

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
AIR POLLUTION CONTROL DIVISION
OPERATING PERMIT MODIFICATION SUMMARY

PERMIT NUMBER: 96OPAD120

AIRS ID #: 0010003

DATE: May 4, 2017

APPLICANT: Suncor Energy (U.S.A.), Inc. – Commerce City Refinery, Plants 1 and 3

REVIEW ENGINEER: Jacqueline Joyce

SOURCE DESCRIPTION

Suncor Energy (U.S.A.), Inc. (Suncor) has applied for modifications to their Operating Permit issued for the Commerce City Refinery, Plants 1 and 3 located at 5801 Brighton Boulevard, Commerce City, CO in Adams County. Plant 1 is the portion of the heritage Conoco facility located on the west side of Brighton Boulevard (formerly the West Plant) and Plant 3 is the portion of the heritage Conoco facility located on the east side of Brighton Boulevard (formerly the Asphalt Unit).

The Denver Metro Area, including Commerce City, is classified as attainment/maintenance for particulate matter less than 10 microns (PM₁₀) and carbon monoxide. Under that classification, all SIP-approved requirements for PM₁₀ and CO will continue to apply in order to prevent backsliding under the provisions of Section 110(l) of the Federal Clean Air Act. The Denver Metro Area is classified as nonattainment for ozone and is part of the 8-hour Ozone Control Area as defined in Regulation No. 7, Section II.A.1. There are no affected states within 50 miles of the plant. Rocky Mountain National Park and Eagles Nest National Wilderness Area, both Federal Class I designated areas, are within 100 kilometers of the plant.

This source is categorized as a major stationary source for purposes of Prevention of Significant Deterioration (PSD) review requirements (potential to emit of PM, PM₁₀, SO₂, NO_x and CO \geq 100 tons/yr) and major non-attainment area new source review (NANSR) requirements (potential to emit of VOC and NO_x \geq 100 tons/yr). This facility is subject to 112(r), the Accidental Release Requirements. The FCCU Regenerator is subject to the compliance assurance monitoring (CAM) requirements in 40 CFR Part 64

REQUESTED MODIFICATIONS

Suncor submitted a number of modification applications after issuance of the current Title V permit (last revised February 1, 2016), some of which were required to be processed as significant modifications. Please refer to the technical review document prepared for this revision to the permit for details on the specific modification applications.

CHANGE IN EMISSIONS DUE TO MODIFICATIONS

The change in permitted emissions associated with this modification to the Plants 1 and 3 Operating Permit are summarized in the table below. A more detailed description of the changes by application can be found in the technical review document prepared to support this revision.

Emissions (tons/year)					
PM/PM ₁₀ /PM _{2.5}	SO ₂	NO _x	VOC	CO	HCN
0.07	16.76	1.04	9.2	-0.26	12.8

¹A permit limit was not previously included for hydrogen cyanide (HCN) emissions, so this reflects a new permit limit and is noted as an increase in permitted emissions. However, the limit reflects the current HCN emission rate (in lb/000 lb coke burn-off) of the fluid catalytic cracking unit, as determined by a recent performance test at the requested annual coke burn-off limit. Thus while this is a change in permitted emissions it is not a change in the actual emission rate.

PERMIT MODIFICATIONS

The following discussion identifies the significant changes that were made to the permit with this modification. A more detailed description of the changes made to the permit can be found in the technical review document prepared to support this revision and Appendix F of the permit.

Fluid Catalytic Cracking Unit (FCCU) (Section II.20) – Included an annual emission limit for hydrogen cyanide (HCN), as well as an annual limit for coke burn-off. In addition, a one-time performance test is required to verify compliance with the HCN limit.

Plant 1 Wastewater Treatment System (Section II.23) – Removed the emission limits for the centrifuge thermal oxidizer (TO) and the specific requirements for the centrifuge TO.

Main Plant (F1), Asphalt Unit (F2) and Gasoline Benzene Reduction (GBR) Unit Flares (Sections II.29, 30 and 31) – The emission and throughput limits for the GBR and asphalt unit (AU) flares were revised to reflect revised AP-42 emission factors, as well as an expected increase in throughput necessary for miscellaneous process vents to comply with new requirements in 40 CFR Part 63 Subpart CC. Conditions were added indicating that flares used as control devices will be subject to Subpart CC requirements in the future.

Fugitive VOC equipment leaks without permit limits and with permit limits (Sections II.33 and 34) – Revisions were made to these sections to indicate which equipment is subject to NSPS GGGa. Note NSPS GGG no longer applies to any equipment at the facility, therefore, NSPS GGG requirements were removed from both Sections II.33 and II.34. In addition, emission limits were included for new components that will be installed to comply with the miscellaneous process vent requirements in 40 CFR Part 63 Subpart CC.

40 CFR Part 60 Subpart Ja (Section II.46) – Removed the notes regarding the AU flare in various conditions, noting that the flare is likely exempt from the H₂S and sulfur monitoring requirements. In addition, removed the alternate flare monitoring requirements in 60.107a(g) (Condition 46.21) which applied to the AU flare.

40 CFR Part 60 Subparts GGGa, GGG and VVa (Sections II.47, 51 and 56) - Revisions were made to the NSPS GGGa language to indicate which sources are subject to these requirements. The NSPS GGG requirements no longer apply to any equipment at the facility so they were removed. Added notes and place holders regarding NSPS VVa requirements that have been stayed.

40 CFR Part 63 Subpart CC (Section II.54) – Note that due to the removal of the NSPS GGG requirements (Section II.51), this section was renumbered to II.53. This section was revised to include the December 1, 2015 and July 13, 2016 revisions to 40 CFR Part 63 Subpart CC.

Sand Creek Remediation Project – Air Sparge/Soil Vapor Extraction Systems and Project Wide Requirements (Sections II.68 and 70) – Note that due to the removal of the NSPS GGG requirements (Section II.51), these sections were renumbered to II.67 and II.69, respectively. The following discussion is based on the numbering in the current permit (last revised February 1, 2016). Removed the north guard shack SVE system and included the new laboratory SVE to Section II.68. Condition 68.6.2 was revised to change the blower capacity for pt 634. The VOC limit for insignificant activities in Condition 70.2 to reflect the removal of the guard shack SVE system and the addition of the laboratory SVE system.

Tank Degassing (“New” Section II.70) – This section was added to include requirements for degassing floating roof tanks containing liquids with a maximum true vapor pressure of 0.75 psia or greater using a thermal oxidizer. .

Miscellaneous Process Vents (“New” Section II.71) – Miscellaneous Process Vents – This new section was added to include miscellaneous process vents. The miscellaneous process vents are subject to requirements in 40 CFR Part 63 Subpart CC.

Appendix K – Non-Attainment Area New Source Review (NANSR) and Prevention of Significant Deterioration (PSD) Review Applicability Test – This appendix was added to include the NSNAR and PSD applicability test conducted for the MPV project modification.