adequate estimates of the average emissions for a specific source. The extent of between-source variability that exists, even among similar individual sources, can be large depending on process, control system, and pollutant. . . . As a result, some emission factors are derived from tests that **may vary by an order of magnitude or more**. Even when the major process variables are accounted for, the emission factors developed may be the result of averaging source tests that **differ by factors of five or more**.[66]

EPA reaffirmed its position regarding the unreliability of AP-42 emission factors for use in demonstrating whether a source is complying with emission limits in an enforcement alert issued in November 2020.[67] EPA issued that enforcement alert because it was "concerned that some permitting agencies, consultants, and regulated entities may incorrectly be using AP-42 emission factors in place of more representative source-specific emission values for Clean Air Act permitting and compliance demonstration purposes."[68] EPA reminded permitting agencies, consultants, and regulated entities that AP-42 emission factors are only based on averages of data from multiple sources, and therefore "are not likely to be accurate predictors of emissions from any one specific source, except in very limited scenarios."[69] EPA also explained that "[i]n developing emission factors, test data are typically taken from normal operating conditions and generally avoid conditions that can cause short-term fluctuations in emissions," which "can stem from variations in process conditions, control device conditions, raw materials, ambient conditions, or other similar factors."[70] EPA emphasized that "even factors that are rated 'A' or 'B' are not designed to be used by a single source where other, more

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[64] *Id*. at 1–2.

[65] *Id*. (emphasis added).

[66] *Id*. at 3 (emphasis added).

[67] EPA, Pub. No. EPA 325-N-20-001, *Enforcement Alert: EPA Reminder About Inappropriate Use of AP-42 Emission Factors* 3 (Nov. 2020) [hereinafter "Enforcement Alert"] https://www.epa.gov/sites/production/files/2021-01/documents/ap42-enforcementalert.pdf.

[68] *Id.* at 1.

[69] *Id.*

[70] *Id.*

reliable, site-specific, data are available."[71] EPA declared: "**Remember, AP-42 emission factors should only be used as a last resort.**"[72]

Based on the above, it is clear that AP-42 emission factors are inappropriate for developing estimates for permitting purposes, since the emissions estimates for permitting are supposed to represent the "potential" or high-end emission estimate value. In contrast, AP-42 emission factors represent "average" and not maximum emission rates. Thus, in each instance that Suncor's calculations rely on AP-42 emission factors the resultant emissions estimates (all other criticisms aside) are unquestionably underestimates. This has material consequences since the emissions calculations underlie other analyses such as air quality dispersion modeling and cost-effectiveness analyses.

1. Threshold Issues Relevant to EPA's Consideration of CDPHE's Use of AP-42 Factors Here

Petitioners address two important threshold issues concerning the appropriate burdens on Petitioners and CDPHE related to AP-42 emission factors.

First, Petitioners have provided the *only* information in the permitting record concerning whether CDPHE's use of AP-42 Section 1.4 is unreasonable or arbitrary. EPA stressed in the East Plant Order that the decision of what emission factor to apply to a unit is a "is inherently a context-specific, case-by-case inquiry."[73] CDPHE has not identified any (1) policy governing how it analyses when an emission factor is appropriate, (2) example of a substantive analysis of whether an AP-42 factor is appropriate, or (3) analysis of alternative methods for measuring emissions (e.g., performance test). Indeed, CDPHE has not cited any circumstance, and Petitioners have not identified, where CDPHE analyzed whether to require performance testing instead of an AP-42 factor. The only evidence in the permitting record indicates that CDPHE applies AP-42 factors even where it has evidence that they have substantially underestimated emissions at similar units,[74] and CDPHE did not even respond to this evidence in its Response to Comments.

When 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.

Second, in evaluating whether Petitioners have met their demonstration burden, EPA must consider the limited information available to Petitioners

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[71] *Id.*

[72] *Id.*

[73] East Plant Order at 25.

[74] *See* III.A.3, below.

compared to CDPHE. In the East Plant Order, EPA stated that the petitioners had not included a sufficiently fact-specific analysis demonstrating that "an AP-42 emission factor is insufficient to assure compliance *as applied to any specific permit terms*."[75] While Petitioners believe they have provided the requisite fact-specific analysis below, Petitioners note that requiring more specific proof would be an insurmountable obstacle. As described in Petitioners' public comments here, Suncor is only required to submit reports of permit deviations to regulators, not regular pollutant and parameter monitoring data.[76] CDPHE has the authority to request this data,[77] but if it does not, the data is not a public record. As a result, Petitioners have no way 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.

In evaluating whether Petitioners have satisfied their demonstration burden or whether CDPHE has met its burden to justify the adequacy of AP-42 monitoring requirements, EPA must consider the parties' relative access to relevant information.

2. <u>OBJECTION 1:</u> 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

EPA must object to CDPHE's reliance on AP-42 Section 1.4 emission factors for particulate matter emissions because (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.

The emissions units relevant to this objection include Process Heaters, Process Boilers, and the Sulfur Recovery Unit tail gas incinerator (H-25) identified in Section III.A.2.d below.

a. The East Plant Order Already Decided that CDPHE Had Not Adequately Justified Relying on Section 1.4 Emission Factors for Particulate Matter Emissions

In the East Plant petition, the petitioners argued that CDPHE should not rely on the Section 1.4 emission factors for particulate matter emissions because

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[75] East Plant Order at 27.

[76] *See* 2022 West Plant Comments at 75-76 (citing Permit, App'x B); *see also* RTC at 37-38.

[77] *See* West Plant Permit § IV.22.b.

(1) the emissions factors in Section 1.4 are for natural-gas fired combustion sources, while the units identified burn refinery fuel gas, and (2) AP-42 itself gives the total PM emission factor a "D" rating.[78] EPA granted the petitioners' request for objection on this basis.[79]

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."[80] 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."[81]

Second, EPA rejected CDPHE's justification for concluding that the PM factor was "conservative."[82] 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.[83]

Third, EPA noted that the total PM emission factor in AP-42 is rated "D" in large part 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."[84]

Finally, 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.[85] 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."[86]

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[78] Earthjustice, *Colorado department of Public Health and Environment's Clean Air Act (CAA) Renewal of Titile V Permit 95OPAD108 Suncor Energy, Inc. Plant 2 (East Plant)* ("East Plant Petition") (October 11, 2022) at 38 (Ex. 12).

[79] East Plant Order at 37, 99.

[80] *Id.* at 37.

[81] *Id.*

[82] *Id.*

[83] *Id.*

[84] *Id.*

[85] *Id.*

[86] *Id.*

Ultimately, EPA ordered CDPHE to "amend the permit record and/or Permit to ensure that the Permit assures compliance with the relevant PM emission limits on the [relevant units]", including instructing CDPHE to "consider whether it is necessary to revise the Permit to include additional stack testing or other means of obtaining a more representative emission factor."[87]

EPA's East Plant Order applies in full force to this Objection because Petitioners are challenging use of the same emission factor on the same category of emission units.

b. CDPHE Did Not Require Additional Stack Testing or Provide Any Further Substantive Justification for Relying on Section 1.4 Emission Factors for Particulate Matter

CDPHE's Response to Comments does nothing to further justify its reliance on the AP-42 Section 1.4 emission factor or meaningfully respond to the East Plant Order.

First, at the outset, 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.[88]

Second, CDPHE supports its assertion that the AP-42 emissions factors are "appropriate to estimate emissions" by stating that

> 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.[89]

CDPHE's response is inadequate for several reasons. CDPHE cites nothing for the proposition that PM emissions are "generally related to poor combustion," nor does it provide an explanation for why fuel use restrictions are relevant at all. Further, CDPHE fails to explain why Colorado Regulation No. 1 is relevant to its determination to rely on Section 1.4 emission factors for particulate matter. In fact,

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[87] *Id*.

[88] *See* Ex. 13 (Redline Comparison between West Plant Response to Comments to prior East Plant Response to Comments); *Compare* East Plant Order at 36 (quoting CDPHE Response to Comments) *with* Colo. Dep't of Pub. Health & Env't, Response to Comments on Draft Renewal Operating Permit #96OPAD120 ("RTC") at 13-14.

[89] RTC at 18.

Permit Condition 36.1 and Colorado Regulation No. 1 appear to allow sources to emit far more PM emissions per heat input than AP-42 Section 1.4 provides for. *Compare* 5 C.C.R. § 1001-3:III.A.1 (allowing up to 0.5 lbs/MMBtu) *with* West Plant Permit § 13.1 (setting emission factor for boilers at 0.00745 lbs/MMBtu).[90]

Third, CDPHE further asserts that it "investigated whether the AP-42 emission factor was consistent with other available data for GFR-fired combustion sources."[91] The Division asserts that it reviewed the "the USEPA WebFire database and RACT/BACT/LAER Clearinghouse (RBLC) BACT determinations" for emission factors for refinery process heaters and boilers and it found emission factors "ranging from 7.14 to 8.70 lb/MMscf in those databases, versus 7.6 lb/MMscf in AP-42."[92]

But CDPHE's claims do not support its reliance on the Section 1.4 emission factor. At the outset, by its own admission, the Division 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. In addition, again, CDPHE provides no support for its statement concerning the results of its search. The results of this review are not in the permit record and the public is required to merely accept the CDPHE's conclusions. 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. Petitioners have been unable to recreate the CDPHE's results in those databases, and, in fact, Petitioners identified at least one PM emission factor included in those databases that was substantially higher than those identified by CDPHE.[93] Without adequate information to evaluate CDPHE's conclusions, CDPHE's response is inadequate to justify that the monitoring for these units is adequate to assure compliance.

Fourth, contrary to the instruction in the East Plant Order,[94] CDPHE does not even address or consider requiring stack tests for these units. As EPA noted, stack tests are likely available for most if not all of the units at-issue here. CDPHE's Response to Comments does not even address whether it considered

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[90] Indeed, using the equation in Condition 36.1, Boiler B6, with a 110 MMBtu/hr capacity, would be permitted to emit 0.147 lbs/MMBtu—almost 20x higher than the AP-42 emission factor.

[91] RTC at 15.

[92] *Id*.

[93] *See* RACT/BACT/LAER Clearinghouse, Process Information Details, Marathon Garyville Refinery Vacuum Tower heaters 210-1403 and 210-1404, (Ex. 14) (showing 0.01 lb/MMBtu PM emission factors).
https://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.ProcessInfo&facility_id=29153&PROCESS_ID=115387.

[94] East Plant Order at 37.

requiring stack tests, let alone provide any justification for why stack tests would not be appropriate.

c. Additional Bases for Objection

While Petitioners believe that the East Plant Order is dispositive on this objection, for completeness, Petitioners include the following detailed discussion largely mirroring the discussion in the East Plant petition.

The reliance on the AP-42 Section 1.4 emission factor for particulate matter is unreasonable for stationary combustion sources like boilers and heaters, because AP-42 itself gives the total PM emission factor a "D" rating,[95] which is considered "[b]elow average."[96] The Permit's reliance on an emission factor that is recognized as unreliable even by AP-42 is particularly egregious. At the time that CDPHE released the Draft Permit for public comment, it offered no explanation whatsoever for why use of this obviously unreliable AP-42 emission factor in Suncor's PM emissions calculations is sufficient to assure Suncor's compliance with applicable PM emission limitations. CDPHE's Response to Comments provides no further reasonable justification, as explained above.

Moreover, the West Plant Permit relies on the emission factors in Section 1.4 of AP-42 to estimate emissions of criteria pollutants from most stationary sources at Suncor, including process heaters, process boilers, and tail gas incinerators.[97] This reliance is improper because the emission factors in Section 1.4 are for natural-gas fired combustion sources, while the identified units at Suncor burn refinery fuel gas.[98] AP-42 recognizes that emissions will differ between these two fuels: Process heaters at petroleum refineries may burn "refinery gas, natural gas, residual fuel oils, or combinations" of the various types of fuels, and "[t]he quantity of these emissions is a function of the type of fuel burned, the nature of the contaminants in the fuel, and the heat duty of the furnace."[99]

d. Requirements Not Met by the Permit and Permit Conditions Impacted by This Failure

The Permit does not meet the following requirements as a result of its reliance on unreliable AP-42 emission factors for particulate matter specifically.

First, it fails to meet the requirement that a permit include "compliance certification, testing, monitoring, reporting, and recordkeeping requirements

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[95] AP-42 § 1.4, tbl. 1.4-2.

[96] *Id.* at Introduction at 9

[97] West Plant Permit § II, Conds. 11.1, 12.1, 13.1, 14.1, 15.1, 16.1, 17.1, 18.1, 19.1, 20.1.1, 21.1, 27.1, 28.2, 29.1, 30.1, 31.1.1.

[98] *See* AP-42 § 1.4 at 1; West Plant Permit § I, Cond. 5.1 (describing emissions units at the refinery).

[99] AP-42 § 5.1.2.9.

sufficient to assure compliance with the terms and conditions of the permit." 40 C.F.R. § 70.6(c)(1); 5 C.C.R. § 1001-5:C.V.C.16.a.

Second, the 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. 40 C.F.R. § 70.7(a)(5).[100]

The conditions of the Permit (Section II) that are impacted by this objection are:

- Condition 11.1 (Process Heater H-6)
- Condition 13.1 (Process Boilers B6 and B8)
- Condition 14.1 (Process Heater H-17)
- Condition 15.1 (Process Heater H-19)
- Condition 16.1 (Process Heater H-28 and H-29)
- Condition 18.1 (Process Heater H-37)
- Condition 19.1 (Process Boiler B-4)
- Condition 20.1.1 Sulfur Recovery Units (SRU #1 – P101, SRU #2 – P102) and Tail Gas Unit (H-25))
- Condition 21.1 (Process Heaters H-1716 and H-1717)
- Condition 27.1 (Process Heater H-2101)
- Condition 28.2 (Process Heater H-2410)

e. Petitioners Raised the Issue with Reasonable Specificity in Comments on the Draft Permit

Petitioners raised this issue with specificity in timely comments filed on the Draft Permit on July 13, 2022. 2022 West Plant Comments at 54–55.

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For the reasons above, EPA must object to CDPHE's reliance on AP-42 Section 1.4 emission factors for PM. Given the lack of any evidence that CDPHE

[100] *See also Valero* Order at 62 (grating petition to object where "the permit record, including [] statement of basis and [Response to Comments], does not contain sufficient information to conclude that there is adequate monitoring to assure compliance with relevant emission limits.").

performs the required fact-specific analysis for applying emission factors,[101] EPA should order CDPHE to require regular performance tests, as discussed above, for each of these units and conditions to determine accurate emission factors supplemented with parametric monitoring.

3. OBJECTION 2: EPA Must Object to the Permit's Reliance on AP-42 Emission Section 1.4 Emission Factor for NOx Emissions from Combustion Units Because CDPHE's Explanation is Unreasonable and Unsupported by the Record.

The Permit improperly relies on the NOx emission factors in AP-42 Section 1.4 to estimate NOx emissions from Heater H-6 and Heater H-13 without adequate justification. The emission factor for H-6, 0.049 lb/MMBtu, is rated D, and the emission factor for H-13, 0.098 lb/MMBtu is rated B. These ratings are improper because (1) the units are burning refinery fuel gas and not natural gas, (2) performance tests onsite at similar units showed that Section 1.4 emission factors substantially under-estimated emissions from these devices, and (3) the rankings of the factor for the units is lower than the units at-issue in the performance tests.

First, as noted in Section III.A.2.a above, AP-42 Section 1.4 factors are inappropriate to estimate emissions from units that burn refinery fuel gas because the factors were developed for units burning natural gas. As EPA recognized in the East Plant Order, emissions from refinery fuel gas can vary from emissions from natural gas.[102]

Second, performance tests on other heaters and boilers at the refinery demonstrate that Section 1.4 NOx emission factors are unreliable to estimate emissions from the refinery.

- In 2018, Suncor conducted a performance test on boiler B4 to comply with updates to Regulation No. 7.[103] The results of the test demonstrated that true NOx emissions were 68% higher than the emissions estimated by the emission factor from AP-42 Section 1.4.[104] It is also important to recognize that the factor applicable to Boiler No. 4 at the time of the test was rated A—*the most reliable factor rating in AP-42*.[105]

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[101] *See* East Plant Order at 25.

[102] *Id*. at 37.

[103] *See* West Plant Permit TRD at 62; 5 Colo. Code Regs. § 1001-9 (Reg. 7).

[104] *See* West Plant Permit TRD at 62 (tested emission factor was 0.464 lb/MMBtu vs. AP-42 factor of 0.275 lb/MMBtu).

[105] *See* AP-42 § 1.4 tbl.1.4-1 (listing emission factor for Large Wall-Fired Boilers, Uncontrolled (Pre-NSPS)).

- In 2002, Suncor performed a NOx performance test on Process Heater H-33.[106] That test demonstrated an emission factor for H-33 of .051 lb/MMbtu.[107] The Section 1.4 emission factor for a heater with an ultra-low NOx burner, like H-33, is 0.031 lb/MMBtu.[108] Like Boiler B-4, the site-specific performance test demonstrated emissions that were over 60% greater than the emissions estimated by AP-42. The AP-42 factor applicable to H-33 at the time was rated B[109]—the second most reliable factor rating.

The weaknesses demonstrated for the NOx estimations are unsurprising for the reasons described above—AP-42 factors are, at best, an average that guarantees that half of units will emit more than the amount identified in the emission factor, and Section 1.4 is based on the natural gas used in industrial and residential uses.[110] Yet, despite these demonstrated weaknesses, the Permit impermissibly relies on AP-42 Section 1.4 to estimate NOx emissions for Heaters H-6 and H-13.

Third, this reliance is particularly troubling because of the low rankings of these factors. The emission factor for Boiler B4 was A-rated but still determined to be 68% too low, while the emission factor for H-33 was rated B but over 60% too low. Heater H-13's emission factor is also rated B, but there is nothing in the record to suggest that the AP-42 factor should be more accurate for Heater H-13. The rating for H-6's emission factor, meanwhile, is rated D.

Heaters H-6 and H-13 are both subject to NOx emission limits,[111] and an error in the NOx emission factor could cause an exceedance of those limits.

a. Requirements Not Met By the Permit and Permit Conditions Impacted by the Failure

The Permit does not meet the following requirements as a result of its reliance on unreliable AP-42 emission factors for particulate matter specifically.

First, it fails to meet the requirement that a permit include "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit." 40 C.F.R. § 70.6(c)(1); 5 C.C.R. § 1001-5:C.V.C.16.a.

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[106] Permit § II, Cond. 18.1.

[107] *Id.* Cond. 18.

[108] *See* AP-42 § 1.4 tbl.1.4-1.

[109] *Id.*

[110] *See* AP-42 § 1.4 at 1.

[111] Permit § II., Conds. 11.1, 14.1.

Second, the 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. 40 C.F.R. § 70.7(a)(5).[112]

The conditions of the Permit (Section II) that are impacted by this objection are:

- Condition 11.1 (Process Heater H-6)
- Condition 14.1 (Process Heater H-13)

b. Petitioners Raised the Issue with Reasonable Specificity in Comments on the Draft Permit

Petitioners raised this issue with specificity in timely comments filed on the Draft Permit on July 13, 2022. 2022 West Plant Comments at 48-52.

c. CDPHE's Arguments in Response to Comments Fail to Justify the Use of NOx Emission Factors from AP-42 Section 1.4

CDPHE's response to comments fails to justify its reliance on the Section 1.4 NOx emission factor for Heaters H-6 and H-13.

First, CDPHE does not respond to Petitioners' argument above that performance tests at Boiler B4 and Heater H-33, (1) showed emissions far higher than those predicted by AP-42 emission factors, and, there (2) are evidence that Section 1.4 AP-42 factors for fuel combustion units, and specifically NOx factors, are not reliable to estimate emissions at the refinery. Instead, CDPHE misinterprets Petitioners' comment as referring to "deviations" at those units and then proceeds to explain why CDPHE believes monitoring is adequate.[113] But, Petitioners are not challenging the adequacy of monitoring at those units for the simple reason that monitoring at those units *is no longer based on AP-42 emission factors.*

The performance tests at these units indicates that actual emissions at the units were far higher than the AP-42 factors, and those results are evidence that emissions at similar units in the refinery are also under-estimated by AP-42 emission factors. CDPHE cites to no performance tests at the refinery showing other units emitting emissions in-line with AP-42 factors, and it has failed to

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[112] *See also Valero* Order at 62 (grating petition to object where "the permit record, including [] statement of basis and [Response to Comments], does not contain sufficient information to conclude that there is adequate monitoring to assure compliance with relevant emission limits.").
[113] RTC at 16.

explain why it believes that Section 1.4 NOx emission factors are sufficient to estimate emissions at these other units.

Second, CDPHE unreasonably argues that the Section 1.4 emission factor is reasonable to estimate NOx emissions from Heater H-6 because its emissions are "too low to qualify for th[e] Regulation No. [26, Part B, Section II.A.4][114] testing requirement" and, therefore, CDPHE believes additional monitoring for Heater H-6 is "not pragmatic."[115]

To begin with, 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."[116] The annual NOx emission limit for Heater H-6 is 3.09 tpy, with an annual fuel usage limit of 1.26144×10^{11} Btu.[117] If actual NOx emissions from Heater H-6 were even 1% higher than the Section 1.4 emission factor, Suncor would violate the 3.09 tpy limit.[118] Meanwhile, if the actual NOx emissions were 68% higher—like those found in the performance test for Boiler B4—then Heater H-6 would emit over 5 tpy. An even greater discrepancy is possible, or even likely, given that the rating for Heater H-6's emission factor is "D," compared with the "A" rating of the Boiler B4 emission factor.

CDPHE's say-so statement that additional monitoring is not pragmatic is both unexplained and unsupported by any meaningful standard. Regardless, CDPHE's argument about Regulation No. 26 testing is non-sensical because that testing does not apply to *any* refinery gas burning units, as CDPHE acknowledges elsewhere in its Response to Comments.[119]

Finally, CDPHE argues 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

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[114] The Response to Comments erroneously refers to testing under Regulation No. 7, Part E, Section II.A.4. That requirement of Regulation No. 7 was moved to Regulation No. 26, Part B, Section II.A.4 on April 20, 2023. *See* Regulation No. 26, Part C, Section I, 5 C.C.R. § 1001-30:C.I, at table (describing moving regulation adopted July 19, 2018).

[115] RTC at 17.

[116] *Id.*

[117] West Plant Permit § II. Conds. 11.1, 11.5.

[118] The same analysis applies to Heater H-13, *see* Permit § II. Conds. 14.1, 14.5, though the Response to Comments does not address Heater H-13.

[119] *See* RTC at 36 (noting refinery fuel gas provisions have been removed from Regulation No. 26, Part B, Section II.A.4.g).

calculations based on "the heat content of the fuel being combusted" and not the volume of fuel being used.[120]

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. This argument is directly contrary to EPA's conclusion in the East Plant Order that emissions from burning refinery gas may differ based on the chemical content of the gas (including sulfur) and the presence of emission control devices on the specific units.[121] CDPHE's conclusion that combustion chamber heat content is the only relevant factor in considering emissions between different units is further belied by AP-42 itself which states that NOx, CO, and VOC emissions can vary depending on the control technology used in the unit. CDPHE cites nothing to support its apparent assumption that differences between natural gas and refinery fuel gas would not further impact emission differences stemming from those technologies.

* * * * *

For the reasons above, EPA must object to CDPHE's reliance on AP-42 Section 1.4 emission factors for NOx. Given the lack of any evidence that CDPHE performs the required fact-specific analysis for applying emission factors,[122] EPA should order CDPHE to require regular performance tests, as discussed above, for each of these units and conditions to determine accurate emission factors supplemented with parametric monitoring.

4. OBJECTION 3: 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

CDPHE's reliance on AP-42 factors to estimate emissions for permitting, and specifically to calculate VOC and CO emissions the Process Heaters, Process Boilers, and the Sulfur Recovery Unit tail gas incinerator (H-25) identified in Section III.A.4.c, fails to ensure compliance and is unreasonable and unsupported by the record. Without explanation, CDPHE merely asserted that "the emission factors, and monitoring for VOC, CO, and PM for the emission units mentioned . . . are adequate to monitor compliance with permit limits."[123]

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[120] RTC at 14 ("The draft permit accounts for this potential discrepancy between refinery fuel gas and natural gas by providing emissions calculations in units of lb/MMBtu instead of lb/scf, thus appropriately accounting for the heat content of the fuel being combusted.").

[121] *See* East Plant Order at 36-37.

[122] *See id*. at 25.

[123] RTC at 18.

a. CDPHE's Reliance on the Section 1.4 Emission Factor for VOC is Unreasonable and Unsupported by the Record

CDPHE's reliance on the Section 1.4, Table 1.4-2 emission factor to estimate emissions from the fuel gas combustion units is unreasonable. In addition to the other issues with AP-42 emission factors raised above, relying on the VOC emission factor is further unreasonable for the following reasons.

First, as noted above, performance tests at similar units at Suncor have shown A- and B-rated Section 1.4 NOx emission factors to underestimate emissions by over 60%, while the emission factor for VOCs is rated even lower—Grade C.[124] The only evidence in the permitting record comparing Section 1.4 emission factors to the actual performance of units at the refinery raises substantial questions about the reliability of Section 1.4 factors applied to fuel combustion units at the refinery. It is unreasonable for CDPHE to automatically assume that emission factors AP-42 designates as even less reliable are sufficient to assure compliance.

Second, the Section 1.4 VOC emission factor is even more concerning because Section 1.4 applies the same factor to all units while applying substantially different NOx factors depending on the unit's characteristics.[125] It is nonsensical to conclude that each of these units will have the same VOC emissions while the NOx emission estimates and monitoring vary so substantially. As AP-42 Section 1.4 explains, "[t]he rate of VOC emissions from boilers and furnaces [] depends on combustion efficiency." Combustion practices that "promote high combustion temperatures, long residence times at those temperatures, and turbulent mixing of fuel and combustion air" minimize VOC emissions.[126] But combustion efficiency can be reduced by the addition of NOx control systems such as low NOx burners and flue gas recirculation (FGR).[127] The fact that Section 1.4 varies NOx emission estimates while retaining a single VOC emissions estimate casts further doubt on the reliability of the Section 1.4 emission factor.

The fuel gas combustion units in Conditions 13.1, 16.1, 18.1, 19.1, 20.1, 21.1, 27.1, and 28.1 all have binding VOC emission limits, and an error in the VOC emission factor could cause an exceedance of those limits.

CDPHE cannot reasonably assume that the Section 1.4 VOC emission factor is adequate to assure compliance given that (1) AP-42 factors are generally considered unreliable and a "last resort," (2) as EPA stated in the East Plant Order, concerns about the feasibility of performance tests do not necessarily apply to the fuel

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[124] AP-42 Section 1.4, Tbl. 1.4–1.

[125] *Id.*

[126] RTC at 18.

[127] *Id.*

combustion units here, (3) the only relevant evidence in the record indicates that high-rated Section 1.4 NOx factors substantially underestimated emissions and the Section 1.4 VOC factor is rated lower, and (4) Section 1.4 applies the same VOC factor despite substantial differences in NOx factors among units. Given all of these specific red flags, CDPHE has an obligation to justify its conclusion that the AP-42 emission factor is adequate to assure compliance.

b. CDPHE's Reliance on the Section 1.4 Emission Factor for CO is Unreasonable and Unsupported by the Record

CDPHE's reliance on Section 1.4 to estimate CO from fuel gas combustion units is unreasonable for the same reasons as the VOC emission factor.[128] More specifically:

First, while the CO factor is rated more highly—with a B rating[129]—the performance tests cited by Petitioners found that A-rated and B-rated emission factors had still substantially underestimated NOx emissions.

Second, as with the VOC factor, (1) Section 1.4 relies on one CO factor while using significantly varied NOx factors, and (2) CO and NOx emission are related. As stated in AP-42 itself:

> [t]he rate of CO emissions from boilers depends on the efficiency of natural gas combustion. Improperly tuned boilers and boilers operating at off-design levels decrease combustion efficiency resulting in increased CO emissions. In some cases, the addition of NOx control systems such as low NOx burners and flue gas recirculation (FGR) may also reduce combustion efficiency, resulting in higher CO emissions relative to uncontrolled boilers.[130]

CDPHE even admits that NOx and CO are inversely related:

> Considering potential heating value discrepancies, it is possible that if one standard cubic foot (SCF) of natural gas were combusted, it would have a different combustion chamber temperature than one SCF of refinery fuel gas, thus the emission ratio of CO to NOx may be different (in general, a higher combustion chamber temperature leads to higher NOx and lower CO, and vice versa).[131]

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[128] *See* West Plant Permit § II, Conds. 11, 12, 14, 15, 16, 18, 19, 67.

[129] AP-42 Section 1.4, Tbl. 1.4–1.

[130] AP-42, Section 1.4.

[131] RTC at 14.

All of the units identified in Section III.A.4.c have binding CO emission limits, and an error in the CO emission factor could cause an exceedance of those limits. III.A.3.a

In light of these inconsistencies in emission factors and monitoring for similar units, the Permit does not adequately justify its reliance on AP-42 factors for CO emissions.

c. Requirements Not Met by the Permit and Permit Conditions Impacted by This Failure

The Permit does not meet the following requirements as a result of its reliance on unreliable AP-42 emission factors for particulate matter specifically.

First, it fails to meet the requirement that a permit include "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit." 40 C.F.R. § 70.6(c)(1); 5 C.C.R. § 1001-5:C.V.C.16.a.

Second, the 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. 40 C.F.R. § 70.7(a)(5).[132]

The conditions of the Permit (Section II) that are impacted by this objection are:

- Condition 11.1 (Process Heater H-6)
- Condition 13.1.1 (Process Boilers B6 and B8)
- Condition 14.1 (Process Heater H-13)
- Condition 15.1 (Process Heater H-19)
- Condition 16.1 (Process Heater H-28 and H-29)
- Condition 17.1 (Process Heater H-31 and H-32)
- Condition 18.1 (Process Heater H-37)
- Condition 19.1.1 (Process Boiler B-4)

[132] S*ee also Valero* Order at 62 (grating petition to object where "the permit record, including [] statement of basis and [Response to Comments], does not contain sufficient information to conclude that there is adequate monitoring to assure compliance with relevant emission limits.").

- Condition 20.1.1 Sulfur Recovery Units (SRU #1 – P101, SRU #2 – P102) and Tail Gas Unit (H-25))
- Condition 21.1 (Process Heaters H-1716 and H-1717)
- Condition 27.1 (Process Heater H-2101)
- Condition 28.2 (Process Heater H-2410)

d. Petitioners Raised the Issue with Reasonable Specificity in Comments on the Draft Permit

Petitioners raised this issue with specificity in timely comments filed on the Draft Permit on July 13, 2022. 2022 West Plant Comments at 53–54.

e. CDPHE's Arguments in Its Response to Comments Seeking to Justify its Reliance on AP-42 Emission Factors for VOC and CO Lack Record Support and Should be Rejected as Arbitrary

CDPHE's response to Petitioners stated, without explanation, that "[t]he Division's rationale regarding NOx [] applies to this comment with respect to VOC, CO, and PM emissions as well."[133] CDPHE then merely asserted that "the emission factors, and monitoring for VOC, CO, and PM for the emission units mentioned . . . are adequate to monitor compliance with permit limits."[134] But, as discussed above in Section III.A.4, multiple sources, including AP-42 1.4 itself, explain that reliance on the AP-42 Section 1.4 emission factor for VOC and CO is not adequate because the NOx emissions factor varies substantially among units. Therefore, CDPHE's response is arbitrary and unreasonable without further explanation.

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For the reasons above, EPA must object to CDPHE's reliance on AP-42 Section 1.4 emission factors for VOC and CO. Given the lack of any evidence that CDPHE performs the required fact-specific analysis for applying emission factors,[135] EPA should order CDPHE to require regular performance tests, as discussed above, for each of these units and conditions to determine accurate emission factors supplemented with parametric monitoring.

[133] RTC at 18.

[134] *Id*.

[135] *See* East Plant Order at 25.

B. Objection Related to Suncor's Compliance History

1. OBJECTION 4: 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

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.

CDPHE may only issue a permit renewal if the permit contains "operational requirements and limitations that **assure compliance** with all applicable requirements," 40 C.F.R. § 70.6(a)(1) (emphasis added), *see also* 5 C.C.R. § 1001-5:C.V.C.1.—and only if the Division determines that the permittee "will meet all applicable regulations," C.R.S. § 25-7-114.5(7)(a). However, CDPHE has failed to adequately justify its conclusion that the West Plant Permit will assure compliance because it did not address the emergency shutdown recommendation.

a. EPA Has Already Determined that Suncor's Compliance History Requires CDPHE to Analyze Whether to Include Additional Operational Requirements to Assure Compliance

EPA has already determined that (1) Suncor's compliance history requires evaluating whether additional controls should be included in the permit, and (2) if CDPHE chooses not to adopt specific additional provisions, it must explain why those additional provisions are not required to assure compliance.[136]

In the East Plant petition, the petitioners argued that Suncor's long history of permit violations indicated that additional operational controls were required. As examples, the petitioners raised measures suggested by a third-party consultant who conducted a root cause analysis regarding certain violations, pursuant to a state enforcement settlement—Neal Walters, Kearney, Suncor Commerce City

[136] *Id*. at 21.

Refinery — Third-Party Root Cause Investigation (Apr. 12, 2021) ("Suncor Root Cause Investigation").[137]

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."[138] 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 backdrop 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."[139]

That is "EPA agrees with the Petitioner that CAA § 504(a) provides the authority—and, in some cases, an obligation—for states to consider whether title V permit terms *beyond* monitoring, recordkeeping, and reporting are necessary to assure that a facility complies with all underlying applicable requirements of the CAA that are included in the permit."[140] EPA explained that petitioners requesting additional permit terms under CAA § 504(a) must "provide a sufficient demonstration that such additional requirements are *necessary* to assure compliance—for example, that the traditional approaches are insufficient to achieve this end."[141] In order to show that additional requirements are necessary, EPA stated that petitioners will often provide a "*demonstration of persistent noncompliance with the same underlying applicable requirements*."[142]

EPA concluded that the petitioners "demonstrated that the permit record is unclear regarding whether additional permit terms are necessary to assure compliance with all applicable requirements."[143] EPA agreed that CDPHE failed to demonstrate that the additional requirements were not necessary, stating 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 FCCU limits*."[144]

EPA further explained that "[a]lthough CDPHE concludes (without any explanation) that it expects that Suncor will comply with its Permit, it does not

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[137] East Plant Petition at 24.

[138] East Plant Order at 14. EPA

[139] *Id*.

[140] *Id*. at 15.

[141] *Id.* at 17.

[142] *Id*.

[143] East Plant Order at 17.

[144] *Id*. at 20.

explain the basis for this conclusion."[145] Importantly, EPA pointed out that the lack of explanation is "especially troubling in light of 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."[146]

Therefore, EPA asserted that "because CDPHE's permit record does not address whether the additional operational requirements are necessary to assure compliance with the CO and opacity limits on the FCCU and in light of Suncor's compliance history, EPA cannot determine whether the Permit assures compliance with all applicable requirements."[147] Accordingly, EPA granted the petitioners objection as it related to this issue.[148]

EPA then directed CDPHE to "[a]t a minimum . . . amend the permit record to explain the technical basis for this position."[149] In particular, it required CDPHE to "explain why each of the additional measures requested in public comments (and again in the Petition) are not *necessary* to assure compliance."[150] If CDPHE determined that additional requirements are necessary, "it should revise the Permit accordingly and explain the basis for its decision."[151]

However, CDPHE has failed to satisfy the requirements set forth by EPA.

b. Recommendations from the Suncor Root Cause Investigation Report

The Suncor Root Cause Investigation recommends measures to prevent future violations of the site's environmental permit.[152] In its report, Suncor's third-party consultant explained that the Suncor refinery "experienced multiple Title V air emissions exceedances from July 2017 to June 2019, including releases of catalyst, hydrogen sulfide, sulfur dioxide, hydrogen cyanide, nitrogen oxides, carbon monoxide, and opacity exceedances."[153] The consultant explained that the purpose of its investigation was to "investigate root causes of the emission exceedances at the site **and recommend measures to prevent future violations of the site's**

[145] *Id.* (citing RTC at 5, 79.28).

[146] East Plant Order at 20.

[147] *Id.* (citing 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1); 5 CCR 1001-5, Part C, V.C.1.).

[148] *Id.* (citing 40 C.F.R. § 70.8(c)(3)(ii)).

[149] *Id.* at 21.

[150] *Id.*

[151] *Id.*

[152] Neal Walters, Kearney, *Suncor Commerce City Refinery — Third-Party Root Cause Investigation* 5 (Apr. 12, 2021) ("Suncor Root Cause Investigation") (Ex. 15).

[153] *Id.* at 3.

environmental permit."[154] By taking these steps, according to the consultant, Suncor could "avoid or reduce the risk of a future, potentially serios, recurrence of incidents."[155]

Of the eight recommendations in the report, Suncor accepted only one as an enforceable requirement: to upgrade the FCCU's shutdown system. Noting that it had only agreed to undertake $5 million worth of corrective actions and that the shutdown system upgrade will cost approximately $12 million to implement, Suncor contended that any additional actions that it takes to avoid future violations are merely "voluntary."[156]

The other recommended compliance measures include, among other things

1. developing a "training simulator";

2. "digitiz[ing] key response procedures to make them available to operators in real time when alarms are activated";

3. "[d]igitalization at the refinery by use of augmented/virtual reality . . . to allow remote engagement with technical experts when appropriate"; and

4. ensuring that its Process Hazards Analysis ("PHA") "includes an assessment by Suncor technical experts whether further emergency shutdown capability is warranted." [157]

Of these, 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.[158]

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[154] *Id.* at 5 (emphasis added).

[155] *Id.* at 28.

[156] Suncor Implementation Plan and Additional Voluntary Measures at 1–2.

[157] Suncor Root Cause Investigation at 30-31.

[158] *See id.* at 31 (Recommendation 7 includes the recommendation to install emergency shutdown at all FCCUs but also includes as an outstanding action "[e]nsur[ing] that Suncor's PHA process includes an assessment by Suncor technical experts whether further emergency shutdown capability is warranted.").

c. EPA's Analysis Applies with Equal Force to the West Plant Permit

EPA's previous determination that CDPHE must analyze whether additional operational requirements are necessary to assure compliance, given Suncor's compliance 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.

Suncor's compliance at the West Plant is equally problematic to the compliance at the East Plant that EPA has already determined is sufficient to require CDPHE to analyze additional operational requirements.[159] As shown in Tables 1 and 2 above, *see* Section I.B, 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.[160] Thus, it cannot be disputed that Suncor has not been meeting applicable requirements.

d. Legal Requirements Not Met by the Permit

Despite EPA's Order, CDPHE failed to follow EPA's directive to "[a]t a minimum . . . amend the permit record to explain the technical basis for this position."[161] In response to comments on the West Plant permit, CDPHE repeated its East Plant response to comments, asserting that it would "not be including the voluntary measures" including the Process Hazards Analysis on emergency shutdown capability because "[t]hese measures are not considered applicable requirements from the Compliance Order on Consent."[162]

CDPHE's limited view of what it means for a Title V permit to "assure compliance" with applicable requirements resulted in CDPHE refusing to incorporate requirements into Suncor's permit that are critical to avoiding future violations. Furthermore, CDPHE failed to provide a reasoned explanation for why the conditions that it did include in the Suncor permit are sufficient to ensure the facility's ongoing compliance. As described in Section I.B, Suncor does not have a

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[159] It is unsurprising that the East Plant and West Plant compliance histories are similar, given that the Suncor Root Cause Investigation covered both plants. *See id.* at 5.

[160] *See* East Plant Order at 20 ("This is especially troubling in light of 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."); RTC at 9 (Suncor "performed upgrades to the automated shutdown system for the Plant 1 FCCU during the spring 2021 plant turnaround.").

[161] East Plant Order at 21.

[162] RTC at 19.

history of compliance. EPA must not allow CDPHE's watered-down interpretation of Title V's critical compliance-assurance purpose to stand.

The specific legal requirements governing compliance assurance that are not met by the permit for Suncor's West Plant are as follows:

First, a Title V permit must include enforceable conditions sufficient to "assure compliance" with applicable Clean Air Act requirements. 42 U.S.C. § 7661c(a); *see also id.* § 7661a(f) (a state's Title V program must "appl[y] and ensure[] compliance with" all Clean Air Act requirements), *id.* § 7661a(b)(5)(A) (a state must have adequate authority to "issue permits and assure compliance by all [Title V sources] with each applicable standard, regulation or requirement under this chapter"). Likewise, the Colorado Air Quality Control Act provides that CDPHE shall issue a permit only if "[t]he source or activity **will meet** all applicable emission control regulations and regulations for the control of hazardous air pollutants" and "[f]or renewal operating permits, the source or activity **will meet** all applicable regulations." C.R.S. § 25-7-114.5(7)(a) (emphases added); *see also* 5 C.C.R. § 1001-5:C.V.C.1 (operating permit must contain "those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance").

The plain language and structure of Title V and the federal Title V implementing regulations—40 C.F.R. Part 70 ("Part 70")—unambiguously demonstrate that a Title V permit does not "assure compliance" merely by ***documenting violations*** with monitoring, recordkeeping, and reporting. Specifically, though documenting violations is an important Title V purpose, *see, e.g.*, 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1), a Title V permit must also aid in ***avoiding violations*** through enforceable permit conditions establishing "[e]mission limitations and standards, **including those operational requirements and limitations that assure compliance with all applicable requirements** at the time of permit issuance," 40 C.F.R. § 70.6(a)(1) (emphasis added)*; see also* 42 U.S.C. § 7661c(a), 5 C.C.R. § 1001-5:C.V.C.1. These compliance assurance conditions can (and must) be created for the first time in a facility's Title V permit.

Second, if there are changes necessary to enable a facility to comply with applicable requirements, the facility's Title V permit must include an enforceable compliance schedule with deadlines for making the requisite changes. 42 U.S.C. § 7661(3) (a Title V compliance schedule must include "a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to compliance with an applicable implementation plan, emission standard, emission limitation, or emission prohibition"); *see also* 5 C.C.R. § 1001-5:C.III.C.9(c); 42 U.S.C. § 7661c(a); 40 C.F.R. §§ 70.5(c)(8)(iii), 70.6(c)(3).

The upshot: through a combination of new permit conditions establishing improved monitoring and operating practices and corrective action set forth in enforceable compliance schedules, Congress intended for Title V to ensure that major stationary sources fully comply with Clean Air Act requirements.

e. Petitioners Raised the Issue with Reasonable Specificity in Comments on the Draft Permit

Petitioners raised this issue with specificity in timely comments filed on the Draft Permit on July 13, 2022. 2022 West Plant Comments at 36–38.

f. CDPHE Did Not Respond to Petitioner's Comment Regarding the Process Hazard Analysis Requirement, and Its General Response Echoed the Rationale that EPA Rejected on the East Plant Permit

CDPHE's response to Petitioner's comment on the West Plant Permit was inadequate because (1) it failed to follow EPA's directive from the East Plant Permit, and (2) CDPHE failed to respond specifically to the comment regarding the emergency shutdown requirement.

In response to Petitioners comments on the West Plant Permit, CDPHE stated that it "will not be including voluntary measures identified in the Implementation Plan" because "these measures on not considered applicable requirements from the Compliance Order on Consent."[163] This response is contrary to EPA's directive in the identical situation for the East Plant. As described above in Section III.B.1.a, EPA required CDPHE to "explain why each of the additional measures requested in public comments (and again in the Petition) are not *necessary* to assure compliance."[164] Therefore, CDPHE should have responded directly to Petitioner's comments about the need for the Process Hazard Analysis process to consider additional shutdown capability, and at the very least, described why the analysis was "not necessary to assure compliance" and "why the measure taken to date . . . are sufficient." CDPHE did not meet this burden.

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,"[165] 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

[163] RTC at 9.

[164] East Plant Order at 21.

[165] RTC at 9.

the root cause analysis."[166] 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.

* * * * *

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.

C. Objections Related to West Plant Minor Modifications Approved as Part of this Title V Permit Renewal

The 2024 Permit incorporates for the first time an array of purportedly minor modifications that Suncor has made to the West Plant since the last time that the Division revised the West Plant Permit.[167] Importantly, the Division has never issued (and will not issue) separate "Minor NSR" permits authorizing these physical and operational changes. Instead, pursuant to Colorado's SIP, all minor Title I modifications are processed as minor Title V permit modifications. 5 C.C.R. §§ 1001-5:B.II.A.6, 1001-5:C.X.I. Suncor was allowed to make these facility modifications immediately after filing its minor modification applications.[168] Before this Title V permit renewal proceeding, CDPHE made no public determination regarding the legality of Suncor's modifications, including whether these changes actually trigger major New Source Review requirements or whether these changes will cause or contribute to a NAAQS violation. Rather, CDPHE waited to process a final approval to these changes—and to provide an opportunity for public comment on these changes—until this Title V permit renewal proceeding. In other words, pursuant to Colorado regulations, **it is this Title V permit renewal that authorizes Suncor's minor modifications**. While Suncor has already made the facility modifications in question, Suncor assumed the risk that CDPHE ultimately would disapprove of them after following the required public-notice-and-comment and EPA-review procedures.

As explained below, CDPHE's approval of many of the facility modifications incorporated into Suncor's Title V renewal permit is unlawful and arbitrary.

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[166] *Id.*

[167] West Plant Permit TRD at 23–139.

[168] Colo. Reg. No. 3, Part C, Section X.I ("A source shall be allowed to make the changes proposed in its application for minor permit modification immediately after it files such application.") (Emphasis added).

Specifically, (1) CDPHE failed to perform modeling or provide any alternative reasonable basis for determining that the modifications will not cause or contribute to a NAAQS violation, (2) modifications that should have been aggregated as a single modification for purposes of determining major NSR applicability were impermissibly reviewed separately, and (3) in evaluating modifications that included the relaxation of requirements, CDPHE failed to apply the significance threshold in effect at the time CDPHE approved the modification.

1. As a Threshold Matter, the Minor Modifications Approved in This Title V Permit Renewal Are Reviewable

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."[169] 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."[170] EPA's conclusion applies with equal force to the present petition.

2. <u>OBJECTION 5:</u> 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

The Division's obligation to ensure that the modifications will not cause a violation of the NAAQS before permitting the modifications is an applicable requirement with which Title V permits must comply. The Division failed to meet the applicable requirement because it relied on modeling thresholds that does not satisfy Clean Air Act requirements. Accordingly, the Permit does not comply with applicable requirements.

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."[171] As the Order explains:

> when a minor NSR modification is processed using the title V minor modification process, CDPHE may only issue the title V permit if "the

[169] East Plant Order at 46.

[170] *Id*. at 48.

[171] East Plant Order at 53.

> source or activity will not cause an exceedance of" and would "compl[y] with" the NAAQS. 5 CCR 1001-5, Part B, II.A.6 and III.D.1.c–d (SIP regulations); 1001-5, Part C, III.C.12, IV.A, V.B.1, X.A.1, and X.D.5.d (part 70 regulations). Given that CDPHE's EPA approved part 70 regulations explicitly require CDPHE's consideration of NAAQS impacts resulting from a modification through certain types of title V permit proceedings, EPA agrees that such issues may be reviewable in a petition challenging those title V permits.[172]

The Division has some discretion regarding how it determines that a minor modification will not cause a NAAQS exceedance. Air dispersion modeling is the best and most preferred method. 40 C.F.R. Part 51, App. W § 1.0(b). However, EPA noted in the East Plant Order that CDPHE may "use means other than modeling to justify a conclusion that a permit will not interfere with attainment of the NAAQS," but that any such conclusion "must be justified in the supporting record for the permit."[173]

Here, the Division 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 Nitrogen dioxide ("NO_2") NAAQS.

a. The Division Improperly Relied on PS Memo 10-01 to Conclude that Modification 1.6 Would Not Cause A NAAQS Violation

The Division's conclusion that Modification 1.6 to the GBR Unit Flare would not cause a violation of the 2010 1-hour NO_2 NAAQS was unreasonable, arbitrary, and not reasonably based on the record because it was based on modeling thresholds that EPA has already determined are inconsistent with the Clean Air Act.

In evaluating Modification 1.6, the Division noted that the modification's increase in short-term emissions of NO_2 exceeded modeling thresholds, but the Division did not require modeling for the 1-hour NO_2 NAAQS, explaining:

> 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 NOx and SO_2, that a compliance demonstration is not required for the short-term (hourly) SO_2 and NO_2 national ambient air quality standard (NAAQS).[174]

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[172] *Id.* at 54; *see also id.* at 55-56 (describing legal framework).

[173] *Id.* at 56 (citations omitted).

[174] West Plant Permit TRD at 51.

In reliance on the threshold in PS Memo 10-01, the Division concluded that "a modeling analysis was not conducted for the 1-hr NO_2 NAAQS."[175]

However, 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.[176] 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."[177]

In reaching this conclusion, EPA rejected CDPHE's argument that it was appropriate to rely on 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.'"[178] Specifically, EPA concluded that the Title V renewal was "the first permit action in which CDPHE has formally approved those modifications," and that, even if CDPHE had made the permitting decision earlier, "reliance on this memorandum would have arguably been unsupported and unreasonable" for reasons described in an independent investigative report commission by the state analyzing the legitimacy of PS Memo 10-01.[179]

In sum, EPA concluded that "to the extent CDPHE relied exclusively on the thresholds in PS Memo 10-01 in determining that individual projects would not cause a violation of the NAAQS, the Petitioners have demonstrated that this decision was not based 'on reasonable grounds properly supported on the record'" and appears 'unreasonable or arbitrary.'"[180] EPA ordered CDPHE to reevaluate the subject modifications and provide "a justification not based on PS Memo 10-01" for any conclusion that the modifications would cause a NAAQS exceedance.[181]

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[175] *Id.*

[176] *See* East Plant Order at 61.

[177] *Id.*

[178] East Plant Order at 61 (quoting response to comment).

[179] *Id.* at 61-62.

[180] *Id.* at 62.

[181] *Id.*

b. The Division's Conclusion that Modeling Was Not Required for Modification 1.6 Violated the Division's Own Modeling Guideline

The Division's conclusion that modeling was not required for Modification 1.6 also violates the Division's own modeling guidelines. As EPA noted in the East Plant Order, CDPHE has adopted a modeling guideline that establishes thresholds for determining when modeling will be required for both short-term and long-term thresholds.[182] Under the version of the modeling guideline that has been in effect since May 2023, the short-term modeling threshold for NO_2 is 1.14 lbs/hour in a nonattainment area or Disproportionately Impacted Community and 2.28 lbs/hour in an attainment area.[183]

Modification 1.6's NO_2 emissions are more than double the applicable threshold under the modeling guideline. The 1.14 lb/hour threshold applies here because the Suncor refinery is located in an ozone nonattainment area,[184] and a Disproportionately Impacted Community.[185] According to CDPHE's modeling analysis for Modification 1.6, the change in permitted emissions from the modification is 2.58 lbs/hr of NO_2.[186] Therefore, under CDPHE's own modeling guideline, the Division should have modeled Modification 1.6 for exceedances of the 1-hour NO_2 NAAQS.[187]

Here, the Division failed to model Modification 1.6 or to present any justification other than PS Memo 10-01 for concluding that the modification would not cause an exceedance of the 1-hour NO_2 NAAQS. EPA must object.

c. Requirements Not Met by the Permit and Permit Conditions Impacted by This Failure

The Permit does not meet the following requirements:

First, the Permit violates the requirement that the Division cannot approve a permit application unless the applicant submits a complete application that includes "[d]ata necessary to allow the Division to determine whether the source complies with . . . [a]ny applicable ambient air quality standards and all applicable

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[182] East Plant Order at 60 & n.86.

[183] CDPHE, Colorado Minor NSR Source Modeling Guideline for Air Quality Permits (May 2023), available at https://cdphe.colorado.gov/emissions-from-business-and-industry/air-quality-modeling-guidance-for-permits. Note, this short-term modeling threshold for NO_2 in the 2023 version of CDPHE's modeling guideline is more than 2x higher than the modeling threshold in effect when the East Plant Order was issued. *See* East Plant Order at 60.

[184] *See* West Plant Permit § I, Cond. 1.1.

[185] *See* RTC at 29

[186] TRD at 51.

[187] *See also* RTC at 4 (applying 1.14 lbs/hour threshold to Modification 1.9).

regulations." 5 C.C.R. § 1001-5:C.X.D.5.d.; *see id.* §§ 1001-5:C.III.C.12, 1001-5:C.V.B.1.

Second, the Permit violates the applicable SIP requirement that the Division may only approve a modification if "[t]he proposed source or activity will not cause an exceedance of any National Ambient Air Quality Standards." *Id.* § 1001-5:3B.III.D.1.c; *see id.* § 1001-5:B.II.A.6 (minor modifications subject to Part C Section X must satisfy Part B Section III.D.1.a. through III.D.1.g.); *see also* C.R.S. § 25-7-114.5(7)(a)(III) ("Any permit required pursuant to this article shall be granted by the division or the commission, as the case may be, if it finds that . . . . For construction permits, the source or activity will meet any applicable ambient air quality standards and all applicable regulations.").

Third, the Permit violates the requirement that the Division may only allow a source with a valid operating permit to modify without a construction permit if the following requirements are satisfied: (1) "Sections X., XI., or XII. of Part C," and (2) "Sections III.D.1.a. through III.D.1.g. of [] Part B." 5 C.C.R. § 1001-5:B.II.A.6; *see* discussion below.

Fourth, the Permit violates the requirement that the Division may only use minor permit modification procedures "for those permit modifications that . . . [d]o not violate any applicable requirement." 5 C.C.R. § 1001-5:C.X.A.1. The Division's determination that Modification 1.6 would not violate the NO_2 NAAQS was unreasonable and arbitrary for the reasons stated in this objection.

Fifth, the Permit violates the requirement that the Division will only approve a modification application if it finds that "[t]he proposed source or activity will not cause an exceedance of any National Ambient Air Quality Standards." 5 C.C.R. § 1001-5:B.III.D.1.c (as required by 5 C.C.R. § 1001-5:B.II.A.6). The Division's determination that Modification 1.6 would not violate the NO_2 NAAQS was unreasonable and arbitrary for the reasons stated in this objection.

Sixth, the permit violates the requirement that the Division may only allow a minor modification if the application contains "Data necessary to allow the Division to determine whether the source complies with "[r]equirements of the nonattainment and attainment programs" and "[a]ny applicable ambient air quality standards and all applicable regulations." 5 C.C.R. § 1001-5:C.X.D.5.c-d. The Division's determination that Modification 1.6 would not violate the NO_2 NAAQS was unreasonable and arbitrary for the reasons stated in this objection.

Seventh, the permit violates the requirement that the Division may only issue an operating permit modification if "[t]he Division has received a complete application for a . . . permit modification." 5 C.C.R. § 1001-5:C.V.B.1. The Division's determination that Modification 1.6 would not violate the NO_2 NAAQS was unreasonable and arbitrary for the reasons stated in this objection.

Eighth, the permitting record fails to contain an adequate statement justifying the Division's decision to incorporate the modifications without modeling their impact on NAAQS compliance. 40 C.F.R. § 70.7(a)(5).

The conditions of the Permit that are impacted by this objection are Section II, Conds. 31.1, 31.4.2, 31.6, 31.10, 31.11, 34.10, 53.87.

d. Petitioners Raised the Issue with Reasonable Specificity in Comments on the Draft Permit

Petitioners raised this issue with specificity in timely comments filed on the Draft Permit. 2022 West Plant Comments at 88-89.

e. The Division's Arguments in Its Response to Comments Are Meritless

As noted above, the Division's entire justification for determining that Modification 1.6 complies with NAAQS requirements is because emissions increases fall below the 40 tpy threshold established in PS Memo 10-01.[188]

In response to Petitioners' comments that CDPHE improperly relied on PS Memo 10-01 when analyzing Modification 1.6, CDPHE stated merely: "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."[189] Nothing in either document addresses the Division' reliance on PS Memo 10-01 to evaluate NAAQS compliance for Modification 1.6. Indeed, neither document addresses Modification 1.6 at all.

Puzzlingly, while the Division never addresses Modification 1.6, the Division does analyze the other modification that Petitioners challenged in their comments for relying on PS Memo 10-01—Modification 1.9.[190] Specifically, in response to comments from PEER that the Division improperly relied on PS Memo 10-01, the Division stated that it had "reviewed the comments received (not just those from PEER) to see if it could discern where commenters had provided a substantial demonstration that specific modifications gave rise to concern" over reliance on PS Memo 10-01.[191] The Division noted that "one commenter identified Modification 1.9"[192] as raising a concern and proceeded to explain that the permitted NOx emissions in Modification 1.9 fell below the 1.14 lbs/hr modeling threshold in the

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[188] TRD at 51.

[189] RTC at 45.

[190] *See* West Plant Comments at 88.

[191] RTC at 3–4.

[192] The Division's analysis of Modification 1.9 was directed towards Petitioners' comments because Petitioners were the only commenters to raise concerns specifically about Modification 1.9's reliance on PS Memo 10-01.

current modeling guideline, it is "not expected to interfere with the 1-hr NO_2 NAAQS."[193]

While the Division responded to Petitioner's concerns about the use of PS Memo 10-01 for Modification 1.9, the Division did not address the concerns about Modification 1.6 that were raised in the same sentence of Petitioner's comments.[194] The Division's failure to respond is particularly problematic because, unlike Modification 1.9, the emissions in Modification 1.6 would trigger modeling under the Division's modeling guideline, as discussed above.[195]

For the reasons discussed above and in the East Plant Order at 61-62, the Permit does not assure compliance with the applicable SIP and Title V requirement prohibiting modifications that cause a NAAQS violation because the Division's decision to not require modeling for Modification 1.6 was not adequately justified, and the Division failed to offer any other justification for determining that the modification would not cause a NAAQS violation.

3. <u>OBJECTION 6:</u> EPA Must Object Because the Permit Violates Applicable Requirements by Applying An Outdated Significance Threshold to Determine that Modification 1.6 was Minor

The Permit improperly processed Modification 1.6 as a minor modification by relying on incorrect significance thresholds.

For facilities in a nonattainment area, Colorado's SIP only allows the Division to grant a permit for a major modification" if the Division concludes, among other things, that "[t]he proposed source will achieve the lowest achievable emission rate for the specific source category." 5 C.C.R. § 1001-5:D.V.A.2. A "major modification" for NSR purposes is defined as "[a]ny physical change in or change in the method of operation of a major stationary source that would result in a significant emissions increase of a regulated NSR pollutant and a significant net emissions increase of that pollutant from the major stationary source." *Id.* § 1001-5:D.II.A.23. Any significant increase in emissions for VOCs or NO_x are "considered significant for ozone." *Id.* § 1001-5:D.II.A.23.a. The SIP also identifies the level of emissions of each pollutant that are deemed "significant" for triggering the major NSR provisions. *Id.* § 1001-5:D.II.A.44. Any operating permit modification reflecting

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[193] RTC at 4.

[194] *See* 2022 West Plant Comments at 88.

[195] The Division also claimed in its response to PEER that "as part of addressing the Plant 2 Order and applying its new interpretations to this permit action, the Division applied its modeling guidelines currently in place to this, and other, modifications and determined that even under these new(er) guidelines, no modeling was necessary to demonstrate compliance with the NAAQS." PEER at 4. This conclusion is erroneous because, as clearly stated in the TRD, the NO_2 emissions from Modification 1.6 exceed the current modeling thresholds.

a "major modification" under the NSR regulations is deemed a "Significant Permit Modification," and is not eligible for minor permit modification procedures. *Id.* § 1001-5:C.I.A.7.

The current applicable significance threshold for evaluating whether the modifications in the Permit trigger major NSR requirements is 25 tons per year for both VOCs and NOx. The Colorado SIP sets these thresholds for emissions in any serious ozone nonattainment area. *Id.* § 1001-5:D.II.A.44.a. On January 27, 2020, EPA downgraded the Denver Metro-North Front Range ozone non-attainment area status to serious.[196] This downgrade reduced the significance thresholds for VOCs and NO_x from 40 tpy to 25 tpy. However, the Division improperly applied the higher 40 tpy threshold for modifications incorporated into the Permit. This failure meant that the Division improperly processed at least two modifications as minor when they were, in fact, major.

As explained in the TRD, "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."[197] 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.[198] EPA subsequently granted the petition on the East Plant permit, concluding that final action had not occurred for one modification in the East Plant permit "until CDPHE issued Suncor's title V renewal permit on September 1, 2022."[199]

Here, Modification 1.6 should have been treated as a major modification, subject to major stationary source permitting requirements, because (1) it relaxed enforceable requirements on the GBR Project, which emits over 25 tons per year of VOCs and NOx, and (2) final action on the permit only occurred when the Division issued the final West Plant Permit on July 9, 2024.

First, Modification 1.6 relaxed enforceable requirement on the GBR Project. The GBR Project was originally permitted as a minor source.[200] The TRD recognized that "in order to qualify as a minor modification, permitted emissions from the GBR project must be below the significance level with this modification."[201] According to

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[196] Finding of Failure to Attain and Reclassification of Denver Area for the 2008 Ozone National Ambient Air Quality Standard, 84 Fed. Reg. 70,897 (Dec. 26, 2019) (effective date Jan. 27, 2020).

[197] TRD at 49 (citing Colorado Regulation No. 3, Part D, Sections V.A.7.b (nonattainment area), and VI.B.4 (PSD)).

[198] East Plant Order at 69-70 (citing *U.S. v. Louisiana-Pacific Corp.*, 682 F. Supp. 1141, 1162 (D. Colo. 1988).

[199] *Id.* at 71.

[200] TRD at 49.

[201] *Id.* at 49-50.

the TRD, the total emissions from the GBR project are (1) 37.26 tpy of NOx, and (2) 39.35 tpy of VOCs.[202] Therefore, if final permit action was taken on Modification 1.6 after the significance levels for NOx and VOCs were lowered to 25 tpy on January 27, 2020, then Modification 1.6 should have been treated as a major modification. These calculations are confirmed in the Permit at Section II, Cond. 28.11 and Appendix L.

Second, final permit action was taken on Modification 1.6 after the January 27, 2020 ozone nonattainment downgrade and the lowering the significance levels. Here, the Division sent an application completion letter to Suncor on November 4, 2019, but it also informed Suncor that the modification would not be submitted to EPA for review until the Title V renewal was submitted.[203] As noted, the permit was not finalized until July 9, 2024.

For these reasons, the Division improperly applied the 40 tpy threshold and processed Modification 1.6 as minor.

a. Requirements Not Met by the Permit and Permit Conditions Impacted by This Failure

The Permit does not meet the following requirements.

First, by relying on a significance threshold of 40 tpy for NOx and VOCs, the Permit violates the applicable requirement that the Division apply a 25 tpy significance threshold for VOCs and NOx when the source is located in a serious ozone nonattainment area.[204]

Second, by incorporating Modification 1.6 into the Permit as a minor modification, the Permit violates the requirement that a major modification may only be granted if "[t]he proposed source will achieve the lowest achievable emission rate for the specific source category." 5 C.C.R. § 1001-5:D.V.A.2.

Third, by incorporating Modification 1.6 into the Permit as a minor modification, the Permit violates the applicable requirement that no significant permit modification may use the minor permit modification procedures. 5 C.C.R. § 1001-5:C.I.A.7.

Fourth, 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

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[202] *Id.*

[203] *See* Letter from Jacqueline Joyce, APCD Permit Engineer, to Bernd Haneke, Suncor Environmental Specialist (Nov. 4, 2019) (Ex. 16).

[204] 42 U.S.C § 7511a(d); 5 C.C.R. § 1001-5:3D.II.A.44.a.

corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject;" (2) is exempt "definition of permit modification in Section I.A.3. of Part C;" and (3) the modification is not required to be "processed as a significant modification." 5 C.C.R. § 1001-5:C.X.A.4-6.

Fifth, the Permit violates the requirement that the Division may only allow a source with a valid operating permit to modify without a construction permit if the "modification qualifies for a minor permit modification . . . and the applicable provisions as set forth in Sections X. . . . of Part C are met." 5 C.C.R. § 1001-5:B.II.A.6.

Sixth, the permitting record fails to contain an adequate statement justifying the Division's decision to apply minor modification procedures to the modifications. 40 C.F.R. § 70.7(a)(5).

The conditions of the Permit that are impacted by this objection are Section II, Conds. 28.11, 31.1, 31.4.2, 31.6, 31.10, 31.11, 34.10, 53.87, and Appendix L.

b. Petitioners Raised the Issue with Reasonable Specificity in Comments on the Draft Permit

Petitioners raised this issue with specificity in timely comments filed on the Draft Permit. 2022 West Plant Comments at 99-100.

c. The Division's Response to Comment Are Meritless

The Division did not respond to Petitioner's comments regarding application of the relaxation requirement to Modification 1.6.

In the response to comments, the Division recognized that the East Plant Order found that the appropriate date for determining which significance threshold to apply is (1) for most minor modifications, the date construction began, and (2) for relaxation requirements, the date the permit is actually issued.[205] However, the Division incorrectly concluded that the relaxation issue "does not appear to be relevant to this permit renewal."[206]

Contrary to the Division's conclusion, Petitioners directly raised the relaxation issue for Modification 1.6 and did not otherwise challenge application of the significance threshold to that modification.[207] Instead of responding to the relaxation issue, the Division lumped Modification 1.6 together with two other modifications Petitioners had challenged on other bases, and concluded that the

[205] *See* RTC at 42 (citing East Plant Order at 67-71).

[206] *Id.*

[207] 2022 West Plant Comments at 99-100.

lower significance thresholds did not apply because construction began on all three modifications before the significance thresholds were lowered.[208] **The Division's Response to Comments is silent on the relaxation issue underlying Modification 1.6**.

For these reasons and the reasons in the East Plant Order at 69-72, the Division improperly processed Modification 1.6 as a minor modification when it should have been processed as a major modification, subjecting the GBR Project to major stationary source requirements.

4. <u>OBJECTION 7:</u> 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 No Further Justification Here

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.

a. Background to Objection

When determining whether emission increases from a modification are significant for major NSR applicability, *see* 40 C.F.R. 52.21(b)(2)(i), the Division must evaluate whether the emissions increase should be aggregated with increases from other changes at the facility.[209] EPA's 2009 Aggregation Policy set outs the factors to be considered in the aggregation decision.

The aggregation decision is based on whether the supposedly separate changes are "substantially related."[210] The substantial relationship analysis is highly case-specific.[211] "To be 'substantially related,' there should be an apparent interconnection—either technically or economically—between the physical and/or operational changes, or a complementary relationship whereby a change at a plant may exist and operate independently, however its benefit is significantly reduced

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[208] RTC at 53; The Division also noted that the change in permitted emissions for Modification 1.6 was 11.3 tpy of NOx, and 1.2 tpy for VOCs, RTC at 54, but change in permitted emissions is irrelevant to the relaxation inquiry.

[209] *See* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Aggregation and Project Netting, 74 Fed. Reg. 2376, 2377 (Jan. 15, 2009) ("Aggregation Policy").

[210] *Id.* at 2379.

[211] *Id.*

without the other activity."[212] However, nominally separate changes are not required to be dependent on one another to be substantially related. "Technical or economic dependence may be evidence of a substantial relationship between changes, though projects may also be substantially related where there is not a strict dependence of one on the other."[213] "The test of a substantial relationship centers around the interrelationship and interdependence of the activities, such that substantially related activities are likely to be jointly planned (i.e., part of the same capital improvement project or engineering study) and occur close in time and at components that are functionally interconnected."[214]

Here, Modifications 1.5, 1.6, and 1.7 were intended to bring the Plant 3 Flare, GBR Unit Flare, and Plant 1 Flare, respectively, into compliance with the December 1, 2015, Refinery Sector Rule revisions and, in particular, with the update to MACT CC, 40 CFR Part 63 Subpart CC.[215] The December 2015 regulatory revisions updated MACT CC to require, among other things, that regulated flares maintain a minimum heating value for the flare combustion zone.[216] These requirements would increase emissions at the flares because Suncor needed to (i) burn additional supplemental gas to maintain the required combustion zone heat content, and (ii) install additional piping components.

The Division questioned whether the changes to the flares should be aggregated together, along with related changes to the Plant 2 Flare.[217] After some discussion with Suncor, the Division acquiesced and agreed that the modifications were separate and were not required to be aggregated.[218] The Division's decision was incorrect.

b. EPA Has Already Decided in the East Plant Order That CDPHE Failed to Justify its Decision to Not Aggregate the MACT CC Flare Upgrade Projects

In the East Plant Order, EPA granted the request to object to the Division's decision not to aggregate modifications to bring four of Suncor's flares into compliance with MACT CC requirements.[219] The objection addressed a modification to the East Plant's Plant 2 Flare, but it concerned the failure to aggregate the Plant 2 Flare modification with modifications to three West Plant flares: Plant 1 Flare,

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[212] *Id.* at 2378.

[213] *Id.*

[214] *Id.* at 2378.

[215] *See* TRD at 36, 46, and 56.

[216] *Id.* at 36-37, 46-47, 56-57; *see also* 40 C.F.R. § 63.670(e).

[217] *See* TRD at 43.

[218] TRD at 44.

[219] East Plant Order at 74-77.

Plant 3 Flare, and GBR Unit Flare.[220] The modifications to those West Plant flares are the modifications represented in Modifications 1.5, 1.6, and 1.7 here.

In the Order, EPA analyzed whether the Division's refusal to aggregate the modifications was "unreasonable or arbitrary" or was "not based 'on reasonable grounds properly supported on the record.'"[221] EPA rejected the justifications that the Division proffered in the East Plant TRD and East Plant Response to Comments. Specifically, EPA

- addressed the Division's determination that the modifications were not technically or economically dependent, finding that the Division's conclusion was undermined by (1) evidence that the flares were physically interconnected, allowing waste gases to be routed between them, and (2) the fact that failure to upgrade one of the flares to comply with MACT CC would have necessitated sending its waste gases to a flare that had been upgraded.[222]

- explained that the appropriate inquiry is whether projects have an "economic *interrelationship*," not whether there is an "economic *benefit*."[223] It also noted that the modifications may provide an "indirect economic benefit" by "collectively providing a means of complying with [MACT CC] requirements and thereby avoiding penalties for noncompliance."[224]

- further noted that "the NESHAP required Suncor to make similar changes to similar units on a similar timeframe," the projects "were initially contemplated together during early stages of Suncor's planning process," and that other MACT CC projects around miscellaneous process vents had been aggregated.[225] Meanwhile, the Division failed to explain why it was persuaded by Suncor's explanation that projects were separately funded and why the two types of modifications were treated differently.

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)."[226]

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[220] *Id.* at 72-73.

[221] East Plant Order at 75 (citing Appleton Order at 5).

[222] *Id.*

[223] EPA Order at 76 (emphasis in original).

[224] *Id.*

[225] *Id.*

[226] EPA Order at 76-77.

c. The Division Has Not Provided Any Further Justification for Its Decision Not to Aggregate the Flare Modifications Addressed in the East Plant Order

Despite the East Plant Order, the Division has provided no further justification for its decision not to aggregate the modifications.

The Division's stated rationale in the TRD 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.[227]

Similarly, the Division's Response to Comments provide no further justification for its aggregation decision.[228] To begin, the response does not even mention the East Plant Order's requirement for the Division to provide a further justification. Instead, it states merely that the Division followed EPA guidance in determining that the modifications were not "substantially related" and did not need to be aggregated." The response then refers commenters to the TRD for specifics about its decision,[229] but, as noted, EPA has already rejected the TRD's explanation.

Therefore, the Division provided the same justification that EPA has already rejected. For this reason, EPA must object.

d. Additional Bases for Objection

While Petitioners believe that the East Plant Order is dispositive on this objection, Petitioners include the following detailed discussion mirroring the request for objection in the East Plant petition.

The Administrator must object to the Division's failure to aggregate Modifications 1.5, 1.6, and 1.7, along with the related modification to the Plant 2 Flare, for the following reasons.

First, the changes occurred very close in time. Suncor filed the applications for all the flare updates within a few months of each other.[230]

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[227] *See* Ex. 17 (Redline comparison between West Plant Permit TRD section at 43-45 with Technical Review Document for Operating Permit 096OPAD108, Suncor Energy (USA), Inc. — Commerce City Refinery, Plant 2 (East Plant), published September 1, 2022 ("EasT Plant Permit TRD (2022)") at 4; see also West Plant Permit TRD at 43 (statements in all three modifications pointing to explanation on page 43).

[228] RTC at 50-51.

[229] *Id*. at 51 (referring to TRD discussion at 42).

[230] *Id*. at 43.

Second, there is evidence that the changes were "jointly planned." All the modifications were made to comply with the same revision to MACT CC flare requirements.[231] As noted in the East Plant petition, Suncor's application for the Plant 2 flare indicated that it had created a RSR Flare Project, which it identified as a capital project, to coordinate updates to all of the flares[232]. While Suncor later submitted information indicating that the modifications were funded under two separate capital projects—(i) one approval for Plant 2 (East Plant) and Plant 3 (West Plant) flares, and (ii) one approval for the Plant 1 (West Plant) and GBR flares[233]—Suncor's representations make clear that the projects were all being planned together. Indeed, the initial approval for expenditure (AFE) for the Plant 2 Flare upgrade, which Suncor submitted as evidence of separate funding for the different projects, named the project: "P1,2,3 Units RSR Rule Flare."[234] Therefore, it is clear that the projects were planned jointly even if they were ultimately funded separately.

Third, the flares are physically interconnected. The Division indicates in the TRD that "more than one flare may receive waste streams from a specific refinery process unit."[235] The Division's response to comments on the East Plant Permit stated that "excess hydrogen from the Plants 1 and 2 reformers and the hydrogen plant (part of Plant 1) . . . can be routed to the GBR flare, in lieu or either the Plant 1 or Plant 2 flares."[236] Similarly, for this West Plant Permit, the Division stated that it could not include a detailed explanation of which emission units are routed to which flare, explaining that "[i]t is difficult to give a precise list of emission units and conditions for flare venting because many of the emission units which are controlled by plant flares (e.g., tanks) may be vented or routed depending on operational conditions."[237] In fact, the West Plant Permit adopts a single Compliance Assurance Monitoring plan for the Plant 3 Flare and GBR Unit Flare, indicating that "[v]apors from multiple process vents, pressure relief devices and other tie-ins are routed to both the Plant 3 and GBR flares."[238]

Fourth, the flare projects are also practically interrelated. Suncor relies on each of the flares as control devices to limit emissions from its various units. The 2015 MACT CC standards applied to all flares acting as control devices for Suncor's

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[231] West Plant Permit TRD at 43-44.

[232] Letter from Wes McNeil, Suncor to Jackie Joyce, CDPHE re *Suncor Energy (U.S.A.) Inc. - Commerce City Refinery Title V Operating Permit 95OPAD108 Minor Modification #37 Plant 2 Main Plant Flare Refinery Sector Rule Compliance Project* (July 5, 2017), 592–93 (Ex. 18).

[233] West Plant Permit TRD at 43-44

[234] Suncor, *Initial Funding Request for RSR Flare Projects*, 472 (Ex. 19).

[235] West Plant Permit TRD at 44.

[236] Colo. Dep't of Pub. Health & Env't, Response to Comments on Draft Renewal Operating Permit #95OPAD108 (February 8, 2022) at 70 (Ex. 20).

[237] RTC at 61.

[238] West Plant Permit, App'x N at 8.

gasoline loading racks, miscellaneous process vents, storage vessels, and equipment leaks. *See* 40 C.F.R. § 63.640(c). Suncor had two choices to address the rule revisions: Suncor could either shift waste gases from one flare to another or it could update each of its flares to comply with those standards. Suncor took both routes. It shifted gasoline loading away from the East Plant railcar rack to avoid MACT CC applicability to the East Plant Railcar Dock Flare, and it upgraded the Plant 1, East Plant Main Flare, Plant 3, and GBR flares.[239] Had Suncor chosen not to upgrade any of those flares, it would have needed to route the regulated waste gases to the other flares, thereby increasing the emissions of those flares.

In fact, the emissions from Suncor's other project to comply with MACT CC revisions were aggregated. Modification 1.7 in the 2018 West Plant TRD involved a project to connect various miscellaneous process vents that were newly subject to control requirements to the refinery flares.[240] Suncor installed various flare connection systems and purge manifolds from existing equipment to all four flares.[241] So, like these modifications, the MPV updates (i) involved connections to all four flares, (ii) were made to comply with the December 2015 updates to MACT CC, and (iii) were jointly planned. However, by contrast to these modifications, Suncor and the Division aggregated the emissions increases for all four flares to evaluate major NSR applicability.[242] Treating Modifications 1.5, 1.6, and 1.7 differently is unjustifiable.

Had the emissions increases for the flare upgrades been aggregated, they would have triggered major NSR requirements. The Division's applicability analyses for the four flares indicate that VOC emission increases were 28.78 tons per year,[243] which is greater than the 25 tpy significance threshold for VOCs. *See* Section III.E.3, above.

e. Requirements Not Met by the Permit and Permit Conditions Impacted by This Failure

The Permit does not meet the following requirements:

First, by incorporating Modifications 1.5, 1.6, and 1.7 into the Permit as minor modifications, the Permit violates the requirement that a major modification may only be granted if "[t]he proposed source will achieve the lowest achievable emission rate for the specific source category." 5 C.C.R. § 1001-5:D.V.A.2.

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[239] *See* West Plant Permit TRD at 44.

[240] *See id.* at 21-22.

[241] *Id.*

[242] *See id.* at 22-23.

[243] The individual emission increases were: (i) 1.8 tpy for Plant 2 (West Plant Permit TRD at 96), (ii) 1.3 tpy for Plant 1 (West Plant Permit TRD at 58), (iii) 8.25 tpy for Plant 3 (West Plant Permit TRD at 37), and (iv) 17.43 tpy for GBR flare (West Plant Permit TRD at 48).

Second, by incorporating Modifications 1.5, 1.6, and 1.7 into the Permit as minor modifications, the Permit violates the applicable requirement that no significant permit modification may use the minor permit modification procedures. *Id.* § 1001-5:C.I.A.7.

Third, 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) is exempt "definition of permit modification in Section I.A.3. of Part C." and (2) the modification is not required to be "processed as a significant modification." 5 C.C.R. § 1001-5:C.X.A.4-6.

Fourth, the Permit violates the requirement that the Division may only allow a source with a valid operating permit to modify without a construction permit if the "modification qualifies for a minor permit modification . . . and the applicable provisions as set forth in Sections X. . . . of Part C are met." 5 C.C.R. § 1001-5:B.II.A.6.

Fifth, the permitting record fails to contain an adequate statement justifying the Division's decision to apply minor modification procedures to the modifications. 40 C.F.R. § 70.7(a)(5).

The conditions of the Permit that are impacted by this objection are (i) Modification 1.5: Section I, Cond. 5.1, Section II, Conds. 30.1, 30.6, 30.8, 34, 47, 53.43.2, and 53.87; (ii) Modification 1.6: Section II, Conds. 31.1, 31.4.2, 31.6, 31.10, 31.11, 34.10, and 53.87; and (iii) Modification 1.7: Section II, Conds. 29.1, 29.5, 29.6, 29.8, and 53.87.

f. Petitioners Raised the Issue with Reasonable Specificity in Comments on the Draft Permit

Petitioners raised this issue with specificity in timely comments filed on the Draft Permit. 2022 West Plant Comments at 95-98.

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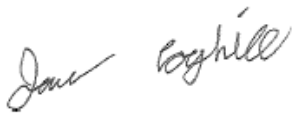
For these reasons and the reasons in the East Plant Order at 74-76, the permitting record strongly supported aggregating Modifications 1.5, 1.6, and 1.7 with the other flare upgrade at the East Plant, and the Division's decision not to aggregate is unsupported.

IV. Conclusion

For the foregoing reasons, EPA should grant this petition and object to the West Plant Permit.

Respectfully submitted,

On behalf of the Center for Biological Diversity and Sierra Club



Ian Coghill
Rachael Jaffe
Earthjustice
633 17th St., Suite 1600
Denver, CO 80202
(303) 623-9466
icoghill@earthjustice.org
rjaffe@earthjustice.org