TECHNICAL REVIEW DOCUMENT
for
OPERATING PERMIT 95OPAD108
to be issued to:

Suncor Energy (USA) Inc.
East Plant
(formerly owned by the Colorado Refining Company)
Adams County
Source ID 0010003

Prepared by Cathy Rhodes
September, 2002
Revised June, 2004
Revised September, 2006

I. PURPOSE:
This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Conclusions in this document are based on information provided in the original application submittal of December 19, 1995, the revised application submittal of December 20, 1999, and supplemental Title V technical information. Suncor submitted an application for administrative amendments to the permit in September 2006.

Any revisions made to the underlying construction permits associated with this facility in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description:
This facility is a petroleum refinery. The facility is located at 5800 Brighton Boulevard in Commerce City. There are no affected states within 50 miles of the facility. Rocky Mountain National Park is a Federal Class I designated area within 100 kilometers of the plant.

The Title V application reports the facility is subject to the Accidental Release Plan provisions of 112(r)(7) of the Clean Air Act.

Facility wide emissions are as follows (tons/year):

Pollutant	Actual	Potential
Particulate Matter	321	574
PM_{10}	321	574
Nitrogen Oxides (NO_x)	266	504
Sulfur Dioxide (SO_2)	527	1926
Volatile Organic Compounds (VOC)	1385	1635
Carbon Monoxide	153	550

Actual emissions and potential emissions data are based on information submitted with the Operating Permit application and may vary from current emission calculations.

This facility emits major amounts of Hazardous Air Pollutants (HAPs), and is subject to the Maximum Achievable Control Technology (MACT) requirements for petroleum refineries, as described below under facility wide applicable requirements.

Prevention of Significant Deterioration Review

The attainment status of the area in which the facility is located has changed since the permit went to public notice. The Denver metro area is classified as attainment/maintenance for particulate matter less than 10 microns (PM_{10}), 1-hour ozone and carbon monoxide. Under that classification, all SIP-approved requirements for $PM_{10,}$ VOC and CO will continue to apply in order to prevent backsliding under the provisions of Section 110(l) of the Federal Clean Air Act. Note that the entire 1-hr ozone/VOC attainment/maintenance area is also part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.16.The Denver metro area is classified as attainment for nitrogen oxides (NO_x) and sulfur dioxide (SO_2).

This facility is a major source for Prevention of Significant Deterioration (PSD) purposes. Future modifications at this plant resulting in a significant net emissions increase, or a modification which is major in itself, shall result in the application of the PSD review requirements (Colorado Regulation No. 3, Part B, IV.D.3).

III. EMISSION SOURCES:

SUMMARY DESCRIPTION OF PROCESS

The following sources are specifically regulated under terms and conditions of the Operating Permit.

Crude Distillation Unit – P001, Vacuum Heater - B010, Crude Heater - B001

The crude unit is the process by which the crude oil and other charge stocks are heated and distilled into several boiling range fractions. Because of the corrosive properties of salt impurities in the crude, it must be “desalted” before the fractionation. The heaviest fraction may be distilled under vacuum in another tower to further separate the material. These fractions may be further processed in other refinery units or blended into products.

Initial Approval Construction Permit 12AD032-1 was issued for the crude heater (B001) and the vacuum heater (B010). The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 12AD032-1 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows. Note that a modification was issued for this permit on June 7, 2006 (after public notice).The modifications have not yet been incorporated into the operating permit, and will be incorporated in accordance with the appropriate procedures required in Regulation No. 3.

Construction Permit 12AD032-1

- Limits maximum heat input for each heater
- Subject to NSPS Subpart J
- Colorado Regulation No. 6, Part B, Section IV
- Visible emissions shall not exceed 20% (Some Construction Permits only list a 20% opacity limit. Applicable opacity limits are contained in Colorado Regulation No. 1.II.A.1 & 4 (20% and 30% limits), and Colorado Regulation No. 6, Part B (20% **state-only** limit) All of the applicable opacity limits are included in the operating permit)
- Subject to the odor requirements of Colorado Regulation No. 2
- Limits criteria pollutant emissions on hourly and rolling twelve month bases (See Short Term Limits discussion, below) Note: The VOC and PM/PM_{10} emission limits for the vacuum heater are below permitting de minimis levels, therefore they are not included in this operating permit. In addition, the VOC, PM/PM_{10}, and CO emission limits are revised to reflect revised emissions factors. See discussion below regarding revised gaseous fuel burning emission factors.
- Requires a compliance test for NOx and CO (completed April, 1998 – requirement not included in this operating permit)

Emission Factors – Sulfur dioxide emissions are estimated using the H_2S content of the fuel gas and actual fuel use. Other pollutant emissions from the crude heater are based on the EPA's AP-42 emission factors. (Note: Section 1.4 emission factors are adjusted for heat content for all fuel burning sources.) Other pollutant emissions from the vacuum heater are estimated using test and manufacturer's data.

Monitoring – Flow meters are used to monitor fuel use. Emissions are calculated monthly, except SO_2 emissions, for which daily emissions are calculated each month. Btu content of the fuel is analyzed on a weekly basis. Compliance with the opacity limits is assumed whenever gaseous fuel is used. See discussion regarding facility wide applicable requirements and corresponding monitoring provisions.

Fluid Catalytic Cracking Unit – P003: P004 – Reactor/Regenerator; B002 – PreHeater; P014 – Catalyst Handling

The fluid catalytic cracking unit (FCC) is charged with gas oils and other streams and cracks them into gasoline, diesel fuel, and other products. The reaction literally "cracks" the large feedstock molecules into smaller gasoline, diesel, and other molecules. Some molecules crack more than once and produce smaller molecules, including propane, butanes, and lighter gases. Other molecules do not crack to any great extent. These form the heaviest products, slurry. Two silos store catalyst for use in the FCCU.

Applicable Requirements - Initial Approval Construction Permit 11AD250 was issued for the heater (B002). The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 11AD250 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 11AD250

- Subject to Regulation No. 1 opacity limits
- Limits emissions of PM lb/MMBtu basis (based on Regulation No. 1, III.A.b)

Colorado Regulation No. 1

- Sets forth PM emission limit (Section III.C.1)
- Requires CO monitoring (Section IV) This regulation allows for a Division approved exemption. The Division has provided such exemption, and the provision is included in the Permit Shield.
- Limits CO emissions to 500ppm if emit >1000 tons in 12 months or could reasonably be expected to (Section IX) Note: This FCCU has never emitted more than 1000 tons of CO in any 12 month period, and is not expected to – the requirement is not included in the permit.

PSD Permit – The EPA issued a PSD permit for operation of the Claus Plant and SO_2 emissions at the facility

- Continuous SO_2 monitoring is required at the FCC Regenerator if capacity is above 9,500 barrels/day (Currently less than 9,500 bpd)

MACT – This unit is subject to the MACT standard for FCCU's (40 CFR Part 63, Subpart UUU), which will became effective on April 11, 2005

Emission Factors – Emissions from the heater are estimated using the EPA's AP-42 emission factors, except for SO_2 emissions, which are estimated using the H_2S content of the fuel as measured with the CEM. FCCU emissions are based on February 2002 stack testing results.

Monitoring – Actual FCCU feed rate and heater fuel use are measured and recorded. A CO Continuous Emission Monitor measures CO emissions from the FCCU regenerator. Compliance with the opacity limits is assumed for the heater when gaseous fuel is used. Compliance with the opacity limit for the reactor/regenerator is monitored using visual inspections and Method 9 observations. In the absence of credible evidence to the contrary, compliance with the opacity limits for catalyst handling is assumed when standard operating procedures are used. In addition, semi-annual Method 9 observations are used to monitor catalyst handling opacity. The EPA has indicated that a 7-day averaging period for determining the actual feed rate for the PSD permit is acceptable.

Naphtha Hydrotreater and Reformer Unit – P005, P013: B003 – Heater 1; B004 – Heater 2; B005 – Heater 3; F004 – Reactors (Catalyst Regeneration)

The reformer unit produces a high-octane gasoline blendstock called reformate. In front of the reformer is a naphtha hydrotreater, which, in the presence of hydrogen and a catalyst, removes sulfur from the feed stream, converting it to hydrogen sulfide. The off gas goes to the amine treater. The reformer "reforms," or rearranges, the molecules in the feed stream into structures that have high octanes. The reforming reaction is endothermic, requiring considerable energy input. Thus, there are three reforming reactors, each with its own heater, to raise the temperature high enough to sustain the reforming reaction.

Applicable Requirements - Final Approval Construction Permit 12AD032-4 was issued for the three heaters associated with the Naphtha Desulfurizer and Reformer. Applicable requirements are as follows.

Construction Permit 12AD032-4

- Subject to Colorado Regulation No. 1 opacity limits
- Limits heat input on a rolling twelve month rolling basis (Note: VOC and PM/PM_{10} emission limits are revised to reflect revised emission factors)
- Requires weekly analyses of fuel for sulfur and Btu content
- Limits criteria pollutant emissions on a twelve month rolling basis
- Subject to NSPS Subpart J
- Subject to Colorado Regulation No. 6, Part B, Section IV.C

Colorado Regulation No. 1

- PM emission limit for fuel burning equipment (Section III.A)

Colorado Regulation No. 6, Part B (**State-only** requirements)

- PM emission limit for fuel burning equipment
- 20% opacity limit

This unit is subject to the 40 CFR Part 63, Subpart UUU MACT requirements for Catalytic Reforming Units.

Emission Factors – NO_x and CO emissions from the heaters are based on manufacturer's test data. SO_2 emissions are estimated using the H_2S content of the fuel gas and actual fuel use. VOC and PM/PM_{10} emissions are estimated using AP-42 emission factors. (Note: Section 1.4 emission factors are adjusted for heat content for all fuel burning sources.) Catalyst regenerator emission factors are from the EPA's "Dioxin and Furan Emissions from Petroleum Refineries," July, 1989.

Monitoring – Flow meters are used to monitor fuel use. Emissions are calculated monthly except SO_2 emissions, for which daily emissions are calculated each month. Btu content of the fuel is analyzed on a weekly basis. Compliance with the opacity limits for the heaters is assumed whenever gaseous fuel is used. Semi-annual Method 9 observations are used to monitor opacity for reformer catalyst loading/unloading. This activity only occurs every three to four years, therefore a Method 9 observation is performed each time reformer catalyst is loaded. The CRU will meet the MACT organic HAP limit by routing the emissions during depressuring and purging operations to the Main Refinery Flare. Compliance with the control device requirements is demonstrated by conducting a visible emission observation. The inorganic HAP requirements are met by the reduction of hydrogen chloride (HCl) emissions during coke burn-off and catalyst rejuvenation. Compliance with the HCl outlet concentration for the CRU will be demonstrated through the use of stain tubes.

Polymerization Unit – P006, Reactor #1(Catalyst Unloading) F008, Reactor #1 (Catalyst Loading) F029, Reactor #2 (Catalyst Unloading) F009, Reactor #2 (Catalyst Loading) F030

The polymerization (poly) unit combines (polymerizes) unsaturated propylene and butylene molecules into a high-octane gasoline blendstock. The polymerization unit uses a solid phosphoric acid catalyst in a high pressure reactor. The reactors may also be quenched with unreacted hydrocarbon material. Saturated LPGs in the feed stream, including propane and butanes, do not convert to poly gasoline, but are sold as product or blended into gasoline for vapor pressure control. The poly unit may also be operated with the reactors bypassed to separate the unsaturated LPG stream into those having three carbons (propane and propylene) and those mainly consisting of butanes and butylenes.

Applicable Requirements – This source is grandfathered from Construction Permit requirements. Applicable requirements are as follows.

Colorado Regulation No. 1

- Subject to Regulation No. 1 opacity limits

Emission Factors – PM emissions from reactor blowdowns are based on AP-42, Section18.9.1, Factors for Sand and Gravel Loading Operations

Monitoring – In the absence of credible evidence to the contrary, compliance with the opacity limits is assumed when standard operating procedures are used. Semi-annual Method 9 observations are also used to monitor opacity, except for reformer catalyst loading.

Sulfur Recovery Plant P009 – P008: Amine Unit; P010: Sour Water Stripper

The sulfur recovery plant treats refinery gas to minimize sulfur content. The amine unit removes H_2S from the refinery fuel gas and the sulfur recovery unit reclaims the sulfur as elemental sulfur, employing the Claus reaction. The sour water stripper removes H_2S and ammonia from the sour water. The stripped gases from the sour water stripper are then processed in the sulfur recovery unit.

Applicable Requirements - Initial Approval Construction Permit 12AD032-3 was issued for the three stage Claus sulfur recovery system and tail gas incinerator. In addition, the EPA issued a PSD permit. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 12AD032-3 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 12AD032-3

- Subject to Colorado Regulation No. 6, Part B, Section IV
- Visible emissions shall not exceed 20% (Note: Subject to all applicable Regulation No. 1 and No. 6 opacity limits)
- Subject to Colorado Regulation No. 2
- Limits BTU input on hourly and twelve month rolling bases
- Limits pollutant emissions on rolling twelve month and annual bases (Note: Permitted PM, PM_{10}, VOC and CO limits are less than permitting de minimis levels, therefore they are not included in this operating permit)
- Limits SO_2 emissions for the entire facility on a rolling twelve month basis (Note: This requirement is included in the facility wide section of the permit.)

PSD Permit

- Requires operation of the Claus Plant when at least 0.80 long ton per day of sulfur is available from certain sources in the refinery (Note: "Sour water incinerator" is removed from the nonregulated source list – this source is no longer in service at the refinery)
- Limits SO_2 emissions from the Claus Plant incinerator to 1.20 percent by volume
- Requires installation of an SO_2 CEM

- Limits H_2S from the Amine Unit – Note: The PSD permit indicates that compliance with this limit will "be based on" data obtained from the CEM. Operating permits are to set forth methods for monitoring compliance with applicable requirements, but can not limit the methods used. The PSD permit condition is therefore modified to indicate that compliance with this limit will be "monitored" using the CEM data. This revision is also made to the PSD CEM requirement language.
- Requires excess emission reporting

Other

- NSPS Subpart J
  The unit is not subject to the Subpart J Claus unit requirements because the design rate is 6 long tons/day (LTPD), and Subpart J applies to 20 LTPD units or greater. The tail gas incinerator burns both tail gas and supplemental fuel gas. According to EPA guidance, the incinerator is therefore subject to the fuel gas requirements of Subpart J. A December 2, 1999 letter from the EPA to Koch Refining Company addresses Subpart J applicability for various sources at refineries. According to this guidance, tail gas incinerators can be subject to both the Claus unit and the fuel gas requirements of Subpart J. For this facility, only the fuel gas requirement applies, since the design rate of the Claus unit is less than 20 LTPD.

MACT Standard – This unit is subject to the MACT standard (40 CFR Part 63, Subpart UUU) for sulfur recovery units, which became effective on April 11, 2005

Emission Factors – Emissions are estimated using actual fuel use and AP-42 emission factors. SO_2 emissions are estimated based on a procedure included in the PSD permit.

Monitoring – The CEM is used to monitor SO_2 emissions. A meter monitors fuel use. Monthly visual emission inspections and quarterly Method 9 readings are used to monitor opacity. Compliance with the MACT 300 ppmvd H_2S inorganic HAP standard is determined by parametric monitoring of the incinerator temperature and excess oxygen content.

Utilities – Boiler 1: B006; Boiler 2: B007; Boiler 3: B008; Cooling Tower: P011

Refinery fuel gas fired steam boilers are used to provide steam to the various process units. Utilities include three boilers and one cooling tower.

Final Approval Construction Permit 87AD184 was issued for the three steam boilers. Applicable requirements are as follows.

- Boiler #1 is subject to 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
  - Units fired with gaseous fuels are not subject to any emission standards, however, records of fuel use must be kept
- Subject to Colorado Regulation No. 6, Part B, Section IV
- Requires records of daily and annual oil processing rates (Note: This requirement is included in the facility wide portion of the permit.)
- Subject to Regulation No. 1 and 6 opacity limits
- Limits Btu input on a rolling twelve month basis
- Limits criteria pollutant emissions on a rolling twelve month basis
- Colorado Regulation No. 6, Part B, Section II – Standards of Performance for New Fuel Burning Equipment (**State-Only** requirement)
- Subject to 40 CFR Part 60, Subpart J

The Cooling Tower is grandfathered from Construction Permit requirements. Applicable requirements are as follows.

- Subject to Regulation No. 1 opacity limits

Emission Factors – Sulfur dioxide emissions from the boilers are estimated using the H2S content of the fuel gas and actual fuel use. Other criteria pollutant emissions from the boilers are based on the EPA's AP-42 emission factors. (Note: Section 1.4 emission factors are adjusted for heat content for all fuel burning sources.)

Monitoring – Emissions are calculated monthly except SO_2 emissions, for which daily emissions are calculated each month. Fuel flow meters monitor fuel use and Btu content of the fuel is analyzed on a weekly basis. Compliance with opacity limits is assumed when the boilers burn gaseous fuel. Compliance with cooling tower opacity limits is presumed when the unit is operated in accordance with manufacturer's recommendations and good engineering practices.

Crude Loading/Gasoline Truck Tank Loading Docks – South Crude Unloading: F015; North Crude Unloading: F016; Truck Dock Fugitives: F017; Truck Loading Dock: F024

Crude Unloading: Crude oil is unloaded at the North and South unloading docks and transferred to crude oil storage for processing at the refinery.

Truck Tank Loading: At the truck tank loading docks, petroleum products are loaded into truck tanks for delivery.

Applicable Requirements - Initial Approval Construction Permit 11AD251 was issued for four truck loading docks. A flare controls emissions. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial

approval construction permit 11AD251 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 11AD251

- Limits throughput on hourly and rolling twelve month bases
- Subject to Regulation No. 1 opacity limits (Note: The Construction Permit lists 20% opacity requirement – Instead, the flare is subject to the 30% opacity requirement in Section IV.5)
- Subject to Colorado Regulation No. 2
- Limits criteria pollutant emissions on hourly and twelve month rolling bases
- Subject to Colorado Regulation No. 7, Sections III, VI, and VIII
- Flare is subject to NSPS Subpart A, 60.18
- Regulation No. 6, Part B, Section VI and Regulation No. 1, Section VI.B

September 8, 1999 Consent Decree

Subject to 40 CFR Part 60, Subpart J

Initial Approval Construction Permit 93AD592 was issued for crude oil unloading racks and associated equipment leak emissions. Applicable requirements are as follows.

- Subject to NSPS Subpart GGG (The Division has determined that this source is not an affected facility as defined in Subpart GGG, therefore this requirement is not included in the operating permit)
- Subject to Colorado Regulation No. 7, Sections III and VI
- Limits throughput on a rolling twelve month basis
- Limits VOC emissions on a rolling twelve month basis
- Requires a total component count (included in facility-wide leak detection and repair requirements)

The Truck Loading Docks are subject to 40 CFR Part 63, Subpart CC during gasoline loading.

Emission Factors – Emissions are estimated using the actual throughput and AP-42, Section 5.2 (January, 1995) emission factors and equations. Flare emissions are estimated using manufacturer's data.

Monitoring – Records of throughput are maintained. Flare opacity is monitored using visual inspections and Method 22. A UV scanner is used to monitor proper combustion of vapors at the flare. For Subpart J, the Consent Decree provides for stain tube testing to

monitor H_2S content in the vapor during product loading, as an alternative NSPS monitoring method.

Aviation Fuel Transfer Station F028

Operation of an aviation fuel transfer station which includes the following: Rail Car Unloading, Storage Tank and Tank Truck Loading. Tank truck loading emissions are covered under Construction Permit 11AD251 (see Crude Loading/Gasoline Truck Tank Loading Docks – South Crude Unloading: F015; North Crude Unloading: F016; Truck Dock Fugitives: F017; Truck Loading Dock: F024, above). Aviation fuel is transferred from incoming rail cars to Tank 24 for storage and subsequent pumping into tank trucks at existing truck dock "C" for delivery in the region.

Applicable Requirements - Initial Approval Construction Permit 00AD0183 was issued for the aviation transfer station. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 00AD183 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Limits VOC emissions on an annual basis (The tank and fugitive VOC leak emissions are separated out, and the VOC leak emission limit is included in the consolidated operating permit condition for fugitive leak emissions. See discussion below.)
- Limits throughput of aviation fuel through Tank 24 on an annual basis
- Subject to 40 CFR Part 63, Subpart CC
- Subject to Colorado Regulation No. 7, Sections III.A, VI.A, VI.B.2.a, VI.C2, VI.C4.b, and VIII.B and C

Emission Factors- Emissions from the storage tank are calculated using the most recent EPA Tanks program.

Monitoring Plan- Regulation No. 7 and Subpart CC set forth specific monitoring requirements. Records of throughput are maintained.

Flare – Process Units (P001, P003, P005, P006, P007, P008, P011, P012, P013) F018

The flare is used to control waste gases during process upset and emergencies.

Applicable Requirements - Initial Approval Construction Permit 88AD134 was issued for refinery process blowdown and equipment leak emissions associated with the knock out drum. A flare controls emissions. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 88AD134 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval

construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 88AD134

- Subject to NSPS Subpart GGG
- Flare subject to NSPS Subpart A, 60.18
- Limits oil processed at the facility on daily and rolling twelve month bases. (This requirement is included in the facility wide portion of the permit)
- Limits emissions of criteria pollutants on a rolling twelve month basis

Colorado Regulation No. 1, IV.A.5

- Limits opacity to 30%

Colorado Regulation No. 7, VIII.B.6 (Note: This provision requires testing, monitoring and recordkeeping for add on control devices. The Division has determined that these provisions can not be applied to flares, therefore the permit requires compliance with the NSPS Subpart A flare requirements in lieu of the Regulation No. 7 monitoring requirements.)

40 CFR Part 60, Subpart J

Emission Factors – Emissions of NOx, CO and VOC are estimated using AP-42 emission factors, actual flared gas flow rates, and flared gas heat content data. Emissions of SO_2 are estimated using a mass balance based on actual flared gas flow rates and flared gas sulfur content data. Emissions for flaring events are calculated using engineering judgement.

Monitoring – Subparts A and GGG set forth specific monitoring requirements. Flare opacity is monitored using visual inspections and Method 22. The presence of the flare pilot flame is monitored using an infrared camera. Flared gas sulfur and heat content data are collected via routine gas sampling.

Liquid Petroleum Gas (LPG) Storage, Truck, and Railcar Facility – Railcar Dock: F019; Truck Dock: F020; Dock Fugitives: F026; Grandfathered Pressure Tanks: T050, T051, T060, T061, T063, T064; Permitted Pressure Tanks: T066, T067, T068, T069

LPG is produced at the refinery, stored in pressure tanks, and loaded into railcar and truck cargo tanks. In addition, petroleum products are loaded into railcar tanks. The propane-fired open flare is used to dispose of waste gases during loading activities.

Applicable Requirements - Initial Approval Construction Permit 89AD031 was issued for LPG and petroleum products loading docks. A vapor collection system and flare control emissions. The source has demonstrated compliance under the provisions of Regulation

No. 3, Part B, Section IV.H for initial approval construction permit 89AD031 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 89AD031

- Subject to Colorado Regulation No. 7, Sections V, VI, and VIII
- Subject to Colorado Regulation No. 7, Section IV – Storage of Highly Volatile Organic Compounds
- Flare is subject to NSPS Subpart A, 60.18
- Limits throughput on monthly and rolling twelve month bases
- Limits criteria pollutant emissions on a twelve month rolling basis
- Limits unloading to railcars only (this construction permit condition is modified to clarify that this limit applies only at the LPG facility)

The Rail Car Docks are subject to 40 CFR Part 63, Subpart CC during gasoline loading.

Emission Factors – Emissions are estimated using manufacturer's flare data and AP-42 Section 5.2 emission factors.

Monitoring – Records of actual throughput are maintained. Visual inspections and Method 22 monitor compliance with the flare opacity limit. Stain tube testing is used to monitor H_2S content in the vapor during product loading. Annual certification tests of cargo tanks operated by the permittee are conducted to monitor compliance with Regulation No. 7 requirements. LPG is stored in pressure tanks.

Wastewater Treatment System – Upper API: F021; Middle API: F022; Lower API: F023; Gas Plant Sewer: F011; Sour Water Stripper Sewer: F015; South Crude Unloading Sewers: F027

Wastewater is generated from many refinery processes. It is treated in an activated sludge system, a biological process similar to municipal wastewater systems, and is discharged under an NPDES permit.

Applicable Requirements - Initial Approval Construction Permit 95AD1073-5 was issued for F022, the middle oil/water separator. F021, 23, and 25 are grandfathered from Construction Permit requirements. F027 (South Crude Unloading) is covered under Construction Permit 89AD126. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permits 95AD1073-5 and 89AD126 but not yet received final approval construction permits. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue final approval construction permits and is allowing the initial approval construction permits to

continue in full force and effect. The appropriate provisions of the initial approval construction permits have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 95AD1073-5

- Subject to Colorado Regulation No. 7, Section VIII.A
- Requires cover and oil recovery system to control VOC emissions (Note: This is a duplication of the requirements contained in Regulation No. 7, and is not included in this operating permit)
- Limits throughput on daily and rolling twelve month bases
- Limits VOC emissions on daily and rolling twelve month bases

Colorado Regulation No. 7, Section VIII.A applies to other API separators

40 CFR Part 60, Subpart QQQ applies to the Upper API separator.

Emission Factors – Emissions are estimated using the EPA's most recent version of the WATER model.

Monitoring – Records of amount of water processed at the middle APPI separator are maintained.

Black Oil Heater

The black oil heater is used for heating high-viscosity oil in the tank farm.

Applicable Requirements - Initial Approval Construction Permit 95AD1073-4 was issued for the black oil heater. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 95AD1073-4 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to Colorado Regulation No. 1 opacity limits
- Limits heat input on hourly and rolling twelve month bases
- Limits criteria pollutant emissions on hourly and rolling twelve month bases (Note: PM, PM_{10}, and VOC emissions are below Construction Permit de minimis levels, and are not included in this operating permit)
- Subject to NSPS Subpart J

Emission Factors – Emissions are estimated using the actual fuel use and AP-42 emission factors, except for SO_2, which is estimated using H_2S content of the fuel gas and actual fuel use.

Monitoring – Compliance with opacity limits is assumed when gaseous fuel is used. Records of fuel use are maintained.

Tanks

Tanks store feedstock, intermediate products, final products, and chemicals.
Tanks are divided into the following groups, according to applicable regulations.

Group B Tanks – Grandfathered Internal Floating Roof Tanks
T010, T011, T027, T030, T040, T041

Applicable Requirements - These tanks are grandfathered from Construction Permit requirements. Applicable requirements are as follows.

- Colorado Regulation No. 7, Sections III.A, VI.A.1, VI.B.2.a(I),(ii) and (iii), and VI.B.2.b
- 40 CFR Part 63, Subpart CC, 63.646 and 63.648

Group C Tanks – Grandfathered, Floating Roof Storing Exempted Materials
T008, T009, T042, T043, T045, T048, T049, T057

Applicable Requirements - These tanks are grandfathered from Construction Permit requirements and store materials which are exempt from most Regulation No. 7 requirements. Applicable requirements are as follows.

- Colorado Regulation No. 7, Section III.A
- 40 CFR Part 63, Subpart CC, 63.646

Group D Tanks – Grandfathered, Floating Roof Vapor Pressure <0.65 psia
T004, T005, T031, T039, T055, T056

Applicable Requirements - These tanks are grandfathered from Construction Permit requirements and are exempt from some Colorado Regulation No. 7 requirements. Applicable requirements are as follows.

- Colorado Regulation No. 7, Section III.A
- Colorado Regulation No. 7, Section IV.B.2.b
- 40 CFR Part 63, Subpart CC, 63.646

Group E Tanks – Tanks with Unique Requirements
T006, T012, T020, T024, T026, T038, T046, T047, T053, and T062

Applicable Requirements –These tanks are tanks which have been issued Construction Permits, which contain VOC emission limits and throughput limits and/or are subject to other applicable requirements.

Initial Approval Construction Permit 95AD1073-1 was issued for Tank No. 6. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 95AD1073-1 but not yet received a final

approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to NSPS Subpart Kb
- Subject to Colorado Regulation No. 7, Sections III and VI
- Limits throughput on daily and rolling twelve month bases
- Limits VOC emissions on daily and rolling twelve month bases
- Subject to 40 CFR Part 63, Subpart CC, 63.648

Tank T012 is grandfathered from Construction Permit requirements. Applicable requirements are as follows.

- Subject to 40 CFR Part 63, Subpart CC, 63.646
- Subject to Colorado Regulation No. 7, Sections III and IV.B.2.b

Initial Approval Construction Permit 95AD1073-2 was issued for Tank No. 16. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 95AD1073-2 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to Colorado Regulation No. 7, Sections III and VI
- Limits throughput on daily and rolling twelve month bases
- Limits VOC emissions on daily and rolling twelve month bases
- Requires a vapor recovery system to reduce emissions by at least 95%

Initial Approval Construction Permit 93AD306 was issued for Tank No. 20. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 93AD306 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to Colorado Regulation No. 7, Sections III.A, VI.A.1, and VI.B.2
- Limits throughput on an annual basis
- Limits VOC emissions on an annual basis

- Subject to NSPS Subpart Kb
- Subject to 40 CFR Part 63, Subpart CC, 63.648

See discussion under Aviation Fuel Transfer Station, above, for Tank 24 requirements.

Initial Approval Construction Permit 99AD0941 was issued for Tank No. 26. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 99AD0941 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to NSPS Subpart Kb
- Subject to Colorado Regulation No. 7, Sections III.A, VI.A.1, VI.B.2.b & c, and VII.B and C
- Subject to 40 CFR Part 63, Subpart CC, 63.648
- Limits throughput on a rolling twelve month basis
- Limits VOC emissions on a rolling twelve month basis

Tank 38 is grandfathered from Construction Permit requirements. Applicable requirements are as follows.

- Subject to Colorado Regulation No. 7, Sections III.A, VI.A.1, VI.B.2.b and c, and VII.B and C
- Subject to 40 CFR Part 63, Subpart CC, 63.646 and 63.648

Final Approval Construction Permit 88AD289-1 was issued for Tank No. 46. Applicable requirements are as follows.

- Subject to Colorado Regulation No. 7, Sections III.A and VI.A.1
- Subject to 40 CFR Part 60, Subpart Kb

Final Approval Construction Permit 88AD289-2 was issued for Tank No. 47. Applicable requirements are as follows.

- Subject to NSPS Subpart Kb
- Subject to Colorado Regulation No. 7, Sections III.A, VI.A, and VI.B.2
- Limits throughput on a rolling twelve month basis
- Limits VOC emissions on a rolling twelve month basis

Initial Approval Construction Permit 95AD1073-3 was issued for Tank No. 53. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 95AD1073-3 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate

provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to NSPS Subpart Kb
- Subject to Colorado Regulation No. 7, Sections III.A and VI.B.2.a and b
- Limits throughput on daily and rolling twelve month bases
- Limits VOC emissions on daily and rolling twelve month bases

Initial Approval Construction Permit 93AD763 was issued for Tank No. 62. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 93AD763 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to NSPS Subpart GGG
- Subject to Colorado Regulation No. 7, Sections III and VI
- Limits throughput on an annual basis
- Limits VOC emissions on an annual basis

Note: All throughput limit conditions are revised to allow storage of the permitted substance, or heavier substances.

Group F – Grandfathered, External Floating Roof Tanks
T035, T036, T044, T052, T054

Applicable Requirements - These tanks are grandfathered from Construction Permit requirements. Applicable requirements are as follows.

- Subject to Colorado Regulation No. 7, Sections III.A, VI.A.1, and VI.B.2.b and c
- Subject to 40 CFR Part 63, Subpart CC, 63.646 and 63.648

Group G Tanks – Grandfathered, Internal Floating Roof
T025, T028, T037, T058

Applicable Requirements - These sources are grandfathered from Construction Permit requirements. Applicable requirements are as follows.

- Subject to Colorado Regulation No. 7, Sections III.A,1, VI.A.1, and VI.B.2.a and b
- Subject to 40 CFR Part 63, Subpart CC, 63.646 and 63.648

Emission Factors – Emissions are estimated using the EPA's TANKS model.

Monitoring – Throughput records are maintained. See Facility-Wide applicable requirements for monitoring methods.

Fugitive VOC Equipment Leak Emissions with Permitted Limits
These sources were issued construction permits containing emission limits. The requirements are consolidate into one Operating Permit Condition.

Supplemental Environmental Project F029
As a Supplemental Environmental Project (SEP), the refinery is implementing a piping modification project. The project consists of removing the below ground pipelines running from the finished product tanks to the product loading docks, and replacing them with aboveground lines. This will allow for monitoring under the Leak Detection and Repair (LDAR) program.

Second Stage of Crude Oil Desalting Project F028
The permittee subsequently applied to modify the piping project construction permit to include VOC emissions from equipment leaks associated with the second stage of the crude oil desalting system.

Initial Approval Construction Permit 98AD0758 was issued for the piping modifications in the petroleum products handling system. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 98AD0758 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

- Subject to NSPS Subpart GGG
- Subject to 40 CFR Part 63, Subpart CC, 63.648
- Limits VOC emissions on a rolling twelve month basis

Emission Factors- AP-42, Section 5.1 emission factors and methods are used to estimate emissions.

Monitoring Plan- Subparts CC and GGG set forth specific monitoring requirements.

Gas Plant Fugitive Emissions– F007
Gases and streams containing liquefied petroleum gases (LPGs) are feedstocks to the gas plants. In the gas plants, these gases and LPGs are concentrated and separated into several streams for sales to other refinery uses. The separation and concentration is accomplished via the physical processes of fractionation and absorption.

The unsaturated and saturated labels refer to the types of molecules being processed. Unsaturates mainly included propylene and butylene, whereas saturates predominately

include propane, normal butane, and isobutane. The unsaturated LPGs are products from the FCC unit, concentrated in the gas plant, which may be feedstocks to the polymerization unit.

Applicable Requirements - Initial Approval Construction Permit 89AD126 was issued for equipment leaks from the saturated gas plant, storage facility associated with the saturated gas plant, and the unsaturated gas plant. The source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section IV.H for initial approval construction permit 89AD126 but not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3, the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 89AD126

- Subject to NSPS Subpart GGG
- Limits VOC emissions on a rolling twelve month basis
- Subject to Colorado Regulation No. 2

40 CFR Part 60, Subpart QQQ – Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

- Sewer, junction box, and separator are subject to this Subpart

The operating permit allows a refinery to demonstrate compliance with equipment leak emission limitations by carrying out an approved LDAR program. The draft permit states: “In the absence of credible evidence to the contrary, compliance with these emission limits will be presumed whenever the permittee is carrying out an approved LDAR program as required under Conditions 30 and 32 of the permit. The equipment leaks emission limits originated in construction permits and are now referenced in the operating permit. In the past, the Division has addressed equipment leak fugitive emissions in refinery construction permits by including a specific component count and allowable emission rate for these components. This approach was employed by the Division to ensure that the additional VOC emissions from these components were properly addressed in determining potential emissions for the new or modified activity at the refinery under the New Source Review program.

Once the new or modified activity has been completed and the Division has verified that the new activity (project) has been constructed according to the permit, there is no need to continue to enforce the component count or the equipment leak emission limitation. Allowing the use of the approved LDAR program to demonstrate compliance with equipment leak emission limits is supported by the existing regulatory requirements and reduces unnecessary tracking requirements.

Suncor has implemented programs to review proposed projects, activities, and/or changes to assure that regulatory and permitting obligations have been identified. The current review procedures include new components identification and emission calculation steps to help determine applicable regulatory and permitting requirements that would be triggered for each proposed project.

Emission Factors – Emissions are estimated using AP-42 Section 5.1 factors and methods.

Monitoring – Subparts GGG and QQQ set forth specific monitoring requirements.

Facility-Wide Applicable Requirements

The following requirements apply to all or to a combination of sources at this facility.

- Colorado Regulation No. 1, III.A.1.b and Colorado Regulation No. 6, Part B, II.C.2 – Particulate Matter Emission Limits for Fuel Burning Equipment (Regulation No. 6, Part B is a **state-only** requirement.

  Monitoring: Compliance with these emission limits is assumed when gaseous fuel is used.

- Colorado Regulation No. 1, III.C.1.b – Particulate Matter Emission Limit for Manufacturing Processes

  Monitoring: Emissions are calculated on a monthly basis.

- Colorado Regulation No. 1, VI.B.4.e – Facility wide SO_2 emissions not to exceed 0.3 lb/bbl.

  Monitoring: Emissions are calculated on a daily and annual basis, using procedures set forth in Appendix H of the permit.

- Colorado Regulation No. 6, Part B, IV.C.2 (**state-only** requirement) - Facility wide SO_2 emissions not to exceed 0.3 lb/bbl.

  Monitoring: Emissions are calculated on an annual basis, using procedures set forth in Appendix H of the permit. Note that this regulation does not include an averaging time. For purposes of this operating permit, the Division therefore assumes that the averaging time for this emission limit is yearly.

- Construction Permit 12AD032-3 – Facility wide (i.e., the former CRC facility) SO_2 emissions not to exceed 1926.3 tons/year on a rolling twelve month basis.

Monitoring: Emissions are calculated on a rolling twelve month basis, using procedures set forth in Appendix H of the permit.

- 40 CFR Part 60, Subpart J, as adopted by reference in Colorado Regulation No. 6, Part A – Standards of Performance for Petroleum Refineries – Limits fuel gas H_2S content to 0.10 gr/dscf – Note: Units at this refinery are not subject to the Claus Recovery Unit or FCCU requirements because the units at this facility are not affected sources as defined in Subpart J.

  Monitoring: Subpart J requires a continuous emission monitor.

- Colorado Regulation No. 7, Section III – Storage and Transfer of Volatile Organic Compounds – Sets forth requirements for minimizing vapor loss during storage. Sets forth requirements for transferring VOCs (excludes petroleum liquids)

  Monitoring: Storage equipment is part of the leak detection and repair program. Tank 28 is the only source subject to the transfer requirements. An inspection is performed when loading the tank to monitor compliance. For Group D Tanks, in the absence of credible evidence to the contrary, compliance is assumed when the vapor pressure of the stored material is less than 0.65 psia (this is the psia at which Section IV.B requirements would apply) Records of the vapor pressure of materials stored in Group D tanks will be maintained.

- Colorado Regulation No. 7, Section VI.A – Storage and Transfer of Petroleum Liquid – General Requirements – Sets forth requirements for pumps and compressors handling petroleum liquid.

  Monitoring: Equipment is part of leak detection and repair program.

- Colorado Regulation No. 7, Section VI.B.2.a – Storage of Petroleum Liquids in Fixed Roof Tanks

  Monitoring: The regulation requires routine inspections at least every six months and complete inspections when tanks are out of service.

- Colorado Regulation No. 7, Section VI.B.2.b – Sets forth standards for external coating of all petroleum liquid storage tanks.

- Colorado Regulation No. 7, Section VI.B.2.c – Sets forth requirements for external floating roof tanks.

  Monitoring: The regulation requires semi-annual inspections.

- Colorado Regulation No. 7, Section VI.C.2 – Sets forth requirements for transfer facilities classified as terminals.

  Monitoring: The regulation sets forth monitoring requirements.

- Colorado Regulation No. 7, Section VI.C.4.a – Sets forth requirements for railcar loading.

  Monitoring: An inspection shall be performed during loading to monitor compliance.

- Colorado Regulation No. 7, Section VII – Sets forth requirements for equipment and storage for crude oil.

  Monitoring: The regulation sets forth monitoring requirements.

- Colorado Regulation No. 7, Section VIII.A and B – Petroleum Processing and Refining – Requirements are set forth for wastewater separators, process unit turnarounds, venting of blowdown systems and safety pressure relief valves, and vacuum producing systems.

  Monitoring: Monitoring provisions for control devices are specified in the regulation. Inspections are performed to ensure compliance with opening cover requirements. The permitee submitted a procedure for minimization of emissions during process unit turnaround.

- Colorado Regulation No. 7, Section XV – Control of VOC Leaks from Vapor Collection and Control Systems at Gasoline Terminals

  Monitoring: Sets forth specific monitoring and repair requirements.

- 40 CFR Part 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)

  Monitoring: The regulation requires periodic inspections.

- 40 CFR Part 60, Subpart QQQ – Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems –Sets forth requirements for minimizing emissions from oil-water separators and individual drains.

  Monitoring: Requires periodic inspections and repair to make sure measures are in place.

- 40 CFR Part 61, Subpart FF – National Emission Standard for Benzene Waste Operations

- 40 CFR Part 63, Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries- Sets forth requirements for storage vessels, wastewater streams, gasoline terminals, and equipment leaks.

  Monitoring: The regulation sets forth specific monitoring requirements.

- 40 CFR Part 63, Subpart UUU – National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (Note: The compliance date for this regulation is April 11, 2005)

  Monitoring: The regulation sets forth specific monitoring requirements.

IV. Revised Permitted Emission Limits

The EPA's AP-42 emission factors for gaseous fuel burning (Section 1.4) were revised in July, 1998. The following table lists previously permitted emission limits and revised limits based on revised emission factors.

Source	Old Limit	New Limit
AP-42, Section 1.4	2.8 lbs VOC/MMBtu 13.7 lbs PM/PM_{10}/MMBtu 61 lbs CO/MMBtu 35 lbs CO/MMBtu (B007 & B008) 140 lbs NOx/MMBtu 81 lbs NOx/MMBtu (B006)	5.5 lbs VOC/MMBtu 7.6 lbs PM/PM_{10}/MMBtu 84 lbs CO/MMBtu 84 lbs CO/MMBtu 100 lbs NOx/MMBtu 50 lbs NOx/MMBtu
Crude Heater – B001	1.08 tons/year VOC 5.27 tons/year PM/PM_{10} 23.51 tons/year CO	2.12 tons/year VOC 2.92 tons/year PM/PM_{10} 32.37 tons/year CO
Vacuum Heater – B010	1.62 tons/year PM/PM_{10}	.90 PM/PM_{10} (below permitting de minimis level)
Naphtha Hydrotreater and Reformer Unit Heaters – B003, B004, and B005	9.7 tons/year PM/PM_{10} 2.0 tons/year VOC	5.4 tons/year PM/PM_{10} 3.9 tons/year VOC
Utilities - B006, B007, B008	8.3 tons/year PM/PM_{10} 76.6 tons/year NOx 3.7 tons/year VOC 29.0 tons/year CO	4.6 tons/year PM/PM_{10} 52.2 tons/year NOx 7.3 tons/year VOC 59.7 tons/year CO

V. Emission Factors

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or emission factor equations included in the permit are considered to be fixed until changed by the permit. Factors dependent on the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.

VI. Short Term Limits

On April 16, 1998, the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction Permits. These procedures are being directly implemented in all Operating Permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the Construction Permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling twelve (12) month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting the hours of operation.

VII. Accidental Release Program- 112(r)

The Title V application reports the facility is subject to the provisions of the Accidental Release Plan provisions of 112(r)(7) of the Clean Air Act.

VIII. Compliance Assurance Monitoring (CAM)

The following emission points at this facility use a control device to achieve compliance with an emission limitation of standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the provisions of the CAM program as set forth in 40 CFR Part 64 as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV:

None (application was deemed administratively complete prior to April 20, 1998).

IX. Maximum Achievable Control Technology (MACT)

The EPA finalized the MACT requirements for Organic Liquids Distribution (nongasoline) on August 25, 2003 and for Industrial, Commercial and Institutional Boilers and Process Heaters on March 9, 2004. Therefore, if this facility is subject to the requirements, the operating permit will be reopened as provided for in Colorado Regulation No. 3, Part C, to include the MACT requirements.

XI. Affirmative Defense

Notwithstanding the last sentence of Condition IV.3.g, nothing in the Operating Permit is intended to preclude or limit Suncor from utilizing EPA guidance or other authority apart from Condition IV.3.g for the purpose of defending against enforcement or alleged violations arising out of startups or shutdowns of refinery equipment, process or emission sources.

XII. Transfer of Ownership

Suncor Energy U.S.A. has purchased the CRC Refinery (now referred to as the East Plant). The existing Suncor refinery (the West Plant) and the East Plant are considered a single source under the Clean Air Act. The final issued permit is therefore issued to Suncor. In addition, since the Air Quality Commission hearing, the facility is now subject to a Consent Decree which determines that the flare will be subject to the NSPS Subpart J requirements. The final issued permit includes the consent agreement provisions for the flare and other revisions requested by Suncor, as described below. The Division has determined that these revisions are administrative in nature and can therefore be made without public notice or EPA review.

The facility ID is changed to 001/0003. New AIRS IDs have been assigned.

Section I

Condition 3.2 indicates that operating permit 96OPAD120 is associated with this permit for PSD purposes.

Section II

Conditions 1.5, 2.2, 3.5, 5.3, 6.5, and 11.5 – Revised to add monitoring provisions for when the fuel flow device is inoperable. These provisions assume worst case, conservative operation.

Condition 8 – Revised to include Consent Decree language for the flare. Other language will be added in accordance with permit modification procedures once the permit is issued.

Condition 22 – Since the hearing, the Division has made revisions to regulation No. 1 which make the Regulation No. 1 SO_2 refinery emission limit the same as the State Implementation Plan (SIP) limit. The condition is revised to reflect this change. Also, conditions throughout the permit that referenced the SIP emission limit are revised.

Condition 22.5 is modified to include the flare Consent Decree provisions for NSPS Subpart J.

Section IV
Conditions 21 and 22.d – Revised to reflect current language, which addresses recent public comments regarding “prompt” reporting.

Appendices B and C – Updated to current versions.

Appendices G and H
Appendix G is reserved for future inclusion of some of the Consent Decree requirements. This Appendix order will make the East Plant permit consistent with the West Plant permit. Appendix H will contain the SO_2 Plan that will be used to estimate SO_2 emissions. Due to Consent Decree requirements and changes that the new owner has made to the way emissions are estimated, the previously approved plan submitted by CRC will be changed shortly after permit issuance. Suncor is therefore given 100 days after permit issuance to submit an updated plan, as allowed in the noticed permit. Although the plan has not been approved, language throughout the permit states that emissions will be estimated in accordance with Appendix H. This will allow incorporation of the plan without the need for revising the language throughout the permit.