July 5, 2022

Carissa Money
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South, APCD-SS-B1
Denver, Colorado 80246-1530

SENT VIA EMAIL ONLY TO: cdphe_apcd_airpermitcomments@state.co.us

Re: Comments on Draft Plants 1 (West) and 3 (Asphalt Unit) Title V Operating Permit 96OPAD120

Dear Ms. Money,

The City of Commerce City (the "City") appreciates the opportunity to comment on the Draft Operating Permit ("the Permit") for the Suncor Refinery's Plants 1 and 3, required under Title V of the Clean Air Act. The petroleum refinery located at 5801 Brighton Boulevard, has been a complex part of this community's fabric that dates back to 1931. The refinery provides a significant source of direct employment, as well as attracting other ancillary and supporting businesses to the community that have allowed for the development of a healthy fiscal tax base. At the same time, the refinery's continual and repeated upsets, exceedance of air emission limits contained within its existing permits, and lack of transparency has affected the long-term health and well-being of City residents, and led to trust issues within the community.

Suncor is the largest stationary source of VOC emissions in the Denver Metro area, with a significant impact on overall air quality and ozone formation in the Denver Metro area. Within Adams County, Suncor contributes the highest CO emissions (494 tons/yr.); NOx emissions (619 tons/yr.); and SOx emissions (223 tons/year), and is the second largest source of hazardous air pollutants (19.7 tons/year). The Colorado Department of Public Health and Environment ("CDPHE") and its Air Pollution Control Division ("the Division") has a paradigm-shifting opportunity to consider the general health and welfare of the City's current and future residents by including in the Permit mitigating conditions that can improve transparency, reduce exceedances and upsets, and drive decision making to positively affect health outcomes and disparities.

The City understands that within this permit review, the Division's authority to implement additional protections outside of the regulatory requirements of Regulations 3 & 7 is not unfettered, and that its ability to regulate pollutants outside of established criteria or hazardous air pollutants defined in the NAAQS or NESHAP, or other regulatory components not explicitly defined within the Clean Air Act, is limited. Thus, the City provides these comments not only as they pertain the renewal of the Plants 1 and 3 Title V Permit, but also for the State's consideration in the ongoing regulation of the refinery given the comparisons of emissions with surrounding counties:

Comparison of Annual Tons of Criteria Pollutant Emissions by Counties	Adams	Arapahoe	Denver
Carbon Monoxide (CO)	2763	938	528
PM10	773	557	209
PM 2.5	453	506	125
Nitrogen Oxides (NOx)	3367	895	750
VOCs	3719	2059	897
Sulfur Dioxide (SOx)	462	32	99

Environmental Justice

Long standing, systemic inequities in the United States have resulted in low income, racial, and ethnic minority groups being disproportionately exposed to stationary and nonstationary sources of air pollution. Many of the predominantly Spanish-speaking, Latinx communities in southern Commerce City exemplify this condition. These Commerce City neighborhoods (including Rose Hill, Derby, Adams City, DuPont, and Clermont) have a combined median household income of $44,908; are 66% Hispanic or Latino; have 32% of the population under the age of 18; and 27% of its population commute to work via some means other than single occupancy vehicle. These communities are exposed to a confluence of impacts from multiple emission sources in addition to the refinery, such as multiple interstate highways, the Cherokee Generating Plant, the Robert W Hite Treatment Facility, and a variety of other industrial land uses, a condition not otherwise seen in the Denver Metro Area, or the State of Colorado, at such a scale, density, or intensity. Transportation related emissions are significant with the annual average daily vehicle miles travelled ("VMT") on I-270 within City limits at 521,309; the annual average daily VMT at SH-265 is 15,363; and the annual average daily VMT on I-76 from the intersection with I- 270 and ending at the junction with SH 470 at 621,462 (CDOT 2021).

Current research indicates that the environmental justice screening percentiles compared within the state and EPA Region VIII are dire for multiple variables as shown below:

Environmental Exposure Comparison			
Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
EJ Index for Particulate Matter 2.5	92	95	59
EJ Index for Ozone	19	36	91

EJ Index for 2017 Diesel Particulate Matter*	99	95-100	95-100
EJ Index for 2017 Air Toxics Cancer Risk*	96	95-100	95-100
EJ Index for 2017 Air Toxics Respiratory HI*	94	95-100	95-100
EJ Index for Traffic Proximity	52	58	58
EJ Index for Lead Paint	9	95	90
EJ Index for Superfund Proximity	99	96	97
EJ Index for RMP Facility Proximity	99	99	99
EJ Index for Hazardous Waste Proximity	99	98	84

As indicated above, in addition to HAPs and criteria pollutants, citizens are being exposed to hazards from traffic; proximity to Superfund sites; and hazardous industrial facilities including an active landfill. Studies show that low-income populations and people of color experience increased health impacts and premature death due to exposure to particulate matter and hazardous air pollutants, and are less able to adapt to the compounding effects resulting from Climate Change. These populations are more likely to suffer from respiratory issues[1], and are more likely to lack health insurance[2]. A national survey conducted in May 2017 by the Yale School of Forestry & Environmental Studies on the public perceptions of climate change found that 78% of Latinx populations interviewed are concerned about global warming, compared to 56% of non-Latinx surveyed, and 53% of Latinx populations interviewed identified as having already personally experienced the effects of global warming.[3]

These populations have not only been the most impacted in the past from negative environmental consequences, but have been historically excluded from meaningful engagement in significant decision making efforts, leading to inequitable outcomes. Commerce City has an obligation to protect and engage its own underrepresented and marginalized populations, and intends to do so within the regulatory authority of its jurisdiction. Recently, the State has taken positive steps towards addressing environmental justice issues through the development of its Climate Equity Framework,[4] passage of Reduction of GHG Pollution House Bill 19-1261[5] and Public Welfare Protections Senate Bill 19-181[6], and the various updates to Air Quality Control Commission Rules resulting from these bills. But, ultimately, particular regulation of the Suncor Refinery is needed, and would be significant in addressing

[1] Gwynn, R. Charon, and George D. Thurston. "The burden of air pollution: impacts among racial minorities." Environmental health perspectives 109.suppl 4 (2001): 501-506. https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.01109s4501

[2] Brown, E. Richard, et al. "Racial and ethnic disparities in access to health insurance and health care." (2000). https://escholarship.org/content/qt4sf0p1st/qt4sf0p1st.pdf

[3] Leiserowitz, A., Cutler, M., & Rosenthal, S. (2017). Climate change in the Latino mind: May 2017. Yale University. New Haven, CT: Yale Program on Climate Change Communication. https://climatecommunication.yale.edu/publications/climate-change-latino-mind-may-2017/

[4] A draft version of the Climate Equity Framework can be found at https://docs.google.com/document/d/1wY19usrbJd3fXQkeEkX8V4reWE1pr5hzz4h_E0MFD08/edit

[5] Bill text can be found at https://leg.colorado.gov/bills/hb19-1261

[6] Bill text can be found at https://leg.colorado.gov/bills/sb19-181

environmental injustice in the State. Through its permit review process and future rulemaking efforts, the State has a duty to protect the health, safety, and welfare of its most impacted residents through the implementation of reasonably available control technologies ("RACT") and best available control technologies ("BACT") to reduce emissions at the Suncor facility within a reasonable timeframe. Commerce City requests that the Division meaningfully incorporate feedback received during the public comment period into tangible and effective conditions in the Permit.

Upsets & Repeated Violations

The Suncor Refinery has demonstrated a repeated and continued history of exceeding thresholds contained within both Title V Permits regulating the facility. From 2016 to 2021, at least 108 malfunctions have occurred causing exceedances of various air quality thresholds delineated in the Permit, and CDPHE has executed four settlement agreements with the Refinery during that time. From 2018 to 2020, the facility violated the emissions limits in its permits over 600 times, and was in violation of such limits for over 5,300 hours. In response to the City's comments on the Plant 2 permit, the Division stated that the March 6, 2020 Consent Order "will improve compliance at the facility." However, in 2021 the Refinery still violated the emissions limits in its permits around 187 times, and was in violation of such limits for over 3,526 hours. The City continues to seek significant improvement with respect to compliance to mitigate the unacceptable amount of violations.

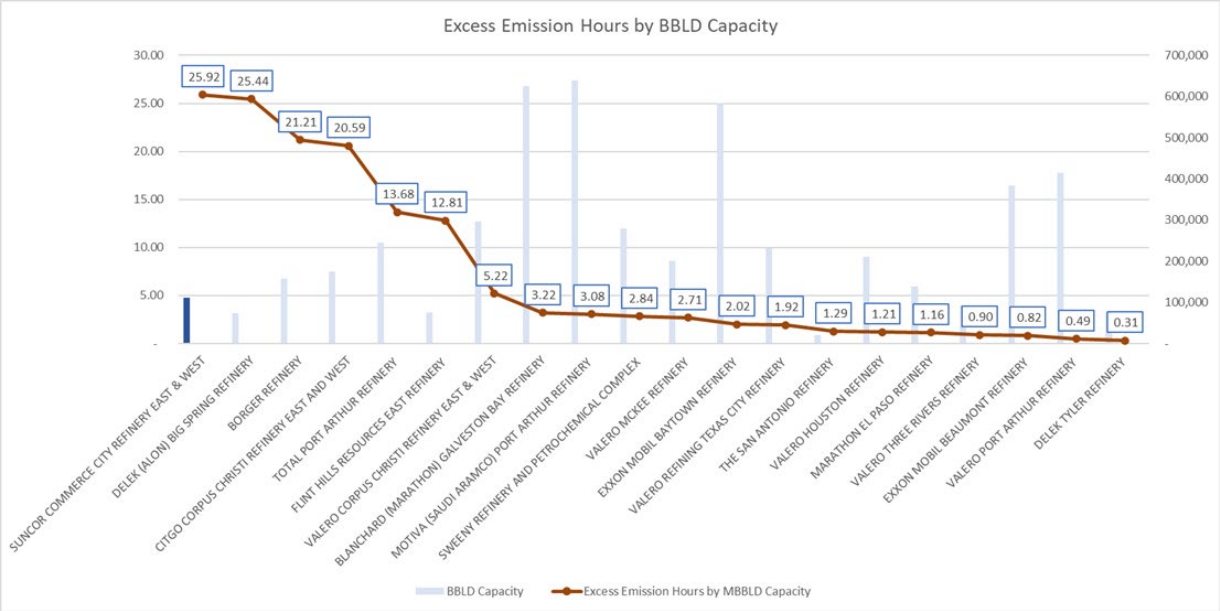
***Total Hours of Noncompliance – 2018 to 2021**

	Plants 1 & 3	Plant 2	Total
Hydrogen Sulfide (H_2S)[a]	1,910	543	2,453
Sulfur Dioxide (SO_2)[b]	3,774	502	4,276
Carbon Monoxide (CO)[c]	1,095	322	1417
Nitrogen Oxides (NO_X)[c]	284	0	284
Opacity Limit[c]	359	70	429
Totals	7,422	1,437	8,859

*This summary of permit violations does not constitute all violations and exceedances occurring at the refinery during this time period, and is limited solely to the pollutants measured in monitoring equipment in [a-c] listed below. Data is pulled from the Quarterly Excess Emission Reports.

[a] Monitoring data from fuel gas monitors in plants 1 & 2, and flare monitors in plants 1, 2 & 3.
[b] Monitoring data from flare monitors in plants 1, 2 & 3, fluid catalytic cracking units (FCCU) in plants 1 & 2, sulfur recovery unit in plant 2 (SRU), and sulfur recovery units with tail gas unit (TGU) and tail gas unit incinerator in plant 1 (H-25).
[c] Monitoring data from fluid catalytic cracking units (FCCU) in plants 1 & 2.

By any measure, the frequency, scale, and duration of these exceedances are a cause for concern, even when compared to other refineries in the United States; especially considering the Suncor refinery's daily capacity of approximately 100,000 barrels per day. The below chart compares the excess emission hours by barrels per day (BBLD) capacity of 18 different refineries:



In 2019 alone, the main flare in Plant 1 was in violation of its H_2S or SO_2 permit limits approximately 12% of the time in any given monitoring period. Data from the EPA Toxics Release Inventory shows that between 2017 and 2019, the refinery emitted approximately 8.8 metric tons of Sulfur Dioxide, 6 metric tons of Benzene, and 10.7 metric tons of Toluene[7]. Each of these contaminants are Hazardous Air Pollutants (HAPS) under the Clean Air Act, and negatively impact human health in the immediately adjacent communities[8] [9] [10]. As noted previously Commerce City has a disproportionate level of HAP emissions compared to surrounding counties.

In reviewing whether the Permit should be renewed, the Division should consider this past history of violations. Moreover, CDPHE should set forth a specific action plan to ensure compliance with the Permit and all other applicable requirements under the Clean Air Act moving forward, including more regular enforcement and leveraging the recently increased maximum daily fine amount of $47,357 per day per incident for air quality violations. CDPHE should clearly and transparently communicate the content of their plan to the public.

[7] https://echo.epa.gov/detailed-facility-report?fid=110032913024#customize110032913024.
[8] D'Andrea, M.A. and G.K. Reddy, Hematological and hepatic alterations in nonsmoking residents exposed to benzene following a flaring incident at the British petroleum plant in Texas City.Environmental Health, 2014. 13(115): 1-8. https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-13-115
[9] Stephen B Williams, et al, Proximity to Oil Refineries and Risk of Cancer: A Population-Based Analysis, *JNCI Cancer Spectrum*, Volume 4, Issue 6, December 2020, pkaa088, https://doi.org/10.1093/jncics/pkaa088
[10] Smargiassi, Audrey, et al. "Risk of asthmatic episodes in children exposed to sulfur dioxide stack emissions from a refinery point source in Montreal, Canada." Environmental Health Perspectives 117.4 (2009): 653-659. https://ehp.niehs.nih.gov/doi/full/10.1289/ehp.0800010?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3Dpubmed

Overall Permit Review Process

The west refinery (Plants 1 & 3) was previously owned and operated by Conoco Philips until 2003, and the east refinery (Plant 2) was owned and operated by Valero until 2005. The initial permit term for the Plant 2 facility expired in 2011, and Suncor applied for renewal within the applicable deadlines. A Draft Permit was released for public comment by CDPHE in February 2021. Delays in the permit review process have allowed Plant 2 to operate without incorporating updated NESHAP regulations or updates to BACT and RACT technology, or including updated provisions of Air Quality Control Commission Regulation 7, which were incorporated into the permit renewal of Plants 1 & 3 in 2017. Additionally, numerous modifications incorporated separately between the two permits over time have come close to triggering the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NANSR) significance thresholds, which would require incorporating additional emission reduction measures, requiring much needed equipment upgrades to meet stricter BACT requirements, and completing more comprehensive air quality impacts analysis on the surrounding ambient air. Each of these would provide a number of substantial public health and safety benefits.

The City continues to encourage CDPHE to combine Suncor's two facilities into a single Title V Permit, rather than continue to be regulated as two separate, smaller facilities. Since Suncor's acquisition of both refineries, the operations have continually become more integrated to the point they now function as a single facility. In 2019, Suncor applied for a one-year exemption from the requirements of the EPA Renewable Fuel Standard program, indicating that the East and the West refineries individually produced less than 75,000 barrels per day. In its letter denying of the request, the EPA stated that it: *"recognizes that the East Refinery and the West Refinery were among the small refineries that received the original small refinery exemption in 2006. However, Suncor has since done significant work to integrate the process operations of the two facilities so that they now function as a single refinery."*[11]

Incorporating both facilities into one permit would serve several purposes, and more efficiently meet the underlying goals of the Clean Air Act. A single, concurrent review period would allow more transparency regarding operations at the facility, and ensure that neither the incorporation of new regulatory requirements, nor the enforcement of permit requirements are done in a piecemeal fashion. CDPHE should be more transparent – and consistent – regarding permit violations, upsets and exceedances. Findings and reports should be summarized in an easy to understand and accessible format, to assist the public in understanding the scale and the nature of the violations, and to ultimately hold the facility accountable.

Emission Reductions and Monitoring

In 2019, the Suncor Refinery had a total reported direct emissions value of 949,971 metric tons of CO_{2e} (carbon dioxide equivalent), which constituted 2.1% of the State of Colorado's total GHG emissions. The

[11] https://www.epa.gov/sites/production/files/2020-01/documents/suncor_19-9612_pfr_12232019.pdf

Draft Permit provides minimal insight as to how new conditions and requirements will lead to overall emission reductions at the facility over time, if at all.

On May 30, 2019, Governor Jared Polis signed House Bill 19-1261, instituting statewide Greenhouse Gas (GHG) reduction targets, requiring a 26% reduction by 2025, a 50% reduction by 2030, and a 90% reduction by 2050, using 2005 as the baseline year. On January 14, 2021, the State released the Colorado Greenhouse Gas Pollution Reduction Roadmap, that outlines specific near term and long term reduction strategies conducted by sector that are necessary to meet the reduction targets outlined in the bill. In its key findings the report notes that, in order to achieve 2030 goals, deep reductions in pollution from energy generation will be needed, and reducing GHG pollution will reduce air quality burdens that disproportionately impact low income communities and communities of color.

House Bill 19-1261 also directed the Air Quality Control Commission to conduct rulemakings to require that Trade-Exposed Manufacturing Sources (under which the refinery is classified) undertake GHG emission and energy audits and implement Best Available Control Technologies and efficiency practices to reduce GHG emissions, or to implement other measures to achieve comparable reductions. CDPHE staff developed a concept for the rule[12], and began developing draft rule language. As drafted, the rule is being implemented into two phases – with Phase 1 conducted in the summer 2021, and Phase 2 in early to mid 2022. Based on the draft concepts and audit review timeline outlined for Phase 1, it is likely that the rule would not be fully adopted until 2022, and that after audit and review by the Division, implementation of BACT would not occur until mid to late 2023.

The GHG Emission and Energy Management for Manufacturing (GEMM Phase 2) rule-making has important implications for the permit conditions given that Suncor accounts for 1/3 of emissions from the sector. The current rule considerations include potential options for trading; historical air quality violations; available GHG reduction technologies; 2015 vs 2019 baseline; percentage of emissions and proximity to and impact on disproportionally impacted and local communities. These parameters have implications for the health and support of Commerce City residents based on historical air quality violations and cumulative impacts. Based on the screening indices above, Commerce City respectfully requests that no trading is allowed by facilities with proximity to EJ communities and/or facilities with known air pollution violations. Suncor had 25.9 violations per barrels per day (bbl/d) in 2021 as compared to:

- Valero Corpus Christi Refinery E & W - 5.22 bbl/d
- San Antonio Refinery - 1.2 bbl/d
- Marathon El Paso Refinery - 1.1 bbl/d

This indicates that BACT and/or RACT and proper training conditions should be added to the permit conditions. Furthermore, if a 20% reduction cannot be achieved, the reasoning should be made available to the public and include alternative conditions to mitigate impacts.

[12] A draft rulemaking concept of the GHG and Energy Efficiency Manufacturing Audit Program can be found here https://drive.google.com/file/d/1mT8n3DCc-5N-DZTVer6TbavgAnQRoEjN/view

The Suncor Refinery contributes an alarming amount to Colorado's GHG emissions, is a contributor to the formation of regional ground level ozone, and releases of Hazardous Air Pollutants that are directly impacting nearby residents. Against that background, the timeline for implementing BACT, simply cannot satisfy the needs of the disproportionately impacted communities, or positively contribute to GHG reductions necessary to meet the 26% reduction rate required by 2025. Requiring these control technologies and including lower emissions limits in the current permit review, however, could accomplish all of these goals. More immediate methods regulating GHG emissions from the Suncor Refinery would be significant in helping the State meet its statutorily required GHG emission reduction targets including co-benefits of lower air emissions, and contribute to the outlined goal of serving disproportionately impacted communities in its Climate Equity Framework.

Additionally, the Division should require both fence-line regulatory monitoring and establish the voluntary ongoing community monitoring as a permit condition. Continuous monitoring would provide real time information about hazardous air pollutants and help impacted residents in the community understand the potential air quality impacts. Several examples of monitoring programs exist, including Bay Area Air Quality Management District Regulation 12, Rule 15[13], and South Coast Air Quality Management District Rule 1180[14]. 189 Hazardous Air Pollutants are regulated under the Clean Air Act, yet monitoring is limited to benzene (C6H6), hydrogen cyanide (HCN), and hydrogen sulfide (HS2). Commerce City suggests adding monitoring for additional pollutants used at the plant. Currently the site is intended to monitor pollutants at the fence line of the Suncor property. However, Brighton Ave is currently exempt from monitoring where it traverses the property. While Suncor states that automotive emissions cannot be isolated, these emissions don't contain hydrogen cyanide or hydrogen sulfide so those pollutants could be monitored. As for benzene emissions, the auto related benzene emissions could be extrapolated from the vehicle miles traveled (VMT) averages. During the fence-line monitoring public hearings, regulatory standards were referenced: those set by Bay Area Air Quality District and the Southern California Air Quality District. Commerce City recommends using the more stringent of the two standards (i.e. Southern California) given the cumulative effect of emissions from Suncor, Sinclair, Phillips 66, Cherokee Generating Station, Darling Ingredients Inc., Crystal Packaging, Aggregate Industries, Metro Wastewater Reclamation and other industrial sources.

Root Cause Analysis and Increased Inspections

The March 6, 2020 Consent Order[15] required Suncor to retain a qualified third party contractor to perform a root cause investigation of the ongoing emission violations. The third party contractor released the root cause investigation on April 12, 2021, and made recommendations on improvements or changes to the design, operations, or maintenance of equipment to reduce recurrences of emissions exceedances.

[13] https://www.baaqmd.gov/rules-and-compliance/rules/regulation-12-rule-15--petroleum-refining-emissions-tracking?rule_version=2019%20Amendment
[14] http://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1180-refinery-fenceline-monitoring-plans
[15] https://oitco.hylandcloud.com/POP/DocPop/DocPop.aspx?docid=5199776

Notwithstanding that provision, there have been continued and repeated violations of the CO, SO_2, and opacity limits established for the Plant 2 SRU and FCCU since the effective date of the Consent Order. These continued, repeat issues with equipment, operations or maintenance are contributing to the ongoing emission exceedances at the refinery. Thus, at a minimum, CDPHE should include the recommendations of the root cause investigation as enforceable permit conditions, including use of a training simulator and increased use of real time digital technology, if these recommendations have not been implemented through the Improvement Plan initiatives or set with a time-specific completion date.

The Division should require additional root cause investigations for permit violations, on an annual basis, in the permit conditions (outside of future Consent Orders), and require any recommendations to be implemented at the facility within a reasonable time.

In addition to a third-party root cause analysis, additional inspections should be required in areas of the plant that have frequent emissions events such as the Plant 1 FCCU, and Heater 25. Specific compound conditions could be imposed given that excess emission events are predominantly sulfur compound based (SO2 and H2S) and CO related and many are related to loss of power triggering brief upsets in operations. Given the health implications from hydrogen sulfide, increased penalties for those exceedances should be considered.

Public Hearing Request

The City of Commerce City formally requests a hearing in front of the Air Quality Control Commission regarding the re-issuance of this permit. These requests are made with the intention of ensuring that greater opportunity for public comment is made based on the significant amount of public interest and concern the City has observed within its constituency, regarding the proposed permit renewal.

Conclusion

The City understands the refinery will continue to be a complex constituent of the community's fabric. Ultimately, the Division has an opportunity during the Title V permit review process to incorporate meaningful health, safety, general welfare, and environmental protections that will have tangible and measurable impacts on our community. There is also a significant opportunity to engage communities in this process – communities that have been disproportionately exposed to air pollution from this facility – to take tangible steps towards addressing health equity outcomes, and to further environmental justice goals outlined by the State. If the Permit is renewed, Commerce City trusts that the Division will meaningfully incorporate public comments into tangible and effective conditions instituted in the Permit. Thank you.

Sincerely,

Jason R. Rogers, Deputy City Manager
City of Commerce City